Nothing in this catalog is exempt from change. Tuition, fees, room rent, academic programs, scholarship information, etc. are all subject to modification.

The college's programs are registered by the New York State Education Department and have been approved by the NYS Education Department for the training of veterans. The State Education Department can be contacted by writing or calling: NYS Education Department, Office of Higher Education and the Professions, Cultural Education Center, Room 5B28, Albany, NY 12230; 518-474-5851. The college is accredited by the Middle States Commission on Higher Education, 3624 Market St., Philadelphia, PA 19104, 215-662-5606.
CAMPUS CONTACT LIST
10 Upper College Drive, Alfred, NY 14802
Admissions@AlfredState.edu

1-800-4-ALFRED (800-425-3733)
ACES
Admissions
Alumni
Athletics
Braddon Hall
Burdick Hall
Campus Store (Alfred Campus)
Campus Store (Wellsville Campus)
Career Development
Center for Community Education & Training
College Housing
Dean of Applied Technology
Dean of Architecture, Management & Engineering Technology
Dean of Arts and Sciences
Dining Services
Executive Director, Institutional Advancement
Getman Hall
Health and Wellness Services
IT Help Desk
Library
Ombuds Office
MacKenzie East
MacKenzie North
MacKenzie South
MacKenzie West
Main Gate A
Main Gate B
Marketing Communications Office
Peet Hall
President
Provost
Residential Life
Robinson/Champlin (R/C)
Shults Hall
Student Records & Financial Services (Financial Aid, Student Accounts, Records)
Student Success Center
Townhouse Complex
University Police
Vice President for Student Affairs
Wellsville Applied Technology Campus

ACADEMIC DEPARTMENT DIRECTORY
Agriculture and Veterinary Technology
Allied Health
Architecture and Design
Automotive Trades
Building Trades
Civil Engineering Technology
Computer and Information Technology
Culinary Arts
Digital Media and Animation
Electrical, Machine Tool, and Welding Technology
English and Humanities
Mathematics and Physics
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State University criteria state that "a course of study leading to the AOS degree should be an organized postsecondary lower-division program leading to
Regulations of the Commissioner of Education (Chapter II of Title 8 of the Official Compilation of Codes, Rules, and Regulations of the State of New York).
Authorization is also granted by the Division of Higher Education to confer the degree of Bachelor of Technology (BTech), and the degree of Bachelor in Business Administration (BBA).
Authorization is also granted by the Division of Higher Education of the NYS Department of Education to confer the degree of Associate in Applied Science (AAS),
I. Degrees Granted by New York State Department of Education.
State University criteria state that "a course of study leading to the AOS degree should be an organized postsecondary lower-division program leading to
occupational competence. It should have a distinct identity, independent of established Associate in Applied Science degree or certificate offered by an institution.
The program must require a minimum of 60 semester credit hours or the equivalent of completion and may consist solely of specialized course work and related subjects.”

II. The college is an accredited institution by the Middle States Commission on Higher Education (MSCHE), 1007 North Orange Street, 4th Floor, MB #166, Wilmington, DE 19801, 267-284-5011, http://www.msche.org. The Commission on Higher Education is an institutional accrediting agency recognized by the US Secretary of Education and the Council for Higher Education Accreditation (CHEA).

III. The following Associate in Applied Science degree programs in engineering technology are accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org:

- Computer Engineering Technology
- Construction Engineering Technology
- Electrical Engineering Technology
- Mechanical Engineering Technology
- Surveying Engineering Technology

IV. The following Bachelor of Science degree programs in engineering technology are accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org:

- Computer Engineering Technology
- Electrical Engineering Technology
- Mechanical Engineering Technology
- Surveying and Geomatics Engineering Technology

V. The court and realtime reporting program is approved by the National Court Reporters Association. This approval indicates that this program has met the general requirements and minimum standards established by the Board on Approved Reporter Training of the National Court Reporters Association [8224 Old Courthouse Rd., Vienna, VA 22182-3808; 800-272-6272].

VI. The associate nursing program at Alfred State College, SUNY College of Technology, located in Alfred, NY is accredited by the Accreditation Commission for Education in Nursing (ACEN), 3390 Peachtree Road NE, Suite 1400, Atlanta, GA 30326 (404) 975-5000, www.acenursing.org. The most recent accreditation decision made by the ACEN Board of Commissioners for the associate nursing program is Continuing Accreditation. View the public information disclosed by the ACEN regarding this program at http://www.acenursing.com/accreditedprograms/programsearch.htm. The Baccalaureate nursing program at Alfred State College, SUNY College of Technology, located in Alfred, NY is accredited by the Accreditation Commission for Education in Nursing (ACEN), 3390 Peachtree Road NE, Suite 1400, Atlanta, GA 30326 (404) 975-5000, www.acenursing.org. The most recent accreditation decision made by the ACEN Board of Commissioners for the baccalaureate nursing program is Initial Accreditation. View the public information disclosed by the ACEN regarding this program at http://www.acenursing.com/accreditedprograms/programsearch.htm. Both the AAS and BS in Nursing Programs are registered by the New York State Education Department.

VII. The health information technology program is accredited by the Commission on the Accreditation for Health Informatics and Information Management (CAHIIM) [233 N. Michigan Ave., 21st Floor, Chicago, IL 60601-5800, 312-233-1100, www.cahiim.org]. CAHIIM is an independent accrediting organization that enforces quality accreditation standards for health informatics and health information management (HIM) educational programs through accreditation. CAHIIM accredits associate and baccalaureate degree programs in health information management, and master’s degree programs in the health informatics and health information management professions. CAHIIM is recognized by the Council for Higher Education and Accreditation (CHEA) [One Dupont Circle NW, Suite 510, Washington, DC 20036, 202-955-6126, chea@chea.org]. CHEA is a nationally recognized non-governmental higher education organization that undertakes recognition of accrediting bodies.

VIII. The following programs in applied technology are ASE Master Certified by the National Institute of Automotive Service Excellence (ASE) [13505 Dulgies Technology Dr., Suite 2, Herndon, VA 20171-3421; 703-713-3800; https://www.ase.com]:

- Autobody Repair
- Automotive Service Technician
- Heavy Equipment, Truck and Diesel Technician

IX. The following Bachelor of Science degree programs in engineering technology are accredited by the Automotive Service Excellence Education Foundation (ASE Education Foundation) [1503 Edwards Ferry Rd, Leesburg, VA 20176; 703-669-6650, fax 703-669-6677; https://www.aseeducationfoundation.org]:

- Automotive Service Technician

X. The automotive service technician program in applied technology is certified by the National Alternative Fuels Training Consortium (NAFTC) [West Virginia University, 1100 Frederick Lane, Morgantown, WV 26508; 304-293-7882, fax 304-293-6944; http://www.naftc.wvu.edu].

XI. The heavy equipment, truck and diesel technician program is one of nine national Association of Diesel Specialists (ADS) TechSmart programs. The heavy equipment, truck and diesel technician program is the only program in New York and New England that is approved by the ADS [International Headquarters, 9140 Ward Parkway, Kansas City, MO 64114; 816-444-3500, fax 816-444-0330].

XII. The welding technology program in applied technology is certified by the American Welding Society (AWS) [8669 NW 36 St., #130, Miami, FL 33166-6672; 800-443-9353; http://www.adda.org].

XIII. The veterinary technology program is accredited by the American Veterinary Medical Association’s (AVMA) Committee on Veterinary Technician Education and Activities (CVTEA) [1931 N. Meacham Rd., Suite 100, Schaumburg, IL 60173-4360; 800-248-2862]. The AVMA CVTEA is responsible for the specialized accreditation of all veterinary technician education programs in the United States. It has also extended its accreditation to Canadian veterinary technician education programs.

XIV. The construction management (BS) program is accredited by the American Council for Construction Education (ACCE), 1717 North Loop Road 1604 East, Suite 320, San Antonio, TX 78232.

XV. The BBA financial planning program is registered with the Certified Financial Planner Board of Standards, Inc. (CFP®).

XVI. In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit US professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted a six-year, three-year, or two-year term of accreditation, depending on the extent of its conformance with established educational standards.

Doctor of Architecture and Master of Architecture degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

Alfred State, School of Architecture, Management and Engineering Technology, Department of Architecture and Design offers the following NAAB accredited degree program: BArch (157 undergraduate credits).
The Department of Architecture and Design at Alfred State College is authorized by the New York State Office of the Professions and the New York State Department of Education to award the BArch degree.

XVII. The forensic science technology program is fully accredited by the Forensic Science Education Programs Accreditation Commission (FEPAC) [410 North 21st Street, Colorado Springs, Colorado 80904; http://www.fepac-edu.org].

XVIII. The Business Department at the State University of New York – Alfred State College has received specialized accreditation for the following business programs through the International Accreditation Council for Business Education (IACBE) located at 11374 Strang Line Road in Lenexa, Kansas, USA: Business Administration (BBA and AS), Financial Planning (BBA), Sports Management (BBA and AS), Accounting (AAS) and Marketing (AAS).

Student Right-To-Know and Campus Security Act

On July 1, 1992, the Student Right-to-Know and Campus Security Act went into effect, requiring institutions receiving federal student aid funds to make available to prospective students information regarding graduation, retention, and attrition rates beginning in July 1993. Successful outcomes of students’ academic performance are measured by graduates, transfers, persistents, and those receiving a certificate.

Information is available for review on the Alfred State website: www.alfredstate.edu/student-consumer-information or by contacting the Student Records and Financial Services Office. You may also view this information by visiting the College Navigator website: http://nces.ed.gov/collegenavigator/.

The most recent Annual Security and Fire Safety Report includes Alfred State’s summaries of the college’s personal safety and security procedures in addition to the three-year summary for the Campus Crime Report which is excerpted on the following pages. The information is available in its entirety for review and/or duplication on the college’s website at www.alfredstate.edu, on the University Police website at www.alfredstate.edu/university-police/annual-security-and-fire-safety-report, on reserve in both the Hinkle and Applied Technology campus libraries, and from the following campus offices: Admissions, Student Life, University Police, and the Vice President for Student Affairs.

The Campus Safety Advisory Committee will provide, upon request, all campus crime statistics as reported to the US Department of Education.

You may also visit the US Department of Education's website, which contains all campus crime statistics, at http://ope.ed.gov/security/ to obtain more information.

Campus Crime Statistics

The Advisory Committee on Campus Safety and/or the University Police department will provide, upon request, all campus crime statistics as reported to the US Department of Education. The US Department of Education maintains campus crime statistic information on its website at http://www.ope.ed.gov/security. You may also obtain the full annual security report, which includes all campus crime statistics, through the University Police Department at 607-587-3999 or access it through the college website at www.alfredstate.edu/university-police/annual-security-and-fire-safety-report.

FAMILY EDUCATION RIGHTS AND PRIVACY ACT (FERPA)

STUDENT RECORDS

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. FERPA gives parents certain rights with respect to their children’s education records. These rights transfer to the student when he or she reaches the age of 18 or attends a school beyond the high school level.

Student Rights

1. The right to inspect and review the student’s education records within 45 days after the day the College receives a request for access;
2. The right to request the amendment of the student’s education records that the student believes is inaccurate, misleading, or otherwise in violation of the student’s privacy rights under FERPA;
3. The right to provide written consent before the College discloses personally identifiable information (PII) from the student’s education records, except to the extent that FERPA authorizes disclosure without consent. Schools may disclose records, without consent, to the following parties or under the following conditions:

   • School officials with a legitimate educational interest as defined in detail within the FERPA Annual Notification (policy);
   • To officials of another school where the student seeks or intends to enroll, or where the student is already enrolled if the disclosure is for purposes related to the student’s enrollment or transfer;
   • To authorized representatives of the U. S. Comptroller General, the U.S. Attorney General, the U.S. Secretary of Education, or State and local educational authorities;
   • In connection with financial aid for which the student has applied or which the student has received, if the information is necessary to determine eligibility for the aid, determine the amount of the aid, determine the conditions of the aid, or enforce the terms and conditions of the aid;
   • To organizations conducting certain studies for or on behalf of the school;
   • To accrediting organizations;
   • To parents of an eligible student if the student is a dependent for IRS tax purposes;
   • To comply with a judicial order or lawfully issued subpoena;
   • To appropriate officials in connection with a health or safety emergency;
   • Information the school has designated as “directory information”;
   • To a victim of an alleged perpetrator of a crime of violence or a non-forcible sex offense;
   • To the general public, the final results of a disciplinary proceeding; and
   • To parents of a student regarding the student’s violation of any Federal, State, or local law, or of any rule or policy of the school, governing the use or possession of alcohol or a controlled substance if the school determines the student committed a disciplinary violation and the student is under the age of 21.

1. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the College to comply with the requirements of FERPA. Written complaints may be addressed to the Family Policy Compliance Office, US Department of Education, 400 Maryland Ave. SW, Washington, DC 20202-8520.

A complete copy of this policy is available at my.AlfredState.edu/registration under “Student Privacy” or by visiting www.alfredstate.edu/financial-aid/forms and selecting the link for “FERPA Annual Notification”.

9
Directory Information
As defined by Alfred State, directory information includes name, addresses, telephone numbers, dates of attendance, Alfred State e-mail addresses, date and place of birth, college major, expected date of graduation, degrees, awards received, photographs, enrollment status, participation in officially recognized sports activities, weights and heights of athletes, and most recent previous educational institution attended. The college can release this information without the student's written request. However, under the Family Educational Rights and Privacy Act (FERPA), students have the right to refuse to permit disclosure of any or all of those items without their prior written consent. Students who prefer not to have their directory information disclosed must sign a statement so attesting. This can be done in the Student Records and Financial Services Office before 11 a.m. of the semester census date and to continue in effect, must be done each and every semester of the student’s attendance. Under FERPA, if the Student Records and Financial Services Office does not hear from a student by that time, the student’s directory information may be released.

Directory Information may be released at the discretion of Alfred State. Distribution of student directories (including labels) to third parties for commercial use or solicitation purposes is prohibited. This is in compliance with the provisions of FERPA. Further, the Student Records and Financial Services Office will provide directory information to the military upon written request as mandated by the Solomon Amendment.

Civil Rights Policy

Questions may be directed to the chief diversity officer/Title IX coordinator, or director of Human Resources, Alfred State, Alfred, NY 14802.

Non-Discrimination Notice
Alfred State College hereby advises students, parents, employees, and the general public that it offers employment and educational opportunities, including career and technical educational opportunities, without regard to sex, race, color, age, national origin, sexual orientation, gender identity and expression, and disability.

For admission, applicants must possess a recognized high school diploma or its equivalent and meet standards of academic achievement such as a minimum high school average and transfer grade point average.

Applications are evaluated individually using a holistic review considering a variety of factors such as individual program requirements, standardized test scores, letters of recommendation, strength of academic program, and co-curricular activities.

Grievance procedures are available to interested persons by contacting either of the compliance officers/coordinators listed below. Inquiries regarding this nondiscrimination policy may be directed to:

Matthew Ryan
Chief Diversity Officer and Title IX Coordinator
Alfred State College
10 Upper College Drive
Alfred, NY 14802
ryanj@alfredstate.edu
Phone – 607-587-4076
Admission to Alfred State

Admission into one of Alfred State’s academic programs is based on the academic qualifications of the applicant without regard to age, sex, marital or military status, race, color, creed, religion, national origin, disability, or sexual orientation. Admission will be offered to qualified applicants whose academic preparation has prepared them for success in their chosen field.

APPLICATION PROCESS

All applicants must complete an application that may be submitted online at:

www.alfredstate.edu  www.suny.edu  www.commonapp.org

High school graduates who have not attended a postsecondary institution are encouraged to submit an essay directly to the Alfred State College Admissions Office.

A high school transcript must be supplied to the Admissions Office. Students attending high school in one of the five boroughs of New York City may submit their transcript by entering their NYC DOE OSIS number on the SUNY application. This is a nine-digit number issued to all students who attend a New York City public school and can be found on the student ID card or transcript.

Applicants with previous college experience must submit an official college transcript from all institutions attended.

Additional information to explain special or extenuating circumstances is encouraged.

Applications for the next calendar year are available beginning Aug. 1. Fall semester application decisions are mailed starting mid-October and continue on a rolling basis according to space availability. Spring and summer semester applications for those programs open for admission (contact the Alfred State College Admissions Office) are also considered on a rolling basis according to availability of space.

Students with disabilities should contact the Admissions Office to inquire about special accommodations to assist them with the application process and paperwork.

Consistent with college policy, any deliberate falsification or omission of data on any admissions document may result in denial of admission, revocation of acceptance decision, or administrative dismissal from the college.

INTERNATIONAL STUDENTS

Alfred State welcomes applications for admission from international students and is authorized under federal law to enroll nonimmigrant students.

In addition to the admission application (www.suny.edu or www.commonapp.org), international students must also submit official academic and financial records. For students whose native language is not English, evidence of English proficiency must be shown by taking one of the following:

• Test of English as a Foreign Language (TOEFL)
• International English Language Testing System (IELTS) exam
• Duolingo English test
• Pearson Test of English Academic (PTE Academic) examination
• Scholastic Aptitude Test (SAT)

All application materials must be submitted well in advance of the intended first semester at Alfred State.

Students who have completed college/university-level course work and would like to have their courses evaluated for possible transfer credit must submit to Alfred State an official college transcript and course descriptions (written in English) for courses to be evaluated. In addition, students must also provide a course-by-course evaluation completed by an approved credential evaluation service. The information available from World Education Service (WES), located at www.wes.org, provides information on the service we feel best meets the needs of the applicant and Alfred State. However, we will accept a course-by-course credential evaluation from an approved member of the National Association of Credential Evaluation Services (NACES) [www.naces.org]. Please note that course descriptions and the course-by-course evaluation are not necessary if an articulation agreement exists between your previous college/university and Alfred State.

TRANSFER STUDENTS

Students who have attended other colleges following high school graduation, either full- or part-time, are classified as transfer students and may receive advanced standing. In addition to completing the SUNY application and providing an official high school transcript, transfer students must submit official transcripts from all institutions. These transcripts should be sent to the Alfred State College Admissions Office at the time of application. It is recommended that students who have completed college-level course work during high school submit official transcripts so that appropriate transfer credit may be awarded.

Parallel and equivalent courses will be reviewed and transferred in accordance with academic regulation 305. Only credit hours and honor points earned at this college will be considered when computing a student’s index.

HOME-SCHOoled STUDENTS

Alfred State College admits as matriculated students only persons who have a high school diploma or its recognized equivalent. Because of this requirement, Alfred State has established a specific admission policy with respect to home-schooled students. The purpose of the policy is to ensure that home-schooled students are treated fairly yet in accordance with the requirements set forth by the college. The policy deals exclusively with the criteria for eligibility to be considered as an applicant for admission. Once eligibility for consideration is established, the applicant must also meet both campus and curriculum-specific admissions requirements.

Applicants 16 years of age or over (i.e. beyond the age of compulsory attendance)

These home-schooled students will be eligible for further consideration as an applicant to matriculated status if they can provide one of the following: (1) a passing score on the general comprehensive examination for the state high school equivalency diploma (TASC/GED) and the diploma itself if the student is eligible to receive one; (2) a statement from the superintendent of the school district in which the student resides, attesting to the student's completion of a program of home instruction that is substantially equivalent to a four-year high school program meeting the requirements of Section 100.10 of the Regulations of the Commissioner of Education - please note that this option cannot be used if the student completed an online high school program of instruction, unless the online high school curriculum was used solely to support the IHIP (Individualized Home Instruction Plan); (3) official verification of successful completion (a grade of
ADMISSION TO ALFRED STATE

“C” or better) of 24 college credit hours in the distribution of 6 credits in English language arts, 3 credits in natural science, 3 credits in humanities, 3 credits in mathematics, 3 credits in social science, and 6 credits in approved general education courses - please note that students admitted through this option are not eligible for federal financial aid unless the TASC/GED diploma has been earned; (4) official verification of having earned a degree from an accredited college or university; (5) evidence of having passed with a grade of 65 or better the New York State regents exams for English language arts, mathematics, U.S. history, a science, and global history - please note that students admitted through this option are not eligible for state or federal financial aid.

Applicants under the age of compulsory attendance (i.e. below 16 years of age)
These home-schooled students will be eligible for consideration as applicants for admission to a matriculated status only if the student can provide a statement from the superintendent of the school district in which the student resides, attesting to the student's completion of a program of home instruction that is substantially equivalent to a four-year high school program meeting the requirements of Section 100.10 of the Regulations of the Commissioner of Education - please note that this option cannot be used if the student completed an online high school program of instruction.

TRANSFER AGREEMENTS
Agreements have been established between Alfred State College and two-year colleges, which permit a student to complete an associate degree at the two-year college and transfer to Alfred State College to complete a baccalaureate degree. Transfer is guaranteed if the student successfully completes, in accordance with the specific articulation agreement, the prescribed schedule of courses. Any questions regarding transfer of courses should be directed to the transfer adviser within the Student Records and Financial Services Office at Alfred State College. The student must provide an official transcript from the two-year college to Alfred State. Refer to www.alfredstate.edu/transfer-students/articulation-agreements for a listing of articulation agreements.

JOINT ADMISSIONS
Alfred State has established Joint Admission Agreements from several of our associate degree programs into our baccalaureate degree programs. Alfred State students interested in pursuing a sequential advanced degree should complete a SUNY Joint Admissions/Intent to Enroll form, available at the Alfred State College Admissions Office. This form should be filed during the final semester of the student’s associate degree.

ACCES-VR
Students who may be working through ACCES-VR should contact their ACCES-VR counselor prior to beginning the application process at Alfred State.

CONCURRENT ADMISSIONS PROGRAM (CON AP)
The Concurrent Admissions Program (CON AP) is conducted by colleges and universities that are members of the Service Members Opportunity Colleges (SOC). Concurrent with their enlistment in the Army, new soldiers are encouraged to express an interest in attending Alfred State following completion of their military obligation.

After completing a two-, three-, or four-year enlistment, the new veteran will be encouraged to enroll at Alfred State. This program also applies to soldiers enlisting in the Army Reserve.

Those interested in the CON AP program are encouraged to contact their military recruiter.

READMISSION
Students who have not yet graduated from the college and wish to apply for readmission must complete a readmission application available from the Alfred State College website. The completed application, as well as official transcripts from any colleges attended since enrollment at Alfred State College, must be submitted to the Admissions Office. Applicants who are or will be graduates of the college and wish to apply to return for a non-sequential major must complete either the SUNY Application or the Common Application, and process it through the SUNY Application Services Center for a new program of study. The new program must be significantly different from the program from which the student graduated. Please contact the Admissions Office for further information on this requirement.

DISCIPLINARY APPLICANTS
Applicants must affirm a prior disciplinary dismissal from another institution of higher education on their application for admission. Individuals who have been previously dismissed for disciplinary reasons will have their application reviewed under college policy established through the Admissions Office and the Office of Judicial Affairs. Copies of this policy are available from the Admissions Office.

ADMISSION REQUIREMENTS
1. Applicants must possess a recognized high school diploma or its equivalent (please note that distance learning degrees/diplomas do not satisfy this requirement for New York State residents). Verification must be supplied to the Admissions Office. Applicants with a CDOS commencement credential or IEP certificate/diploma will not be accepted. These students are advised to take the GED exam. A score of 660 or better on the GED exam (if taken after January 2022) is recommended for consideration.
2. Applications are evaluated individually using a “holistic review” to make the best decision for both the applicant and the college. A variety of factors are considered (e.g., individual program requirements, standardized test scores, letters of recommendation, strength of academic program, and extracurricular activities).
3. To be considered for admission into programs taught on the Alfred campus, the recommended minimum overall high school average is a 75. For programs taught in the School of Applied Technology (Wellsville campus) or at the Northland Workforce Training Center, the recommended minimum overall average is a 72. Applicants for programs taught on the Alfred campus who do not meet specified program requirements but who show potential for success may be considered for admission through the Alfred State Opportunity Program (ASOP) or the Educational Opportunity Program (EOP).
4. In addition to meeting individual program requirements, it is recommended that transfer applicants have a 2.0 cumulative grade point average as well as a grade of "C" or better in each course taken during the most recent semester of attendance.
5. Financial need is not considered as part of the admission process.

Note: Alfred State is test optional for the spring 2023, fall 2023, and spring 2024 semesters. Therefore, it is not necessary to take the SAT or ACT exam to be considered for admission to all majors as well as for merit-based scholarships.

PROGRAMES OF STUDY
Applications are filed for admission into one of the following programs rather than a general freshman-year program. Enrollment in other than registered or otherwise approved programs may jeopardize a student’s eligibility for student aid awards. In addition to course entrance requirements listed, it is recommended that students have a minimum overall high school average of 75 for Alfred campus programs and a 72 for Wellsville campus or Northland Workforce Training
Center programs to be considered for admission. It is recommended that transfer students have a 2.0 cumulative grade point average as well as a grade of "C" or better in each course taken during the most recent semester of attendance.

Students graduating from any two-year associate degree program (AAS, AA, AS, and AOS) may enter directly into the corresponding baccalaureate degree program(s) or the technology management Bachelor of Business Administration degree program.

Notes for the Programs of Study Chart:

* Portfolio is required to enter junior-year studio courses.

**It is recommended that students have knowledge of basic math skills.

***Letters of recommendation, an essay, and a resume indicating related work experience and/or knowledge of field are required.

****Interview with academic department is required.
<table>
<thead>
<tr>
<th>Program</th>
<th>Application Code No.</th>
<th>Required Courses</th>
<th>Recommended Courses</th>
<th>Degree</th>
<th>Hegis Code</th>
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<td>Civil Engineering Technology - 3 year</td>
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<td>Computed Tomography</td>
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<td>Associate degree in radiologic technology, or certificate of completion from JRCERT program.</td>
<td>Must provide proof of ARRT certification.</td>
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<td>Court and Realtime Reporting</td>
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<td>Court Reporting and Captioning</td>
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<td>Criminal Justice</td>
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<td>Culinary Arts: Baking, Production and Management</td>
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</tbody>
</table>
Incoming transfer students should consult the Alfred State Athletic Department for information on athletic eligibility requirements. Intercollegiate athletics must be admitted into a four-year program or have a 75 or 2.1/4.0 high school average to be immediately eligible their first semester. The Alfred State Athletic Department is an NCAA Division III member. With the move to the NCAA, incoming freshmen students who wish to participate in intercollegiate athletics must be admitted into a four-year program OR have a 75 or 2.1/4.0 high school average to be immediately eligible their first semester. Incoming transfer students should consult the Alfred State Athletic Department for information on athletic eligibility requirements.

<table>
<thead>
<tr>
<th>Program</th>
<th>Application Code No.</th>
<th>Required Courses</th>
<th>Recommended Courses</th>
<th>Degree</th>
<th>Hegis Code</th>
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<td>Information Technology: Applications Software Development</td>
<td>1502</td>
<td>Algebra, Geometry, Algebra 2</td>
<td>B Tech</td>
<td></td>
<td>0799</td>
</tr>
<tr>
<td>Information Technology: Network</td>
<td>1505</td>
<td>Algebra, Geometry, Algebra 2</td>
<td>B Tech</td>
<td></td>
<td>0799</td>
</tr>
<tr>
<td>Information Technology: Web Development</td>
<td>1506</td>
<td>Algebra, Geometry, Algebra 2</td>
<td>B Tech</td>
<td></td>
<td>0799</td>
</tr>
<tr>
<td>Interdisciplinary Studies</td>
<td>0377</td>
<td>Algebra, Second Year of Advanced Math, Two Units of Science</td>
<td>B Tech</td>
<td></td>
<td>4904</td>
</tr>
<tr>
<td>Interior Design</td>
<td>0656</td>
<td>Algebra, Geometry</td>
<td>Algebra 2</td>
<td>AAS</td>
<td>5012</td>
</tr>
<tr>
<td>Liberal Arts and Sciences: Adolescent Education (Teacher Education Transfer)</td>
<td>1804</td>
<td>History/Social Studies &amp; English concentrations: Algebra</td>
<td>AA</td>
<td></td>
<td>5649</td>
</tr>
<tr>
<td>Liberal Arts and Sciences: Math &amp; Science</td>
<td>0201</td>
<td>Algebra</td>
<td>Geometry, Biology</td>
<td>AA</td>
<td>5649</td>
</tr>
<tr>
<td>Liberal Arts and Sciences: Social Science</td>
<td>0212</td>
<td>Algebra</td>
<td>Geometry, Biology</td>
<td>AA</td>
<td>5622</td>
</tr>
<tr>
<td>Magnetic Resonance Imaging (available beginning spring 2022)</td>
<td>3081</td>
<td>Associate degree in radiologic technology, or certificate of completion from JRCERT program. Must provide proof of ARRT certification.</td>
<td>Cert.</td>
<td></td>
<td>5207</td>
</tr>
<tr>
<td>Marketing</td>
<td>0633</td>
<td>Algebra</td>
<td>Geometry, Algebra 2</td>
<td>AAS</td>
<td>5004</td>
</tr>
<tr>
<td>Masonry</td>
<td>0401</td>
<td>Algebra</td>
<td>Geometry, Algebra 2</td>
<td>AOS</td>
<td>5317</td>
</tr>
<tr>
<td>Mechanical Engineering Technology</td>
<td>0493</td>
<td>Algebra, Geometry, Algebra 2</td>
<td>Physics</td>
<td>AAS</td>
<td>5315</td>
</tr>
<tr>
<td>Mechanical Engineering Technology</td>
<td>0235</td>
<td>Algebra, Geometry, Algebra 2</td>
<td>Physics</td>
<td>BS</td>
<td>0925</td>
</tr>
<tr>
<td>Mechatronics Technology</td>
<td>2729</td>
<td>Algebra, Geometry, Algebra 2</td>
<td>Physics</td>
<td>AAS</td>
<td>5311</td>
</tr>
<tr>
<td>Mechatronics Technology</td>
<td>2882</td>
<td>Algebra, Geometry, Algebra 2</td>
<td>Physics</td>
<td>BS</td>
<td>0925</td>
</tr>
<tr>
<td>Motorsports Technology</td>
<td>1619</td>
<td>Algebra</td>
<td>AOS</td>
<td></td>
<td>5306</td>
</tr>
<tr>
<td>Nursing</td>
<td>0622</td>
<td>Algebra, Biology, Chemistry</td>
<td>AAS</td>
<td></td>
<td>5208</td>
</tr>
<tr>
<td>Nursing (Dual Degree)</td>
<td>2373</td>
<td>Algebra, Biology, Chemistry</td>
<td>AAS/BS</td>
<td></td>
<td>5208/1203</td>
</tr>
<tr>
<td>Nursing</td>
<td>0291</td>
<td>Graduation from an approved associate degree nursing or certified diploma program</td>
<td>BS</td>
<td></td>
<td>1203</td>
</tr>
<tr>
<td>Pre-Environmental Science and Forestry (option within Liberal Arts &amp; Sciences: Math &amp; Science program)</td>
<td>0645</td>
<td>(Indicate P-ESF on Special Campus Project line)</td>
<td>Algebra, Geometry, Algebra 2</td>
<td>Both Chemistry and Physics</td>
<td>5649</td>
</tr>
<tr>
<td>Radiologic Technology</td>
<td>0628</td>
<td>Algebra, Geometry, Algebra 2</td>
<td>Chemistry, Physics</td>
<td>AAS</td>
<td>5207</td>
</tr>
<tr>
<td>Sport Management</td>
<td>1356</td>
<td>Algebra, Geometry</td>
<td>Algebra 2</td>
<td>AS</td>
<td>5099</td>
</tr>
<tr>
<td>Sport Management</td>
<td>0182</td>
<td>Algebra, Geometry</td>
<td>Algebra 2</td>
<td>BBA</td>
<td>0599</td>
</tr>
<tr>
<td>Surveying Engineering Technology</td>
<td>1039</td>
<td>Algebra, Geometry, Algebra 2</td>
<td>Physics</td>
<td>AAS</td>
<td>5309</td>
</tr>
<tr>
<td>Surveying &amp; Geomatics Engineering Technology</td>
<td>1046</td>
<td>Algebra, Geometry, Algebra 2</td>
<td>Physics</td>
<td>BS</td>
<td>0925</td>
</tr>
<tr>
<td>Technology Management</td>
<td>1318</td>
<td>Successful completion of an associate degree or 60 transferrable credits.</td>
<td>BBA</td>
<td></td>
<td>0599</td>
</tr>
<tr>
<td>Undeclared Major</td>
<td>0000</td>
<td>Algebra</td>
<td>Biology</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Veterinary Technology</td>
<td>0521</td>
<td>Algebra, Geometry, Algebra 2</td>
<td>Physics</td>
<td>AAS</td>
<td>5402</td>
</tr>
<tr>
<td>Welding Technology</td>
<td>0666</td>
<td>**</td>
<td>AOS</td>
<td></td>
<td>5308</td>
</tr>
<tr>
<td>Welding Technology - WNY WTC</td>
<td>2907</td>
<td>**</td>
<td>AOS</td>
<td></td>
<td>5308</td>
</tr>
</tbody>
</table>

The Alfred State Athletic Department is an NCAA Division III member. With the move to the NCAA, incoming freshmen students who wish to participate in intercollegiate athletics must be admitted into a four-year program OR have a 75 or 2.1/4.0 high school average to be immediately eligible their first semester. Incoming transfer students should consult the Alfred State Athletic Department for information on athletic eligibility requirements.
Educational Opportunity Program (EOP)
The Educational Opportunity Program (EOP) offers higher education opportunities to high school graduates or holders of high school equivalency diplomas who do not meet normally applied admission criteria but who have the potential for college success. Students must also meet family income guidelines printed in the SUNY Viewbook and must complete the EOP financial information form, which is available on the Alfred State website.

EOP is typically an extended program with course work paced to enhance student success. Students study full time, enrolling in at least 12 credit hours per semester. The first-year schedule will include courses in English; math; college skills and/or reading; social, physical, or life science; and/or program course(s). To comply with program requirements, EOP students may be required to repeat courses in which they have earned a grade of “D” or “D+.”

Students are required to participate in a 4-6 week summer prep program as part of their entrance process and expected to engage in consistent tutoring and advising sessions throughout their studies at Alfred State.

Essential to EOP is direct financial aid. For each student, a financial aid package is planned, which may include grants from EOP, Pell, and Tuition Assistance Program (TAP). All EOP students must submit the Free Application for Federal Student Aid (FAFSA).

Advanced Standing
Previous Credit
A student who has taken college-level courses after high school is considered a transfer student (See Transfer Students section).

Students who are taking college courses while in high school must submit official transcript(s) in order to receive transfer credit.

Course Challenges
Any student wishing to challenge a course is responsible for furnishing material, approved by faculty administering the exam, to be used in the challenge examination. The challenge exam fee includes a $15 recording fee and $10 per contact hour compensation fee. The challenge must be approved by the department chair or designee in which the course is offered. A student may not challenge a course for which they have already earned a final grade at the college.

Credit From U.S. Armed Forces
The college may grant credit, upon the recommendation of a department chair, for courses of study satisfactorily completed under this program in those cases where such courses have application to a student’s program. Credit is treated as transfer credit.

Alfred State Opportunity Program (ASOP)
The Alfred State Opportunity Program (ASOP) is a special admissions program that offers higher education to high school graduates or holders of high school equivalency diplomas who do not meet traditional admission criteria but who possess the potential for college success. Unlike the Educational Opportunity Program (EOP), students are not required to meet financial need criteria. The program is designed to help students reach their educational goals by providing additional academic support and/or time to reach these goals. Academic success coaching, tutoring, supplemental instruction, and subject and academic skills development courses are offered.

Course work is paced to enhance student success. The first semester schedule is composed of 12 to 15 credit hours, which might include courses in English; math; reading and/or college skills; social, physical, or life science; and/or program course(s). Assistance is available for tutoring, counseling, and academic advising. To comply with program requirements, students may be required to repeat courses in which they have earned a grade of “D” or “D+.”

Registration Process
In order to finalize enrollment at Alfred State, students should refer to the following information:

Orientation
Orientation programs are designed to assist new students in adapting to the college. Orientation aims to increase a student’s success by fostering positive relationships among students and faculty/staff. Orientation is a college-wide initiative, inclusive of academics, student services, and support services of the college.

Student Health Forms/Immunizations
Prior to registration, students must provide the required information to Alfred State Health and Wellness Services as noted on the Student Health Portal. Accepted students receive directions for accessing the Student Health Portal in their acceptance materials.

Academic Advisement
Each student is assigned a faculty adviser within his/her program of study. The adviser helps students plan their program of course work, reviews interim grades with students, and answers questions about personal academic goals, requirements, and academic regulations.

Class Schedule/Course Registration
A tentative schedule will be prepared during orientation. Final class schedules will be available for new, transfer, and readmitted students on final registration day. These final schedules will indicate if students need to process their bills with the Student Records and Financial Services Office. Students are not considered registered until they have picked up their final schedule and paid/processed their bill.

Continuing students will meet with their academic adviser during a designated time each semester to discuss course selection for the next semester and to receive their alternate registration PIN. Continuing students will print their own schedules from BannerWeb and adjustments to this schedule may be made during Add/ Drop.

Note: Courses are dropped for students who do not process their bills by the due date.

The Honors Program at Alfred State
The Honors Program at Alfred State was created to encourage motivated, curious, academically superior students to explore some aspect of their program in greater depth and to broaden and deepen their awareness of themselves as responsible, contributing members of a larger community. Honors Program participants complete a series of seminars, as well as a substantial honors project and 10 hours of volunteer community service. The permanent college transcript of students completing program requirements will read “Honors Program Graduate.”
Application

The Honors Program coordinator reviews academic records of current and incoming freshmen and invites students with a record of strong academic achievement to apply for Honors Program status. The coordinator makes the final decision based on the application, including the required student essay, letters of recommendation from two educators, and meeting with the student. Any current Alfred State student with a GPA of 3.5 (of a possible 4.0) or better and at least one year remaining at the college is welcome to apply to the program. Students accepted into the Honors Program remain in the program of their choice for degree purposes.

Program Requirements

Honors Program participants are required to

- earn an overall 3.25 GPA by graduation, with no more than one semester’s GPA falling below 3.0;
- enroll in honors courses offered by various departments, schedules permitting;
- work with a faculty or staff member to complete an honors project, usually a technical or research project related to the student’s personal or career plans;
- participate in at least two honors seminars per semester - short, informal opportunities to interact with some of the college’s most respected teachers;
- attend and participate in the college’s speakers series, especially those sponsored by the Honors Program;
- complete 10 hours of volunteer, unpaid service of genuine benefit to the community or individuals in the community.

Program Benefits

The Honors Program coordinator will

- offer interesting, challenging, credit-bearing honors courses, informal honors seminars, and speakers of interest from the professional world;
- facilitate arrangements for the honors project and community service requirements, if requested;
- negotiate special Honors Program privileges: one-week laptop loans, “faculty” library borrowing privileges, and first-day course registration privileges;
- write letters to transfer colleges explaining the Alfred State Honors Program and recommending students to the honors program at those colleges;
- indicate “Honors Program Graduate” on the students’ permanent college transcripts.

Interested students should contact:
Assistant Professor Janice Stafford, Honors Program Coordinator
607-587-4799 staffojl@alfredstate.edu

Credit by Advanced Placement Examination (AP) and College Level Examination Program (CLEP)

Students who successfully complete either Advanced Placement (AP) or College Level Examination Program (CLEP) examinations shall be granted transfer credit, as predetermined by the respective department chairs. Students must request that an official transcript of their grades (a copy of a grade report is not acceptable) be sent to this college. Students contemplating taking an AP or CLEP examination should be aware that Alfred State requires the student to take the “Subject” examination and, if applicable, the optional essay section. Alfred State is a testing center for CLEP. For further information regarding the testing center, please contact the Center for Community Education & Training.
CONTINUING EDUCATION/PART-TIME STUDENTS
Credit courses are open to all who might benefit from study and are qualified by previous education or work experience. High school graduation is not required. Financial aid is not available.

The college’s refund policy is followed for all credit courses.

Students may enroll in regular day and evening courses, online, summer school, winter session, or a combination of all. Advising and referral services are available.

SUMMER SCHOOL/WINTER SESSION
Summer sessions provide students with the opportunity to take courses in preparation for entering their freshman semester, getting ahead in their program, or lightening their semester load. Courses are conducted on an accelerated schedule, allowing the student to take multiple courses.

Summer housing is available for those students from out of the area who are attending on-campus summer sessions.

Winter session provides students with the opportunity to take online courses to get ahead in their program or to lighten their semester load. Courses are conducted on an accelerated schedule.

COOPERATIVE COLLEGE-LEVEL PROGRAM FOR HIGH SCHOOL STUDENTS
This program offers high school juniors and seniors the opportunity to take college-level courses on the Alfred campus with college students. This is a collaborative program and is open only to participating high schools. Financial aid is not available.

Course availability is based on classroom seat availability.

NONCREDIT ON/OFF CAMPUS COURSES
CCET coordinates and oversees all noncredit academic, personal development, and contract programs offered by the college. These programs are open to all with no requirements of previous education or work experience.

ONLINE NONCREDIT COURSES
CCET offers noncredit online courses in RHIT/coding exam prep, essentials of anatomy and physiology, computer, writing, personal enrichment, test preparation, small business, paralegal, health care professional, large business/management, project management, and more through a Web-based delivery system. Internet access, email address, and web browser are needed.

CLEP
CCET administers College Level Examination Program (CLEP) examinations, which allow students to receive transfer credit for specific courses upon attaining the required scores.

BUSINESS/INDUSTRY PROGRAMS
The CCET provides training and consulting services to support economic and personal development throughout the Southern Tier. CCET contracts with small to large business, industry, and government agencies to provide pre-employment skills training, job skills upgrade, and programs to increase competitiveness and retain employees.

The New York State Department of Transportation (NYSDOT) and the Quality Control/Quality Assurance (QC/QA) Task Force of New York Construction Materials Association collaborate with the college through CCET to conduct the QC/QA Technician Certification Program for Hot Mix Asphalt in New York State. This program is held every spring on the Alfred State campus.

Alfred State and the Associated General Contractors of America collaborate through the CCET to conduct the New York State Hot Mix Asphalt (NYS HMA) Density Inspector Certification program. This program is scheduled multiple times per year in Western New York.

The college, through CCET, is a training provider for the NYS Office of Alcoholism and Substance Abuse Services. The program provides training for those who wish to maintain or begin a career in the field of alcohol and chemical dependency counseling, including the Credentialed Alcoholism and Substance Abuse Counselor (CASAC), the Credentialed Prevention Professional (CPP), and Credentialed Prevention Specialist (CPS) designations. For more information on CASAC, visit http://oasas.ny.gov/.
**Financial Information**

**COLLEGE COSTS**

Alfred State strives to keep tuition and fees at reasonable rates. Charges may vary due to different room and meal choices, program costs, and fees selected. The following chart is designed to give you an idea of the average student's charges and expenses.

### 2023-24 BILLED CHARGES*

**NEW YORK STATE RESIDENT**

**On Campus**

<table>
<thead>
<tr>
<th></th>
<th><strong>Full-time</strong></th>
<th><strong>Part-time</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition Costs</td>
<td>$7,070</td>
<td>$295</td>
</tr>
<tr>
<td>Comprehensive Fees</td>
<td>$1,792</td>
<td>pro-rated per credit hour</td>
</tr>
<tr>
<td>Full-time, new students (excluding online)</td>
<td>$8,070</td>
<td>$295</td>
</tr>
<tr>
<td>Housing (Double Occupancy)</td>
<td>$8,070</td>
<td>$295</td>
</tr>
<tr>
<td>Meal Plan (14 meal plan)</td>
<td>$5,800</td>
<td>$295</td>
</tr>
<tr>
<td>other meal plan options available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total On Campus Costs</strong></td>
<td>$22,732</td>
<td></td>
</tr>
</tbody>
</table>

**Online**

<table>
<thead>
<tr>
<th></th>
<th><strong>Full-time</strong></th>
<th><strong>Part-time</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition Costs</td>
<td>$7,070</td>
<td>$295</td>
</tr>
<tr>
<td>Comprehensive Fees</td>
<td>$497</td>
<td>pro-rated per credit hour</td>
</tr>
<tr>
<td><strong>Total Online Costs</strong></td>
<td>$7,567</td>
<td></td>
</tr>
</tbody>
</table>

**LATE REGISTRATION FEE***

*Costs are based on information at the time of publication and are subject to change.

***Students who register or pay/process their bill after the initial due date are subject to this fee per term.

---

**New York State Residency:** The Student Records and Financial Services Office will determine New York State residency per SUNY guidelines. If NYS residency status is in question, the student will be charged out-of-state tuition until the student provides proof of NYS residency. Forms are available in the Student Records and Financial Services Office and online.

Certain nonresident students may be eligible for the resident tuition rate if they meet the following requirements:

1. Are not non-immigrant aliens within the meaning of 8 USC §1101(a)(15), and
2. Attended an approved New York State high school for two or more years, graduated from an approved New York State high school and applied for admission to the university within five years of receiving a New York State high school diploma; or
3. Attended an approved New York State program for a General Equivalency Diploma (GED) exam preparation, received a GED and applied for admission to the university within five years of receiving the GED; and
4. If the student is without lawful immigration status, the student submits to the campus a notarized affidavit stating that the student has filed an application to legalize his or her immigration status, or will file such an application as soon as he or she is eligible to do so (See NYS Education Law §355(h) (8)).
5. Members of the U.S. Armed Forces while on full-time active duty and stationed within New York State, as well as their dependents and spouse.
6. Dependents of full-time active duty personnel who are stationed outside New York State qualify for resident tuition if the service member's "Home of Record" is New York.
7. Individuals who meet the eligibility requirements for educational assistance under federal GI bills, even if the individual is not actually receiving or using such benefits, as well as their dependents and spouse.
   a. In order to prove veteran status, a student must provide U.S. Department of Defense Form DD214 or a Certificate of Eligibility from the U.S. Department of Defense or the Veterans Administration.
8. Individuals using education assistance under the U.S. Department of Veterans Affairs for the "Vocational Rehabilitation and Employment Program" (VR&E Program) (See 38 USC §3679(c)).
## FINANCIAL INFORMATION

### 2023-24 BILLED CHARGES*

#### NON-NEW YORK STATE RESIDENT

<table>
<thead>
<tr>
<th>On Campus</th>
<th>Associate</th>
<th>Baccalaureate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full-time</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuition Costs</td>
<td>$11,320</td>
<td>$16,980</td>
</tr>
<tr>
<td>Comprehensive Fees</td>
<td>$1,792</td>
<td>$1,792</td>
</tr>
<tr>
<td>Housing (Double Occupancy)</td>
<td>$8,070</td>
<td>$8,070</td>
</tr>
<tr>
<td>Meal Plan (14 meal plan)</td>
<td>$5,800</td>
<td>$5,800</td>
</tr>
<tr>
<td>Total On Campus Costs</td>
<td>$26,982</td>
<td>$32,642</td>
</tr>
<tr>
<td><strong>Part-time</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuition Cost Per Credit Hour</td>
<td>$472</td>
<td>$708</td>
</tr>
<tr>
<td>Comprehensive Fees - prorated per credit hour</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Online **</th>
<th>Associate</th>
<th>Baccalaureate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full-time</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuition Costs</td>
<td>$8,480</td>
<td>$8,480</td>
</tr>
<tr>
<td>Mandatory Fees</td>
<td>$497</td>
<td>$497</td>
</tr>
<tr>
<td>Total Online Costs</td>
<td>$8,977</td>
<td>$8,977</td>
</tr>
<tr>
<td><strong>Part-time</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuition Cost Per Credit Hour</td>
<td>$295</td>
<td>$353</td>
</tr>
<tr>
<td>Comprehensive Fees - prorated per credit hour</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LATE REGISTRATION FEE*** $50

*Costs are based on information at the time of publication and are subject to change.

**Online costs are for a student enrolled at a State University of New York (SUNY) State-operated campus who a) for a given term is enrolled exclusively in online distance learning course(s) and b) has not had an address within the borders of New York State at any point within July 1st and June 30th of a given State-operated campus fiscal year.

***Students who register or pay/process their bill after the initial due date are subject to this fee per term.

### COURSE-SPECIFIC FEES: Vary based on curriculum and requirements.

### POSSIBLE ADDITIONAL EXPENSES (Not included in college’s billed costs):

<table>
<thead>
<tr>
<th>Personal Expenses</th>
<th>Books and Supplies</th>
<th>Laptop and Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation</td>
<td>Uniforms and Tools, if needed</td>
<td></td>
</tr>
</tbody>
</table>

### PART-TIME STUDENTS

NYS residents enrolled in day or evening programs carrying fewer than 12 credit hours are charged $295 per credit hour. Tuition for non-residents enrolled on campus is $472 per credit hour for associate degree programs or $708 per credit hour for bachelor degree programs. Tuition for non-residents enrolled in exclusively online courses who have not resided in New York State during the current fiscal year is $295 per credit hour for associate degree programs or $353 per credit hour for bachelor's degree programs. Part-time students are also charged mandatory fees (prorated per credit hour).

*Costs are based on information at the time of printing and are subject to change.

### EXPLANATION OF FEES & PAYMENT OPTIONS

**Student Comprehensive Fee** - This fee is paid by all students in order to provide quality services to everyone. The services are available to students whether or not the student chooses to take advantage of them. The fee comprises:

- **Activities Fee** - Established by students through their incorporated Student Government Association (Student Senate). This fee supports club and organization programming, the student newspaper, peer tutoring, Homecoming/Family Weekend, cultural life, intramurals, civic engagement, and much more.
- **Athletic Fee** - Supports the college’s intercollegiate sports teams and entitles students to free admission to all campus sporting events.
- **College Fee** - Established by the SUNY Board of Trustees.
- **Fitness Center Fee** - For use of the fitness centers (located on the ground floor of Orvis and the second floor of Pioneer). They offer top-of-the-line selectorized weight machines, computerized fitness and aerobic equipment, and an expanded free-weight area.
- **Health Fee** - Allows students to receive medications, physician consultations, and all available health services for no additional fee.
- **Technology Fee** - Supports computer technology operations, upgrades, and improvements.
- **Transcript Fee** - Guarantees students unlimited copies of their transcripts.
- **Transportation Fee** - Supports student transportation services.

**Orientation Fee** - A mandatory one-time orientation fee is billed to all full- and part-time new and transfer students to cover the cost of programs, food, and registration requirements. Internet and readmission students are not required to attend and will not be charged the orientation fee.

**Optional Fees:**

**Graduation Fee** - Commencement Policy - All students must pay the Graduation fee in order to participate in the Commencement Ceremony. This charge is removed only if the student withdraws during first four weeks of classes. No charges will be removed after the fourth week. This fee will be imposed per ceremony attended. Students receiving more than one degree may also be charged for additional accoutrements at the Campus Store. All students graduating from a
bachelor program must pay an additional cost for the bachelor hoods. Students must attend the ceremony to receive diploma cover and/or honor cord. Please note: bachelor graduates will be required to pay $30 at the Campus Store for their bachelor hoods when they pick up their regalia.

Vehicle Registration Fee - Mandatory on all vehicles parked on campus. Vehicles must be registered online at my.AlfredState.edu/studentlife or by visiting the University Police Department (located in the Theta Gamma House) where vehicle hang tags are issued.

Foreign Medical Insurance - Enrolls student in an accident and health insurance program. If you have questions about this plan, you may call the Student Records and Financial Services Office at 607-587-4253. Enrolling in the Foreign Insurance Program is mandatory when studying internationally.

Meal Plans - Students living on campus MUST have a meal plan unless living in a Townhouse or MacKenzie Quad apartment. Meal plans are also available for commuters. Carefully review your plan choice on BannerWeb and change the amount if necessary. If you have specific meal plan questions, you may call the ACES Office at 607-587-4064.

PAYMENT OPTIONS
Fall semester bills are available online July 1 (or the first business day if the 1st falls on a weekend); spring bills are available online in November. Both are given a due date well before classes begin. Payment is due on this date for the students to be pre-registered and avoid a $50 late registration fee and cancellation of their course registration.

Temporary deferment of payment may be granted at bill-processing time for students who have proof of financial aid or scholarships that will cover the billed amounts. Balances can be paid by check, check, MasterCard, VISA, Discover, or wire transfer. As financial payments are received by the college, they will first be applied to any outstanding balance. Refunds will be issued only when the bill is paid in full. In a continuing effort to assist our customers, Alfred State also offers monthly payment plan options. Information regarding payment plan options is available online at www.alfredstate.edu/monthly-pay.

Students Receiving Title IV aid need to know: Students need to authorize the use of Title IV financial aid (federal grants and loans) to pay non-institutional charges (optional fees and vehicle registration). If you choose not to provide this authorization, you will be responsible for paying your optional fees even if you have a credit balance from Title IV financial aid. You will be asked your preference for this authorization during bill processing at my.AlfredState.edu/finances.

Note: Parent Borrowers (PLUS) must complete a separate authorization in order for PLUS loan funds to pay non-institutional charges.

STUDENT CONSUMER INFORMATION
REGISTRATION
Importance of Proper Registration - Students must properly register and pay by the appropriate deadline for all courses for which they expect to receive credit. Students are cautioned that simply attending classes and completing course requirements does not entitle anyone to register after the deadline has passed or to claim credit for a course in which they participated as an unregistered or a deregistered student. Students must resolve all problems regarding registration with the Student Records and Financial Services Office.

De-registration - Students who do not comply with published tuition payment deadlines or who have other major obligations to the college may be de-registered, or automatically dropped, from the courses for which they have registered prior to the new academic period. They may also be blocked from receiving college services such as diploma and enrollment verification.

Deadlines - Courses may be added and dropped according to academic regulations. Please refer to www.alfredstate.edu/academics/academic-regulations. Courses dropped on or after the first day of classes shall be liable for charges based on the Liability Schedule below.

LIABILITY POLICY
All tuition and fee liabilities are calculated based on the date of separation as recorded in the Student Records and Financial Services Office. Students who will be separating from the college must file the appropriate paperwork with the Student Records and Financial Services Office. The last date of academic attendance will be used for students who unofficially withdraw by ceasing to attend classes. The period midpoint will be used if the last date of academic attendance cannot be determined through our attendance monitoring process. Following is a liability schedule based upon the “official” withdrawal date or date the class is dropped. Students begin incurring charges when their scheduled courses begin.

A student who is dismissed from Alfred State for academic or disciplinary reasons prior to the end of the academic term shall be liable for all costs for that term and shall not be eligible for a reduction of charges or a refund of payment made.

TUITION, STUDENT ACTIVITY FEE, ATHLETICS FEE, TECHNOLOGY FEE, HEALTH FEE, TRANSPORTATION FEE, FITNESS CENTER FEE, COURSE FEES LIABILITY DURING INDICATED WEEK:

<table>
<thead>
<tr>
<th>Length of Term</th>
<th>1st Week</th>
<th>2nd wk.</th>
<th>3rd wk.</th>
<th>4th wk.</th>
<th>5th wk.</th>
<th>6th wk.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester</td>
<td>0%</td>
<td>30%</td>
<td>50%</td>
<td>70%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>12 week term</td>
<td>0%</td>
<td>40%</td>
<td>60%</td>
<td>80%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Quarter or 10 week term</td>
<td>0%</td>
<td>50%</td>
<td>70%</td>
<td>90%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>9 week term</td>
<td>0%</td>
<td>55%</td>
<td>75%</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>8 week term</td>
<td>0%</td>
<td>60%</td>
<td>80%</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>7 week term</td>
<td>0%</td>
<td>65%</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>6 week term</td>
<td>0%</td>
<td>70%</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>5 week term</td>
<td>0%</td>
<td>75%</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Through 2nd Day of Classes</td>
<td>Through Remainder of 1st Week</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 week term</td>
<td>0%</td>
<td>50%</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>3 week term</td>
<td>0%</td>
<td>65%</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>2 week term</td>
<td>0%</td>
<td>80%</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>1 week term</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

*For liability purposes, the first day that classes are offered, as scheduled by the campus, shall be considered the first day of the semester, quarter or other term, and the first week of classes for purposes of this section, shall be deemed to have ended when seven calendar days, including the first day of scheduled classes, have elapsed.

Orientation Fee and College Fee: 100% liable as of the first day of class.
Generally, financial aid can be categorized into three types: Contribution, Financial need, and state regulations. Offers are determined by financial need based on data provided by the student on the FAFSA. Financial aid is conditional based upon receipt of legislative authority and availability of appropriated funds. All students are considered for all types of aid, and financial aid plans are made according to a student's eligibility in each program as determined by federal and state regulations. Federal Title IV aid is PELL, SEOG, subsidized and unsubsidized Federal Direct Loans, and PLUS loans. Students who do not complete at least 60 percent of the semester and are receiving Title IV aid may owe a bill after funds are returned to the source. A student will be reviewed to determine if they are an unofficial withdrawal at the end of the semester due to receiving failing grades in all of their course work. If no last date of academic attendance can be determined through our attendance monitoring process, the period midpoint will be used. The student must repay funds credited to their account as determined by the Federal Return of Title IV Aid Calculation.

**RETURN OF TITLE IV FUNDS**

If a student withdraws, is dismissed, or takes a leave of absence prior to the 60 percent point of the semester, Title IV funds must be returned to the source based on federal regulations unless a student meets one of the withdrawal exemptions for programs offered in modules. For the purpose of the return of Title IV funds, Federal Title IV aid is PELL, SEOG, subsidized and unsubsidized Federal Direct Loans, and PLUS loans. Students who do not complete at least 60 percent of the semester and are receiving Title IV aid may owe a bill after funds are returned to the source. A student will be reviewed to determine if they are an unofficial withdrawal at the end of the semester due to receiving failing grades in all of their course work. If no last date of academic attendance can be determined through our attendance monitoring process, the period midpoint will be used. The student must repay funds credited to their account as determined by the Federal Return of Title IV Aid Calculation.

**ADJUSTMENTS TO BILL**

Removal of charges from a student's bill must be made before or at the time of processing. Any student not requesting a correction to the bill prior to the end of the first week of classes will be liable for those charges. Any appeal of a fee must be in writing, with justification, and submitted to the Student Records and Financial Services Office by the end of the first week of the semester.

**Late Registration Fee:** Any students who have not registered for classes, paid their bill, or processed their bill by the bill due date, will be assessed a $50 late registration fee. This fee is nonrefundable.

**Penalties for Nonpayment:** Nonpayment of charges may result in current semester registration being dropped, late fees assessed, the holding of diplomas and possible denial of future registration. Unpaid accounts will be forwarded to a collection agency or to the Office of the Attorney General.

**Late Payment Fee:** A monthly late payment fee of up to $50 is assessed to any account with an outstanding balance. This fee will be added to any account turned over for collection purposes.

**Returned Payments:** A fee of $20 will be charged for payments returned unpaid.

**Disbursement of Loans, Grants, Scholarships:** The college may receive funds for a student from various sources. All monies are applied to the student's account as received until the bill is satisfied. If the college receives funds that result in a refund for the student, a direct deposit will be initiated for those enrolled in E-Refund. Those not enrolled will be issued a refund check. For Alfred campus students, the refund check will be available for pickup in the Student Records and Financial Services Office for one week. Wellsville campus students can pick up their refund checks at the Zero Energy House. Checks for students studying online or at the Northland Campus will be mailed. Any remaining refund checks not picked up after one week will be mailed to the student's home address.

**FINANCIAL AID**

Financial aid comes from a variety of sources. Students must file a Free Application for Federal Student Aid (FAFSA) as soon as possible after the application opens for each academic year in which they want to receive federal Title IV financial aid. The FAFSA can be completed online at [https://studentaid.gov/](https://studentaid.gov/). While on the FAFSA confirmation page, New York State residents who plan to enroll full time can apply for the NYS Tap Grant. TAP can also be applied for online at [www.tap.hesc.ny.gov](http://www.tap.hesc.ny.gov). Eligible New York State residents can apply for additional NYS Scholarships such as the Excelsior Scholarship online at [www.hesc.ny.gov](http://www.hesc.ny.gov). Alfred State's school codes for financial aid are:

- 002854 for the FAFSA
- 3005 for TAP associate degree programs
- 6005 for TAP baccalaureate degree programs

**FINANCIAL AID PLAN**

All students are considered for all types of aid, and financial aid plans are made according to a student's eligibility in each program as determined by federal and state regulations. Offers are determined by financial need based on data provided by the student on the FAFSA. Financial aid is conditional based upon continuation of legislative authority and availability of appropriated funds.

Financial need is calculated using the following formula: Cost of Attendance (tuition, room, meals, fees, books and supplies, transportation) - Expected Family Contribution (EFC determined by FAFSA) = Financial Need.

Generally, financial aid can be categorized into three types:

1. **Scholarship and grant aid are considered gifts and generally do not need to be repaid.** These include the Federal Pell Grant, Federal Supplemental Educational Opportunity Grant (SEOG), NYS Tuition Assistance Program (TAP) for NYS residents enrolled full-time, Aid for Part-time Study (APTS) and part-time TAP for NYS residents enrolled part-time, and the Educational Opportunity Program (EOP) for NYS residents who meet established academic and economic guidelines. Students should contact the NYS Higher Education Services Corp. for information on scholarships for Excelsior, STEM, volunteer...
The chart below applies to non-remedial students first receiving NYS Aid in 2010-11 and thereafter.

New York State Criteria/Requirements for Tuition Assistance Program (TAP):

- www.alfredstate.edu/finaid-appeals

More information. Appeal procedures are also provided to students in writing when they receive their notice of ineligibility. Information is also available online at www.alfredstate.edu/grades-financial.

Students who experienced extenuating circumstances that affected their academic progress resulting in the loss of their financial aid eligibility may file an appeal of SAP-POP and/or Title IV requirements. Students interested in filing an appeal are encouraged to contact the Student Records and Financial Services Office for more information. Appeal procedures are also provided to students in writing when they receive their notice of ineligibility. Information is also available online at www.alfredstate.edu/finaid-appeals.

New York State Criteria/Requirements for Tuition Assistance Program (TAP): Reviewed at end of each semester.

The chart below applies to non-remedial students first receiving NYS Aid in 2010-11 and thereafter.
Students Receiving Federal Title IV Aid Need to Know:

- **TAP - POP (Pursuit of Program)**
  - After 1 TAP payments:
    - Earn 6 hours
  - After 2 TAP payments:
    - Earn 15 hours
  - After 3 TAP payments:
    - Earn 18 hours
  - After 4 TAP payments:
    - Earn 21 hours
  - After 5 TAP payments:
    - Earn 24 hours
  - After 6 TAP payments:
    - Earn 27 hours
  - After 7 TAP payments:
    - Earn 30 hours
  - After 8 TAP payments:
    - Earn 33 hours
  - After 9 TAP payments:
    - Earn 36 hours
  - After 10 TAP payments:
    - Earn 39 hours

- **TAP - SAP (Satisfactory Academic Progress)**
  - After 1 TAP payments:
    - Earn 15 hours
  - After 2 TAP payments:
    - Earn 24 hours
  - After 3 TAP payments:
    - Earn 30 hours
  - After 4 TAP payments:
    - Earn 36 hours
  - After 5 TAP payments:
    - Earn 42 hours

The chart below applies to students first receiving New York State aid in 2007-08 through and including 2009-10 and remedial students first receiving New York State aid in 2007-08 and thereafter.

<table>
<thead>
<tr>
<th>Category</th>
<th>Minimum for initial enrollment payment</th>
<th>After 1 TAP payments</th>
<th>After 2 TAP payments</th>
<th>After 3 TAP payments</th>
<th>After 4 TAP payments</th>
<th>After 5 TAP payments</th>
<th>After 6 TAP payments</th>
<th>After 7 TAP payments</th>
<th>After 8 TAP payments</th>
<th>After 9 TAP payments</th>
<th>After 10 TAP payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAP - POP (Pursuit of Program)</td>
<td>Enroll full-time 6 hours taken 9 hours taken 12 hours taken 12 hours taken 12 hours taken 12 hours taken 12 hours taken 12 hours taken 12 hours taken</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAP - SAP (Satisfactory Academic Progress)</td>
<td>Enroll full-time 6 hours taken 9 hours taken 12 hours taken 12 hours taken 12 hours taken 12 hours taken 12 hours taken 12 hours taken 12 hours taken</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelors</td>
<td>Earn 6 hours 1.30 cum.</td>
<td>Earn 15 hours 1.80 cum.</td>
<td>Earn 27 hours 2.00 cum.</td>
<td>Earn 39 hours 2.00 cum.</td>
<td>Earn 51 hours 2.00 cum.</td>
<td>Earn 66 hours 2.00 cum.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Students Receiving TAP Need to Know:

- **TAP Aggregate** – Students enrolled in associate degree programs can receive up to six semesters of TAP (six payment points per semester) for a total of 36 payment points. Bachelor's degree students can receive up to eight semesters of TAP or 48 payment points. Students who qualify under the Educational Opportunity Program (EOP) and approved five (5) year programs (BArch) can receive up to 10 semesters or 60 payment points. TAP payments received at other schools are still counted in the aggregate when students transfer schools.

- **Repeating Courses** – Students must enroll in a minimum of 12 new credit hours each semester to qualify for TAP. Repeating a course that previously received a passing grade cannot be included as part of the required credit hours for that semester when determining TAP eligibility. However, the following exceptions apply: (1) when a failed course is repeated; (2) when a grade received is passing at the institution, but is unacceptable in a particular program as stated in the college catalog by the academic department; and (3) when a course may be repeated and credit is earned each time. The Student Records and Financial Services Office determines if students are out of SAP-POP compliance as part of the TAP certification process. Students are notified of their ineligibility by the Student Records and Financial Services Office.

- **Withdrawal or Leave of Absence** – Students who received TAP for a semester from which they withdrew or took a leave of absence and did not earn any academic credit are not considered to be fulfilling the pursuit of program requirements and would be made ineligible for TAP for the next enrollment period.

- **2.0 GPA** – Students having received four semesters of TAP (24 payment points) must have a 2.0 cumulative GPA (out of a possible 4.0) to continue receiving TAP. This includes students who may have received TAP payments at another college prior to enrolling at Alfred State.

- **Sit-Out** – Students who become ineligible to receive state financial aid for a semester due to poor academic performance or failure to meet pursuit of program requirements may sit out for one year. Students would then be eligible to receive the state financial aid for which they qualify upon their return. Sit-out does not apply to the TAP 2.0 requirement.

- **Aid to Part-Time Study (APTS)** – Students studying part-time may be eligible for APTS. APTS is deducted from a student's available TAP payments. Two APTS payments (three points each) equal one TAP payment (six points).

Part-Time TAP – Similar to APTS, part-time TAP is also deducted from a student’s total available TAP payments. However, instead of using three points for each semester of part-time enrollment, points are used according to the actual number of part-time credit hours taken against the percentage of a full TAP award.

Federal Criteria/Requirements: Reviewed at the end of each semester.

<table>
<thead>
<tr>
<th>Credit Hours Attempted</th>
<th>Completion of Credit</th>
<th>Minimum GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 19</td>
<td>67 percent</td>
<td>1.30</td>
</tr>
<tr>
<td>20 - 36</td>
<td>67 percent</td>
<td>1.75</td>
</tr>
<tr>
<td>37 - 50</td>
<td>67 percent</td>
<td>1.90</td>
</tr>
<tr>
<td>over 50</td>
<td>67 percent</td>
<td>2.00</td>
</tr>
</tbody>
</table>

Students Receiving Federal Title IV Aid Need to Know:

- **Degree Completion** – Students must complete their degree or certificate within 150 percent of the normal credits required for completion. Students who change programs and are in good academic standing are considered to be at the semester level based on the number of transfer credits accepted by the new program. For any subsequent program changes or program credit reductions due to poor academic standing all attempted hours will be considered. Example: If an AAS student needs 60 credit hours to complete a degree, they cannot receive aid after 90 credit hours have been attempted.

- **Federal Warning** – Students found to be below the academic standards for federal aid eligibility will be placed on federal aid warning for one semester. Students who have not regained eligibility by the end of the warning semester will be ineligible for federal aid.

Remedial Courses

Alfred State offers credit and noncredit remedial courses which will be counted toward the number of credit hours attempted and taken for the purpose of financial aid. However, if a passing grade is not received remedial course work will not be counted in the number of credit hours earned.
Ineligible Course Work, Withdrawals, and Repeated Course Work

Course work that has not had a grade issued will not count in credit hours earned and may impact financial aid eligibility. Withdrawal from courses that will have a grade of withdrew passing/failing will be counted in hours attempted and/or earned. Courses repeated due to a failing grade will have the highest earned grade count in hours attempted and/or earned.

CROSS REGISTRATION/CONSORTIUM AGREEMENTS

Alfred State will process financial aid for its matriculated students who are also attempting course work as a visiting student at another college or university. Prior approval is required by the Alfred State Transfer Advisor to ensure that the course work will transfer into Alfred State and meet the student’s graduation requirements. Complete procedures are available at www.alfredstate.edu/transfer-students/cross-registration.

Questions

Questions in regard to any of the above information can be directed to: Alfred State Student Records and Financial Services Office, 10 Upper College Drive, Alfred, NY 14802; phone 1-800-4-ALFRED; or email sfs@alfredstate.edu.

SCHOLARSHIPS AVAILABLE AT ALFRED STATE

Alfred State is proud of its commitment to recognize outstanding students by offering numerous scholarships. Since it is the desire of Alfred State to award scholarships to as many students as possible, typically students do not receive more than one scholarship. If a student qualifies for more than one award, the higher-value scholarship will be awarded. Enrollment deposits must be paid by the due date in order to maintain any scholarship awards.

When multiple SAT score reports are submitted for scholarship purposes, the exams will be superscored using the highest reading/writing and math scores; ACT exams are not superscored.

The Alfred State Athletic Department is an NCAA Division III member. Therefore, athletic ability or athletic accomplishments will not be considered in determining students’ scholarship eligibility or financial aid packages.

The following scholarships are available to incoming students who have been accepted and will enroll for the fall semester into a regular program and will be studying full time on either the Alfred or Wellsville campus. Please note: students studying online are not eligible for scholarships; scholarship funding is limited and meeting qualifications is not a guarantee of an award; the financial aid package, including scholarship awards, cannot exceed the cost of attendance.

Douglas & Carol Shay Acomb Endowed Scholarship
- Awarded to an academically talented incoming student; applied to non-tuition expenses.

Agricultural Endowed Scholarship
- Awarded to student enrolling in an agriculture program.

Alfred State Merit Scholarship Program:

Alfred State Scholars
- Up to $5,000 per year awarded to academically talented first-time, freshmen entering a baccalaureate-degree program; must be a New York State resident; specific value will be determined by strength of academic background and funding availability; applied to non-tuition expenses (e.g., books and supplies, fees, on-campus housing, transportation); preference given to students accepted by March 1; no scholarship application necessary.

Alfred State Pioneer Award
- Up to $2,500 per year awarded to academically talented first-time, freshmen entering an associate-degree program; must be a New York State resident; specific value will be determined by strength of academic background and funding availability; applied to non-tuition expenses (e.g., books and supplies, fees, on-campus housing, transportation); preference given to students accepted by March 1; no scholarship application necessary.

Alfred State Scholars–Out-of-State
- Up to $10,000 per year awarded to academically talented first-time, freshmen entering a baccalaureate-degree program; must reside and attend high school outside of New York State; specific value will be determined by strength of academic background and funding availability; preference given to students accepted by March 1; no scholarship application necessary.

Alfred State Pioneer Award-Out-of-State
- Up to $3,000 per year awarded to academically talented first-time, freshmen entering an associate-degree program; must reside and attend high school outside of New York State; specific value will be determined by strength of academic background and funding availability; preference given to students accepted by March 1; no scholarship application necessary.

Allegany County Counselors’ Association Annual Scholarship
- Awarded to a student attending high school in Allegany County; applications available in high school guidance offices in early spring.

Allegany County School Food Service Association Scholarship
- $200 awarded to a student with a financial need from an Allegany County school district who is entering the culinary arts program; applied to non-tuition expenses.

Alpha Sigma Sorority Annual Scholarship
- Awarded to an incoming female student who demonstrates civic engagement activity and participation; letter of interest should be sent to the Admissions Office by March 31.

Alumni Scholarship
- Awarded to new first-year and transfer students who are the children or grandchildren of an Alfred State alumnus; applied to non-tuition expenses; multiple scholarships available; first-years must have at least an 83 high school average (through end of junior year) and transfers must have above a 2.0 cumulative GPA; a letter must be sent to Admissions Office indicating student’s name as well as the alumnus’ name at the time of graduation, the year graduated from Alfred State, and the student’s relationship to the alumnus; one-time award granted to eligible students until funding runs out.

Alumnus 1939 Endowed Scholarship
- Awarded to academically talented incoming students.

Anderson Family Endowed Scholarship
- Awarded to academically talented incoming student.

Baking & Culinary Arts Scholarship
- $1,000 awarded to incoming students enrolling in culinary arts or culinary arts: baking, production and management program; scholarship application available on the Alfred State website.

Evelyn C. and Rumsey C. Billings Memorial Endowed Scholarship
- Awarded to academically talented incoming students from Steuben and Otsego counties.

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Alfred State Scholars
- Up to $5,000 per year awarded to academically talented first-time, freshmen entering a baccalaureate-degree program; must be a New York State resident; specific value will be determined by strength of academic background and funding availability; applied to non-tuition expenses (e.g., books and supplies, fees, on-campus housing, transportation); preference given to students accepted by March 1; no scholarship application necessary.

Alfred State Pioneer Award
- Up to $2,500 per year awarded to academically talented first-time, freshmen entering an associate-degree program; must be a New York State resident; specific value will be determined by strength of academic background and funding availability; applied to non-tuition expenses (e.g., books and supplies, fees, on-campus housing, transportation); preference given to students accepted by March 1; no scholarship application necessary.

Alfred State Scholars–Out-of-State
- Up to $10,000 per year awarded to academically talented first-time, freshmen entering a baccalaureate-degree program; must reside and attend high school outside of New York State; specific value will be determined by strength of academic background and funding availability; preference given to students accepted by March 1; no scholarship application necessary.

Alfred State Pioneer Award-Out-of-State
- Up to $3,000 per year awarded to academically talented first-time, freshmen entering an associate-degree program; must reside and attend high school outside of New York State; specific value will be determined by strength of academic background and funding availability; preference given to students accepted by March 1; no scholarship application necessary.

Allegany County Counselors’ Association Annual Scholarship
- Awarded to a student attending high school in Allegany County; applications available in high school guidance offices in early spring.

Allegany County School Food Service Association Scholarship
- $200 awarded to a student with a financial need from an Allegany County school district who is entering the culinary arts program; applied to non-tuition expenses.

Alpha Sigma Sorority Annual Scholarship
- Awarded to an incoming female student who demonstrates civic engagement activity and participation; letter of interest should be sent to the Admissions Office by March 31.

Alumni Scholarship
- Awarded to new first-year and transfer students who are the children or grandchildren of an Alfred State alumnus; applied to non-tuition expenses; multiple scholarships available; first-years must have at least an 83 high school average (through end of junior year) and transfers must have above a 2.0 cumulative GPA; a letter must be sent to Admissions Office indicating student’s name as well as the alumnus’ name at the time of graduation, the year graduated from Alfred State, and the student’s relationship to the alumnus; one-time award granted to eligible students until funding runs out.

Alumnus 1939 Endowed Scholarship
- Awarded to academically talented incoming students.

Anderson Family Endowed Scholarship
- Awarded to academically talented incoming student.

Baking & Culinary Arts Scholarship
- $1,000 awarded to incoming students enrolling in culinary arts or culinary arts: baking, production and management program; scholarship application available on the Alfred State website.

Evelyn C. and Rumsey C. Billings Memorial Endowed Scholarship
- Awarded to academically talented incoming students from Steuben and Otsego counties.

Questions

Questions in regard to any of the above information can be directed to: Alfred State Student Records and Financial Services Office, 10 Upper College Drive, Alfred, NY 14802; phone 1-800-4-ALFRED; or email sfs@alfredstate.edu.
Lee Brasted Engineering Technologies Endowed Scholarship\(^2\) - Awarded to a student enrolling in an engineering technology program.

Anthony C. Cappadonia Endowed Scholarship\(^4\) - Awarded to an incoming student with a musical background who was in high school choir and will participate in the Alfred State choir; must have an 80 or better high school average through the end of the junior year; letter of interest should be sent to Admissions by March 31.

Cross Connection Control Foundations of the Niagara Frontier, Inc., Annual Scholarship\(^2\) - Awarded to a student enrolling in the heating, ventilation, and air conditioning program.

Culinary Academic Scholarship\(^3\) - $1,200 awarded to an incoming student enrolling in culinary arts or culinary arts: baking, production and management program; scholarship application available on the Alfred State website.

Daniel DiFrancesco Memorial Endowed Scholarship\(^4\) - Awarded to an incoming student enrolling in an agriculture program who exhibits service to school and/or the community, exhibits a strong sense of responsibility to self and dedication to family, and possesses a love of the outdoors and demonstrates an appreciation of nature; letter of interest should be sent to the Admissions office by March 31.

The Drago Family Endowed Fund\(^3\) - Awarded to academically-talented incoming student; preference given to minority student who is first in family to attend college; applied to non-tuition expenses.

Dresser-Rand Endowed Scholarship\(^2\) - Awarded to an academically talented incoming student who resides in Allegany, Cattaraugus, Chautauqua, or Steuben counties in New York or from McKean, Potter, or Tioga counties in Pennsylvania.

East High School Partnership Scholarship\(^1\) - $500 awarded to graduates of East High School, Rochester, who are accepted to Alfred State by May 1 of their senior year; maximum of five awards each year; scholarship award begins second year of enrollment at Alfred State.

Max & Marian Farash Annual Scholarship\(^2\) - Awarded to student enrolling in mechanical engineering technology or the heating, ventilation, and air conditioning program.

Friendship Designated Scholarship\(^1\) - $500 awarded to graduates of Friendship Central School accepted into a regular program at Alfred State.

Genesee Valley Balloon Association Endowed Scholarship\(^5\) - Awarded to student from Western New York enrolling in an agriculture program.

Michael K. Gowdy Memorial Endowed Scholarship\(^2\) - Awarded to academically talented students from Wellsville High School.

W.R. Grace & Company Endowed Scholarship\(^2\) - Awarded to a student enrolling in the biological science or forensic science technology program.

M.A. and C.A. Graham Nursing Memorial Endowed Scholarship\(^2\) - Awarded to incoming nursing students; preference given to students from LeRoy Central or Warsaw Central School districts, then to students from Wyoming County, then to students from the rest of New York State.

International Cultural Scholarship\(^1\) - Awards up to $3,000 to accepted international students with an overall high school or college grade point average of 2.5 or better.

International Excellence Scholarship\(^1\) - Awards up to $7,000 to international students who meet two of the following four criteria: 213 TOEFL exam score (79-80 on Internet-based exam, 550 on paper exam), 3.25 college cumulative grade point average (a 90 overall high school average may be substituted), 1270 combined reading/writing and math SAT, and/or are a current member of Phi Theta Kappa in good standing.

International Merit Scholarship\(^1\) - Awards up to $3,000 to international students who meet two of the following four criteria: 195 TOEFL exam score (71 on Internet-based exam, 525 on paper exam), 3.0 college cumulative grade point average (an 88 overall high school average may be substituted), 1170 combined reading/writing and math SAT, and/or are a member of Phi Theta Kappa in good standing.

Eugene Jacobs Memorial Educational Foundation Endowed Scholarship\(^2\) - $1,000 awarded to student enrolling in a baccalaureate degree program; student must have at least an 85 overall high school average through the junior year or a 3.0 cumulative grade point average to be considered.

Barbara & John Larsen Annual Scholarship for Excellence in Theater\(^4\) - Awarded to an incoming student who has an interest or has participated in theater or drama while in high school and will participate in the Drama Club while attending Alfred State; must have an 80 or better high school average through the end of the junior year; letter of interest should be sent to the Admissions Office by March 31.

Suzanne Malachesky Memorial Endowed Scholarship\(^2\) - Awarded to a commuter student enrolling in the nursing program.

Rudolf “Rudy” Mazourek Memorial Annual Scholarship\(^2\) - Awarded to incoming student enrolling in the autobody repair program; preference given to student from Newfield High School or another high school in Tompkins County.

Lawrence “Bud” McCarthy Educational Foundation Endowed Scholarship\(^2\) - Awarded to an incoming student with demonstrated skills in a related technology area; students must have at least an 80 high school average through the end of their junior year to be considered.

Miller-Neveret Memorial Endowed Scholarship\(^4\) - Awarded to an academically talented student who demonstrates potential for campus service as evidenced by previous involvement in organizations and activities; letter of interest should be sent to the Admissions Office by March 31.

Ortho-Clinical Diagnostics Endowed Scholarship\(^2\) - Awarded to an academically talented student entering the forensic science technology program.

Phi Theta Kappa External Transfer Scholarship\(^4\) - $4,000 total value ($2,000 per year) applied to non-tuition expenses; awarded to transfer students who are members in good standing of Phi Theta Kappa and are entering a baccalaureate degree program; must provide proof of membership in Phi Theta Kappa; students
who have or will earn a baccalaureate degree prior to enrolling at Alfred State are not eligible; must be accepted and provide official documentation of meeting the necessary criteria by May 1.

**John Plail Work Ethic Endowed Scholarship** - Awarded to student enrolling in a business program; student must have an 80 or better high school average through the end of their junior year and exhibit achievements in high school; letter of interest as well as a written document identifying student’s goals for pursuing business as a career and the importance of having a strong work ethic should be submitted to the Admissions Office by March 31.

**Regional Annual and Endowed Scholarships** - Awarded to academically talented incoming freshmen who reside in school districts defined as the residences of Alfred State faculty and staff.

**Floyd and Eleanor Rose Endowed Scholarship** - Awarded to academically talented students from Western New York and Northern Pennsylvania enrolling in either the agricultural technology or building trades: building construction programs; students must have an 85 or better high school average through their junior year to be considered.

**Russo Family Endowed Scholarship** - Awarded to academically talented incoming students.

**Shaw Family Endowed Scholarship** - Awarded to an incoming freshman enrolling in an agriculture program.

**Richard D. Stillman Memorial Endowed Scholarship** - Awarded to an incoming student who was a member of their high school band or choir and will participate in the Alfred State band or choir; must have an 80 or better high school average through the end of junior year; letter of interest should be sent to the Admissions Office by March 31.

**Albert and Judith Styrcula Endowed Scholarship** - Awarded to academically talented students from Dundee High School or Yates County.

**Robert A. Sweeney Memorial Endowed Scholarship** - Awarded to a student from Steuben County enrolling in a business program.

**Transfer Scholarship** - $2,000 total value ($1,000 per year) applied to non-tuition expenses; awarded to transfer students entering a baccalaureate degree program; students must have completed at least one full-time semester with a 3.25 cumulative GPA; students who have or will earn a baccalaureate degree prior to enrolling at Alfred State are not eligible; must be accepted and provide official documentation of meeting the necessary criteria by May 1.

**Hank & Evelyn Turner Recruitment Annual Scholarship for Culinary Arts** - Awarded to incoming students enrolling in the culinary arts and culinary arts: baking, production and management programs; applied to non-tuition expenses.

**Vocational Excellence Scholarship** - $2,000 total value ($1,000 per year) awarded to first-time freshman students entering a program taught at the School of Applied Technology on the Wellsville campus; applied to non-tuition expenses; multiple scholarships available on a selective basis; to be considered, students must have at least an 83 high school average through the end of their junior year and demonstrate vocational excellence through a combination of education, employment/internships, competition, C-CAP participation, military experience, and other verifiable activities; students should submit a letter to the Admissions Office indicating how they have excelled in the vocational area, as well as two letters of recommendation from qualified individuals verifying skill level by May 1.

**William & Dennis Weimer Endowed Scholarship** - Awarded to student enrolling in a science-based program.

**Bea L. Williams Memorial Endowed Scholarship** - Awarded to students attending high school in Western Steuben County; applications available in high school guidance offices in early spring; academics as well as school and community activities will be considered in the evaluation process; applied to non-tuition expenses.

1. **No scholarship application necessary.**
2. **No scholarship application necessary. Awarded by specific criteria. Students must have minimum high school average of 80 through end of junior year unless otherwise noted. Scholarships awarded in March.**
3. **Scholarship application necessary.**
4. **Send letter of interest and any other information as indicated to the Admissions Office. Decisions ongoing while funding exists unless otherwise indicated.**

The following scholarships are awarded by the appropriate academic department to continuing Alfred State students based on performance while at Alfred State:
FINANCIAL INFORMATION

Allegany County School Food Service Assoc. Annual Scholarship
American Institute of Architects Southern NY Chapter Annual Scholarship
Will Arow Memorial Motorsports Annual Scholarship
Dr. Khalid Ashraf Memorial Endowed Scholarship
Automotive Service Excellence (ASE) Endowed Scholarship
BP Electrical Trades Endowed Scholarship
Balfour Annual Scholarship
Douglas J. Barber Construction Management Endowment
Kathy Barnes Honorary Guardian of Nursing Annual Award
Bethesda Foundation Annual Scholarship
Thomas H. Brawdy Memorial Masonry Annual Scholarship
Brookway Truck Preservation Association (BTPA) Annual Scholarship
EJ Brown Memorial Endowed Scholarship
Paul L. Buckman Memorial Annual Award
Matthew Burzyczki Memorial Endowed Scholarship
Anthony Carino Memorial Endowed Scholarship
James Comstock Memorial Annual Scholarship
Paul Constantine, Jr. Memorial Endowed Scholarship
Culinary Honors Club Academic Annual Scholarship
Culinary Honors Club Annual Scholarship
Culinary Honors Club Professional Annual Scholarship
Dairy Pike Companies Annual Scholarship
Norman A. Dietrich Memorial Endowed Scholarship
Distinguished Professors' Annual Award for Veteran's Academic Achievement
English & Humanities Prose Writing Annual Award
Harry L. Fox Annual Scholarship
Joel French Memorial Endowed Scholarship
Henry and Rosa Gabriel Endowed Scholarship
Donald Gadley Memorial Endowed Scholarship
Gamma Theta Gamma Fraternity Annual Scholarship
Professor Brian Gillespie Memorial Endowed Scholarship
Eleanor Graves Memorial Endowed Scholarship
Ralph B. Harmon Memorial Endowed Scholarship
Mary Heider Memorial Endowed Scholarship
HistoriCorps Annual Scholarship
Shirley Hedwig Memorial Annual Scholarship
Donald B. Holzer Endowed Scholarship
Alan '79 & Mary Ellen '80 Hunt Endowed Scholarship
Hunter Family Memorial Endowed Scholarship
Phyllis S. Jones Memorial Annual Award
Kappa Sigma Epsilon Annual Student Leadership Achievement Award

The following scholarships are awarded by the Student Records and Financial Services Office based on financial need. There is no application process other than completing the FAFSA.

Alfred State Retirees Annual Scholarship
Barry Brown '64 Annual Scholarship
Educational Foundation of Alfred, Inc. Endowed Fund
James G. and Marilyn A. Foss Endowed Scholarship
Roland D. Hale Need-Based Endowed Scholarship
Hornell Association Endowed Scholarship
Kappa Sigma Epsilon Endowed Scholarship
Marilyn Lukk Annual Award for Clinical Excellence in Nursing
Wallace "Pete" and Kathleen MacDonald Annual Scholarship
Suzanne Malachesky Memorial Endowed Scholarship
Harold & Jane Mapes Memorial Annual Award
Brian Maraschello Memorial Annual Scholarship
Anna & Merrill McCormick Memorial Endowed Scholarship
Dale Meisenheimer Creative Writing Annual Award
Michael Miller Memorial Annual Scholarship
Milton/CAT Annual Scholarship
Deborah (Wallace) and Timothy Moore Nursing Endowed Scholarship
Frank Oppedisano '60 Memorial Endowed Scholarship
Outstanding Student Annual Award - English & Humanities
Pay It Forward Nursing Annual Award
Nicholas Reitter III Mechatronics Technology Annual Scholarship
Dorothy & Lester Reynolds Memorial Endowed Scholarship
Joseph and Carmella Saccone Memorial Endowed Scholarship
Harold & Tim '71 Shay Memorial Annual Scholarship
Sigma Tau Epsilon Endowed Scholarship - Wellsboro Campus
Donald Simons Annual Scholarship
Bob Pahil Sorrento Sketchbook Annual Scholarship
Southern Tier Builders Association Annual Scholarship
Stephens Mills Grange Endowed Scholarship
Evelyn Turner Excellence in Culinary Arts Annual Fund
Western NY Veterinary Medical Association Annual Scholarship
Julia O. Wells Memorial Ed Foundation Annual Scholarship
Robert Wood Freshman English & Humanities Annual Scholarship
Francis Woythal Memorial Scholarship

Scholarships are made possible by the generosity of the Alfred State Development Fund, Inc., the Educational Foundation of Alfred, Inc., the Alumni Council, private donors, and Alfred State faculty and staff.
Student Affairs

Student experiences at Alfred State are a mix of challenging academic coursework and involvement in a spectrum of diverse social, recreational, and cultural activities. With focus on Well-being, Inclusion, Development and Engagement (WIDE model), students will compliment their classroom experience by developing support systems and career focused competency skills. An array of clubs, activities and opportunities are available, including 17 men's and women's intercollegiate athletic programs, leadership positions, career connected employment and intramural and competitive club sports.

At Alfred State students have access to more than 80 clubs and organizations, daily on campus experience such as movies, live music and comedy, concerts, cultural events, access to fitness centers, swimming pool, Esports and gaming spaces and much more! There's always something to do, in fact, there are so many options, the difficulty may be deciding what to do first.

CAREER DEVELOPMENT

Career Development offers a wide variety of services for students and alumni. These services include assistance with developing career plans and goals, resume development and critique, job/internships, networking on LinkedIn, access to a professional clothing closet, interview preparation, mock interviewing, and a variety of classroom workshops. Career Development provides and maintains four major online branded services: JobLink (job postings for on-campus jobs, work study, internships and FT career positions, on-campus recruitment/career fairs), SkillsFirst (online resume, portfolio and interview prep), PathwayU (clarify your career path by learning your values, interests, and personality traits), and CandidCareer (thousands of videos to help learn about different career paths and also videos to prepare for a successful job search and career). In addition to maintaining thousands of job/internship postings for full-time, part-time, and summer employment, Career Development also organizes and facilitates six career fairs each year.

STUDENT DISABILITY SERVICES

Academic and nonacademic assistance is provided to students with self-identified disabilities (permanent or temporary) who have provided appropriate documentation to the Office of Student Disabilities Services (Hunter Student Development Center, Alfred campus; Pioneer Student Union, Wellsville campus). Academic services may include faculty conferencing, tutoring referrals, assistive technology, note takers, and testing accommodations. Non-academic services may include residence hall accommodations and agency referrals. Attendant care and personal assistive devices are not provided. Accommodations are decided by the counselors from Student Disabilities Services after reviewing the appropriate documentation and talking with the individual student. Please remember that self-advocacy is essential to receiving assistance.

CENTER FOR INTERCULTURAL UNITY

The Center for Intercultural Unity strives to provide an open-minded, welcoming, and safe environment for all of our Alfred State students. Through educational workshops/programs, professional trainings, advocacy and outreach, the Center for Intercultural Unity facilitates students' self-awareness, learning, and growth regarding different cultures, viewpoints, and experiences. The center supports students in matters of academic, social, cultural, and personal well-being, and promotes all students' understanding and appreciation of differences as well as similarities.

The Center for Intercultural Unity is committed to creating opportunities for Alfred State students to empower and educate themselves, their peers, and the community in which they live. We support and promote under-represented student organizations, including, but not limited to LGBTQ+, students of color, women, veterans and military service, international students, and faith-based groups. We are also deeply invested in the prevention, awareness, and eradication of sexual assault on college campuses and proactively provide programs, workshops, and campaigns that aim at keeping Alfred State safe from sexual violence. The Center for Intercultural Unity works closely with academic departments and Student Affairs offices on campus to create an empowering and enriching college experience here at Alfred State.

HEALTH AND WELLNESS SERVICES

Health and Wellness Services Office has locations on both Alfred and Wellsville campuses. The office provides treatment of student illness, and injury, in addition to counseling services. The office is staffed by a Licensed Nurse Practitioner, Licensed Mental Health Counselors, and Registered Nurses.

A mandatory health fee allows the student to receive treatment, including both medical and counseling appointments, medications available through our office, and medical supplies provided by Health and Wellness Services at no additional cost. Student records at Health and Wellness Services are kept strictly confidential via our electronic medical record system and health portal. Appointments can be made by calling 607-587-4200, or emailing healthandwellness@alfredstate.edu.

Further information can also be found at: www.alfredstate.edu/student-life/health-and-wellness-services.

THE OASIS

Located in the Student Leadership Center, The Oasis is an alternative therapy space aimed at promoting self-care, stress management, and health and wellness programming. The Oasis offers massage chairs, aromatherapy, a self-help audio library, and access to events like yoga and meditation. The Oasis’ hours of operation and services offered vary each semester. More information can be found on our website www.alfredstate.edu/oasis

CAMPUS SHUTTLE SERVICE

The college provides a bus service that circles the main campus continuously throughout each class day 10 minutes to the hour from 8 a.m. - 5 p.m. including traveling to the farm and Vet Tech building. The college also provides a shuttle service back and forth each day to the Wellsville campus. These buses have various morning departure times from the Alfred campus and afternoon departures from the Wellsville campus. A daily shuttle schedule is posted online for quick and easy access.

STUDENT/VISITOR MOTOR VEHICLES

All licensed motor vehicles, including automobiles, trucks, motorbikes, motorcycles, and other motor vehicles to be operated or parked on college property, must be registered at the University Police Department in the Theta Gamma house on the Alfred campus. If you are on the Wellsville campus, you must register at Student Services. Visitors must register their vehicles immediately to avoid enforcement violations. Information and assistance regarding vehicle registration can be found 24 hours a day, seven days a week at the University Police Department.

UNIVERSITY POLICE

The University Police Office is located on Lower College Drive in the Theta Gamma House on the Alfred campus. University Police is open 24-hours a day, seven days a week. University Police maintains an office on the Wellsville campus. The Wellsville office is staffed during the academic year Monday - Friday, 8 a.m. - 4 p.m.
Alfred State's University Police Department is a fully sworn and accredited, community-oriented and service-based police department that provides law enforcement and emergency services to all members of the Alfred State community. The University Police Department is responsible for enforcing all federal, state, and local laws on both the Alfred and Wellsville campuses.

The department prides itself on a level of professionalism, courtesy, and respect that meets the specialized needs of a college setting. With a 24-hour dispatch center, University Police serves as the primary point of contact for off-hours services such as electrical, plumbing, or other facility-based issues. In keeping with the educational mission of our setting, the department also encourages its members to continue their development through additional education and training.

University Police can be contacted at 607-587-3999 or simply 3999 from any campus phone. In an emergency dial 911 or use any of the emergency blue light phones located throughout campus.

ALUMNI COUNCIL
The Alumni Council exists to enhance the engagement of the college's alumni for their enjoyment through programs and services which build relationships and to support the institution's efforts in student recruitment, career placement, and friend/fund-raising.

The major objectives of the Alumni Council are to:

1. Promote and increase fellowship of students and alumni of Alfred State.
2. Serve as a liaison among Alfred State, its alumni, and students in order to foster and maintain close and mutually beneficial ties.
3. Maintain and promote loyalty of the alumni of Alfred State.
4. Assist and promote the interest of Alfred State, its students, and alumni.
5. Develop programs that support the goals and objectives of the campus, including campus fundraising, in conjunction with the Office of Institutional Advancement.

The Alumni Council provides a variety of programs and services to both alumni and students. Some of these include:

- Bi-annual alumni magazine
- Alumni records update service
- Annual alumni reunion – Homecoming
- Assistance with program-specific events
- Regional alumni events
- Scholarship program
- Career development assistance - posting job openings, seeking position, etc.

The Office of Alumni Relations is located on the Alfred campus in the Van Hall Alumni House. For additional information related to the above programs, please stop in, call 607-587-3931, or forward an email message to alumni@alfredstate.edu.

LIBRARIES
The libraries on the Alfred and Wellsville campuses are strongly committed to serving the information and research needs of students and faculty. The collections on both campuses encompass materials in a variety of formats - electronic, print, and visual media. To access the libraries' holdings, visit the library website at www.alfredstate.edu/hinkle-library. Materials not available locally may be requested through the interlibrary loan service.

The Walter C. Hinkle Memorial Library on the Alfred campus houses a collection of approximately 52,200 book volumes and 3,300 video titles and has print subscriptions to 12 newspapers and some 140 journals and magazines. The Wellsville campus library holds about 3,000 volumes, 30 current journal titles, and four daily newspapers. The library contains an extensive collection of automotive manuals in print and microfiche, as well as materials in a variety of audiovisual formats. Students and faculty on both campuses have access to more than 73,200 electronic journals and magazines available from 110 online databases. A good number of these are provided through SUNYConnect, an initiative to share library collections and services across most of the 64 SUNY campuses.

Also located in the Hinkle Library is the Jean B. Lang Western New York Historical Collection, a unique repository of historical and genealogical materials that focuses on Alfred, Allegany County, and western New York State. Both the Alfred and Wellsville campus libraries provide public access computers and printers. Laptop users in Alfred may take advantage of the wireless connectivity in the library, using their own laptops or those available for loan. Both the Alfred and Wellsville campus libraries are accessible to those with disabilities, and are open to the general public at no charge.

ATHLETICS, RECREATION, AND PHYSICAL EDUCATION
Alfred State Athletics offers intercollegiate sports and has great facilities for exercise or a quick game of pick-up. Whether you want to compete or just stay in shape, Alfred State has something for all Pioneers.

The Athletic Department sponsors 20 NCAA Division III intercollegiate varsity sports:

**Women's sports:** Basketball, Cross Country, Soccer, Lacrosse, Softball, Swimming & Diving, Track & Field (Indoor/Outdoor), and Volleyball, and Wrestling

**Men's sports:** Baseball, Basketball, Cross Country, Football, Lacrosse, Soccer, Swimming & Diving, Track & Field (Indoor & Outdoor), and Wrestling

Alfred State is an NCAA Division III member; therefore, no consideration of athletic ability or athletic accomplishments will be considered in determining students' scholarship eligibility or financial aid packages. With the move to NCAA, incoming first-year students who wish to participate in intercollegiate athletics must be admitted into a four-year program OR have a 75 or 2/1.40 high school average to be immediately eligible their first semester. Incoming transfer students should consult the Alfred State Athletic Department for information on athletic eligibility requirements.

Alfred State has options for students of the college, faculty/staff, and members of the community to reach their fitness goals. The Pioneer Fitness Center located in the Pioneer Center houses cardiovascular equipment, resistive weight equipment, and a free weight area while the Orvis Strength and Conditioning Room houses free weights and power racks. The MacKenzie Fitness Center also houses cardiovascular equipment. The Orvis Strength and Conditioning Room houses a student athlete fitness facility. Managed by a full-time certified director, the centers are staffed at all times to ensure a safe and effective workout for all participants regardless of fitness level.

The Orvis Activities Center is also home to the swimming pool. Open swimming hours are also available daily for student or community use.
Physical education classes are also offered by the Athletic Department. Each semester, a variety of physical fitness, sport classes, and health and wellness classes are taught.

AUXILIARY CAMPUS ENTERPRISES AND SERVICES
Auxiliary Campus Enterprises and Services (ACES) is a not-for-profit corporation responsible for many services on campus. A board of directors consisting of faculty, students, and administrators governs activities of the corporation. ACES manages campus food service, special events and catering, snack bars, campus stores, food/beverage and laundry vending services, Lake Lodge, cable TV services, transportation services, and accounting and bookkeeping services.

DINING SERVICES
Students living in residence halls are required to have a meal plan. Students living in the Townhouses or a MacKenzie apartment have the option to waive that requirement. Individuals may elect a program based on their specific needs from a variety of meal plan options as described in promotional material appearing on college websites and the student billing. Participants are allowed considerable flexibility, as they may eat at either dining hall, the food truck, or any other retail dining location by using a meal swipe, dining dollars, or campus spending account funds. All accounts are maintained and managed by ACES through their student campus ID.

CIVIC ENGAGEMENT & STUDENT LEADERSHIP PROGRAMS
The Center for Civic Leadership is here to inspire involvement, facilitate learning, and help students make a positive difference in their community within and beyond campus. We work together with community partners to create opportunities to identify and address community challenges together - here in Alfred, regionally, and beyond. Regardless of your major, interests, and background, you will find opportunity to bring your learning to life by serving others. Our vision is for you to develop into a leader equipped to make a positive difference in the world.

We are located within the Student Leadership Center - a building dedicated to inspiring involvement in community and leadership opportunities. Students can plug into alternative fall/spring break trips, disaster relief trips, community service days, and other special events on and off campus. Most student clubs and organizations are involved in civic engagement which can be a great way to get involved.

Civic Leadership also supports students wishing to enhance their leadership skills through special events, programming, and honor societies. Leadership development can enhance your student experience and build the skills and experience that employers are seeking. Highlighted below are opportunities to get involved:

- National Society of Leadership and Success: NSLS is the nation’s largest leadership honor society and provides a step-by-step program for members to build their leadership skills. Upon completion of the program, members receive their leadership certificate and take their place among the top student leaders at their campus and across the country.
- SUNY Leadership Academy: Competitive program offered annually to several students to engage in learning alongside other SUNY students.
- Leadership Suites: Competitive space available for clubs/organizations that demonstrate a high level of civic leadership focused on a specific community cause.
- Leadership Micro-credential: This self-paced, non-credit online program is offered without cost. Successful completion results in a digital badge that can be displayed online.
- Leadership Series: Regularly scheduled speaker series highlights alumni, employers, and faculty/staff who focus on relevant topics.

Our commitment to civic engagement is deeply embedded in a hands-on approach to education through project-based learning experiences. By combining real-world learning situations with community engagement, Alfred State students make significant contributions to people and communities around the world. Annually, students contribute tens of thousands of service hours through volunteerism, civic leadership, and workforce-ready knowledge to communities in need. Join others in being part of the solution. Contact civicengagement@alfredstate.edu to learn more.

OFFICE OF STUDENT ENGAGEMENT
The Office of Student Engagement cultivates well-rounded students by preparing them to stand apart in a competitive workforce upon graduation. Consistent with the college’s mission of preparing involved students in a caring community, the Office of Student Engagement supports, encourages, and challenges students by providing opportunities for hands-on growth through activities in the following areas:

- Curriculum-based event opportunities
- A diverse offering of student clubs and organizations
- Indoor and outdoor recreational activities such as our rock-climbing wall, tubing hill, and recreational trips
- Social programming and intercampus event support
- Maintenance of a vibrant Student Leadership Center

Through these opportunities, the Office of Student Engagement enhances the student experience, while contributing to enrollment, student retention, and student success.

NEW STUDENT ORIENTATION
New Student Orientation is an important part of each incoming student’s experience here at Alfred State.

Orientation consists of interactive, engaging presentations and activities that help acclimate all incoming students to our campus community. New students and their families will hear from campus departments such as Admissions, Academics, Health and Wellness, Residential Life, Athletics, and more. Students will also receive their first-semester class schedule during each Orientation session.

PERFORMING ARTS
Performing Arts at Alfred State has a long and successful history. Students have the opportunity to engage their talents in drama, instrumental music, and vocal music organizations. Each student brings unique experiences and ideas to the club, building an exciting and ever-evolving creative atmosphere. As student-run organizations, there are many opportunities to contribute to each group and to experience first-hand the rewards of your involvement and contributions.

Within each group you can find multiple ways to participate in college and community events. Members of Drama Club may participate as actors, actresses, stage managers, and technical theatre designers and operators, to name a few. Vocalists have the opportunity to participate in a large choral group setting or in a smaller individual setting, as well as an a capella ensemble. Instrumental music allows instrumentalists to perform in concert, jazz, brass, woodwind, percussion, and pep ensembles.
PIONEER STUDENT UNION - WELLSVILLE

The Pioneer Student Union (PSU) is a space that allows for recreation, socialization, and an opportunity for students to benefit from professional resources located within the building. Activity options available to students include: billiards, ping pong, shuffleboard, foosball, horseshoes, and many other games. There are also opportunities to improve physical and mental well-being, as the building houses a full gymnasium with six basketball hoops, a racquetball court, and weight room.

The MindSpa in PSU is a space solely dedicated to stress reduction. The spa allows for quiet relaxation in a room equipped with massage chairs and other calming amenities. Also at the PSU, students may seek out medical attention or be connected with counseling services, as the Health and Wellness Services Office is located on the first floor of the building. In addition to services housed within the PSU, professional staff there are able to provide students with linkage and referral to any of the other offices located in Wellsville or Alfred based on the needs of the student.

Students may also use the PSU as a quiet study space, as there is a separate computer lab with network-connected computer stations. The Pioneer Student Union is utilized by students across all majors on the Wellsville campus and serves as a space dedicated to providing experiences guided by Alfred State Student Affairs initiatives.

RESIDENTIAL LIFE

Residential Life believes that a student’s residence hall experience should be as individually suited to the student's needs and interests as possible. On this basis, Alfred State offers a lifestyle approach to residence hall living. Within the limits of college policy, various lifestyle areas are offered, and students may choose the area which best suits them. The following styles are located in designated areas of certain residence halls:

- **No Smoking** – All of our residential facilities are smoke-free.
- **24 and Over Lifestyle** – This lifestyle option was created to address the special needs of nontraditional students. Available in select areas throughout campus.
- **Bachelor’s Degree Lifestyle** – Available in MacKenzie South only. This lifestyle option provides an opportunity for students in the bachelor programs to reside together.
- **First-Year Housing** – Burdick Hall, Braddon Hall, Shults Hall and Peet Hall only house first-year students. Limited space available in MacKenzie South and Main Gate A.
- **Gender Inclusive Housing** – This option allows individuals who are not the same gender, who may identify outside the gender binary (male or female), who may be questioning aspects of their sexuality/gender, or who may be in the process of (or completed) a gender transition, to live in an environment that is safe and supportive. This living space, open to the entire campus community, is requested through an application process, and selected on a yearly basis by a committee dedicated to the oversight of that community.
- **Substance-free Lifestyle** – This lifestyle is designed for the student interested in living within a tobacco-free and alcohol-free area. All guests and visitors are also required to abide by the substance-free lifestyle while visiting the area. Each student signs a contract pledging to remain substance free while living in this area. If you are not committed to the restrictions, this lifestyle is not for you.
- **Quiet Study** – Members of this lifestyle all agree to uphold mandatory 24-hour quiet hours. Television and music are allowed in this area, but must be kept at a minimal and respectful volume. This lifestyle is available in certain suite-style and corridor-style residence halls.
- **Pet Friendly** – Students may bring a family pet to live with them in selected areas on campus; dogs (under 40 pounds when fully grown), domestic cats, and rabbits. Pet registration takes place at the start of the fall and spring semester.
- **Townhouse and MacKenzie Commons Apartments** – Apartment-style living for sophomores, juniors, and seniors. Services available in the residence halls include laundry and vending machines, kitchenette, study areas, and computer labs.

Our Four Living Learning Communities:

- **Architectural Living and Learning Community (ALLC)** – Baccalaureate architecture students can study, live, work, and engage with their faculty, all in their own residence hall (MacKenzie South). The ALLC provides access to architecture work labs, study space, and a gallery.
- **Creative House, LLC (DLC)** – Designed specifically for students in the digital media and animation or graphic and media design programs, this Living Learning Community (LLC) features studio work spaces for its residents. Students live and learn with like-minded colleagues in a space made for productive and creative collaboration. With large screen monitors, a production studio, a space to screen work, and other extras, students who live in the Creative House LLC are prepared to hit the ground running on their creative projects.
- **Nursing Living Learning Community (NLLC)** – First-year nursing students have the opportunity to become part of a community within Burdick Hall dedicated to helping new students transition into the nursing curriculum. In addition to participating in a cohort seminar led by nursing faculty within their residence hall, the NLLC provides an atmosphere with enhanced opportunities to learn from and connect with their faculty.
- **Summer Prep Academy Living and Learning Community (SPA)** – Students accepted into the EOP program will attend Summer Prep Academy four weeks throughout July and August. These first-year students will have the option of remaining in their summer housing building without the stress of relocating to another residence hall room for the fall semester. The SPA Living Learning Community will allow SPA students to continue to live with their EOP cohort and maintain regular contact with their summer SPA mentors throughout the academic year.

**ON-CAMPUS HOUSING REQUIREMENTS/CAMPUS WAIVER PROCEDURES**

Be advised that a prior felony conviction may impede a student’s ability to reside in campus-administrated housing. Felony conviction will be considered on an individual basis. Students may be required to submit court records and other information as required by SUNY Board of Trustees Policy to be used in assessing their eligibility for on-campus housing.

**SUNY – Board of Trustees’ Policy**

Every student in full-time attendance at a state-operated unit of the university, other than married students or students residing with a parent(s), shall be required to live in a residence hall maintained and operated by such a unit or to have the permission under such provisions as may be made therefore by the chief administrative officer of such unit to live off campus.

**Local Campus Policies**
I. WAIVERS

Any full-time student who wishes to live off campus must request a waiver of the Board of Trustees’ Policy. This waiver form is available from the Office of Residential Services and/or online. All waiver requests will be considered in accordance with the SUNY policy and the Board of Trustees’ intent to maximize the educational process. Certain conditions, if met, assure an individual of permission to live off campus. These specific exceptions are as follows:

**General Eligibility:**
- Married students
- Students providing direct care for a legal dependent
- Students 23 years of age or older
- Students already possessing a baccalaureate degree (reviewed for verification)
- A student residing with a parent, grandparent, or court-appointed legal guardian at that person’s permanent home address who is commuting fewer than 50 miles one way (notarized statement and supplemental statement required).
- **Honorably Discharged Veterans of the US Armed Forces:** DD-214 must be provided as documentation.
- Meet Academic Eligibility criteria as outlined in the policies governing waiver eligibility. *Blackboard video required
- Internship – Academic adviser confirmation required. Send email to reslife@alfredstate.edu. *Blackboard video required

**Academic Eligibility:** Fourth-year students in baccalaureate programs are eligible for off-campus status subject to the following minimum requirements: good academic standing with at least 90 credits and minimum cumulative grade point average of 3.0 and no current disciplinary status through the time of off-campus occupancy. Or, fifth-year students in a five-year program must be in good academic standing with at least 120 credits.

II. DETERMINATION OF FULL-TIME STUDENT STATUS

- A full-time student is an individual enrolled for 12 or more credit hours (including credit hours added after registration day).
- Students initially registered in a part-time status who add sufficient courses to attain full-time status are subject to campus housing policies unless a waiver is approved.

III. WAIVER PROCEDURE

- Waiver processing will begin April 1 or as soon as predictable thereafter for fall semester consideration. Waiver processing will begin Nov. 1 or as soon as predictable thereafter for spring semester consideration.
- The License for Residence is a full academic year agreement and takes precedence over any waiver application. Interim requests for release are processed according to current campus policy.
- At the time a housing waiver application is submitted and approved, any predetermined housing assignment is released.
- **Initial Request:** Any individual who wishes to live off campus must submit their request in writing to the Office of Residential Services. The request should note the basis for requesting a waiver. If the reason is not one of the exceptions, a detailed explanation of the reason(s) must be included.
- Decisions based upon health or psychological grounds will be reviewed through Accommodative Housing. Any student who is requesting off-campus housing based on these grounds should provide corroborating documentation through either Health and Wellness Services or email documents to accommodativehousing@alfredstate.edu for review.
- **Review:** The Assistant Director of College Housing or their designee will review all requests and, with the intent of the Policy of the Board of Trustees and the stated purpose of the college policy, render a decision. This decision will be given within five (5) business days, when possible. Note: Missing documentation will delay processing.
- **Appeal:** A denied waiver may be appealed to the Senior Director of Residential Services. The appeal must be in writing and address the reason(s) given for the denial of the initial request. The appeal must be sent within five (5) business days of receipt of the initial decision.
- **Appeal Decision:** All appeals will be reviewed in accordance with the intent of the Policy of the Board of Trustees and the stated purpose of the college policy. A written decision will be given within five (5) business days, when possible. **There is no appeal of the Senior Director’s decision.**

**Greek Organization Eligibility:** Information relative to organization eligibility is available from Residential Services and Student Engagement. Individual members of eligible Greek organizations may apply for a housing waiver if all criteria are met:
- Individual members must possess a 2.50 cumulative grade point average and a 2.50 semester grade point average (prior semester) at the time a housing waiver is requested.
- Individual members may not be on any disciplinary sanction and must have completed any special conditions as a result of a past sanction (i.e., alcohol assessment, signals, community restitution projects, etc.) at the time a housing waiver is requested.
- The organization in which they are a member maintains continuing authorization for off-campus, communal residency. All other reasons will be reviewed according to the Reasons for Waiver stated on the form and will be considered according to uniformity and intent of the Board of Trustees’ policy. Submission of false or intentionally misleading statements may result in waiver revocation, campus disciplinary sanctions, and other penalties. All waivers are granted for the academic year or the remaining portion thereof. Each student must resubmit a waiver application each year they are in attendance.

**STUDENT LEADERSHIP CENTER**

The Student Leadership Center serves as a comprehensive, centralized connection point for students, staff, and faculty to access leadership opportunities on campus and in the greater Alfred community. The Student Leadership Center, located in the center of campus, is the premier place for students to gather throughout the day in a "one-of-a-kind" designed space. The Student Leadership Center places every student who enters the facility in the middle of a hub of activity that allows students from different majors, ages, and different levels of community involvement to be in direct contact with each other; an "in your face" flavor of student engagement. The Alfred State leadership experience is an interactive process that develops students who are committed to lifelong learning, community engagement, and having a positive impact on the Alfred State campus and in the greater community and beyond. We believe that every student has the potential and the capacity to serve their community through civic engagement.
WEEK OF WELCOME
Each August, new students arrive on campus up to a week before classes begin. Here at Alfred State, we can't wait to welcome them to campus with a week just for them! WOW is a week designed with new students in mind; we want this time to be fun and engaging, and more than anything, we want to help students feel at home. For more information on New Student Orientation, please visit www.alfredstate.edu/orientation.
Academic Information

Alfred State offers over 80 majors in programs based in the arts and sciences, applied technology, and management and engineering technology. Administratively, the college is broken down into three schools:

- School of Arts & Sciences
- School of Architecture, Management & Engineering Technology
- School of Applied Technology

Faculty and staff focus on programs within their areas of expertise. Depending on the major, each student will find the majority of courses taught within a particular area of study. However, most students will also be required to take some courses within other disciplines.

INTERNSHIPS AND CAREER DEVELOPMENT

The time to begin thinking about your career is in your freshman year! Career development assistance begins with the identification of career goals and the development of a plan to meet those goals. Plans frequently include résumé assistance, identification of available experiential education opportunities, individual employment/career counseling, interview preparation, and workshops.

Students have the opportunity to meet with employers at fall and spring career fairs, information sessions, and on-campus interviews.

Job/Internship opportunities are posted daily for current students and alumni on the Career Development webpage.

ACADEMIC MINORS

An academic minor at Alfred State is an optional program of study available to matriculated baccalaureate students. A minor may be used to complement the major course of study, broaden and enhance career opportunities, gain expertise in an area of interdisciplinary studies, or provide an in-depth study in a subject of special interest.

A minor is described as a thematically related set of academic courses, consisting of no fewer than 15 credit hours. A minor will be officially recorded on the transcript when a student has satisfied all requirements for the major baccalaureate program and the minor, and has attained a 2.50 grade point average in the courses approved for the minor.

General Considerations: Minors will likely require courses taken in sequence, and may necessitate student planning within their first year. Financial Aid Considerations: Courses that only apply to a minor do not meet financial aid eligibility requirements for Federal or New York State Aid. If a course applies both to the minor and meets a degree requirement (such as an elective), financial aid can be used. Minor courses can fill General Education, LAS and elective requirements within a degree program.

Field of Study Minors

Field of Study minors allow students to complete a course of study in an additional content area of specialization. The course of study is primarily within a single department but may include closely related courses from another department. Field of Study minors include:


Interdisciplinary Minors

These minors are developed to focus on contemporary areas of interest that will enhance students’ understanding of the world and their effectiveness in their future professional lives. These minors are usually designed by a committee of interested faculty and are often multi/interdisciplinary in scope combining courses from multiple departments. The courses in these minors may be General Education and LAS courses. Athletic Coaching, Building Technology, Crime Scene Investigation Specialist, Global Studies, Interior Design, Sustainability, and Urban Design are interdisciplinary minors.

Students wishing to pursue minors should first discuss options with their advisers and meet with the department chair where the minor resides to determine specific course requirements. Students must complete a Minor Declaration Form to declare a minor. To be awarded the minor, students must apply for the minor on the degree application form.

EMPLOYMENT AND CONTINUING EDUCATION

The Career Development Office surveyed the 886 members of the May 2020 graduating class. A 67 percent college-wide response was realized from the survey. Alfred State Technology Services generated the statistical information utilized in the preparation of this report in May 2021:

- 72 percent employed after graduation
- 89 percent employed in their field of study
- 26 percent continued their education
- Combined employment and continuing education rate of 98 percent

CROSS-REGISTRATION

Alfred State students may cross-register with other SUNY or Rochester Area Consortium Colleges. Cross-registration is available for undergraduate courses during the Fall or Spring terms only. Students may cross-register for a maximum of six credit hours per semester and may not exceed 19 credits total between the host and home institutions. More information on how to apply is available at www.alfredstate.edu/transfer-students/cross-registration.

COURSE CANCELLATION POLICY

Alfred State reserves the right to cancel any course without prior notice due to insufficient enrollment or unforeseen circumstances.
STUDENTS UNABLE TO ATTEND CLASSES
1. No person shall be expelled from or be refused admission as a student for the reason that he or she is unable, because of religious beliefs, to attend classes or to participate in any examination, study or work requirements on a particular day or days.
2. Any student who is unable, because of religious beliefs, to attend classes on a particular day or days shall, because of such absence on the particular day or days, be excused from any examination or any study or work requirements.
3. It shall be the responsibility of the faculty and of the administrative officials to make available to each student who is absent from school, because of religious beliefs, an equivalent opportunity to make up any examination, study or work requirements which may have been missed because of such absence on any particular day or days. No fees of any kind shall be charged for making available to the said student such equivalent opportunity.
4. If classes, examinations, study, or work requirements are held on Friday after 4 p.m. or on Saturday, similar or makeup classes, examinations, study or work requirements shall be made available on other days, where it is possible and practicable to do so. No special fees shall be charged to the student for these classes, examinations, study, or work requirements held on other days.
5. In enforcing the provisions of this section, it shall be the duty of the faculty and administration to exercise the fullest measure of good faith. No adverse or prejudicial effects shall result to any students who avail themselves of the provisions of this section.
6. Any student who is aggrieved by the alleged failure of any faculty or administrative officials to comply in good faith with the provisions of this section shall be entitled to maintain an action or proceeding in the county Supreme Court.

LEAVE OF ABSENCE POLICIES
Students who need to interrupt their studies during a semester already in progress or for a future semester can protect their matriculated status by applying for a leave of absence for up to one year. Leaving without officially withdrawing from college may result in the student’s receiving a grade of "F" for all their course work and may result in an academic dismissal.

WITHDRAWALS
Students who need to withdraw from the college before the end of an academic term must officially withdraw from classes. Leaving without officially withdrawing from college will result in the student’s receiving a grade of "F" for all their course work and may result in an academic dismissal.

CURRICULUM CHANGES
Continuing students will use a Degree Program Change Form to switch from one program to another or to include or exclude previously earned credits into a new program. Once the decision has been made to change programs, students must notify both their present department chair and the department chair of the new program. Both department chairs will sign the request and the new department chair will specify which classes to exclude from the new program. Only courses not required in the new program may be excluded. The form must be received and processed by the Student Records and Financial Services Office. Students may not process a curriculum change after the fourth week of classes for the current semester. New students who wish to change their program after applying for admission but prior to enrollment must do so in writing to the Admissions Office.

COURSE AUDITING
Course auditors must secure permission to take a class from the instructor of the class. Approval forms are available from the Student Records and Financial Services Office or can be printed from the portal at my.AlfredState.edu/forms. The approved form must be returned to the Student Records and Financial Services Office before the last day to register.

Course auditors will be permitted to audit courses on a space-available basis. Enrolled students receiving credit will be given priority. Auditors will attend without credit or grade, will attend without formal recognitions, and will not be required to meet the course requirements. Audited courses are not eligible for financial aid. Auditors are responsible for all associated costs of the course. A student may retake such a course for credit in a subsequent semester.

Course auditors who are currently enrolled at the college will not be charged tuition. A nonrefundable $50 registration fee will be charged to auditors who are not enrolled at the college. Special auditors, individuals over the age of 60, are invited to audit classes with no registration fees. Texts and/or class materials are at the expense of the auditor. Contact the Student Records and Financial Services Office for more information.

ADD/DROP
Students wishing to add or drop a course after the start of classes must submit the appropriate Course Change Notice form with the required signatures to the Student Records and Financial Services Office. Courses will not be dropped by simply not attending classes. Additional information may be found on the Course Change Notice form available from the student’s adviser or department chair. If classes are not dropped appropriately, a grade of "F" will be received for the course. Dropping below full-time enrollment may affect current or future financial aid eligibility. Contact the Student Records and Financial Services Office for more information.

STUDENT PORTAL (MY.ALFREDSTATE.EDU)
Students will use the portal to view and update information, as well as perform a number of functions. Functions and information available on the student portal include:

- Register for classes
- View/print student schedules
- Apply to graduate
- Check for holds
- View interim and final grades and academic standing
- View unofficial academic transcript
- View financial aid eligibility and complete outstanding requirements
- View and update personal information
- View and process the bill

DEVELOPMENTAL/REMEDIAL COURSES
Per SUNY policy, courses designated developmental/remedial shall not be awarded academic credit (noncredit) and thus cannot be applied as credit toward a college degree. Developmental/remedial courses and grades in such courses are designated with an asterisk (*).
STUDENT DEMOGRAPHIC INFORMATION
Students must update their personal/demographic information electronically via my.AlfredState.edu/registration. This can be done by logging into the portal and selecting “Update Personal Information”. Students should review their mailing address, telephone number, emergency contact information, and marital status. Students who wish to change their legal name or correct their social security number must present legal documentation to the Student Records and Financial Services Office. Students can add a preferred first name, personal pronoun, and gender identification.

GRADUATION REQUIREMENTS
Individual programs are listed in the college catalog and these listings include both the general and technical components necessary for completion of degree requirements. All programs must meet the Middle State Commission on Higher Education (MSCHE) General Education requirements and all, except the AOS degree programs, have Alfred State College minimum requirements that must be met in the Liberal Arts and Sciences. Furthermore, with the exception of AOS and AAS degree programs, all programs have specific SUNY General Education requirements. The Alfred State General Education program allows students to develop the competence and skills necessary to become civically minded, globally aware, ethical and productive employees and citizens in today’s world. The program focuses on the MSCHE general education expectations, SUNY General Education requirements, the ASC mission/core values/principles of community, and Institutional Student Learning Outcomes embedded within each degree program. For more information regarding the specific graduation requirements for your program, contact your advisor or department chair. Further information regarding SUNY/ASC General Education requirements as well as the list of courses approved for General Education and a list of courses approved for Liberal Arts and Sciences can be found online.

In addition, all students who plan to graduate must apply for graduation online through BannerWeb or must submit a Degree Application Form to the Student Records and Financial Services Office. Online access and forms are available to all students during restricted times throughout the semester in which they expect to graduate.

Students are expected to meet regularly with their academic advisers who will assist with academic problems and monitor progress toward satisfaction of graduation requirements for the degree. Degree audits can be viewed at my.AlfredState.edu/registration.

It is important for students to know the current graduation requirements for their program. Per Academic Regulation 102, “Each individual student has ultimate responsibility for understanding and adhering to each of these regulations and for meeting the requirements for graduation as stated herein.” Please see Academic Regulation 200 Graduation Requirements for complete information. Further, students who readmit must comply with degree requirements at the time of readmission. Students should direct specific questions to their advisors/department chairs.

The graduation eligibility of expected graduates is checked and finalized by academic departments. Final graduation lists are submitted to the registrar by academic departments per the published End of the Semester Timetable.

ACADEMIC TRANSCRIPTS
Transcript ordering options are available at www.alfredstate.edu/transcript_ordering_options Alfred State cannot release copies of a student’s transcript from other institutions. These must be requested from the schools previously attended.

VETERANS INFORMATION
If you are eligible for a GI Bill benefit, you should provide the Veteran Certifying Official in the Student Records and Financial Services Office with a copy of your Certificate of Eligibility or Discharge Form from Active Duty (DD214). An enrollment certification will be submitted to the U.S. Department of Veterans Affairs after you provide either of these documents and register for classes. If you have not applied for your GI Bill benefit you should apply on the VA.gov website. If you do not have web access, you can contact the U.S. Dept. of Veterans Affairs at 888-442-4551 for an application. You can also complete this step at a VA regional office. Alfred State College is a participating member of the Yellow Ribbon Program.

National Guard students may be eligible for both state and federal benefits. Contact the Alfred State College Veteran Certifying Official for more information. ROTC should contact the Student Records and Financial Services Office to discuss transfer credits of courses and possible scholarships through their program.

The following procedures to monitor attendance have been approved by the State Education Department Bureau of Veterans’ Education:

Veterans are required to attend classes in order to receive educational benefits.

Veterans receiving benefits must complete the VA School Certification form each semester they wish to be certified for benefits. Furthermore, veterans must contact the certifying official in the Student Records and Financial Services Office to ensure paperwork is properly completed whenever they add or drop a course, change their major, withdraw from the college, and/or are enrolled in courses that have nonpunitive grades (“S” or “U”).

Alfred State permits any student receiving Chapter 33 or Chapter 31 benefits and participate in coursework during the period for which a Certificate of Eligibility, Statement of Benefits, or VAF 28-1905 is received.

Alfred State will not impose any penalty, including the assessment of late fees, the denial of access to classes, libraries, or other institutional facilities, or the requirements that a covered individual borrow additional funds because of the individual’s inability to meet his or her financial obligations to the institution due to the delayed distribution of funding from VA under Chapter 33 or 31.

TUTORING SERVICES
Alfred State offers free peer tutoring services for most courses. Peer tutors are students who have earned a grade of “A” or “B” in a course and have received special training.

Professional Writing Tutor
Professional tutoring is available in writing and grammar for any course offered at Alfred State.

Math Lab
Many student proctors and members of the Math and Physics Department volunteer in the math lab.

Professional ESL Tutor
A professional ESL tutor is available on a part-time basis.
ARTICULATION AGREEMENTS
An articulation agreement is a formal agreement between Alfred State and another institution documenting the transfer pathway for a specific degree program. A list of active articulation agreements can be found at www.alfredstate.edu/transfer-students/articulation-agreements.

Note: Alfred State graduates from any two-year associate degree program (AAS, AA, AS, and AOS) may enter directly into the corresponding baccalaureate degree program.

DEAN’S LIST
To be named to the semester dean’s list, a student must have taken a minimum of 12 credit hours of course work and have earned at least 3.5 semester index.

HONOR SOCIETIES

CHI ALPHA EPSILON NATIONAL HONOR SOCIETY
Chi Alpha Epsilon (XAE) is a national honor society with membership offered through local campus chapters to eligible students. Full-time students who hold a 3.0 cumulative GPA for two consecutive semesters and who were admitted to the college through developmental / opportunity programs are eligible for membership.

MU ALPHA THETA NATIONAL HONOR SOCIETY
Mu Alpha Theta is a National High School and Two-Year College Mathematics Honor Society dedicated to inspiring a keen interest in mathematics, developing strong scholarship in the subject, and promoting the enjoyment of mathematics in high school and two-year college students.

PHI KAPPA PHI NATIONAL HONOR SOCIETY
Phi Kappa Phi is the nation’s oldest and most selective multidisciplinary collegiate honor society initiating more than 30,000 members a year on 300 campuses in the United States and the Philippines. More than 1.25 million members have joined its ranks since Phi Kappa Phi’s founding in 1897 at the University of Maine. It is a global network of the best and brightest, a community of scholars and professionals building an enduring legacy for all generations. Phi Kappa Phi membership is earned. Admission is invitation-only and requires nomination approval by a chapter. Phi Kappa Phi recognizes and promotes academic excellence in all fields of higher education and engages the community of scholars in service to others.

PHI THETA KAPPA INTERNATIONAL HONOR SOCIETY
Phi Theta Kappa Society is the only international honor society serving two-year colleges. It was founded in 1918 and has more than 1,275 chapters worldwide. Alfred State’s chapter was chartered in spring 1991. The goal of Phi Theta Kappa is to recognize and encourage scholarship among associate degree students by providing opportunities for leadership, fellowship, and service. To qualify for membership in this international honor society, candidates must have earned at least 24 semester hours of credit at Alfred State maintaining a GPA of 3.5 or above, or a student must have earned at least 12 semester hours of credit at Alfred State maintaining a GPA of 3.75 or above.

PSI BETA NATIONAL HONOR SOCIETY
Since 1987, Alfred State has been a charter member of Psi Beta, the National Honor Society in Psychology for Community and Junior Colleges. Annually, the Alfred State Department of Social and Behavioral Sciences has inducted members into this society, which includes more than 140 chapters and 12,000 members nationwide.

To be eligible, candidates must possess both an interest in and have completed nine credit hours in psychology (taken at Alfred State). They must also possess a 3.0 GPA in these courses and a 3.0 GPA overall. In addition, they must also have the recommendation of a Social and Behavioral Sciences faculty member. If the inductee is transferring to a four-year college that has a sister chapter of Psi Chi, the member is usually enrolled in that society with only a letter of introduction from the Psi Beta adviser.

RHO ALPHA SIGMA NATIONAL HONOR SOCIETY
The National Residence Assistant Honor Society exists to recognize the outstanding efforts and achievements of the student Resident Assistant staff that go above and beyond an institution’s expectations. The Greek letters for Rho Alpha Sigma were chosen to correspond to Residence Advisor/Assistant Service. Rho Alpha Sigma offers the opportunity to promote excellence, leadership, community and service within the Resident Advisor cadre, campus, and community.

SALUTE VETERANS NATIONAL HONOR SOCIETY
SALUTE is the first national honor society established for student veterans and military members in 2-year and 4-year institutions of higher education. The SALUTE acronym stands for service, academics, leadership, unity, tribute and excellence. It creates the foundation for the SALUTE honor society. SALUTE recognizes the hard work and dedication of those students. Students inducted into SALUTE are from every branch of the armed forces, veterans and active, who are excelling in higher education.

SIGMA ALPHA PI NATIONAL HONOR SOCIETY
Founded with a passion for building leaders who make a better world, Sigma Alpha Pi — primarily known as the National Society of Leadership and Success (NSLS) — is the nation’s largest leadership honor society. The Greek letters of Sigma Alpha Pi (#A#) stand for Success, Action and Purpose — Success coming from continual Action towards one’s Purpose. While Sigma Alpha Pi (NSLS) uses Greek letters to represent itself, it’s not affiliated with Greek life. Students are selected by their college for membership based on either academic standing or leadership potential.

SIGMA LAMBDA CHI INTERNATIONAL HONOR SOCIETY
Sigma Lambda Chi International Honor Society provides recognition to outstanding students in 4-year and graduate construction management curricula. Membership is offered to students that have completed two years of college, who rank academically in the upper 20% of their program, have a minimum of one season of construction industry experience, and participate in extracurricular activities at their campus.

SIGMA TAU EPSILON NATIONAL HONOR SOCIETY
To qualify for membership in this scholastic honor society, a chapter of the National Vocational Technical Honor Society, a person must be a full-time student with a 3.5 cumulative index and be enrolled in an applied technology program. Students are elected by members of the society.
TAU ALPHA PI NATIONAL HONOR SOCIETY
The Tau Alpha Pi National Honor Society was founded in 1953 and is now chartered at 133 colleges and universities. Its purpose is to recognize desirable personal and intellectual qualities of engineering technology students. Student nominees must have 30 credit hours with at least a 3.5 quality point average index in an Engineering Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ETAC/ABET) accredited program.

ROTC
The US Army ROTC program at Alfred State is an affiliate of the Seneca Battalion program headquartered at nearby St. Bonaventure University.

TRANSFER CREDIT:
The transfer credit procedure is initiated in the Student Records and Financial Services Office under the coordination of the Transfer Advisor. Courses completed at an accredited institution recognized by the Department of Education and that can be applied toward graduation requirements at Alfred State will be reviewed for transfer approval by the department chair in which the course resides. Students are notified of their approved transfer credit through their Alfred State email account once they have been accepted for admission and an official college transcript is reviewed. More information on transfer credit is available at www.alfredstate.edu/transfer-students/transfer-credit.
ACADEMIC DEPARTMENTS BY SCHOOL

School of Arts and Sciences

- Agriculture and Veterinary Technology
- Allied Health
- English and Humanities
- Individual Studies
- Mathematics & Physics
- Nursing
- Physical and Life Sciences
- Social and Behavioral Sciences

School of Architecture, Management & Engineering Technology

- Architecture and Design
- Business
- Civil Engineering Technology
- Computer and Information Technology
- Digital Media and Animation
- Mechanical and Electrical Engineering Technology

School of Applied Technology

- Automotive Trades
- Building Trades
- Culinary Arts
- Electrical, Machine Tool, and Welding Technology

Feel free to contact the department chair, program coordinator, or the dean's office at any one of our three schools if you have additional questions regarding academic programs.
Agriculture and Veterinary Technology

Dr. Philip Schroeder, Chair
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Email: schroepd@alfredstate.edu

Agriculture students participate in hands-on experiences working with crops, plants, animals, facilities, and equipment. Graduates leave our programs with a true feel for the industry they plan to enter. Veterinary technology students are prepared to sit for the Veterinary Technology National Exam (VTNE) through intensive lecture and laboratory courses. Passage of this exam is required for licensure as a veterinary technician. Veterinary technology students are also required to complete a 240-hour preceptorship (work experience), which gives them real, practical experience between completing their first year and graduation. Students have many opportunities to help tell the story of agriculture at college-hosted events for elementary and high school students, educators, and the general public. Through the agricultural and veterinary technology clubs, students help organize dairy and livestock shows, consignment sales, judging competitions, agricultural skills contests, tours, and other educational events.

MISSION
The Department of Agriculture and Veterinary Technology will facilitate learning and engage communities in the practices of sustainable food production and animal welfare. We will develop graduates who will sustainably and profitably manage animals and natural resources for a secure society.

FACILITIES
• Agriculture Science Building – This facility contains laboratories specializing in soils, botany, and animal anatomy and physiology. A 5,300-square-foot greenhouse produces hydroponic vegetables, and herbs and contains a tropical room, desert room, and plant propagation areas.
• 800-acre college farm – The farm serves as a field laboratory to provide practical instruction in production agriculture and to produce feed for the college’s livestock. It is home to registered dairy and beef herds, horses, swine, poultry, sheep, and meat goats used for instruction in animal care and management. The farm is also used for soils, botany, feeds, and nutrition, and field and forage crops classes. Students have the opportunity to work on the farm as interns. Other facilities there focus on high-tunnel vegetable production, row crop production, and agroforestry practices.
• Center for Organic and Sustainable Agriculture (COSA) – The center, located at the college farm, features an organic dairy herd with which students gain experience in management intensive grazing and a robotic milking system. Other facilities include a 300-acre farm in Sonyea, where we produce forages.
• Veterinary Technology Center – This state-of-the-art facility includes surgical and radiography laboratories, a classroom area for Introduction to veterinary technology, animal health care and laboratory animal management laboratories, and animal housing facilities.

DEPARTMENT PROGRAMS
Agribusiness Management (BTech)
Agricultural Automation and Robotics (AAS)
Agricultural Business (AAS)
Agricultural Technology (AAS)
Veterinary Technology (AAS)
The Allied Health Department at Alfred State provides students with a strong education in a wide range of allied health disciplines through online and on-campus curricular offerings. Allied Health consists of a diverse range of specialized occupations that fall outside the traditional medical and healthcare professions like doctors, nurses, and dentists. Some careers involve direct care of patients, usually as a member of a multidisciplinary healthcare team, and others involve office work and administration. The faculty and staff bring a plethora of industry experience from laboratories and healthcare settings to their work with students. They share the common goal of effectively delivering the practical and theoretical foundations of disciplines through a rich blend of interactive lectures, informal discussion, meaningful laboratory inquiries, and professional practice or clinical experiences. The department offers students direct use of modern laboratory/clinical equipment in real-world or simulated settings and provides the highest-level virtual laboratory experiences.

MISSION

Through rigorous course work, exposure to state-of-the-art equipment, and professional practice and clinical experiences, the Allied Health Department prepares students for employment or continuing education in the technical areas of healthcare.

FACILITIES

Physical & Health Sciences Building – The Allied Health Department is partially located in the recently renovated PHS Building. Four science-ready lecture rooms are on the first floor with eight laboratories found on the second and third floors. The laboratories are outfitted with state-of-the-art equipment and instrumentation, anatomic models, and the latest application software for teaching and learning.

Agriculture Science Building – There are two programs located in the Bethesda Foundation Imaging Suite on the third floor. The radiologic technology program laboratories are equipped with a nonenergized X-ray unit for students to learn proper patient positioning and a digital energized X-ray unit for students to acquire proper imaging skills and shielding with skeletons and pixies. The diagnostic medical sonography program's laboratory has three ultrasound units for students to obtain competency in effective scanning. Students also have access to ultrasound pathology simulation utilizing SonoSym.

The healthcare management and health information technology curricula are completely online programs.

DEPARTMENT PROGRAMS

- Computed Tomography (Certificate)
- Diagnostic Medical Sonography (AAS)
- Health Information Technology (AAS)
- Healthcare Management (BTech)
- Imaging Science (BTech)
- Magnetic Resonance Imaging (Certificate)
- Radiologic Technology (AAS)
The Department of Architecture + Design offers a five-year first-professional Bachelor of Architecture degree (BArch) degree, a four-year Bachelor of Science degree in architectural technology, and a two-year Associate in Applied Science degree in architectural technology. These degrees are designed to serve various professional objectives for graduates entering the practice and profession of architecture. The BArch degree is the only fully accredited first professional undergraduate degree program available in the SUNY system.

The department also offers a two-year Associate of Applied Science degree in interior design which provides graduates with fundamental knowledge and skills for entry-level positions in interior design.

The department emphasizes socially responsible design for the social good. This mission is enthusiastically supported by the faculty and the students.

The primary focus of our faculty is teaching – personal instruction that makes meaningful life-long connection with students – that has a powerful professional impact. Instructors bring a diverse blend of advanced architectural education, theoretical inquiry, practical experience, and professional credentials into the studio, making our faculty uniquely qualified to mentor students in design thinking, development, and production.

All aspects of design, building technology, social responsibility, and sustainability are integrated into the program through design studios which focus on the critical examination of the built environment and the role of the architect and designer as an agent of positive change. Students engage tectonic explorations alongside Building Information Modeling software which is situated within a broader digital fabrication continuum. This multi-faceted approach encourages students to create inspiring designs that are grounded in the realities of professional practice, better preparing graduates for the demands of the profession and workplace.

An Alfred State architectural education is a powerful platform upon which to build a career. Our students participate in hands-on opportunities to examine the regional built environment and learn through civic engagement projects in each design studio, which is the cornerstone of the Alfred State experience. Students explore their social responsibility as emerging professionals – to make the world a better place through design and professional conduct – in real-world environments from rural communities in New York’s Southern Tier, across the region and the world including the department’s signature study abroad program in Sorrento, Italy.

MISSION
The Alfred State architecture experience goes beyond the design studio - cultivating engaged and collaborative life-long learners who build meaningful connections with the dynamic regional, national and global communities that surround us. Students develop into emerging professionals through a carefully planned sequence of applied learning and civic engagement experiences, and apply sustainable solutions to address social and environmental challenges using integrated and innovative digital and building technologies.

FEATURES & FACILITIES
Most departmental facilities, workshops, the MakerSpace, and all design studios are accessible 24 hours a day by secure swipecard for student convenience. Each design studio is laptop-ready, and has customizable work stations. Studios also have networked printers, desktop scanners, white marker boards, floor-to-ceiling wallmounted pin-up/display panels, flat file storage, model storage, and high-resolution digital projectors. Students also have access to the department’s MakerSpace, digital fabrication lab, Center for Architecture and Remote Sensing, interior design product library, computer lab, and architecture library, in addition to the plotter room; HOPR, and soils, concrete, and material testing lab, which is maintained by another department within the school.

Please note: All students in both the architecture and interior design programs are required to purchase a computer before the beginning of the second year in addition to other equipment. Typically the costs of these purchases can be covered using financial aid. Please consult a financial aid counselor for further details. Laptop specifications are available at http://www.alfredstate.edu/required-laptops.

DEPARTMENT PROGRAMS
- Architecture (BArch)
- Architectural Technology (AAS)
- Architectural Technology (BS)
- Interior Design (AAS)
Today, more than ever, the highly skilled automotive service technician has an increasingly important role in the efficient operation of our society. The four automotive trades areas offered by the Automotive Trades Department—automotive service technician; heavy equipment, truck & diesel technician; autobody repair; and motorsports technology—prepare technicians for the ever-expanding and highly specialized trade industry.

All programs meet stringent national standards. The automotive service technician program is master certified by the National Automotive Training Educational Foundation (NATEF); the autobody repair program is Inter-Industry Conference on Automotive Collision Repair (ICAR) certified; and the heavy equipment, truck & diesel technician program is ADS affiliated, and we are a National Alternative Fuels Training Consortium training center. Automotive Service Excellence (ASE) certification and NYS inspection exams are offered on campus as well.

MISSION

Provide instruction and practical, hands-on experience, to students interested in a variety of automotive trades, including automotive service, autobody repair, truck and diesel service, and motorsports. The education acquired will prepare the student for entry-level employment. Students will be provided opportunities to maximize their individual potential and achieve a level of competence adequate to enter the automotive field and maintain gainful employment. In addition to hands-on skills, attitudes will be developed that will help enforce sound judgment, good work habits, planning and foresight, ingenuity, efficiency, and safety as they apply to the duties and skills of the trade. We will nurture an appreciation of and a desire for craftsmanship and professionalism. We will strive to instill positive attitudes of community and leadership that will carry beyond the workplace and help our students to live productively and successfully in today’s society.

FACILITIES

- **Autobody facility** – This facility on the Wellsville campus contains down-draft bake-paint booths, paint mixing room, frame-straightening machines, computerized estimating, and computerized measuring systems.
- **Automotive service facilities** – These buildings, located on the Wellsville campus, contain the latest equipment, including computerized front-end aligners, brake equipment, computerized engine analyzers, automatic transmission dynamometer and computer specification and service information terminals in all shops.
- **Heavy equipment, truck & diesel facility** – This facility, located on the Wellsville campus, is equipped with: specialized fuel injection overhauling and test lab; engine rebuilding equipment; multispeed transmission and rear axle repair area; engine tune-up area containing computer-operated late model diesel engines; handheld diagnostic scanners; and computerized specifications and service information systems.
- **Motorsports facility** – Students perform extensive hands-on work in a newly remodeled, newly equipped facility located in the village of Alfred. First-year courses are taught at the School of Applied Technology campus in Wellsville.

TECHNICAL STANDARDS

It is essential that students in this degree program are able to participate fully and safely, with or without reasonable accommodation, in all classroom and laboratory experiences required for completion of the program. Students in this degree program should be able to:

1. Lift 50 pounds to industry standard automotive lift height
2. Effectively communicate with a person six (6) to ten (10) feet away.
3. Visually decipher small images on a monitor or digital display.
4. Distinguish sounds associated with mechanical failures.
5. Comprehend written information found in service repair resources.
6. Possess a valid motor vehicle driver's license.
7. Function in a safe manner, not placing themselves, faculty, staff, other students, or property in jeopardy.
8. Appropriately and safely use standard laboratory equipment, materials, and instrumentation to include possession of fine motor skills and mobility.

DEPARTMENT PROGRAMS

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<td>AOS</td>
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REQUIRED TOOLS/EQUIPMENT

A list of required tools, equipment, PPE, etc. for all of the programs mentioned above can be found at: [www.alfredstate.edu/tool-lists](http://www.alfredstate.edu/tool-lists).
The Building Trades Department is composed of four programs: building construction; heavy equipment operations; masonry; and heating, ventilation, and air conditioning. Rewarding careers in the construction industry are open to students graduating from the building trades programs. With the continual development of new building methods and materials, the craftsperson finds it necessary to keep abreast of these developments. Construction, as in many other occupations, is becoming a field of specialists. Coupled with hands-on experience working at off-campus construction sites, the programs provide the necessary theory as well as instruction in blueprint reading, cost and materials, estimating, safety, and the use of newly developed equipment and materials.

MISSION
Educate students to meet the changing needs of the construction industry by using real-world projects and utilizing the most up-to-date equipment, systems, and materials. We strive to improve the lives of our graduates by incorporating work ethics, communication skills, and developing leadership as part of their training.

FACILITIES
The 30,000-square-foot Workforce Development Center serves as a resource for each of the four programs within the Building Trades Department and was built specifically to support the construction industry demand for Alfred State's skilled trade graduates. Enhancing the facility are student learning projects and hands-on applications of student work that have been integrated as part of the facility. These projects serve as a showpiece and testimonial to the high level of education students receive. The program serves students with nearly every power and hand construction tool available to instruct students in every phase of the construction trade. All students participate in off-campus construction of full-scale homes and building renovations each year. This experience provides graduates with significant real-world training to apply concepts learned in the classroom.

TECHNICAL STANDARDS
It is crucial that all student applicants in this degree program must be able to meet the following requirements, with or without reasonable accommodation. Students who are enrolled in this degree program should have the physical capabilities to be able to engage in all training, field, and laboratory environments in a safe and ethical manner. Students must be able to:

- Lift and carry up to or 50 pounds of building materials/equipment without accommodations.
- Perform and function in a safe manner in all laboratory and classroom environments and off campus job site locations.
- Effectively communicate with classmates and instructional staff using appropriate visual and/or auditory communication from a distance of 20 feet.
- Physically setup, move, or climb ladders, scaffolding, etc., unaided, using the designated safety method.
- Identify and react to safety alarms which include, but not limited to, fire alarms, back up alarms and those meant for emergencies.

REQUIRED TOOLS/EQUIPMENT
A list of required tools, equipment, PPE, etc. for all of the programs mentioned above can be found at http://www.alfredstate.edu/tool-lists.

DEPARTMENT PROGRAMS
Building Trades: Building Construction (AOS)
Heating, Ventilation, and Air Conditioning (AOS)
Heavy Equipment Operations (AOS)
Masonry (AOS)
The department offers 10 programs for students desiring immediate employment, wishing to pursue a four-year degree, or looking to continue on with graduate studies. Courses during the first year in virtually all business programs are almost identical. This core block of courses enables students, during freshman year, to easily transfer from one business program to another with no loss of academic credit. Students may enter the programs in either the fall or spring semesters.

Technical accounting knowledge, communication and interpersonal skills, and career-related computer literacy are stressed throughout the programs. Many associate degree graduates go on to pursue bachelor’s degrees in business or business education, while graduates of the Bachelor of Business Administration (BBA) programs often go on to pursue master's degrees. Students completing virtually any Business Department two-year degree may easily transfer into one of our own bachelor’s degree programs. Students in technology management, financial planning, or sport management (BBA) programs also have the advantage of participating in a semester-long, 12-credit internship during their last semester.

The Business Department at SUNY College of Technology at Alfred has received specialized accreditation for its business programs through the International Accreditation Council for Business Education (IACBE) located at 11374 Strang Line Road in Lenexa, KS, USA. [https://iacbe.org/memberpdf/SUNYAlfredStateCollege.pdf](https://iacbe.org/memberpdf/SUNYAlfredStateCollege.pdf).

**MISSION**

Our faculty employ their real-world experiences to lead, motivate, and empower students to succeed in all aspects of business and life, and to positively impact their communities, as well as their respective disciplines.

**FACILITIES**

- **High-tech classrooms** – These settings are equipped with up-to-date electronic equipment. Computer technology has been integrated into course content.
- **Court and realtime reporting laboratory** – This lab is equipped with computer-aided translation equipment at every student work station. All students receive hands-on instruction using computer-aided translation (CAT) equipment. This real-time translation skill enables the graduate to take advantage of closed-captioning employment opportunities.

**DEPARTMENT PROGRAMS**

- Accounting (AAS)
- Business Administration (AS)
- Business Administration (BBA)
- Court and Realtime Reporting (AAS)
- Court Reporting and Captioning (Certificate)
- Financial Planning (BBA)
- Marketing (AAS)
- Sport Management (AS)
- Sport Management (BBA)
- Technology Management (BBA)
Civil Engineering Technology
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The Civil Engineering Technology Department offers a bachelor's degree program in construction management, a Bachelor of Technology degree program in construction supervision, as well as an associate degree program in construction engineering technology. Additionally, it offers an associate in surveying engineering technology and a bachelor's in surveying and geomatics engineering technology.

MISSION
Provide graduates with the skills necessary to have a successful career in their chosen field, have a better understanding of the world we live in, and improve their own lives.

FACILITIES
- **Joe Laraiso Construction & Geomatics Lab** – This state of the art software lab is equipped with 20 computer work stations arranged in a true team environment to enhance our project based learning. Construction students use estimating, scheduling and project administration software in conjunction with real plans and specifications, performing tasks required on jobsites. The lab is also conducive to Lean Last Planner System planning. Surveying & Geomatics students have access to full-scale Carlson software to perform industry standard mapping tasks. All civil engineering technology department students benefit from AutoCAD and Revit software to create 2D and 3D models of sites and the built environment.
- **Doc Bruce Construction Materials Lab** – This lab provides a meaningful experience in laboratory and field testing of various construction materials and structural systems. The equipment enables students to learn procedures that meet recognized field testing procedures of the American Concrete Institute (ACI), the American Society for Testing and Materials (ASTM), and NYS Asphalt Testing Certification.
- **The National Fuel Construction Management Student Conference Room** - Student conference room for group work on project based learning activities. This room is equipped with large format wall monitor, wifi, and whiteboard to facilitate group work. In addition, it is available for employers to conduct interviews and students participate in virtual interviews with employers.
- **Surveying Computations Laboratory** – The surveying computations lab contains work stations, digitizers, and overhead projection systems. It is designed to support the ‘field-to-finish’ concept of surveying data collection, data reduction, and analysis, as well as computer-aided drafting and design. Students use this facility to work with land development and design software, geographic information system software, and the reduction of satellite data. This lab enables students to do word processing, spreadsheet analysis, programming, data analysis, networked computer-aided design and drafting, and advanced 3-D modeling.
- **Surveying Laboratory and Equipment Room** – The surveying lab serves as the basic laboratory/lecture area for surveying field/design projects. Adjacent to this lab is the room housing a myriad of equipment, including electronic total stations, global positioning satellite equipment, theodolites, transits, and levels.

Please note: Students are required to have laptops. The laptops allow students wireless access to the college network from any location on campus. [https://www.alfredstate.edu/required-laptops](https://www.alfredstate.edu/required-laptops)

DEPARTMENT PROGRAMS
- Civil Engineering Technology (BS)
- Construction Engineering Technology (AAS)
- Construction Management (BS)
- Construction Supervision (BTech)
- Surveying Engineering Technology (AAS)
- Surveying and Geomatics Engineering Technology (BS)
The Computer and Information Technology Department offers associate degrees in computer information systems and computer science. Students who earn the computer information systems degree may continue in any of the department’s four Bachelor of Technology (BTech) degree programs. The computer science degree program is primarily designed to allow students to transfer into a college that offers a Bachelor of Science degree program in computer science; however, after completing their first year of study, computer science students have the opportunity to transfer into either our computer information systems AAS degree or into one of our four BTech degrees.

The department offers four Bachelor of Technology degree programs in network administration, applications software development, web development, and cyber security. Students may enter these programs as freshmen or transfer in as juniors from related associate degree programs. Articulation agreements have been developed with several community colleges to facilitate transfers. All of our degree programs provide our students with a solid foundation in the four core areas of information technology: application programming, web programming, network administration, and information security. At the end of their sophomore year, students are then allowed to select the BTech degree that best matches their academic interests. Our degrees incorporate the latest technology, including mobile application development, secure software development, life cycle processes, cloud computing, wireless networking, and neural programming. Our programs also stress the soft skills necessary in the working environment by requiring students to take courses in business management, technical writing, speech, business communications, project management, and business accounting.

MISSION
To provide a technical and professional education is provided with dynamic, up-to-date topics and prepare graduates to meet the needs of an increasingly technologically society. Our programs also stress the related skills necessary in the working environment by requiring students to take courses in business management, technical writing, speech, business communications, project management, and business accounting.

Brief Overview
The Computer and Information Technology Department offers two associate degrees and four Bachelor of Technology (BTech) degrees. The Computer Science AS program is designed to lead into one of the Electrical engineering technology programs or into one of the four Computer and Information Technology BTech programs with minimal additional courses. The Computer Information Systems AAS degree transfers flawlessly into our BTech degrees. The four Bachelor of Technology degree programs include Network Administration, Application Software Development, Web Development, and Cyber Security. Students who pursue a BTech degree are encouraged to earn a minor. The decision of what minor to take can include any that Alfred State offers or take one of the minors that the Computer and Information Technology Department has to offer: Network Administration, Application Software Development, Web Development, and Cyber Security.

FACILITIES

- **Laboratories**: Students are allowed 24-hour access to department laboratories.
  - The application software network and web development labs have 12 CISCO Routers and 12 CISCO Switches along with state-of-the-art computer workstations. Both labs have access to our server farm running a VMware operating system in which we can run hundreds of windows and Linux machines. Students also have access to the Netlab software which supports lab activities to learn many of the CompTIA disciplines, VMware software, Palo-Alto, Juniper, and open-source software.
  - The Cyber Security lab has a dedicated servers and a server farm of its own to practice hackers and admins and other cyber security disciplines. The room also features computer work stations and two high quality wall mounted monitors for use in practicing and researching cyber security.

- **Software, certifications, licenses, etc.**: The college has academic licenses for VMWare software products, all Microsoft software, a blade server with 128 gigabytes of RAM and a 12-terabyte storage array, a Cisco Certified Academy, three Cisco-certified instructors, Cisco Adaptive Security firewalls, Juniper application firewalls, Juniper routers, Juniper SSL VPN concentrators and an Oracle blade server, a certified Juniper academy and VMWare IT academy, an academic license with Oracle, Adobe Creative Suite 6.0, a dedicated systems lab used for microcomputer configuration, and a Pearson VUE, Prometric and Certified Internet Web Professional certification testing center.

Academies and Other Academic Sources
The department has access to several academies that the students can explore including CISCO, Palo-Alto Security, Juniper, VMware, and open-source. Alfred State has the only student community for Palo-Alto: Fuel Palo-Alto networks.

The Computer and Information Technology Department maintains several professional affiliations including the Association of Computerized Machinery (ACM), the National Support Center for Systems Security and Information Assurance (CSSIA), the Center for Infrastructure Assurance and Security (CIAS), Northeast Collegiate Cyber Defense League (NECCDL), and more.

Certifications
The department highly encourages and supports students to obtain professional certifications through an industry sponsored exams. In addition to course work, the Department sponsors courses which prepare candidates to be successful.

The Alfred State Certification Center is open for students to sit for their certification exam. The Center hosts all the Pearson Vue tests and Prometric: Automotive Service of Excellence. The student has access through Alfred State College to have a discount on CompTIA study material, practice tests and certification tests and includes A+, Sec+ and Network+.

**Please note**: All entering students must purchase a windows laptop computer. All the Computer Information and Technology disciplines are all Microsoft based. Apple computers are highly encouraged in this department.
DEPARTMENT PROGRAMS

- Computer Information Systems (AAS)
- Computer Science (AS)
- Cyber Security (BTech)
- Information Technology: Applications Software Development (BTech)
- Information Technology: Network Administration (BTech)
- Information Technology: Web Development (BTech)
The culinary industry offers a wide range of career opportunities; the list is endless, from health care to management positions in large companies. The department includes two programs: culinary arts - focusing on food production and management and baking, production and management - focusing on retail baking production. The department also offers a three-year dual degree program, along with an opportunity to obtain a baccalaureate degree in technology management in the following two years.

MISSION
The Culinary Arts Department is focused on developing skills needed for competent culinary professionals for an evolving industry.

TECHNICAL STANDARDS
It is essential that students in this degree program can participate fully and safely, with or without reasonable accommodation, in all classroom and laboratory settings required for completion of the program. Students in this degree program should be able to:

• Function in a safe manner, not placing themselves, faculty, staff, or other students in jeopardy.
• Appropriately and safely use standard laboratory equipment, materials, and instrumentation to include possession of fine motor skills and mobility.
• Make sensory visual and auditory observations during, and interpret data from, all required laboratory assignments.
• Communicate effectively, both orally and in writing.
• Capability to lift 50 pounds of kitchen product or equipment to industry standard counter height
• Ability to professionally manage and cope with work in a high paced and crowded lab environment for several hours a day.

REQUIRED TOOLS/EQUIPMENT
A list of required tools, equipment, PPE, etc. for all of the programs mentioned above can be found at www.alfredstate.edu/tool-lists.

FACILITIES
• Production lab – This lab gives students the opportunity to learn quantity food production and service through the preparation and service of 700 institutional meals for customers daily.
• The Refinery Restaurant lab – A well-equipped dining room and kitchen, this lab has virtually all the equipment used in commercial restaurants. Students prepare and serve meals to order for patrons daily.
• Bakery lab – This is reputed to be the best-equipped training facility of its kind in the state. The student has access to many types of baking equipment used commercially to produce baked goods for the Wellsville campus student dining hall (The Rig) and The Refinery Restaurant. Students produce baked goods in freshman and senior labs, which are sold and served to many. In addition, the preparation and presentation of elaborate creations, common in upscale restaurants, offers students the opportunity to develop their talents.

DEPARTMENT PROGRAMS
Culinary Arts (AOS)
Culinary Arts: Baking, Production & Management (AOS)
The Digital Media and Animation Department offers Associate of Applied Science and Bachelor of Science degrees in digital media and animation, Associate of Science and Bachelor of Science degrees in graphic and media design, and Associate of Science and Bachelor of Science degrees in game and interactive design.

MISSION
Prepares graduates for immediate employment or continued educational opportunities in a range of design and technology-related disciplines. The department provides quality technical education that integrates theory and practice with a foundation in the arts and sciences.

FACILITIES
• Studios – Students in DMA programs have 24-hour access to a large traditional studio space for foundations in traditional materials, figure drawing, and 2D and 3D design, a computer lab that provides industry-standard capability in 2D graphics, web design, interactive media, motion graphics, 2D and 3D animation, screen printing, large format printing, laser engraving/cutting, and 3D printing.
• Video and sound production studio
• Virtual reality and 3D sculpting studio
• Motion Capture Studio
• Other equipment and software – Digital cameras, production light kits, microphones, digital audio recorders, HD video cameras, drawing tablets, and other pieces of high-end equipment are available for students to sign out.
• Creative House - Designed specifically for students in the Digital Media & Animation or Graphic & Media Design programs, this Living Learning Community (LLC) features a studio workspace for its residents. Students live and learn with like-minded colleagues in a space made for productive and creative collaboration. With a studio space, a space to screen work, success workshops, live-in upperclassmen as mentors, and other extras, students who live in the Creative House LLC are prepared to hit the ground running on their creative projects. You can apply here - [https://www.alfredstate.edu/webforms/creative-house-application](https://www.alfredstate.edu/webforms/creative-house-application)

Please note: All entering students in the Digital Media and Animation Department programs are required to purchase a laptop computer. [www.alfredstate.edu/required-laptops](http://www.alfredstate.edu/required-laptops)

DEPARTMENT PROGRAMS
Digital Media and Animation (AAS)
Digital Media and Animation (BS)
Game and Interactive Design (AS)
Game and Interactive Design (BS)
Graphic and Media Design (AS)
Graphic and Media Design (BS)
Electrical, Machine Tool, and Welding Technology
Bradley Thompson, Chair
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Email: thompsbj@alfredstate.edu

From electrical contractors to welders and machine tool operators, Alfred State offers a variety of programs that prepare students to launch careers in high-demand professions. Each program provides 1,800 hours of related course work, theory, and hands-on practice, providing graduates with the necessary skills to be successful in these dynamic fields.

ELECTRICAL CONSTRUCTION & MAINTENANCE ELECTRICIAN PROGRAM
The hands-on electrical training provided in the first year consists of actual wiring projects off campus, as well as residential wiring projects in our laboratories. Our senior electrical students receive real-life experiences working with the campus maintenance department, trouble-shooting campus equipment, rewiring existing facilities, and designing and installing the electrical systems in the new facilities. Seniors will also design and install photovoltaic systems and wind turbine systems. They will work in the laboratories designing and installing automated projects (incorporating relay logic), PLCs, pneumatics, hydraulics, process control systems, three-phase transformer systems, industrial distribution, and motor theory and repair. All of the freshmen and senior students will utilize the National Electrical Code.

MISSION FOR ELECTRICAL CONSTRUCTION & MAINTENANCE ELECTRICIAN
Educate and instill in our students within a two-year time frame all of the information necessary to be successful in the electrical trades. This includes interpreting and understanding the National Electrical Code, electrical theory, mathematics, electrical nomenclature, wiring methods, and troubleshooting as it applies to residential, commercial, industrial wiring, and sustainable electrical systems. This also includes the necessity to work safely, be responsible, be dependable, and take pride in their craftsmanship.

TECHNICAL STANDARDS FOR THE ELECTRICAL CONSTRUCTION & MAINTENANCE ELECTRICIAN PROGRAM
It is essential that students in this degree program can participate fully and safely, with or without reasonable accommodations in all classrooms, laboratory, or field experiences required for completion of the program. Students in this degree program:

- Must be able to function in a safe manner, not placing themselves, faculty, staff, or other students in jeopardy.
- Must be able to appropriately and safely use standard laboratory equipment, materials, and instrumentation that requires possession of fine motor skills and mobility.
- Must be able to lift 50 pounds of materials up to 5ft to mount electrical panels at standard industry height.
- Must be able to communicate orally with a person 6 to 10 feet away.
- Must be able to read and decipher information found in technical manuals.
- Must be able to visually translate information on analog or digital meters and other test equipment.

MISSION FOR WELDING AND CNC MANUFACTURING & MACHINING TECHNICIANS
Strive to provide employers with entry-level technicians who are capable of functioning in and adapting to a rapidly changing environment.

TECHNICAL STANDARDS FOR WELDING & CNC MANUFACTURING & MACHINING PROGRAMS
It is essential that students in this degree program can participate fully and safely, with or without reasonable accommodations in all classrooms, laboratory, or field experiences required for completion of the program. Students in this degree program:

- Must be able to function in a safe manner, not placing themselves, faculty, staff, or other students in jeopardy.
- Must be able to appropriately and safely use standard laboratory equipment, materials, and instrumentation that requires possession of fine motor skills and mobility.
- Must be able to lift up to 50 pounds to a height of 5ft in order to load materials into manufacturing machines.
- Must be able to communicate orally with a person 6 to 10 feet away in a shop environment.
- Must be able to visually decipher an oscilloscope monitor and digital/analog meter, and scan tool displays.
- Must be able to diagnose mechanical failures that are distinguished auditorily.
- Must be able to understand and retain information found in service repair manuals and use diagnostic flow charts.
- Must be able to stand for long periods of time.

DEPARTMENT FACILITIES
- **Electrical Trades Labs** - Our electrical trades laboratories are well equipped with the latest in electrical test equipment. Students will facilitate learning by direct hands-on applications of the theory, knowledge, and skills presented in lecture. In this program, approximately 50 percent or more of each day is spent working hands-on in the laboratory or at a job site. Computer technology has been integrated into all of the courses.
- **Machine Tool/Manufacturing Labs** - The first-year lab is equipped with lathes, mills, shapers, grinders, etc., and appropriate tools acquired from a $1 million grant from the Gleason Foundation. In the second year of the CNC Manufacturing and Machining program, learning takes place in a state-of-the-art laboratory, where students are instructed in the use of multiple CNC machines that expand their experience to best prepare them for the manufacturing shop environment.
- **Sustainable Advanced Manufacturing Center** - This $5 million, 16,000 square-foot facility houses freshman and senior welding students and senior CNC Manufacturing and Machining students, who train for in-demand jobs, while learning state-of-the-art sustainable practices in advanced manufacturing through more efficient processes. The building includes classrooms, a computer lab, a welding booth shop, a welding fabrication shop, material handling and preparation space, a CNC machine shop, and metrology and inspection space.

REQUIRED TOOLS/EQUIPMENT
A list of required tools, equipment, PPE, etc. for all of the programs mentioned above can be found at www.alfredstate.edu/tool-lists.
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<th>DEPARTMENT PROGRAMS</th>
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<tr>
<td>Electrical Construction and Maintenance</td>
<td>CNC Manufacturing and Machining</td>
<td>Welding Technology</td>
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<td>Electrician (AOS)</td>
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The English and Humanities Department offers courses in composition, foreign language, fine art, speech, philosophy, and literature for the entire college. Colleges, universities, and large corporations have been increasingly emphasizing the significance of a liberal arts and sciences education in providing a solid foundation upon which careers are built. The liberal arts and sciences: humanities program prepares students for life by stressing the importance of reading, writing, and thinking, while developing in them an appreciation of the arts and of the wisdom of great minds.

MISSION
Instruct students in written and oral communication and impart an appreciation and understanding of the humanities and their role in the life of human beings living in a diverse world.

FACILITIES
The department is housed in the Hunter Student Development Center, where mathematics, computer, and study skills labs, as well as classrooms are equipped with the most recent technological teaching aids.

DEPARTMENT PROGRAMS
- Liberal Arts and Sciences: Humanities (AA)
- Technical Communication and Emergent Media (BS)

Watch a video about a poem created on-the-spot at our poetry reading:
MISSION STATEMENT

The individual studies associate’s degree, offered on campus or online, provides an opportunity to earn the degree, explore majors, career options, and futures. It is also excellent preparation for transfer into four-year programs or various colleges and universities, and can be tailored to fulfill a career goal that cannot be met by traditional programs offerings.

The Individual Studies Department offers curriculums that allow students to explore majors, and career options and create a specialized degree program. The department houses three curricula: individual studies (AS), interdisciplinary studies (BTech) and the undeclared major.

The undeclared major gives students the opportunity to try different options and select a course of study the first two semesters that fits students’ individual interests and background. Along the way, students take advantage of extensive support services, including career planning and counseling, offered by caring faculty and staff throughout the program. Students enrolled in the undeclared major must transfer to a degree-granting program within two semesters. The program includes both a component of core courses and a component of elective courses.

The individual studies program, offered on campus or online, gives students the opportunity to explore majors, career options, and futures. It is also excellent preparation for transfer into four-year programs or various colleges and universities and can be tailored to fulfill a career goal that cannot be met by traditional program offerings. It allows students to sample courses from different fields.

The bachelor of technology in interdisciplinary studies program is designed to provide a four-year curriculum in which students are empowered to personalize, within specified core and concentration areas, their technology-based program of study. The program is founded in academic flexibility by provided two sets of broad-based academic options. Students start with a core set of courses selected for years one and two of the program and two concentration areas by years three and four. Year one and two core areas include: STEM, management, design, health/agricultural/science, humanities/social sciences, and technical communication. Years three and four concentration areas include: STEM, management, technical communication/design, humanities/social science, and health/science.

FACILITIES

The department is housed within the Academic Advising Center in the Hunter Student Development Center, where mathematics, computer, and study skills labs, as well as classrooms, are equipped with the most recent technological teaching assistance.

DEPARTMENT PROGRAMS

- Individual Studies (AS)
- Interdisciplinary Studies (BTech)
- Undeclared Major
The Mathematics and Physics Department offers a variety of courses, including pre-algebra, algebra, trigonometry, statistics, calculus, differential equations, astronomy, physics, and physical science. Students are recommended for placement in mathematics on the basis of their high school preparation and their placement test score. The department faculty serve as advisers for students majoring in the areas of mathematics and/or science and for those in the pre-environmental science and forestry programs. They also serve as advisers for undeclared majors. Physics and physical science courses develop within the student an understanding of basic physical principles and an appreciation of the natural environment. Technical programs require a firm foundation in fundamental physics. To that end, courses also encourage and develop the student’s competence in the use of logical procedures in problem solving. Math courses are taught to develop students’ abilities in logical reasoning, problem solving, and critical thinking, as well as to build algebraic reasoning and calculus skills.

**MISSION**

Provides mathematics and physics foundation courses for engineering and engineering technology students. The department also provides general education mathematics and natural science courses for all students.

**FACILITIES**

- **Physics labs** – These labs are well equipped with apparatus to facilitate learning by direct experience and to provide students with an opportunity to discover many principles on their own. The laboratory instructor is a member of the regular teaching staff and, in most cases, is the same instructor the student has for the physics lecture session. Facilities include a linear air track, lasers, air table, X-ray recorders, gamma spectrometers, oscilloscopes, precision electrical measuring devices, strobe lights, precision timers, and an 8-inch Cassegrain telescope, as well as a large collection of traditional physics apparatus, many of which are used directly by the students in their laboratory work.

**DEPARTMENT PROGRAMS**

- Liberal Arts and Sciences: Math and Science (AA)
- Pre-Environmental Science and Forestry (AA)
Mechanical and Electrical Engineering Technology

Aric Bryant, Chair
Phone: 607-587-4690
Fax: 607-587-4620
Administrative Assistant Phone: 607-587-4617
Email: bryantam@alfredstate.edu

The Mechanical and Electrical Engineering Technology Department has several programs that prepare graduates to join the workforce as successful technical and management professionals in a variety of industries, including electrical engineering technology, mechanical engineering technology, computer engineering technology, and mechatronics technology. Because the department maintains active contact with related industries and professional societies and works closely with them to assist graduates in exploring their profession and creating contacts for employment, graduate placement is excellent. Educational opportunities also occur through projects, competitions, and field trips in addition to memberships in several active professional society student chapters.

MISSION
To prepare graduates for immediate employment and continued educational opportunities through a quality technical and experience-based education.

FACILITIES

- **Advanced Electronics Laboratory** – (SET 456) Each work station in this laboratory has a computer that controls automated test equipment stations with a generator and digitizing oscilloscope, multi-meter, and power supplies. Students can capture the oscilloscope display, run automatic frequency response, or measure device characteristics and insert these results into their laboratory reports. The work stations have programs for data analysis and circuit simulation such as Excel, MATLAB, LabVIEW, Multisim and Ultiboard. Internet connections allow quick reference to manufacturer’s data sheets. In addition to the general-purpose and automated test equipment, the lab also contains radio frequency (RF) test equipment such as a spectrum analyzer and data communications test equipment to investigate modulation and transmission.

- **Automated Manufacturing Laboratory** – (SET 369) Provides direct experience with computer numerical control (CNC) machines, robotics, and the integration of robotic concepts to automated manufacturing. This includes a 3-axis HAAS mini mill, HAAS mini CNC lathe and an Emco 155 vertical mill. Part design and programs for operation of the CNC systems are prepared and executed. This lab is also equipped with a 3-axis coordinate measuring machine (CMM) for parts inspection and reverse engineering.

- **Computer-Aided, Mechanism, and Mechanical Design Laboratory** – (SET 396) Provides a true design environment that is supported by the latest software for drafting, solid modeling, product design, mechanism and system design, calculations, presentations, and analysis. Labs consist of either “stand alone” desktop computers or student laptops. The laboratory is also equipped as a standard industrial research and development laboratory in the area of mechanical systems dynamics. This facility enables students to analyze rotational equipment, industrial power transmission devices, and various mechanical linkage designs. Using a “learn-by-doing” approach, students are able to apply the theoretical concepts conveyed during lecture to complete rigorous laboratory assignments.

- **Data Acquisition Laboratory** – (SET 449B) Here students are introduced to general characteristics of electromechanical sensors and transducers, electrical measurement systems, electronic signal conditioning, data acquisition systems, and response characteristics of instruments. Industrial equipment, such as a punch press, drill press, and metal lathe are equipped with sensors that are configured to measure physical quantities such as force, strain, displacement, velocity and acceleration. Computers in the laboratory running LabVIEW software perform data acquisition, calculation and report generation with a graphical user interface. Utilizing renewable energy sources requires environmental monitoring. Laboratory activities could include using transducers to measure wind speed and direction, solar radiation, and temperature along with voltage, current and power measurement.

- **Electronic Fabrication Laboratory** – (SET 462A) This is a freshman "skills" laboratory covering a wide range of basic electronic fabrication techniques. It introduces the student to layout and design software tools for sheet metal chassis and printed circuit boards (PCBs) designs, electronic component identification, the proper use of soldering/de-soldering tools, wire-wrapping, schematic layout, and PCB design and fabrication techniques, as well as familiarize with a wide range of hand and power tools and proper safety practices. The laboratory is equipped with a kick-shear, punch press, bending brake, drill presses, Pace solder stations, and CNC rapid prototype machine. The laboratory contains a safety chemical vapor hood used for chemical etching of PCBs. The soldering work stations also feature individual ventilation fans. Once students learn the foundational techniques, students are allowed to use the fabrication resources for later class projects.

- **Electrical Machines Laboratory** – (SET 454) Electrical machines convert electrical energy into mechanical energy or vice versa. A fundamental distinction can be drawn between DC, AC, and three-phase machines. The machines used for training in electrical engineering are designed so that nearly all of the circuitry and drives found in industry, commerce, and at home can be conveyed in a didactic fashion in hands-on training. Using the servo drive and braking system, it is possible to easily determine all of the relevant data for electrical machines. Electrical Machines modules include DC machines, shunt-wound, series-wound and compound-wound machines 300W (EEM 2-3), AC machines 300W, universal motor 300W, single-phase induction motor with operating and auxiliary capacitor 300W and split-pole motor 300W (EEM 3-3), asynchronous machines 300W and three-phase induction motor with squirrel cage and distinct pull-out torque 300W (EEM 4-3), and synchronous machines and mains synchronization 300W, synchronous machines 300W and mains (grid power) synchronization 300W (EEM 5-3).

- **Embedded Controller Laboratory** – (SET 449A) This laboratory provides an integrated engineering systems approach toward understanding automation principles with emphasis on embedded microcontrollers. Exposure to electrical, mechanical, and process control areas is integrated into this laboratory allowing for evaluation of embedded controller applications using motion control and peripheral devices such as dc and stepper motors, pushbuttons, switches, seven segment and liquid crystal displays (LCD), matrix keypads, analog to digital converters, speakers and radio frequency (RF) and infrared (IR) interface techniques.

- **Energy Storage and Conversion Laboratory** – (SET 246) Provides hands-on experience in the areas of fluid mechanics, heat transfer, and thermodynamics. Classroom theory is reinforced through the application to HVAC systems, wind turbines, solar-thermal, fuel cells, batteries, and other thermal-fluids process equipment. The characteristics of the laboratory systems are investigated, tested, and evaluated for component and overall efficiencies. Students gain experience in the operation of data acquisition, process control, temperature, pressure, fluid flow control, combustion, and system-level test equipment.

- **Fluid Power Laboratory** – (SET 252) This lab is used for both lower- and upper-division fluid power courses. Lab facilities include fully functional pneumatic and hydraulic system components. Students design and fabricate working fluid power circuits to reinforce topics covered in the classroom setting. Upper-division students use the hydraulic laboratory facilities to prepare for an optional industry certification offered at the end of the semester.

- **General Purpose Laboratories** – (EJ 414, EJ 415, EJ 417) General purpose laboratories are equipped with web, office, and programming software. They are used for a variety of courses such as programming, web, database, and microcomputer applications.

- **Industrial Controls Laboratory** – (SET 454) This laboratory contains multiuse work areas. When used as an introductory electrical circuits and a digital electronics laboratory, students bring in their breadboard notebook constructed in the fabrication lab and use it to build and test simple circuits to develop an understanding of the fundamentals of circuit theory and digital electronics. Other test equipment such as oscilloscopes, meters, power supplies, and signal generators are on each workstation. This laboratory is also equipped with eight matched sets of AC and DC fractional horsepower machines and the test equipment.
equipment necessary to analyze their performance. Stepper motors, servo motors, programmable logic controllers (PLC), transformers, rectifiers, synchronous machines, loading devices, variable frequency drives, and a simulated transmission line relay demonstrator are available and used for laboratory experiments.

- **Machine Tool/Manufacturing Laboratory** – (SET 380) Is equipped with 20 manual tool room style engine lathes, vertical and universal milling machines, drill presses, and radial drill presses. Traditional machining operations are introduced and reinforced in this laboratory with the goal of giving the students “hands-on” exposure to various methods and techniques applied to production so as to give a better understanding of the related design concepts.

- **Materials Testing Laboratory** – (SET 384) Includes a 160,000-pound universal testing machine and other test equipment to examine impact, torsion, hardness, and fatigue. Metallographic preparation and computer-aided image processing are used to examine material structure. Heat treating furnaces are also used to investigate the effects of thermal processing.

- **Metrology and Measurements Laboratory** – (SET 379) Serves as a state-of-the-art “quality assurance” center and is anchored by new equipment recently donated by numerous manufacturers. Facilities include a manual coordinate measurement machine donated by Helmel Engineering and a digital Starrett optical comparator and direct computer controlled coordinate measurement machine, both acquired through a grant from the Gleason Foundation.

- **Microelectronics Laboratory** – (SET 462B) This laboratory gives the student a realistic experience in semiconductor manufacturing processes. In industry, the nature of the integrated circuit (IC) fabrication process is highly complex and absolutely intolerant of mistakes. Complex ICs have a multitude of transistors, capacitors, and resistors. Fabrication of these devices is rather simple in theory - deposit, pattern, etch, and repeat. However, the actual fabrication process is unbelievably detailed at every step. For very complex ICs, there can be 500 or more individual process steps! The slightest mistake at any of these steps can render the entire device useless. Through a recent grant opportunity, this laboratory was equipped with Modu-Lab semiconductor device manufacturing equipment and a clean-room facility. Oxidation/diffusion, photolithography (spin/bake/expose/develop), etch, and vapor deposition stations allow the student the opportunity to design, build, and test their own simple solid-state devices, while gaining experience in clean room operations.

- **Microfabrication and Semiconductor Manufacturing Facility** – (SET 468) This classroom includes a clean room for advanced miniature device and circuit development. The facility provides state-of-the-art instruments for designing, fabricating, characterizing and testing of complex micro-scale structures and devices in MicroElectroMechanical Systems (MEMS) and Microelectronics. The recent upgrade allows fabrication of very small MEMS devices such as sensors, actuators and microfluidic systems, and more advanced microelectronic components such as integrated circuits (ICs), transistors, capacitors, inductors, resistors, and diodes.

- **Networking Laboratories** – (SET 440 and SET 446) Two fully equipped networking laboratories are used to give students hands-on experience so critical to the competitive computer and information technology job market. The college has an academic license for VMWare software products so students, using the latest version of VMWare Workstation, can run multiple guest operating system virtual machines on our powerful lab computers creating complex layered virtual networks that can be directly connected to any of our lab network equipment. The labs are equipped with a blade server with 48 gigabytes of RAM and 12 terabyte storage array upon which VMWare enterprise software is used to create a private cloud infrastructure where students can create and access virtual appliances. The college has an academic license for all Microsoft software, which allows students to acquire experience using the latest enterprise network operating systems.

- **Power Electronics Laboratory** – (SET 454) Power electronics is the technology of switching and converting high levels of electrical power. Today, this is done using semiconductor components like diodes, thyristors and IGBTs. The main area of application for power electronics is drive technology. The modular training system accompanies you on your journey from static converter technology to closed-loop control drives and offers you the possibility of dealing in detail with the topics most relevant to you. The modular system with training panels and the systematic software support allows for continuous upgrading, supplements or technology-prompted extensions. Power electronics modules include line commutated converter circuits 300W (EPE 30-3), self-commutated converter circuits 300W (EPE 40-3), converter drives with DC motors 300W (EPE 31-3) and converter drives with DC motor 300W (EPE 43-3).

- **Power System Laboratory** – (SET 456) This laboratory contains professional trainer modules that simulate a power system. Each module contains hardware and software installed on its own computer for a full power analysis. A stand-alone power network is a type of power supply network that is closed and has no active lines coupling it to other parts of the electrical power supply grid. A stand-alone network is markedly smaller than a combined electricity grid and does not usually incorporate high-voltage power lines. For this type of network, there are two distinct modes of operation: stand-alone mode and isolated parallel or generator-to-generator operation. This type of supply network is frequently used for the industrial power supplies of large businesses. When this stand-alone network is connected to a smart grid, it is referred to as a microgrid. This type of grid has three different operating modes: on-grid, off-grid and dual mode. Microgrids will be playing a huge role in the smart grids of tomorrow. The Micro Grid modules include Micro Grid Stand Alone Operation (EMG 1) and Micro Grid Isolated Parallel Operation (EMG 2). Energy Management modules include Complex Loads, Power Consumption Measurement and Peak Overloading (EUC 1). This trainer contain three-phase consumers with star and delta connections (R, L, C, RL, RC and RLC loads) and measure with active and reactive energy meters for symmetric and asymmetric RL loads in the event of a phase failure or over-compensation (RC load).

- **Renewable Energy Laboratory** – (SET 456) Professional Photovoltaics system allows the passage of the sun to be simulated realistically. This makes it possible to perform experiments in the lab in practical fashion without any need for the sun itself. The design of photovoltaic systems operating in parallel with the electric power grid is realistic. In order to stabilize the electricity grid, the techniques of derating the power inverter and controllable local transformers are used. Knowledge and practical skills along with computer-based assessment of measured data are made possible by the professional photovoltaics multimedia course along with SCADA Power Lab software. The module includes solar module with solar altitude emulator, the Solar Altitude Emulator and Load Unit 1kOhm, 500W (EPH 3).

- **Student Project Laboratory** – (SET 460) Space in this laboratory provides support for course projects and particularly the senior capstone design experience. This facility provides secure storage for projects and the necessary tools and support equipment. The laboratory houses a model house room layout for testing of competitive autonomous robots. The active campus Robotics Club makes use of the room for building, maintaining, and evaluating student built robots.

- **Systems Laboratory** – (EJ 411) This lab is used for teaching microcomputer hardware and operating systems installation, upgrading, troubleshooting, and maintenance.

- **Thermodynamics Laboratory** – (SET 344) Provides students hands-on experience with diesel and multi-fuel spark ignition engines. Real-time equipment performance data is used for simulation, modeling, and economic analysis. Areas of the energy systems laboratory are also allocated for senior projects and the SAE Baja student club.

- **Thermofluid Mechanics Laboratory** – (SET 245) Is equipped with systems which provide experience with the principles of fluid mechanics and thermodynamics. Fluid flows through venture tubes, orifices, nozzles, pipes, ducts, and open channels together with system components such as pumps, fans, and piping systems are used to provide a broad range of experiment to support basic principles.
The impending shortage of practitioners and current critical shortage of educators is leading to multiple options for those interested in the nursing profession. Jobs are available nationwide in a wide range of settings with excellent salaries and opportunities for growth. At Alfred State, we are preparing students to be designers, coordinators, and managers of health care. Our students graduate as leaders contributing to the advancement of health care and the profession itself. The Nursing Department offers an associate degree nursing program accredited by the Accreditation Commission for Education in Nursing (ACEN).

The associate degree is designed to prepare individuals to become registered nurses (RNs). Students of this program become eligible to take the NCLEX-RN licensing exam and receive excellent clinical preparation in a variety of settings.

Alfred State nursing AAS graduates may enter directly into the Alfred State bachelor’s degree program in nursing. The AAS program can be completed full-time in two years or part-time as the student desires and is a face-to-face model. The upper-level nursing courses are offered in an online format.

MISSION
Foster the development and growth of professional nurses in a rural environment. Nursing practice exhibits compassion, caring, and lifelong learning.

FACILITIES
- Physical & Health Sciences Building – This beautiful showcase facility, which opened in 2012 following an $18.5 million renovation project, houses the Nursing Department.
- Nursing skills lab – The lab utilizes state-of-the-art equipment including mid-fidelity manikins, newborn manikin SimNewB, and a PROMPT Birthing Simulator to complement and reinforce the learning that takes place in clinical experiences at area hospitals. This lab simulates a hospital floor setting with six stations and six VitalSim™ manikins. Each station is fully equipped for the student to learn and practice clinical skills in an acute care setting.
- High-fidelity simulation labs – These two high-fidelity simulation labs each house a SimMan 3G® manikin. The simulation observation room is equipped with computers and monitors to record simulation activities.
- Practice lab – Students have access to two stations that simulate a hospital floor setting, four examination stations, and two VitalSim™ manikins within this lab.
- Public Health Simulation – In addition to the above skills labs, there are facilities for students in Nursing and Allied Health to participate in simulations to promote learning in settings outside of acute care.

DEPARTMENT PROGRAMS
- Nursing (AAS)
- Nursing Dual Degree (AAS to BS in Nursing)
- RN to BS in Nursing
The Physical and Life Sciences Department at Alfred State provides students with a strong education in a wide range of scientific and technical disciplines through online and on-campus curricular offerings. Faculty specializations span a spectrum of molecular and cell biology, genetics/genomics, nutrition science, forensic science, chemical instrumentation, microbiology, and physical chemistry. While diverse, the faculty and staff share the common goal of effectively delivering the practical and theoretical foundations of disciplines through a rich blend of interactive lectures, informal discussion, meaningful laboratory inquiries, and internships. In addition to discipline-related course work, each program is complemented by a broad array of general education courses aimed at equipping students with insights and background that will help fulfill their roles in greater society. Emphasis is also placed on lifelong learning, as reflected by the many articulation agreements assuring seamless transition to other programs within Alfred State and to other institutions of higher learning.

The department offers students direct use of modern laboratory/clinical equipment in real-world or simulated settings. Practical, hands-on competencies, critical reasoning skills, and, where pertinent, team-based problem solving, are emphasized. If a student expresses an interest outside of a discipline's normal scope, independent study options may also be developed.

In some programs there are physical ability requirements based on individualized assessment rooted in current medical evidence or the best objective evidence. See each program for specific physical requirements. If a student's physical ability compromises or threatens their success in a program, or the health and safety of others, they may be denied enrollment or continuation in the program.

**MISSION**

To be recognized for employing a comprehensive plan for recruiting and admitting, orienting and advising, retaining, graduating, and placing students of its degree programs.

**FACILITIES**

**Physical & Health Sciences Building** – The Physical and Life Sciences Department is located in this facility. Four science-ready lecture rooms are on the first floor with eight laboratories found on the second and third floors for the biological science, health science, and the forensic science technology programs. The laboratories are outfitted with state-of-the-art equipment and instrumentation, anatomic models, and the latest application software for teaching and learning as well as for independent study and research.

**DEPARTMENT PROGRAMS**

- Biological Science (AAS)
- Forensic Science Technology (BS)
- Health Sciences (BS)
The Social and Behavioral Sciences Department offers courses in anthropology, criminal justice, education, history, human services, political science, psychology, and sociology. It coordinates six curricula: criminal justice (AS and BS), human services management, human services, liberal arts and sciences: social science, and liberal arts and sciences: adolescent education (teacher education transfer).

The criminal justice associate degree program provides graduates a solid foundation in the field of criminal justice and its basic components. The program offers practical knowledge that is integrated across core criminal justice courses and that is then combined with other relevant course work. The program emphasizes the development, structure, and function of the criminal justice system within the US, as well as ethical law enforcement practices and community relations. In addition, the program’s professional course work includes a management component that helps prepare graduates for administrative and leadership positions within the criminal justice system.

The criminal justice bachelor's degree program provides graduates a solid foundation in the field of criminal justice, both its essential components and emerging areas, with a focus on leadership and applied learning. With strong preparation in conceptual knowledge, students gain practical experience in criminal justice, including the opportunity to complete either an internship or a lab-based criminal investigation course in their final semester. In order to prepare graduates for a wide variety of careers, the program emphasizes several areas within criminal justice: ethical law enforcement practices, decision-making, community relations, working with diverse populations, public safety, and criminal justice leadership and administration.

The human services management bachelor's degree program prepares graduates for mid-level positions in human services and social services agencies requiring skills in both direct service to clients and in management. It also prepares them for transfer into graduate-level programs in such areas as human services, public administration, and social work administration.

The human services associate-level program prepares students for entry-level career positions in a variety of human service occupations or to continue their education in baccalaureate programs. Students who pursue careers upon graduation often work with the elderly or in programs that focus on early childhood, chemical dependency, or the mentally and developmentally disabled. Students who transfer often select baccalaureate majors in human services management, social work, criminal justice, education, human services, psychology, and sociology.

The liberal arts and sciences: social science associate degree program is a transfer program that provides flexibility to students in their choice of future major. Students take considerable course work in psychology, sociology, and history, and additional courses in mathematics, English, the humanities, and the natural sciences. When transferring, students often select baccalaureate majors in psychology, anthropology, sociology, political science, history, gerontology, communications, early childhood/childhood education, adolescent education, and criminal justice.

The liberal arts and sciences: adolescent education (teacher education transfer) associate-level program prepares graduates to transfer to a four-year adolescent education program at a public or private college or university. Students may select one of six concentrations: history/social studies, English, math, physics, biology, or chemistry.

MISSION

Develop and offer excellent academic programs in criminal justice, human services, social sciences, and education, and to develop and offer high-quality courses in the social and behavioral sciences that meet the program needs of the students of Alfred State.

FACILITIES

The department is housed in the Hunter Student Development Center, where mathematics, computer, and study skills labs, as well as classrooms, are equipped with the most recent technological teaching aids.

DEPARTMENT PROGRAMS

Criminal Justice (AS)
Criminal Justice (BS)
Human Services (AS)
Human Services Management (BS)
Liberal Arts and Sciences: Adolescent Education - Teacher Education Transfer (AA)
Liberal Arts and Sciences: Social Science (AA)
ACCOUNTING

AAS DEGREE – CODE #0630
Holly Chase, Program Coordinator
Email address: chasehs@alfredstate.edu

The accounting program is one of our most established and respected within the business discipline. It is a computer-based program in which the latest accounting theory and real-world practice receive equal emphasis as applied to both financial and managerial accounting issues. If you’re looking to enter the job market upon graduation or if you’re considering an advanced degree, this major is tailor-made for you.

ADVANTAGES
- Required course work covers areas critical to success in today’s business workplace: technical accounting knowledge, communication and interpersonal skills, career-related computer literacy.
- High-tech classrooms with computer technology integrated into course content.

PROGRAM STUDENT LEARNING OUTCOMES
- Recognize the primary theories within the principle functional areas of business.
- Demonstrate professional business communication.
- Illustrate critical thinking and effective decision-making within the principle functional areas of accounting.
- Identify ethical issues within accounting.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS
Alfred State accounting graduates may enter directly into either the business administration BBA, financial planning BBA, the interdisciplinary studies BTech, or technology management BBA degree program.

CONTINUING EDUCATION OPPORTUNITIES
Students may transfer directly into one of our own BBA degree programs or to another college. Students are encouraged to make their intentions known to their academic adviser during their freshman year. Through the careful use of elective courses, students can realize excellent transfer credit.

The Business Department has established many formal articulation agreements with local four-year institutions, although graduates may transfer to colleges virtually anywhere. Historically, accounting graduates have done very well after leaving Alfred State, whether they enter the workforce or transfer to an advanced program.

OCCUPATIONAL OPPORTUNITIES
- Banking
- Manufacturing
- Retail
- Government and other not-for-profit entities
- Tax agencies
- Financial services

EMPLOYMENT STATISTICS
Employment and transfer rate of 100 percent — 100 percent continued their education.

RELATED PROGRAMS
Agricultural Business
Business Administration
Computer Information Systems
Financial Planning
Marketing
Technology Management

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra
Recommended: Geometry and Algebra 2

REQUIRED EQUIPMENT
A tier 1 laptop computer is required for students entering the accounting program. Laptop specifications are available at http://www.alfredstate.edu/required-laptops.

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

ACCOUNTING - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

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<td>ACCT 1124 Financial Accounting</td>
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<td>COMP 1503 Freshman Composition</td>
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<td>CISY xx3 Info Technology Elective</td>
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<td>MKTG 2073 Principles of Marketing</td>
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<td>ACCT 2224 Managerial Accounting</td>
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<td>BUAD 2033 Business Communication</td>
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<td>GLST 2113 Global Perspectives:Spcl Topic</td>
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<td>Third</td>
<td>ACCT 3423 Intermediate Accounting I</td>
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<td></td>
<td>ECON 1013 Principles of Macroeconomics</td>
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<td>ACCT 3453 Tax Accounting I</td>
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<td>BUAD 3043 Business Law I</td>
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<td>BUAD 3153</td>
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<td>Fourth</td>
<td>ACCT 4523 Intermediate Accounting II</td>
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<td></td>
<td>XXXX xx3 Gen Ed Natural Science Electroive</td>
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<tr>
<td></td>
<td>BUAD 4053 Business Law II</td>
<td>3</td>
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<tr>
<td></td>
<td>ECON 2023 Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ACCT 4663 Acctng Sys &amp; Computer Appl</td>
<td>3</td>
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</table>

GRADUATION REQUIREMENTS
62 semester hours, including 20 hours in major field with a 2.0 cumulative index in such courses, as well as six credit hours of math.

END-OF-PROGRAM EXAM REQUIREMENTS
All students are required to complete an end-of-program exam. This exam will be taken in the capstone course for the student’s specific program in ACCT 4523 Intermediate Accounting II. The end-of-program exam will also be considered an assignment in the capstone course. The benefit of taking the end-of-program exam is to test the student’s knowledge at the time of graduation. Students may include the progress from the end-of-program exams on their resume. Taking the end-of-program exam will have some fees, which are currently $23 per exam. Exams will be taken once and they will impact the student’s capstone course grade by 5%. Please refer to the syllabi for the relevant capstone course to know the grading scale for the end-of-program exam.

The end-of-program exams are required, not optional.

Information on how to take the exams will be given in the course prior to the end-of-program exam.

How should I prepare for the assessment exam?
The comprehensive end-of-program exam covers topics taught throughout the degree program, which are aligned to the topics required for accreditation. The preparation for the exam comes from your educational experience with the school, specifically through the required courses for your degree. The exam assesses the foundational knowledge areas for your discipline.
Dr. Philip Schroeder, Department Chair and Program Coordinator
Email Address: schoepd@alfredstate.edu

The BTech in the agribusiness management program is designed to provide you, tomorrow’s agricultural entrepreneurs, with the skills to make local agriculture economically viable through the application of traditional production practices and the development of value-added (VA) products. You will take production courses to build a strong foundation in agriculture, value-added courses to develop non-traditional agriculture skills, and business courses to understand marketing and financial management.

This program will appeal to both traditional agriculture students who come from a farm background and to students who are new to agriculture. This program will prepare students to be successful in their efforts to improve the profitability of an existing farm or start a new agricultural venture.

ADVANTAGES
• Our graduates have the technical knowledge of agricultural production practices, land and water resources, management, and agricultural markets necessary to enter nearly any facet of the agribusiness field.
• Our students have hands-on experience with modern automated agricultural production systems, organic farming methods, and value added agriculture.
• Our students have the opportunity to work on the college farm and learn first-hand how to manage multiple species in modern high-tech facilities.
• Our students also learn the application of fundamental business management skills to agriculture.

RELATED CLUBS AND ACTIVITIES
Students have the opportunity to participate in the Collegiate Agricultural Leaders (CAL) Club, Collegiate FFA, Equestrian Club, Dairy Judging Team, Agricultural Skills Day, Spring Fling Consignment Sale, Community-Supported Agriculture projects, local foods projects, showmanship contests, and Sustainability Club.

OCCUPATIONAL OPPORTUNITIES
• Management or ownership of commercial farms
• Agricultural credit officers for banks, government, loan agencies, and farm cooperative loan agencies.
• High school agriculture teacher/agriculture educator
• Writers of technical publications, radio and TV scripts, news items for magazines and newspapers, education and public relations materials
• Manager/assistant managers of farm supply stores
• Warehouse managers for farm chemicals, feed, seed, and fertilizers
• Chain store and retail food management
• Agricultural consulting services
• Ag education
• Cooperative Extension

EMPLOYMENT STATISTICS
Employment and continuing education data not available

RELATED PROGRAMS
Agricultural Technology
Agricultural Business
Agricultural Automation and Robotics

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
• Required: Algebra, Geometry, Biology

A typical day consists of two, one-hour lectures and a two-hour studio in the first and second years. At the junior and senior levels, three-hour studios are required.

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.
## TYPICAL EIGHT-SEMESTER PROGRAM

### First

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<tr>
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<td>ANSC 1204</td>
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<td>AGRI 1001</td>
<td>Farm Practicum I</td>
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<td>BIOL 1304</td>
<td>Botany</td>
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<tr>
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<td>MATH 1123</td>
<td>Statistics I</td>
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<td>Principles of Macroeconomics</td>
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<td>SPCH xxx3</td>
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<td>XXXX xxx2</td>
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<td>XXXX xxx2</td>
<td>Ag Elective</td>
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<tr>
<td>AGPS 2113</td>
<td>Field &amp; Forage Crops</td>
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<td>ACCT 1124</td>
<td>Financial Accounting</td>
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<td>LITR xxx3</td>
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<td>Managerial Accounting</td>
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<tr>
<td>AGRI 2101</td>
<td>Sophomore Seminar</td>
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<td>XXXX xxx3</td>
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<td>Farm &amp; Rural Business Mgmt II</td>
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<tr>
<td>AGEC xxx3</td>
<td>Ag Business Elective (upper)</td>
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<td>XXXX xxx3</td>
<td>Technical Elective</td>
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<tr>
<td>XXXX xxx3</td>
<td>Ag or Business Elective (upper)</td>
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<td>XXXX xxx3</td>
<td>Technical Elective</td>
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<td>TGMT 7153</td>
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<td>Principles of Microeconomics</td>
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<td>MKTG 6003</td>
<td>Strategic Marketing</td>
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<td>BUAD 7023</td>
<td>Legal Environment of Business</td>
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<tr>
<td>XXXX xxx3</td>
<td>Technical Elective</td>
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<td>Technical Elective</td>
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<td>Human Resource Management</td>
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<tr>
<td>COMP 5703</td>
<td>Technical Writing II</td>
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<tr>
<td>BUAD 7004</td>
<td>Small Business Planning &amp; Mgmt</td>
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</tr>
<tr>
<td>AGRI xxx3</td>
<td>AGRI/AGPS Elective (upper)</td>
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<td>XXXX xxx3</td>
<td>Open Elective (upper)</td>
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<td>AGRI 7002</td>
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<td>AGRI XXXX</td>
<td>Ag Internship or 12 upper division elective</td>
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</table>

### Graduation Requirements

- Total minimum credit hours for graduation is 120.
- A cumulative overall index of at least 2.0 is required in order to graduate.
- 30 credit hours of the 45 upper-level credit hours for this degree must be taken at Alfred State.

### Additional Program Information

- Seven of the 10 SUNY-approved General Education categories must be fulfilled.
AGRICULTURAL AUTOMATION AND ROBOTICS

AAS DEGREE - CODE #2917

Dr. Philip Schroeder, Department Chair and Program Coordinator
Email Address: schroepd@alfredstate.edu

Careers related to agriculture are diverse and constantly changing. Today’s students need the flexibility to tailor a degree to suit their needs. That’s why our agricultural automation and robotics curriculum has been designed to prepare students to enter the workforce as an agricultural automation technician or continue their education in one of Alfred State’s baccalaureate programs.

ADVANTAGES
- Opportunities for hands-on experience with automated milking equipment.
- Hands-on experience and class work in both agriculture and engineering.
- The only program of its kind in the US.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS

Alfred State agricultural automation and robotics graduates may also enter directly into either the agribusiness management BTech, interdisciplinary studies BTech, or the technology management BBA degree program.

RELATED CLUBS AND ACTIVITIES

Students have the opportunity to participate in the Collegiate Agricultural Leaders (CAL) Club, Collegiate FFA, Equestrian Club, Dairy Judging Team, Agricultural Skills Day, Spring Fling Consignment Sale, Community Supported Agriculture projects, local foods projects, showmanship contests, and Robotics Club.

CONTINUING EDUCATION OPPORTUNITIES

Many schools, including Cornell University, grant full credit to students wishing to transfer to four-year programs. A formal articulation agreement exists between Alfred State and Cornell University for transfer options.

OCCUPATIONAL OPPORTUNITIES
- Installation and maintenance of agricultural automation equipment
- Agricultural automation equipment operations
- Agricultural automation equipment research and development
- Salespeople and consultants for agricultural equipment distributors

EMPLOYMENT STATISTICS

Employment statistic data not available

RELATED PROGRAMS

Agricultural Technology
Agricultural Business
Electrical Engineering Technology
Mechanical Engineering Technology
Mechatronics Technology

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry, Algebra 2

Recommended: Physics

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

AGRICULTURAL AUTOMATION AND ROBOTICS

A typical day consists of two, one-hour lectures and a two-hour studio in the freshman and sophomore years. At the junior and senior levels, three-hour studios are required.

TYPICAL FOUR-SEMESTER PROGRAM

<table>
<thead>
<tr>
<th>First</th>
<th>Second</th>
<th>Third</th>
<th>Fourth</th>
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<tbody>
<tr>
<td>ANSC 1204</td>
<td>AGPS 1104</td>
<td>AGRI 4012</td>
<td>AGRI 4103</td>
</tr>
<tr>
<td>Introduction to Animal Science</td>
<td>Ag Equip Maint and Rep</td>
<td>Internship</td>
<td>Construct Technqs for Agrictr</td>
</tr>
<tr>
<td>AGRI 1001</td>
<td>MATH 1203</td>
<td>AGRI 4900</td>
<td>AGRI 4900</td>
</tr>
<tr>
<td>Farm Practicum I</td>
<td>Materials Science</td>
<td>Directed Study</td>
<td>Directed Study</td>
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<tr>
<td>COMP 1503</td>
<td>ELET 1142</td>
<td>MCET OR ELET 2423 1133</td>
<td>MCET OR ELET 2423 1133</td>
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<tr>
<td>Freshman Composition</td>
<td>Electronic Fabrication</td>
<td>Circuit Fundamentals OR Digital Logic</td>
<td>Circuit Fundamentals OR Digital Logic Lab</td>
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<tr>
<td>MATH 1000</td>
<td>MECH 2011</td>
<td>MCET OR ELET 2461 1111</td>
<td>XXXX XXX3</td>
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<td>MECHanic 1003</td>
<td>Farm Records</td>
<td>Circuit Fundamentals Lab OR Digital Logic Lab</td>
<td>Gen Ed &amp; LAS Elective</td>
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<tr>
<td>Intro to Electrical Eng Tech</td>
<td>Global Perspectives: Special Topics OR GE Equivalent</td>
<td>XXXX XXX3</td>
<td>Intro I Mobil Robotics &amp; Animation OR Computer Programming I</td>
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<tr>
<td>ELET 1202</td>
<td>GLST 2113 OR GE Equivalent</td>
<td>SPOCH OR GE Equivalent 1083</td>
<td>Effective Speaking OR GE Equivalent</td>
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<tr>
<td>Intro to Mechanical Eng Tech</td>
<td>Equivalent</td>
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Suggested Technical or Transfer-related Electives:
- MCET 2423 Circuits Fundamentals
- MCET 2461 Circuits Fundamentals Lab
- MECH 1663 Manufacturing Processes
- MECH 4003 Solid Modeling
- MECH 3334 Statics
- MECH 3223 Mechanical Design Principles
- MECH 4024 Dynamics
- MATH 1063 Tech Calc I
- ELET 2103 Electronics Theory I
- ELET 2151 Electronics Theory I
- ELET 4224 Alternative Energy Generation
- CHEM 1114 General Chemistry
- PHYS 1024 General Physics I
- AGPS 3004 Soil Fertility
- ANSC 3202 Dairy Management Analysis
- ANSC 3003 Feeds and Nutrition
- ANSC 3223 Dairy Calf Management
- ANSC 3103 Livestock Management & Production
- ANSC 3204 Dairy Cattle Production III
- AGPS 5103 Sustainable Vegetable Production Tech
- AGPS 5003 Integrated Pest Management
- AGRI 2013 Organic & Sustainable Ag Tech
- AGRI 6103 Precision Agriculture
- BIOL 2803 Environmental Sciences
- BIOL 2801 Environmental Sciences Lab
- BIOL 4254 General Microbiology
- BIOL 6534 Genetics
Graduation Requirements

Students must:

- Successfully complete the prescribed sequence of courses.
- Achieve a minimum index of 2.0 in their core courses.
- Achieve a minimum index of 2.0 overall.
- Be recommended by the department faculty.
AGRICULTURAL BUSINESS

AAS DEGREE - CODE #0511
Dr. Dorothea Fitzsimmons, Program Coordinator
Email address: fitzsid@alfredstate.edu

It’s an exciting time to be an agricultural business student. In fact, one out of every six jobs in the American economy is related to agriculture and food businesses. So we’ve designed our agricultural business curriculum to provide you with the technical and business skills necessary to be successful in this dynamic field. Career opportunities in agribusiness range from managing a farm to working in the timber, banking, or publishing industries.

ADVANTAGE

• Our graduates have the technical knowledge of agricultural production practices, land and water resources, management, and agricultural markets necessary to enter nearly any facet of the agribusiness field.

PROGRAM STUDENT LEARNING OUTCOMES

• Demonstrate essential technical knowledge of animal husbandry methods.
• Demonstrate essential technical knowledge of crops, soils, and growing conditions.
• Demonstrate the ability to analyze information, and compare and contrast agricultural business management systems.
• Demonstrate the ability to find and use information related to agricultural business management.
• Demonstrate written and oral communication skills appropriate for agricultural business.
• Apply critical thinking and reasoning to agricultural business management.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS

Alfred State agricultural business graduates may enter directly into either the agribusiness management BTech, interdisciplinary studies BTech, or the technology management BBA degree program.

RELATED CLUBS AND ACTIVITIES

Students have the opportunity to participate in the Collegiate Agricultural Leaders (CAL) Club, Collegiate FFA, Equestrian Club, Dairy Judging Team, Agricultural Skills Day, Spring Fling Consignment Sale, Community-Supported Agriculture projects, local foods projects, showmanship contests, and Sustainability Club.

CONTINUING EDUCATION OPPORTUNITIES

Many schools, including Cornell University, grant full credit to students wishing to transfer to four-year programs.

A formal articulation agreement exists between Alfred State and Cornell University for transfer options.

OCCUPATIONAL OPPORTUNITIES

• Management or ownership of commercial farms
• Agricultural credit officers for banks, government, loan agencies, and farm cooperative loan agencies
• Feed, seed, and fertilizer sales technicians
• Writers of technical publications, radio and TV scripts, news items for magazines and newspapers, education and public relations materials
• Manager/assistant managers of farm supply stores
• Warehouse managers for farm chemicals, feed, seed, and fertilizers
• Chain store and retail food management
• Agricultural consulting services

EMPLOYMENT STATISTICS

Employment and continuing education rate of 80 percent – 40 percent are employed; 40 percent continued their education.

RELATED PROGRAMS

Accounting
Agricultural Technology
Marketing

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Recommended: Algebra

OFFICE OF ACCESSIBILITY SERVICES

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AGRICULTURAL BUSINESS - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

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<td>BIOL 1304 Botany 4</td>
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<td>AGRI 2013 Organic &amp; Sustainable Ag Tech 3</td>
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<td>ANSC 3243 Dairy Management Analysis 3</td>
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<td>AGEC 3213 Farm &amp; Rural Business Mgmt I 3</td>
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<td>ANSC 3204 Dairy Cattle Production III 4</td>
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<td>ANSC 2102 Dairy Cattle Reprod &amp; A Tech 2</td>
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<td>AGPS 5003 Integrated Pest Management 3</td>
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<tr>
<td></td>
<td>AGPS 5103 Sustainable Vegetbl Prodin Tech 3</td>
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<tr>
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<td>AGRI 3351 Live Animal Evaluation 1</td>
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Business Electives:
<table>
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<tr>
<td>BUAD 3043</td>
<td>Business Law I</td>
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</tr>
<tr>
<td>MKTG 3153</td>
<td>Web Design &amp; Marketing</td>
<td>3</td>
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<td>BUAD 4203</td>
<td>Intro Personal Financial Plan</td>
<td>3</td>
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<tr>
<td>CISY 3023</td>
<td>Advanced Microcomptr Spreadshts</td>
<td>3</td>
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<tr>
<td>BUAD 3153</td>
<td>Fundamentals of Management</td>
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</table>

**GRADUATION REQUIREMENTS**

Students must:

- successfully complete the prescribed sequence of courses
- achieve a minimum index of 2.0 in their core courses
- achieve a minimum index of 2.0 overall
- be recommended by the department faculty
AGRICULTURAL TECHNOLOGY

AAS DEGREE - CODE #0510

Dr. Philip Schroeder, Department Chair and Program Coordinator
Email: schroepd@alfredstate.edu

Careers related to agriculture are diverse and constantly changing. Today's students need the flexibility to tailor a degree to suit their needs. That's why our agricultural technology curriculum has been designed to let you select the elective courses that fit your career goals. You can choose concentrations of courses in animal science, enhancing your knowledge of animal agriculture and/or dairy science, or enhance your knowledge of crops and plant sciences, including fruit and vegetable production.

ADVANTAGES

- Opportunities for hands-on experience with organic farming.
- Animal science concentration is a progressive practical program emphasizing dairy cattle management and provides both a science and a business background.
- Plant science concentration focuses on the management of soil to increase production of both human and animal food crops and the science and business behind it. It includes an emphasis on sustainability.

PROGRAM STUDENT LEARNING OUTCOMES

- Demonstrate essential technical knowledge of animal husbandry methods.
- Demonstrate essential technical knowledge of crops, soils, and growing conditions.
- Demonstrate the ability to analyze information, and compare and contrast agricultural management systems.
- Demonstrate the ability to find and use information related to agricultural production systems.
- Demonstrate written and oral communication skills appropriate for agricultural production systems.
- Apply critical thinking and reasoning to agricultural business management.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS

Alfred State agricultural technology graduates may enter directly into either the agribusiness management BTech, interdisciplinary studies BTech, or the technology management BBA degree program.

ANIMAL/DAIRY SCIENCE CONCENTRATION

The animal science concentration is a progressive practical program emphasizing dairy cattle management. The program offers both managerial and hands-on experiences. This concentration's courses provide a science and business background. A strong emphasis is placed on application of these principles with a free-stall housed organic herd milked by a robot and our herds of Angus and Herford cattle, sheep, and meat goats. The farm also houses horses, pigs, and poultry that are used to extend learning opportunities for our students.

PLANT/CROPS/FRUIT/VEGETABLE CONCENTRATION

This curriculum emphasizes management of the soil to increase production of food crops for both human and livestock consumption. Students are usually interested in crop farming or market gardening careers. Students are taught conventional, natural, and organic food production systems. This concentration's courses provide a science and business background. A strong emphasis is placed on application of sustainability principles on our farm, research plots, gardens, hydroponic systems, greenhouses, and high tunnels.

SHOWMANSHIP DAY

All students enrolled in agriculture classes truly enjoy participating in the annual showmanship activities each spring. Students can select a species of animal (cattle, horses, swine, alpacas, or sheep) to train, groom, and show in this annual competition. Family, friends, and alumni are invited to enjoy the competition and the awards barbecue following the showmanship contest.

RELATED CLUBS AND ACTIVITIES

Students have the opportunity to participate in the Collegiate Agricultural Leaders (CAL) Club, Collegiate FFA, Equestrian Club, Dairy Judging Team, Agricultural Skills Day, Spring Fling Consignment Sale, Community Supported Agriculture projects, local foods projects, showmanship contests, and Sustainability Club.

CONTINUING EDUCATION OPPORTUNITIES

Many schools, including Cornell University, grant full credit to students wishing to transfer to four-year programs. A formal articulation agreement exists between Alfred State and Cornell University for transfer options.

OCCUPATIONAL OPPORTUNITIES

- Owners, operators, managers, and herdsmen for dairy cattle and meat animal farms
- Fruit, vegetable, and field crop production
- Food industry
- Salespeople and consultants for feed, fertilizer, agricultural, and veterinary supply companies
- Agricultural banking and lending
- Inspectors of agricultural products
- Laboratory and field technicians for artificial insemination and veterinary supply companies
- Dairy farm inspectors

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 40 percent are employed; 60% continued their education.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra

Recommended: Geometry, Algebra 2, Biology, Chemistry

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

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AGRICULTURAL TECHNOLOGY - AAS DEGREE

ANIMAL SCIENCE CONCENTRATION TYPICAL FOUR-SEMESTER PROGRAM

First

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
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<td>Introduction to Animal Science</td>
</tr>
<tr>
<td>AGRI 1001</td>
<td>Farm Practicum I</td>
</tr>
<tr>
<td>BIOL 1304</td>
<td>Botany</td>
</tr>
<tr>
<td>AGRI 3351</td>
<td>Live Animal Evaluation</td>
</tr>
<tr>
<td>COMP 1503</td>
<td>Freshman Composition</td>
</tr>
<tr>
<td>GLST 2113</td>
<td>Global Perspectives/Spec. Topic</td>
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Second

<table>
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<tr>
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<tbody>
<tr>
<td>ANSC 3203</td>
<td>Dairy Cattle Production I</td>
</tr>
<tr>
<td>ANSC 3103</td>
<td>Livestock Mgmt &amp; Production</td>
</tr>
<tr>
<td>AGPS 1104</td>
<td>Soils</td>
</tr>
<tr>
<td>ANSC 2114</td>
<td>Dom Animal Anat &amp; Phys</td>
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<td>AGRI 2501</td>
<td>Farm Practicum II</td>
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<tr>
<td>SPCH 1083</td>
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<td>Agricultural Elective</td>
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<td>AGPS 2113</td>
<td>Field &amp; Forage Crops</td>
</tr>
<tr>
<td>ANSC 3013</td>
<td>Animal Disease Control</td>
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<tr>
<td>AGEC 3213</td>
<td>Farm &amp; Rural Business Mgmt I</td>
</tr>
<tr>
<td>AGRI 3001</td>
<td>Farm Practicum III</td>
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<td>Sophomore Seminar</td>
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<td>AGRI 2013</td>
<td>Organic &amp; Sustainable Ag Tech</td>
</tr>
<tr>
<td>BIOL 4254</td>
<td>General Microbiology</td>
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<td>AGRI 4001</td>
<td>Farm Practicum IV</td>
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<td>MATH xxx3</td>
<td>Elective</td>
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If full-time student, may cross register at AU for equestrian classes.

Suggested Agriculture or Transfer-Related Electives:

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<td>AGPS 3004</td>
<td>Soil Fertility</td>
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<td>Feeds and Nutrition</td>
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PLANT SCIENCE CONCENTRATION TYPICAL FOUR-SEMESTER PROGRAM

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GRADUATION REQUIREMENTS

Students must:
- successfully complete the prescribed sequence of courses
- achieve a minimum index of 2.0 in core courses
- achieve a minimum index of 2.0 overall
- be recommended by the department faculty
ARCHITECTURAL TECHNOLOGY

BS DEGREE - CODE #1452
Alan Vlkanic, Program Coordinator
Email Address: vlkanah@alfredstate.edu

Our four-year Bachelor of Science in architectural technology program is designed to provide students with a comprehensive architectural education. While the two-year AAS degree in architectural technology offers a broad range of skills, the four-year program continues the course of study by combining a holistic perspective of the built environment with an applied technical knowledge of construction systems and materials acquired throughout a four-year studio sequence.

All architecture degree programs share course work across the first two years, while the BS and BArch have some shared course work in the third and fourth years. This alignment demands that the AAS and BS in architectural technology are required to meet the same NAAB “Student Criteria” and “Program Criteria” that apply to the BArch program. The BArch program is the first and only fully accredited undergraduate professional architecture degree program in the SUNY system.

ADVANTAGES
- Broad exposure gives students the ability to be conversant with and/ or seek employment within the architectural field, and also in related professions that engage the built environment.
- The degree may be accepted for credit toward professional licensure in New York State.
- Alfred State offers multiple study abroad options through our signature 12-week semester study abroad program (offered in conjunction with Sant Anna Institute in Sorrento, Italy) and other programs offered in conjunction with SUNY partners. To learn more, see www.alfredstate.edu/study-abroad.

PROGRAM STUDENT LEARNING OUTCOMES
- PSLO.1. = NAAB PC.1. Career Paths — The program helps students understand the path to becoming a licensed architect in the United States and the range of career opportunities available to them that utilize the discipline’s skills and knowledge.
- PSLO.2. = NAAB PC.2 Design — The program promotes the role of design in shaping the built environment and conveys the methods by which design integrates multiple factors, in different settings and scales of development.
- PSLO.3. = NAAB PC.3 Ecological Knowledge and Responsibility — The program provides a holistic understanding of the dynamic between built and natural environments, enabling future architects to responsibly mitigate climate change by leveraging ecological, advanced building performance, adaptation, and resilience principles in their work and advocacy activities.
- PSLO.4. = NAAB PC.4 History and Theory — The program prepares students to understand the histories and theories of architecture and urbanism, framed by broad social, cultural, economic, and political forces.
- PSLO.5. = NAAB PC.5 Innovation — The program expands students’ understanding of the field and encourages exploration, risk-taking, and inventiveness.
- PSLO.6. = NAAB PC.6 Leadership and Collaboration — The program helps students understand approaches to leadership in multidisciplinary teams, diverse stakeholder constituents, and dynamic physical and social contexts, and learn how to apply effective collaboration skills to solve complex problems.
- PSLO.7. = NAAB PC.7 Learning and Teaching Culture — The program fosters a positive and respectful environment that encourages optimism, respect, sharing, engagement, and innovation among the members of its faculty, student body, administration, staff, and the profession.
- PSLO.8. = NAAB PC.8 Social Equity and Inclusive Environments — The program deepens students understanding of diverse cultural and social contexts and helps students translate that into built environments that support and include people who have different backgrounds, resources, and abilities.
- PSLO.9. = NAAB SC.1 Health, Safety, and Welfare in the Built Environment — How the program promotes students’ understanding of the role of the built environment in human health, safety, and welfare at multiple scales.
- PSLO.10. = NAAB SC.2 Professional Practice — How the program fosters an understanding of professional ethics, the regulatory standards, and the fundamental business processes relevant to architectural practice in the United States.
- PSLO.11. = NAAB SC.3 Regulatory Context — How the program enables students to understand the fundamental principles of land use and related regulations that apply to buildings and sites within the US, and the evaluative criteria architects use to assess those regulations as part of a project.
- PSLO.12. = NAAB SC.4 Technical Knowledge — How the program prepares students to understand the established and emerging systems, technologies, and assemblies of building construction, and the criteria architects use to assess those technologies against the design and performance objectives of projects.
- PSLO.13. = NAAB SC.5 Design Synthesis — Ability to make design decisions within an-architectural project while demonstrating broad synthesis and consideration of user requirements, regulatory requirements, site conditions, ecological concerns, and accessible design.
- PSLO.14. = NAAB SC.6 Building Integration — Ability to make design decisions within an architectural project while demonstrating broad integration and consideration of building envelope systems and assemblies, structural systems, environmental control systems and life safety systems.

CONTINUING EDUCATION OPPORTUNITIES
Graduates wishing to continue their education may choose to apply to master’s programs in architecture or related disciplines. The lengths of such programs vary and depend on institutional requirements.

CAREER OPPORTUNITIES
- Architectural designer
- Registered Architect
- 3D modeler/animator
- Building Information Modeling (BIM) manager
- Specifications writer
- Code enforcement official

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 73 percent are employed; 27 percent continued their education.

RELATED PROGRAMS
Construction Management

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry, Algebra 2
Recommended: Pre-calculus, Physics

OFFICE OF ACCESSIBILITY SERVICES
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TRANSFER STUDENTS
Prior to studio placement within the BS architectural technology program, applicants from schools or programs with which Alfred State College does not have an active an articulation agreement must submit a comprehensive academic portfolio for review. This portfolio will include examples of student work, course syllabi, assignments, and grade reports and will be evaluated along with the student’s overall grade point average and studio course grades.

Students applying for transfer from schools with which Alfred State College has an existing and active articulation agreement (SUNY Delhi, Dutchess CC, Erie CC, Finger Lakes CC, Hudson Valley CC, SUNY Morrisville, Onondaga CC, Orange County CC) may submit a condensed design portfolio.

Alfred State College uses SlideRoom to collect portfolio details, which will guide all students through the process of assembling the correct materials for the portfolio.
TYPICAL PROGRAM
In the first and second years, a typical day consists of two one-hour lectures and a two-hour studio. At the third-year and fourth-year levels, the studio meeting times are three hours. Students can expect to spend additional time working on projects and course work out of studio.

REQUIRED EQUIPMENT
All students in both the architecture and interior design programs are required to purchase a computer in addition to other equipment. Typically the costs of these purchases can be covered using financial aid. Please consult a financial aid counselor for further details. A tier 2 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

GENERAL NOTES:
Entry level of student into math and composition/literature sequences is a function of student’s high school preparation and mathematics and English placement examinations.

Math through Technical Calculus I must be completed. Students who start at a higher level of math must meet SUNY general education and campus liberal arts and sciences course credit requirements for graduation.

Minimum combined GPA of 3.0 is required in Alfred State studio courses (ARCH 1184, ARCH 2394, ARCH 3104, and ARCH 4304) or comparable courses at another institution to guarantee admission into ARCH 5306 - Design Studio 3. A portfolio review is required of all continuing or transfer students not meeting this requirement.

If entry-level math requirement is met, take LAS elective to complete degree requirements of 3 or 4 credits, otherwise take free elective.

Students must complete at least one course from seven of the 10 SUNY General Education knowledge areas.

Minimum grade of “C” is required for ARCH 2394, ARCH 3014, ARCH 4104, ARCH 5306, ARCH 6306, ARCH 7306, and ARCH 8306.

GRADUATION REQUIREMENTS
Successfully complete all courses in the prescribed eight-semester program and earn a minimum cumulative index of 2.0.

TYPICAL EIGHT-SEMESTER PROGRAM

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<tr>
<td>GLST 2113</td>
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<td>MATH 1034</td>
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Be advised that a prior felony conviction may impede a student’s ability to participate in an internship and/or to pursue licensure.
ARCHITECTURAL TECHNOLOGY (AAS)

AAS DEGREE - CODE #0538

Lori Smithe, Program Coordinator
Email Address: smithe@alfredstate.edu

The AAS architectural technology program is structured to provide students with knowledge and skills for entry-level positions in the architectural office and related disciplines. The program consists of a core graphics sequence with additional courses in appropriate technical areas. Digital tools are integrated throughout the four-semester program.

All architecture degree programs share course work across the first two years, while the BS and BArch have some shared course work in the third and fourth years. This alignment demands that the AAS and BS in architectural technology are required to meet the same NAAB “Student Criteria” and “Program Criteria” that apply to the BArch program. The BArch program is the first and only fully accredited undergraduate professional architecture degree program in the SUNY system.

ADVANTAGES

- Students gain an understanding of how design solutions affect and are impacted by construction systems, mechanical, electrical and plumbing systems, structures, building methods, and materials.
- Broad exposure gives students the ability to be conversant with and/or seek employment with all related professions within the architectural field.
- The degree may be accepted for credit toward professional licensure in New York State.

PROGRAM STUDENT LEARNING OUTCOMES

- PSLO.1. = NAAB PC.1 Career Paths — The program helps students understand the path to becoming a licensed architect in the United States and the range of career opportunities available to them that utilize the discipline’s skills and knowledge.
- PSLO.2. = NAAB PC.2 Design — The program promotes the role of design in shaping the built environment, and conveys the methods by which design integrates multiple factors, in different settings and scales of development.
- PSLO.3. = NAAB PC.3 Ecological Knowledge and Responsibility — The program provides a holistic understanding of the dynamic between built and natural environments, enabling future architects to responsibly mitigate climate change by leveraging ecological, advanced building performance, adaptation, and resilience principles in their work and advocacy activities.
- PSLO.4. = NAAB PC.4 History and Theory — The program prepares students to understand the histories and theories of architecture and urbanism, framed by broad social, cultural, economic, and political forces.
- PSLO.5. = NAAB PC.5 Innovation — The program expands students’ understanding of the field and encourages exploration, risk-taking, and inventiveness.
- PSLO.6. = NAAB PC.6 Leadership and Collaboration — The program helps students understand approaches to leadership in multidisciplinary teams, diverse stakeholder constituents, and dynamic physical and social contexts, and learn how to apply effective collaboration skills to solve complex problems.
- PSLO.7. = NAAB PC.7 Learning and Teaching Culture — The program fosters a positive and respectful environment that encourages optimism, respect, sharing, engagement, and innovation among the members of its faculty, student body, administration, staff, and the profession.
- PSLO.8. = NAAB PC.8 Social Equity and Inclusive Environments — The program deepens students’ understanding of diverse cultural and social contexts and helps students translate that into built environments that support and include people who have different backgrounds, resources, and abilities.
- PSLO.9. = NAAB SC.1 Health, Safety, and Welfare in the Built Environment — How the program promotes students’ understanding of the role of the built environment in human health, safety, and welfare at multiple scales.
- PSLO.10. = NAAB SC.2 Professional Practice — How the program fosters an understanding of professional ethics, the regulatory standards, and the fundamental business processes relevant to architectural practice in the United States.
- PSLO.11. = NAAB SC.3 Regulatory Context — How the program enables students to understand the fundamental principles of life safety, land use, and related regulations that apply to buildings and sites within the US, and the evaluative criteria architects use to assess those regulations as part of a project.
- PSLO.12. = NAAB SC.4 Technical Knowledge — How the program prepares students to understand the established and emerging systems, technologies, and assemblies of building construction, and the criteria architects use to assess those technologies against the design and performance objectives of projects.
- PSLO.13. = NAAB SC.5 Design Synthesis — Ability to make design decisions within an-architectural project while demonstrating broad synthesis and consideration of user requirements, regulatory requirements, site conditions, ecological concerns, and accessible design.
- PSLO.14. = NAAB SC.6 Building Integration — Ability to make design decisions within an architectural project while demonstrating broad integration and consideration of building envelope systems and assemblies, structural systems, environmental control systems and life safety systems.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS

Alfred State architectural technology AAS graduates may enter directly into either the architectural technology BS or the architecture BArch programs (portfolio review may be required). AAS students who elect to apply for internal transfer to BS or BArch programs need to have completed either MATH 2043 (College Trigonometry) or MATH 1054 (Precalculus). Please note that a minimum combined GPA of 3.0 is required in Alfred State studio courses (ARCH 1184, ARCH 2394, ARCH 3104, and ARCH 4304) to guarantee admission into ARCH 5306 - Design Studio 3. Architectural technology AAS graduates may also enter directly into the construction supervision BTech, the interdisciplinary studies BTech, or the technology management BBA degree program.

CONTINUING EDUCATION OPPORTUNITIES

Graduates may enter the workforce or may continue in Alfred State’s architectural technology BS or BArch programs. Graduates may also transfer to professional or pre-professional degree programs at other institutions. Transfer is contingent on program and institution.

CAREER OPPORTUNITIES

- Architectural technician
- Architectural drafter
- Product detailer
- Space planner
- Estimator
- Manufacturer’s sales representative

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent continued their education.

RELATED PROGRAMS

Construction Engineering Technology
Interior Design

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry, Algebra 2
Recommended: Physics

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TYPICAL PROGRAM

In the first and second years, a typical day consists of two one-hour lectures and a two-hour studio. Students can expect to spend additional time working on projects and course work out of studio.

GENERAL NOTES:

Students must complete at least one course from each of five SUNY General Education knowledge areas.
Entry level of student into math and composition/literature sequences is a function of student’s high school preparation and mathematics and English placement examinations.

Math through Technical Calculus I must be completed. Students who start at a higher level in math must meet all SUNY general education and campus liberal arts and sciences course credit requirements for graduation.

Minimum grade of “C” is required for ARCH 1184, ARCH 2394, ARCH 3104, and ARCH 4304.

If entry-level math requirement is met, take LAS elective to complete degree requirements of 3 credits, otherwise take free elective.

GRADUATION REQUIREMENTS
A student must successfully complete all courses in the prescribed four-semester program and earn a minimum cumulative index of 2.0, which is equivalent to a “C” average.

REQUIRED EQUIPMENT
All students in both the architecture and interior design programs are required to purchase a computer in addition to other equipment. Typically the costs of these purchases can be covered using financial aid. Please consult a financial aid counselor for further details. A tier 3 or 4 latop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

ARCHITECTURAL TECHNOLOGY - AAS DEGREE
TYPICAL FOUR-SEMESTER PROGRAM

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Be advised that a prior felony conviction may impede a student’s ability to participate in an internship and/or pursue licensure.
ARCHITECTURE
BARCH DEGREE – CODE #0135
Matthew DiRado, Program Coordinator
Email Address: diradoma@alfredstate.edu

You’re considering studying architecture? You have found the right place! The Bachelor of Architecture (BArch) program helps prepare students to be well-rounded, creative, and socially responsible architects who shape our world through the design of meaningful and inspirational spaces. The BArch is a fully accredited professional program, preparing students for employment and the opportunity to pursue licensure shortly after graduation, reducing the need for further graduate education or an advanced degree.

ADVANTAGES
• Students enrolled in the BArch program have had the opportunity to select a “cognate area of focus to allow them to develop additional expertise.” A list of options is available in the department office or from an academic advisor.
• Upon successful completion of the BArch degree, graduates may begin an internship and the other professional steps leading to licensure as a registered, practicing architect. Students may participate in the Architectural Experience Program (AXP) while enrolled at Alfred State.
• The BArch program provides a career-focused, project-based education integrating theory and practice with a strong multidisciplinary foundation that draws upon an institutional heritage of building and technology.
• Alfred State offers multiple study abroad options through our signature study-abroad programs, including study-in-Italy programs at Sant’Anna Institute in Sorrento, Italy, and other programs offered in conjunction with SUNY partners. To learn more, see www.alfredstate.edu/study-abroad.

NAAB ACCREDITATION INFORMATION
In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit professional degree programs in architecture offered by institutions with US regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an eight-year term, an eight-year term with conditions, or a two-year term of continuing accreditation, or a three-year term of initial accreditation, depending on the extent of its conformance with established educational standards. Doctor of Architecture and Master of Architecture degree programs may require a non-accredited undergraduate degree in architecture for admission. However, the non-accredited degree is not, by itself, recognized as an accredited degree.

Alfred State Department of Architecture and Design offers the following NAAB-accredited degree program: Bachelor of Architecture (BArch) 156 Credit Hours

A detailed archive of NAAB-related accreditation documents is available on our website.

POST-GRADUATE STUDIES
BArch graduates who wish to continue academic study may choose to apply at another institution to master’s or doctoral programs in architecture or related disciplines.

CAREER OPPORTUNITIES
A wide range of career opportunities are available to graduates of this accredited degree: intern architect, practicing architect (after successfully meeting state registration requirements), or practitioner in related sub-fields that include, but not limited to: sustainable architecture, urban design, interior architecture, adaptive reuse and historic preservation, building construction management, hospitality design, lighting design, acoustical design, religious building design, and others.

PROGRAM STUDENT LEARNING OUTCOMES
• PSLO.1. = NAAB PC.1 Career Paths — The program helps students understand the path to becoming a licensed architect in the United States and the range of career opportunities available to them that utilize the discipline’s skills and knowledge.
• PSLO.2. = NAAB PC.2 Design — The program promotes the role of design in shaping the built environment, and conveys the methods by which design integrates multiple factors, in different settings and scales of development.
• PSLO.3. = NAAB PC.3 Ecological Knowledge and Responsibility — The program provides a holistic understanding of the dynamic between built and natural environments, enabling future architects to responsibly mitigate climate change by leveraging ecological, advanced building performance, adaptation, and resilience principles in their work and advocacy activities.
• PSLO.4. = NAAB PC.4 History and Theory — The program prepares students to understand the histories and theories of architecture and urbanism, framed by broad social, cultural, economic, and political forces.
• PSLO.5. = NAAB PC.5 Innovation — The program expands students’ understanding of the field and encourages exploration, risk-taking, and inventiveness.
• PSLO.6. = NAAB PC.6 Leadership and Collaboration — The program helps students understand approaches to leadership in multidisciplinary teams, diverse stakeholder constituents, and dynamic physical and social contexts, and learn how to apply effective collaboration skills to solve complex problems.
• PSLO.7. = NAAB PC.7 Learning and Teaching Culture — The program fosters a positive and respectful environment that encourages optimism, respect, sharing, engagement, and innovation among the members of its faculty, student body, administration, staff, and the profession.
• PSLO.8. = NAAB PC.8 Social Equity and Inclusive Environments — The program deepens students understanding of diverse cultural and social contexts and helps students translate that into built environments that support and include people who have different backgrounds, resources, and abilities.
• PSLO.9. = NAAB SC.1 Health, Safety, and Welfare in the Built Environment — How the program promotes students’ understanding of the role of the built environment in human health, safety, and welfare at multiple scales.
• PSLO.10. = NAAB SC.2 Professional Practice — How the program fosters an understanding of professional ethics, the regulatory standards, and the fundamental business processes relevant to architectural practice in the United States.
• PSLO.11. = NAAB SC.3 Regulatory Context — How the program enables students to understand the fundamental principles of life safety, land use, and related regulations that apply to buildings and sites within the US, and the evaluative criteria architects use to assess those regulations as part of a project.
• PSLO.12. = NAAB SC.4 Technical Knowledge — How the program prepares students to understand the established and emerging systems, technologies, and assemblies of building construction, and the criteria architects use to assess those technologies against the design and performance objectives of projects.
• PSLO.13. = NAAB SC.5 Design Synthesis — Ability to make design decisions within an architectural project while demonstrating broad synthesis and consideration of user requirements, regulatory requirements, site conditions, ecological concerns, and accessible design.
• PSLO.14. = NAAB SC.6 Building Integration — Ability to make design decisions within an architectural project while demonstrating broad integration and consideration of building envelope systems and assemblies, structural systems, environmental control systems and life safety systems.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry, Algebra 2, and Pre-Calculus.
Recommended: Physics is strongly recommended.

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

PORTFOLIO REQUIREMENTS
All students who apply to the BArch program are required to submit a portfolio of creative work that demonstrates their interest in design and the built environment.
Through the portfolio, the department hopes to get a sense of the applicant as a creative individual. We understand that the portfolio will not demonstrate mastery of architecture, but instead present a student’s potential through explorations and representation of the built environment, which may be presented as art work such as drawings, sketches, models, sculpture, or photographs. The portfolio should focus mainly on the representation of space, but may also include a small representation of creative work such as woodworking, crafts, graphic design, and/or other creative endeavors (e.g., high school, college course) or from personal pursuits (e.g., employment, hobbies). Each portfolio should be a balanced representation of both two- and three-dimensional works.

Alfred State College uses SlideRoom to collect portfolio details, which will guide all students — new or transfer — through the process of assembling the correct materials for the portfolio.

PORTFOLIO REQUIREMENTS FOR TRANSFER STUDENTS
Prior to studio placement within the architectural technology BArch program, applicants from schools or programs with which Alfred State College does not have an active an articulation agreement must submit a comprehensive academic portfolio for review. This portfolio will include examples of student work, course syllabi, assignments, and grade reports and will be evaluated along with the student’s overall grade point average and studio course grades.

Students applying for transfer from schools with which Alfred State College has an existing and active articulation agreement (SUNY Delhi, Dutchess CC, Erie CC, Finger Lakes CC, Hudson Valley CC, SUNY Morrisville, Onondaga CC, Orange County CC) may submit a condensed design portfolio.

Alfred State College uses SlideRoom to collect portfolio details, which will guide all students — new or transfer — through the process of assembling the correct materials for the portfolio.

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 85 percent are employed; 15 percent continued their education.

TYPICAL PROGRAM
In the first and second years, a typical day consists of two one-hour lectures and a two-hour studio. At the third-year, fourth-year, and fifth-year levels, the studio meeting times are three hours. Students can expect to spend additional time working on projects and course work outside of studio.

GENERAL NOTES:
Students must complete at least one course from seven of the 10 SUNY General Education knowledge areas.

All students who transfer in courses from another institution must undergo an academic portfolio review before placement in any studio course.

Minimum of “C” is required to continue from one studio course to the next. (This includes: ARCH 1184, ARCH 2394, ARCH 3104, ARCH 4304, ARCH 5306, ARCH 6306, ARCH 7306, ARCH 8306, ARCH 8716, and ARCH 8776.)

Entry level of student into math and composition/literature sequences is a function of student’s high school preparation and mathematics and English placement examinations.

Math through Technical Calculus I must be completed. Students who start at a higher level of math must meet all SUNY general education and campus liberal arts and sciences course credit requirements for graduation.

GRADUATION REQUIREMENTS
Successfully complete all courses in the prescribed 10-semester program at a minimum cumulative index of 2.5, which is equivalent to a “C+” average.

REQUIRED EQUIPMENT
All students in both the architecture and interior design programs are required to purchase a computer in addition to other equipment. Typically the costs of these purchases can be covered using financial aid. Please consult a financial aid counselor for further details. A tier 3 or 4 computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.
### Typical Ten-Semester Program

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<td>GLST 2113 Global Perspectives: Special Topic</td>
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Be advised that a prior felony conviction may impede a student's ability to participate in an internship and/or pursue licensure.
AUTOBODY REPAIR

AOS DEGREE – CODE #0453

Eric Wilmot, Department Chair and Program Coordinator
Email address: wilmotej@alfredstate.edu

This specialization will prepare you with 1,800 hours of practical experience and classroom training applicable to the dynamic autobody repair field. Your laboratory experience will range from spot repair, total wreck repair, and specialized paint jobs to estimating, panel replacement, and frame straightening.

ADVANTAGES
- Inter-Industry Conference on Automotive Collision Repair (ICAR) certified.
- Students successfully completing autobody repair may wish to remain at Alfred State in the automotive service technician; heavy equipment, truck and diesel technician; or motorsports programs for another one-and-one-half years to receive a second degree upon successful completion of course. This requires department chair’s approval.

PROGRAM STUDENT LEARNING OUTCOMES
- Demonstrate a focused, coherent, organized written report.
- Perform mathematical calculations required for entry-level automotive employment.
- Demonstrate a functional ability to read and retain/apply written instructions and specifications relevant to their work environment.
- Demonstrate critical thinking and program-solving skills to work with sheet metal repair.
- Demonstrate ability to identify different types of frame damage.
- Demonstrate painting skills for B/C and single stage painting.
- Demonstrate the ability to repair frame and structure collision damage.
- Demonstrate the ability to identify, evaluate, remove, and replace various mechanical components.

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM

Alfred State autobody repair graduates may enter directly into the technology management BBA degree program. Graduates who have credit for freshman composition, statistics, literature, history, and speech may complete the BBA program in two additional years; others may complete the BBA program in two- and-one-half years.

OCCUPATIONAL OPPORTUNITIES
- Autobody repair specialist
- Automotive refinisher
- Body shop owner
- Frame straightening specialist
- Shop foreman
- Service manager
- Wheel alignment specialist

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 83 percent are employed; 17 percent continued their education.

RELATED PROGRAMS

Automotive Service Technician
Heavy Equipment, Truck and Diesel Technician
Mechanical Engineering Technology
Motorsports Technology
Welding Technology

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Recommended: Algebra

REQUIRED TOOLS/EQUIPMENT

A list of required tools, equipment, PPE, etc. for all of the programs mentioned above can be found at http://www.alfredstate.edu/tool-lists.

A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

TECHNICAL STANDARDS

It is essential that students in this degree program are able to participate fully and safely, with or without reasonable accommodation, in all classroom and laboratory experiences required for completion of the program. Students in this degree program should be able to:

1. Lift 50 pounds to industry standard automotive lift height
2. Effectively communicate with a person six (6) to ten (10) feet away.
3. Visually decipher small images on a monitor or digital display.
4. Distinguish sounds associated with mechanical failures.
5. Comprehend written information found in service repair resources.
6. Possess a valid motor vehicle driver’s license.
7. Function in a safe manner, not placing themselves, faculty, staff, other students, or property in jeopardy.
8. Appropriately and safely use standard laboratory equipment, materials, and instrumentation to include possession of fine motor skills and mobility.

CERTIFICATION OR LICENSURE

Graduates may take Automotive Service Excellence (ASE) certification exams. Graduates are also eligible to take the New York State inspection certification. Students may take the ASE exam for certification in refrigerant recycling and recovery during their senior year.

AUTOBODY REPAIR - AOS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

<table>
<thead>
<tr>
<th>First</th>
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<td>Auto Body SKs/Computrzed Est</td>
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<tr>
<td>Refinishing Basics</td>
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GRADUATION REQUIREMENTS

A student must successfully complete all courses in the prescribed four-semester program and earn a minimum cumulative grade point average of 2.0 in major courses.
AUTOMOTIVE SERVICE TECHNICIAN

AOS DEGREE – CODE #0451

Eric Wilmot, Department Chair and Program Coordinator
Email address: wilmotej@alfredstate.edu

This specialization includes 1,800 hours of practical and classroom training in general automotive repair geared to automotive dealership and independent garage practice. You will receive hands-on experience with all types of automobiles, including domestic, imported, gasoline, diesel, and alternative fuels with labs taught by experts in the field. All systems of the automobile are covered in the instruction, including the latest gasoline fuel injection, electronic controls, emission controls, and automatic transmission overhaul.

ADVANTAGES
• Master certified by the National Automotive Technicians Educational Foundation, Inc. (NATEF).
• National Alternative Fuels Training Consortium (NAFTC).
• NYS Licensed Inspection Station.
• Students successfully completing the general automotive service technician program may return for a third year (senior year) in heavy equipment, truck and diesel technician, motorsports technology, or motorcycle and power sports technology and earn a second associate degree.

PROGRAM STUDENT LEARNING OUTCOMES
• Demonstrate a focused, coherent, organized written report.
• Perform mathematical calculations required for entry-level automotive employment.
• Demonstrate a functional ability to read and retain/apply written instructions and specifications relevant to their work environment.
• Demonstrate the ability to understand operation and diagnostic procedures of modern vehicle electrical and electronic systems.
• Demonstrate the ability to describe operation, diagnose, and repair automotive drive train systems.
• Demonstrate the ability to describe operation, diagnose, and repair modern engines.
• Demonstrate the ability to describe operation, diagnose, and repair modern automotive steering, brakes, and suspension systems.

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM

Alfred State automotive service technician graduates may enter directly into the technology management BBA degree program. Graduates who have credit for freshman composition, statistics, literature, history, and speech may complete the BBA program in two additional years; others may complete the BBA program in two-and-one-half years.

OCCUPATIONAL OPPORTUNITIES
• Automatic transmission technician
• Automotive technician specialist
• Automotive diagnostic specialist
• Brake specialist
• Drivability specialist
• Fuel system specialist
• Independent repair shop owner
• Manufacturer’s service representative
• Marine engine service specialist
• Service manager
• Service salesperson
• Shop foreman
• Wheel alignment specialist

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 68 percent are employed; 32 percent continued their education.

RELATED PROGRAMS

• Autobody Repair
• Heavy Equipment, Truck and Diesel Technician
• Mechanical Engineering Technology
• Motorsports Technology
• Welding Technology

REQUIRED TOOLS/EQUIPMENT

A list of required tools, equipment, PPE, etc. for all of the program mentioned above can be found at http://www.alfredstate.edu/tool-lists.

A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at https://www.alfredstate.edu/required-laptops.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Recommended: Algebra

TECHNICAL STANDARDS

It is essential that students in this degree program are able to participate fully and safely, with or without reasonable accommodation, in all classroom and laboratory experiences required for completion of the program. Students in this degree program should be able to:

1. Lift 50 pounds to industry standard automotive lift height
2. Effectively communicate with a person six (6) to ten (10) feet away.
3. Visually decipher small images on a monitor or digital display.
4. Distinguish sounds associated with mechanical failures.
5. Comprehend written information found in service repair resources.
6. Possess a valid motor vehicle driver’s license.
7. Function in a safe manner, not placing themselves, faculty, staff, other students, or property in jeopardy.
8. Appropriately and safely use standard laboratory equipment, materials, and instrumentation to include possession of fine motor skills and mobility.

CERTIFICATION OR LICENSURE

Graduates may take Automotive Service Excellence (ASE) certification exams. Students are eligible to take the New York State inspection certification upon successful completion of their freshman year.

AUTOMOTIVE SERVICE TECHNICIAN - AOS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

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<td>AutoBsc Elecrn &amp; Compnt Overhl</td>
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http://www.alfredstate.edu/tool-lists
GRADUATION REQUIREMENTS
A student must successfully complete all courses in the prescribed four-semester program and earn a minimum cumulative grade point average of 2.0 in major courses.
BIOLICAL SCIENCE

AAS DEGREE - CODE #1554
Stephen Bauer, Program Coordinator
Email address: bauersm@alfredstate.edu

The biological science degree is a hands-on program designed to prepare you to excel in various scientific laboratories or to continue your education in a number of science or pre-professional fields. The program provides a foundation in biology, chemistry, and mathematics as well as a common core of general education courses.

ADVANTAGES

Biological science is a flexible program that can be tailored to fit the educational requirements of a variety of laboratory-related occupations and transfer opportunities.

PROGRAM STUDENT LEARNING OUTCOMES

- Explain and apply the scientific method in order to document, interpret, and present results of an experiment.
- Evaluate scientific literature to summarize current thinking on a significant topic.
- Display effective interpersonal communication and work skills in the lecture and laboratory setting.
- Choose and employ proper safety practices in the laboratory.
- Demonstrate the calibration and operation of scientific instrumentation.
- Utilize gravimetric and volumetric methods to determine the physical and chemical properties of matter.
- Make both organic and inorganic compounds according to prescribed multi-step syntheses.
- Use microbiological techniques to isolate organisms in pure culture.
- Describe the association of structure and function of plants and animals.
- Classify groups of organisms according to taxonomic criteria and evolutionary relationships.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS

Alfred State biological science graduates may enter directly into the forensic science technology BS, health sciences BS, the interdisciplinary studies BTech, or the technology management BBA degree program.

CONTINUING EDUCATION OPPORTUNITIES

The program also enables graduates to transfer to four-year programs in biology and chemistry as well as programs such as sports medicine, medical technology, ultrasound technology, and pre-professional programs (medicine, veterinary, dentistry, and pharmacy).

OCCUPATIONAL OPPORTUNITIES

- Environmental monitoring
- Pharmaceutical testing
- Wastewater treatment
- Laboratory technician

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 33 percent are employed; 67 percent continued their education.

RELATED PROGRAMS

Forensic Science Technology (BS)
Health Sciences (BS)

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry, Algebra 2, Biology, Chemistry
Recommended: SAT and/or ACT test scores

Note: Alfred State is test optional for the spring 2023, fall 2023, and spring 2024 semesters. Therefore, it is not necessary to take the SAT or ACT exam to be considered for admission to all majors as well as for merit-based scholarships.

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS

It is essential that students in this degree program are able to fully and safely participate, with or without reasonable accommodation, in all classroom, laboratory, field, internship, and research experiences required for completion of the program. Students in this degree program should be able to:

- Function in a safe manner, not placing themselves, faculty, staff, or other students in jeopardy.
- Appropriately and safely use standard laboratory equipment, materials, and instrumentation to include possession of fine motor skills and mobility.
- Make sensory visual and auditory observations during, and interpret data from, all required laboratory assignments.
- Communicate effectively, both orally and in writing.

GRADUATION REQUIREMENTS

A minimum of 63 credit hours is required for graduation, with an overall cumulative index of 2.0 or better. A grade of “C” or better is required in courses with BIOL or CHEM prefixes.

All laboratory-based courses for this academic program must be completed in an in-person format. Laboratory-based courses in the on-line format will not fulfill degree requirements.

REQUIRED EQUIPMENT

A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

BIOLICAL SCIENCE - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

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MATH courses must be at the level of MATH 1033 college algebra or above.

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BUILDING TRADES: BUILDING CONSTRUCTION

AOS DEGREE – CODE #0420

Clinton Gray, Department Chair
Email address: GrayCJ@alfredstate.edu

Tim Rohrer, Program Coordinator
Email address: roherta@alfredstate.edu

The building construction program will provide you with instruction in the basic skills required of the carpenter and the mason in the construction of residential or other light-frame commercial and masonry buildings. You will also gain extensive experience in building layout, foundations, framing, sheathing, exterior and interior trim, block work, brick, and concrete construction.

ADVANTAGES

- Coupled with practical experience, the program provides the necessary theory connected with carpentry and masonry operations, as well as blueprint reading, cost and materials estimating, surveying for building layout and control, and safety on the job.
- A large part of the program is actual on-the-job training under the supervision of qualified instructors. Frequently, concrete and lumber companies instruct students in the uses of their products.

PROGRAM STUDENT LEARNING OUTCOMES

- Measure, layout, and cut materials accurately and build various construction systems.
- Safely set up and operate construction tools and equipment.
- Accurately estimate materials for a project and explain how to manage materials and supervise people.
- Read and interpret construction prints.
- Demonstrate essential problem-solving skills generally employed in the construction industry.
- Demonstrate effective written construction communication.
- Demonstrate effective oral communication.
- Perform common mathematical construction calculations.
- Demonstrate the proper selection and installation of materials used to build various construction projects.
- Perform computer-based research and communication.

OFFICE OF ACCESSIBILITY SERVICES

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DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM

Alfred State building trades: building construction graduates may enter directly into the construction supervision BTech or technology management BBA degree program. Graduates who have credit for freshman composition, statistics, literature, history, and speech may complete the baccalaureate program in two additional years; others may complete the program in two-and-one-half years.

OCCUPATIONAL OPPORTUNITIES

- Manufacturers
- Cabinetmaker
- Sales
- Shop foreman
- Installer (cabinets, etc.)
- Dealers
- Maintenance supervisor
- Carpenter
- Contractor
- Self-employment
- Expediter
- Construction superintendent
- Construction foreman
- Mason
- Estimator

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 53 percent are employed; 47 percent continued their education.

RELATED PROGRAMS

- Heating, Ventilation, and Air Conditioning
- Architectural Technology
- Construction Engineering Technology
- Electrical Construction and Maintenance Electrician
- Masonry
- Surveying Engineering Technology

REQUIRED TOOLS/EQUIPMENT

A list of required tools, equipment, PPE, etc. for all of the programs mentioned above can be found at http://www.alfredstate.edu/tool-lists.

A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Recommended: Algebra and Geometry

BUILDING TRADES: BUILDING CONSTRUCTION - AOS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

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Technical Standards
It is crucial that all student applicants in this degree program must be able to meet the following requirements, with or without reasonable accommodation. Students who are enrolled in this degree program should have the physical capabilities to be able to engage in all training, field, and laboratory environments in a safe and ethical manner. Students must be able to:

- Lift and carry up to or 50 pounds of building materials/equipment without accommodations.
- Perform and function in a safe manner in all laboratory and classroom environments and off campus job site locations.
- Effectively communicate with classmates and instructional staff using appropriate visual and/or auditory communication from a distance of 20 feet.
- Physically setup, move, or climb ladders, scaffolding, etc., unaided, using the designated safety method.
- Identify and react to safety alarms which include, but not limited to, fire alarms, back up alarms and those meant for emergencies.

GRADUATION REQUIREMENTS

A student must successfully complete all courses in the prescribed four-semester program and earn a minimum cumulative grade point average of 2.0 in major courses.
BUSINESS ADMINISTRATION

AS DEGREE – CODE #0671

James McGee, Program Coordinator
Email address: mcgee@alfredstate.edu

Whether you’re interested in the management, administrative, or technical side of modern business, our degree programs will prepare you with the hands-on courses and real-world skills necessary to succeed in this ever-evolving field. Our business administration AS (transfer) program is designed primarily to provide you with the foundation needed to continue your formal education in the business field in a four-year program.

ADVANTAGES

• Prepares graduates for the rapid pace of technological advancement and an increasingly global society by emphasizing managerial and technical skills and the ability to stay abreast in the dynamic field of business in today’s economy.
• Students gain a thorough foundation in written and oral communication, presentation, and decision-making skills, as well as experience working as part of a team.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS

Alfred State business administration graduates may enter directly into either the business administration BBA, the financial planning BBA, the interdisciplinary studies BTech, or the technology management BBA degree program at Alfred State.

CONTINUING EDUCATION OPPORTUNITIES

Students may transfer directly into one of our own BBA degree programs or to another college. Although not limited to these schools, common transfer institutions include: Alfred University, St. Bonaventure University, Rochester Institute of Technology, St. John Fisher College, SUNY at Albany, University at Buffalo, SUNY College at Brockport, SUNY College at Fredonia, SUNY College at Geneseo, SUNY College at Oneonta, SUNY College at Oswego, SUNY at Binghamton, Cornell University, Canisius College, Niagara University, and Hilbert College.

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 21 percent are employed; 79 percent continued their education.

RELATED PROGRAMS

Accounting
Business Administration
Financial Planning
Marketing
Sport Management
Technology Management

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry

Recommended: Algebra 2

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT

A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

BUSINESS ADMINISTRATION - AS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

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* Calculus I is essential to achieving junior status in business programs at the following SUNY campuses: the University at Buffalo, Binghamton University, and the University at Albany. Therefore, Calculus I is recommended if you are continuing your education at any one of those universities.

GRADUATION REQUIREMENTS

62 semester hours with a 2.0 cumulative index.

END-OF-PROGRAM EXAM REQUIREMENTS

All students are required to complete an end-of-program exam. This exam will be taken in the capstone course for the student’s specific program in BUAD 4053 Business Law II. The end-of-program exam will also be considered an assignment in the capstone course. The benefit of taking the end-of-program exam is to test the student’s knowledge at the time of graduation. Students may include the progress from the end-of-program exams on their resume. Taking the end-of-program exam will have some fees, which are currently $23 per exam. Exams will be taken once and they will impact the student’s grade. Students may transfer directly into one of our own BBA degree programs or to another college. Although not limited to these schools, common transfer institutions include: Alfred University, St. Bonaventure University, Rochester Institute of Technology, St. John Fisher College, SUNY at Albany, University at Buffalo, SUNY College at Brockport, SUNY College at Fredonia, SUNY College at Geneseo, SUNY College at Oneonta, SUNY College at Oswego, SUNY at Binghamton, Cornell University, Canisius College, Niagara University, and Hilbert College.

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RELATED PROGRAMS

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Business Administration
Financial Planning
Marketing
Sport Management
Technology Management

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry

Recommended: Algebra 2

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BUSINESS ADMINISTRATION - AS DEGREE

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EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 21 percent are employed; 79 percent continued their education.

RELATED PROGRAMS

Accounting
Business Administration
Financial Planning
Marketing
Sport Management
Technology Management

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry

Recommended: Algebra 2

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Whether you're interested in the management, administrative, or technical side of modern business, our degree programs will prepare you with the hands-on courses and real-world skills necessary to succeed in this ever-evolving field. Our business administration BBA offers you preparation for positions of leadership and responsibility in business and industry, governmental and not-for-profit organizations, and graduate study. Students develop important analytical and critical thinking skills necessary for success in today’s business environment.

ADVANTAGES

- Prepares graduates for the rapid pace of technological advancement and an increasingly global society by emphasizing managerial and technical skills and the ability to stay abreast in the dynamic field of business in today’s economy.
- The BBA degree in business administration is designed to allow students to enter as freshmen or to transfer in after earning their AAS or AS business degree.
- An accelerated three-year option exists for highly motivated and academically talented students.

PROGRAM STUDENT LEARNING OUTCOMES

- Demonstrate technical competence in domestic and global environments within the principle functional areas of business.
- Analyze business problems and devise solutions using critical thinking, decision-making processes, and decision-support tools.
- Formulate a strategic plan using effective teamwork while integrating the major functional areas of business and innovation.
- Evaluate software, technology, and information systems in regards to business operations.
- Identify comprehensive business issues and communicate findings and solutions.
- Identify the strategic management environment in relation to the current financial, legal, economic, and social environments.
- Analyze the role of ethics, government regulations, and legalities in management processes.

OCCUPATIONAL OPPORTUNITIES

- Administrative services manager
- Business managers of artists/athletes
- Business operations specialist
- Financial analysts/managers/specialists
- General and operations managers
- Human resource specialist
- Loan counselors/officers
- Management analysts
- Marketing managers
- Sales managers

EMPLOYMENT STATISTICS

Employment and continuing education rate of 95 percent – 65 percent are employed; 30 percent continued their education.

RELATED PROGRAMS

- Accounting
- Business Administration
- Financial Planning
- Marketing
- Sport Management
- Technology Management

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry

Recommended: Algebra 2
## BUSINESS ADMINISTRATION - BBA DEGREE

### TYPICAL EIGHT-SEMESTER PROGRAM

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### GRADUATION REQUIREMENTS

- 122 credit hours
- 30 credit hours of the 45 upper-level credit hours for this degree must be taken at Alfred State
- Cumulative overall index of at least 2.0
## BUSINESS ADMINISTRATION ACCELERATED (3-YEAR) PROGRAM

### TYPICAL THREE-YEAR PROGRAM STRUCTURE

#### Year 1 - Semester 1 - Fall
- **ACCT 1124** Financial Accounting 4
- **CISY xxx3** Computer Elective 3
- **MKTG 2073** Principles of Marketing 3
- **MATH xxx3** Math Elective 3
- **COMP 1503** Freshman Composition 3

#### Year 1 - Winter Session
- **BUAD 3153** Fundamentals of Management 3

#### Year 1 - Semester 2 - Spring
- **ACCT 2224** Managerial Accounting 4
- **ECON 1013** Principles of Macroeconomics 3
- **LITR xxx3** Literature Elective 3
- **MATH xxx3** Statistics I or Statistical Methods 3
- **SPCH 1083** Effective Speaking 3

#### Year 1 - Summer Session
- XXXX xxx3 Free Elective 3
- XXXX xxx3 Gen Ed Elective 3

#### Year 2 - Semester 3 - Fall
- **ECON 2023** Principles of Microeconomics 3
- XXXX xxx3 Business Elective 3
- **BUAD 2033** Business Communication 3
- **BUAD 3043** Business Law I 3
- **BUAD 5003** Management Communications 3
- XXXX xxx3 Open Elective 3

#### Year 2 - Winter Session
- XXXX xxx3 Gen Ed Elective 3

#### Year 2 - Semester 4 - Spring
- **BUAD 7273** Organizational Behavior 3
- **BUAD 5013** Principles of Leadership 3
- **BUAD 6113** Strategic & Creative Prob Solv 3
- **BUAD 5023** Human Resource Management 3
- XXXX xxx3 Gen Ed or Business Elective 3
- XXXX xxx3 Business Elective 3

#### Year 2 - Summer Session
- XXXX xxx3 Gen Ed Elective 3
- XXXX xxx3 Free Elective 3

#### Year 3 - Semester 5 - Fall
- **BUAD 7023** Legal Environment of Business 3
- XXXX xxx3 Business Elective (Upper) 3
- **BUAD 7033** Operations Management 3
- **BUAD 6003** Managerial Finance 3
- XXXX xxx3 Business Elective (Upper) 3

#### Year 3 - Winter Session
- XXXX xxx3 Gen Ed or Business Elective 3

#### Year 3 - Semester 6 - Spring
- **BUAD 8003** Management Info Systems - MIS 3
- **BUAD 8013** International Business 3
- **BUAD 5043** Business Ethics 3
- **BUAD 8023** Strategic Management Capstone 3
- XXXX xxx3 Business Elective (Upper) 3

### GRADUATION REQUIREMENTS
- 122 credit hours
- 30 credit hours of the 45 upper-level credit hours for this degree must be taken at Alfred State
- Cumulative overall index of at least 2.0
- Seven of the 10 SUNY approved General Education categories must be fulfilled

### END-OF-PROGRAM EXAM REQUIREMENTS
All students are required to complete an end-of-program exam. This exam will be taken in the capstone course for the student’s specific program in BUAD 8023 Strategic Management Capstone. The end-of-program exam will also be considered an assignment in the capstone course. The benefit of taking the end-of-program exam is to test the student’s knowledge at the time of graduation. Students may include the progress from the end-of-program exams on their resume. Taking the end-of-program exam will have some fees, which are currently $45 per exam. Exams will be taken once and they will impact the student’s capstone course grade by 5%. Please refer to the syllabi for the relevant capstone course to know the grading scale for the end-of-program exam.

The end-of-program exams are **required**, not optional. Information on how to take the exams will be given in the course prior to the end-of-program exam.

### How should I prepare for the assessment exam?
The comprehensive end-of-program exam covers topics taught throughout the degree program, which are aligned to the topics required for accreditation. The preparation for the exam comes from your educational experience with the school, specifically through the required courses for your degree. The exam assesses the foundational knowledge areas for your discipline.
Did you know the average salary for a machinist in industry today is ranked the seventh highest among all American professions (including doctors, lawyers, etc.), and is higher than the average salary for all four-year college graduates?

If earning a high salary is on your list for selecting occupational opportunities, you need to look at CNC manufacturing and machining. More than 50 percent of all machinists in America today will retire in the next 10 to 15 years. This fact alone shows the tremendous opportunity that awaits the trained and well-qualified machinist.

The CNC manufacturing and machining program features instruction in the safe operation of all basic machine tools, such as lathes, milling machines, drill presses, various saws, and grinding equipment, as well as proper measurement and inspection of parts. Interpreting engineering drawings and mathematical calculations required by all machinists is also presented.

The second year includes shop math and CNC (Computer Numerical Controls) programming with an emphasis on hands-on skills using advanced machine tools. A strong emphasis on shop safety is an integral part of the program. The AOS degree program includes operation of CNC lathes (turning centers), and CNC milling machines (machining centers). This includes set-up, as well as operation of the machines. Interpreting engineering drawings and control documents will also be emphasized. The understanding of quality control and how to conduct appropriate measurements and inspection will be integrated into the course work. The intent is to graduate someone with overall advanced machine shop skills.

**PROGRAM STUDENT LEARNING OUTCOMES**
- Demonstrate and apply safe operation of all machine tools.
- Student will be proficient in basic lathe operation.
- Student will be proficient in basic milling operation.
- Demonstrate mathematical operations using accepted mathematical applications.
- Demonstrate ability to perform advanced procedures on assigned projects.
- Student will be proficient in writing CNC programs for lathe.
- Student will be proficient in writing CNC programs for milling machine.
- Student will be proficient and apply GDT to all projects.
- Student will demonstrate ability to operate CNC equipment.
- Student will demonstrate all knowledge in capstone project.

**OFFICE OF ACCESSIBILITY SERVICES**
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

**DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM**
Alfred State CNC manufacturing and machining graduates may enter directly into the technology management BBA degree program. Graduates who have credit for freshman composition, statistics, literature, history, and speech may complete the BBA program in two additional years; others may complete the BBA program in two-and-one-half years.

**OCCUPATIONAL OPPORTUNITIES**
- CNC programmers, machinists, and engineers
- Tool and die makers
- Machine setters and operators
- Machinists
- Mold makers

**EMPLOYMENT STATISTICS**
Employment and continuing education rate of 80 percent – 80 percent are employed.

**CNC MANUFACTURING AND MACHINING – AOS DEGREE**

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<td>MATT 1923 Machinist Calculations II</td>
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**RELATED PROGRAMS**
Welding Technology

**REQUIRED TOOLS/EQUIPMENT**
A list of required tools, equipment, PPE, etc. for all of the programs mentioned above can be found at http://www.alfredstate.edu/tool-lists.

**ENTRANCE REQUIREMENTS/RECOMMENDATIONS**
Recommended: Algebra

**TECHNICAL STANDARDS**
It is essential that students in this degree program can participate fully and safely, with or without reasonable accommodations in all classrooms, laboratory, or field experiences required for completion of the program. Students in this degree program:
- Must be able to function in a safe manner, not placing themselves, faculty, staff, or other students in jeopardy.
- Must be able to appropriately and safely use standard laboratory equipment, materials, and instrumentation that requires possession of fine motor skills and mobility.
- Must be able to lift up to 50 pounds to a height of 5ft in order to load materials into manufacturing machines.
- Must be able to communicate orally with a person 6 to 10 feet away in a shop environment.
- Must be able to visually decipher an oscilloscope monitor and digital/analog meter, and scan tool displays.
- Must be able to diagnose mechanical failures that are distinguished audibly.
- Must be able to understand and retain information found in service repair manuals and use diagnostic flow charts.
- Must be able to stand for long periods of time.

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**ENTRANCE REQUIREMENTS/RECOMMENDATIONS**
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**ENTRANCE REQUIREMENTS/RECOMMENDATIONS**
Recommended: Algebra

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**ENTRANCE REQUIREMENTS/RECOMMENDATIONS**
Recommended: Algebra

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- Must be able to understand and retain information found in service repair manuals and use diagnostic flow charts.
- Must be able to stand for long periods of time.
• Students are required to have earned a minimum grade of “C” in MACH CALC I & II, and in the MATT 4003 Senior Project. (Articulation is available in MACH CALC area)
CIVIL ENGINEERING TECHNOLOGY

BS DEGREE - CODE #1102

Erin Vitale, Department Chair and Program Coordinator
Email address: vitaleem@alfredstate.edu

ADVANTAGES

• Curriculum developed with Industry.
• Strong connection to the construction of civil works.

PROGRAM STUDENT LEARNING OUTCOMES

• Utilize principles, hardware, and software that are appropriate to produce drawings, reports, quantity estimates, and other documents related to civil engineering.
• Conduct standardized field and laboratory tests related to civil engineering.
• Utilize surveying methods appropriate for land measurement and/or construction layout.
• Apply fundamental computational methods and elementary analytical techniques in sub-disciplines related to civil engineering.
• Plan and prepare documents appropriate for design and construction.
• Perform economic analysis and cost estimates related to design, construction, operations, and maintenance of systems associated with civil engineering.
• Select appropriate engineering materials and practices.
• Perform standard analysis and design in transportation, water and development.

PROGRAM EDUCATIONAL OBJECTIVES

Program educational objectives were established with the assistance of the Industrial Advisory Committee and are reviewed periodically. The civil engineering technology program produces graduates who:

• Apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the civil engineering technology discipline.
• Design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the civil engineering technology discipline.
• Apply written, oral, and graphical communication in broadly defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.
• Conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes.
• Function effectively as a member as well as a leader on technical teams.

OCCUPATIONAL OPPORTUNITIES

• Civil Engineer Technician
• QC/QA Engineer Technician
• Project Engineer

EMPLOYMENT STATISTICS

New program, no employment data available.

Related Programs

• Construction Engineering Technology
• Construction Management Technology
• Survey Engineering Technology
• Survey and Geomatics Engineering Technology

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry, Algebra 2

Recommended: Physics

OFFICE OF ACCESSIBILITY SERVICES

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TECHNICAL STANDARDS

Students in the civil engineering technology program must meet the following requirements:

• Students must have the ability to use industry-standard software and computers.
• Students must have the ability to traverse varying types of construction sites.

REQUIRED EQUIPMENT

A tier 2 laptop computer will be required of all students. See laptop specifications at www.alfredstate.edu/required-laptops.

CIVIL ENGINEERING TECHNOLOGY – BS

TYPICAL EIGHT-SEMESTER PROGRAM

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<td>MECH 3334</td>
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TOTAL SEMESTERS: 16
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<td>CHEM</td>
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<td>Applied Chemical Principles</td>
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<td>COMP</td>
<td>5703</td>
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<td>Transport &amp; Highway Design</td>
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<td>CIVL</td>
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<td>Ground &amp; Storm Water Hydrology</td>
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<td>OR</td>
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<tr>
<td>CIVL</td>
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<td>Sr Seminar &amp; Project Design I</td>
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**GENERAL NOTES:**

Students receiving credit for math classes shown in the typical eight-semester program may require additional LAS electives to compete degree requirements.

Must meet seven of the 10 General Education areas.

**GRADUATION REQUIREMENTS**

2.0 cumulative grade point average, and department requirement of 2.0 grade point average in major courses (CIVL).
COMPUTED TOMOGRAPHY

CERTIFICATE – CODE #3060

Jenna Zetwick, Program Coordinator
Email address: zetwick@alfredstate.edu

The certificate program in computed tomography (CT) is an upper-level online program that will produce graduates who are capable of working under the supervision of a physician, and who are proficient in the application of computed tomography imaging equipment and techniques to gather critical radiologic data to enable the diagnosis of a variety of conditions and diseases. The program targets the acquisition of specialized CT certification by place-bound college graduates currently employed in the medical field as licensed radiological technologists.

The curriculum will include instruction in obtaining, reviewing, and integrating patient histories and data; patient instruction and care; anatomic, physiologic and pathologic data recording; radiologic data processing; computed tomography equipment operation; and professional standards and ethics. Students in the program complete both didactic classes online and a clinical rotation at designated hospitals and clinics. The computed tomography program is a two-semester (15 credits in total) program. Upon successful completion of the program requirements, students will be eligible to sit for national certification examinations for computed tomography.

ADVANTAGES

The CT certificate program targets existing radiologic technologists who wish to expand and diversify their clinical skills within the healthcare marketplace. With the exception of the clinical requirement, the program is designed to be an online experience.

PROGRAM STUDENT LEARNING OUTCOMES

• Demonstrate correct positioning skills.
• Select proper technical factors.
• Utilize appropriate radiation protection techniques.
• Exhibit patient-centered skills.
• Critique images to determine diagnostic quality.
• Display proper work ethics.
• Adapt standard procedures for non-routine patients.
• Apply written communication skills to the construction of documents of record that are established professional guidelines.
• Apply oral communication skills to the explanation of ideas and scientific terminology.
• Use technological resources effectively and appropriately, synthesize theory and concepts from the liberal education domain and other professions into computed tomography.

CONTINUING EDUCATION OPPORTUNITIES

Students may transfer directly into one of our own BS or BTech degree programs or to another college.

OCCUPATIONAL OPPORTUNITIES

• Hospitals
• Government agencies
• Clinics
• Private physician offices

EMPLOYMENT STATISTICS

Employment data not available for this new program

RELATED PROGRAMS

Health Sciences
Interdisciplinary Studies
Healthcare Management

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Associate degree in radiologic technology or certificate of completion from JRCERT program. Must provide proof of ARRT certification.

REQUIRED EQUIPMENT

A tier 1 laptop computer is required for students entering the accounting program. Laptop specifications are available at http://www.alfredstate.edu/required-laptops.
The computer engineering technology program will provide you with the cutting-edge industry knowledge and hands-on skills necessary to secure a career as an applied engineer capable of installing, designing, supporting, and maintaining computer systems and networks. This is an active, technically oriented program with a focus on computer system hardware and network infrastructure, as well as software development and operating systems. We've designed these degrees to prepare you for professional examinations leading to certifications such as the CompTIA A+ and Network+, Microsoft Certified System Administrator (MCSA), Microsoft Certified System Engineer (MCSE), and Cisco Certified Network Associate (CCNA).

ADVANTAGES
- Both AAS and BS programs are accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org.
- In the first year of the program, students gain a foundation of knowledge in digital and electronic circuits followed by the development of skills in computer hardware, operating systems, and networking.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS

Alfred State computer engineering technology AAS graduates may enter directly into either the computer engineering technology BS, the interdisciplinary studies BTech, or technology management BBA degree program.

CONTINUING EDUCATION OPPORTUNITIES

Graduates from the AAS computer engineering technology program are eligible to continue their education by enrolling in a baccalaureate program in computer engineering technology at Alfred State or elsewhere. Our computer engineering technology AAS two-year degree program is the same as the first two years of the computer engineering technology BS four-year program.

OCCUPATIONAL OPPORTUNITIES
- Computer network technician/technologist (2/4 years)
- Software/web programmer and developer (4 years)
- Electrical or electronics technician/technologist (2/4 years)
- Communication Technologist (4 years)
- Network administrator (4 years)
- Cyber security technologist (4 years)
- Embedded systems and robotics technician/technologist (2/4 years)

EMPLOYMENT STATISTICS

Employment and continuing education rate:

Computer engineering technology (AAS degree): 100 percent continued their education.

Computer engineering technology (BS degree): 100 percent are employed.

RELATED PROGRAMS

Computer Information Systems
Computer Science
Cyber Security
Electrical Engineering Technology
Information Technology: Network Administration

ENROLLMENT AND GRADUATION DATA

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Degrees Awarded

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CERTIFICATION OR LICENSURE

The Bachelor of Science in computer engineering technology is recognized as a "professional degree" that qualifies for experience/education credit toward Professional Engineering (PE) licensure. Graduates from Alfred State's program are allowed six years of the required 12 years of education/experience credit, and are eligible to take the Fundamentals of Engineering (FE), formerly called Engineer-in-Training (EIT), examination upon graduation.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS (AAS)

Required: Algebra, Geometry, Algebra 2

Recommended: Physics

ENTRANCE REQUIREMENTS/RECOMMENDATIONS (BS)

Required: Algebra, Geometry, Algebra 2

Recommended: Physics

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS

It is essential that students are able to fully participate, with or without a reasonable accommodation, in engineering technology lab and test procedures. Engineering technology students should be able to:

- Maintain ethical standards as defined by professional societies such as ASME and IEEE (non-exhaustive list)
- Appropriately use hand and power tools.
- Appropriately use test, analysis, and measurement equipment
- Maintain professional integrity in the classroom and laboratory setting
- Communicate effectively, orally and written
- Perform experiments safely in a laboratory environment
- Visually decipher lab equipment digital or analogue displays
- Understand and retain information found in equipment manuals, data sheets, and lab instructions
- Comprehend written and oral directions; act on those directions safely
- Visually identify and select hardware components
- Visually distinguish computer software user interface elements
- Interpret software outputs to analyze data
- Have sufficient dexterity to finely adjust equipment settings
- Interpret complex data tables and graphs

GRADUATION REQUIREMENTS - AAS DEGREE

- 62 semester credit hours in program as listed above
- 25 semester credit hours of liberal arts and sciences
- Four of 10 General Education areas
- 2.0 or above cumulative grade point average
- 2.0 or above grade point average in major courses (ELET, CISY)
- Approval of department faculty.

GRADUATION REQUIREMENTS - BS DEGREE

- 126 semester credit hours in eight-semester program
- 60 semester credit hours of liberal arts and sciences
- Seven of 10 General Education areas
- Minimum 45 upper-division credit hours
- Minimum 24 hours upper division in major
- Minimum of 30 hours upper division in residence
- 2.0 or above cumulative grade point average
**COMPUTER ENGINEERING TECHNOLOGY**

- 2.0 or above grade point average in major courses (BSET, CISY, ELET)
- Approval of department faculty

### REQUIRED EQUIPMENT

A tier 2 laptop computer is required for students in the computer engineering technology programs. Laptop specifications are available at [www.alfredstate.edu/required-laptops](http://www.alfredstate.edu/required-laptops). Some courses may require specialized tools and/or electronic components.

### COMPUTER ENGINEERING TECHNOLOGY - AAS DEGREE

#### TYPICAL FOUR-SEMESTER PROGRAM

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If not required to take MATH 1033 and MATH 2043, take LAS elective to complete degree requirements of 3 credits; otherwise take free elective.

### COMPUTER ENGINEERING TECHNOLOGY - BS DEGREE

#### TYPICAL FIVE- THROUGH EIGHT-SEMESTER PROGRAM

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Be advised that a prior felony conviction may impede a student's ability to receive licensure.
COMPUTER INFORMATION SYSTEMS

AAS DEGREE – CODE #0581
Evan Enke, Department Chair and Program Coordinator
Email address: enkeeg@alfredstate.edu

As more organizations install and employ computer networks, a need has developed for the “resident expert” to administer the system, install software, establish security, and train others. As a graduate of the computer information systems (CIS) program, you will be well positioned to serve that need with a foundation in programming, databases, and networking.

ADVANTAGES
• Students can complete the Cisco Certified Network Association curriculum and have a strong foundation to pursue professional certifications for CompTIA A+, Network+, and CCNA. The college has a Pearson Vue testing center.
• Our laboratories provide students with ample hands-on experience, giving them a considerable edge in the highly competitive computer and information technology job market.

PROGRAM STUDENT LEARNING OUTCOMES
• Communicate effectively and efficiently, both orally and in writing.
• Employ critical thinking and problem-solving skills in developing solutions to problems.
• Create and modify functional, clear, concise software design and implementation with current programming languages.
• Create functional webpages using web scripting languages.
• Install, configure, troubleshoot, and administer a simple network.
• Demonstrate proficiency either in two or more operating systems or two or more database systems.
• Demonstrate proficiency in basic office automation software.
• Solve problems in a team setting as a team member.
• Identify issues of professional ethics, including copyright laws, plagiarism, and professional etiquette.
• Solve applied mathematical problems.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS
Alfred State computer information systems graduates may enter directly into either the cyber security BTech, information technology: applications software development BTech, information technology: network administration BTech, or technology management BBA degree program.

CONTINUING EDUCATION OPPORTUNITIES
To facilitate the transfer of graduates choosing to continue their education at the baccalaureate level, students are encouraged to make their intentions known to their academic adviser during their freshman year. Through the careful use of elective courses, students can realize excellent transfer credit.

Transfer into the information technology programs: network administration, web development, and applications software development will place them at junior status.

OCCUPATIONAL OPPORTUNITIES
• Network management
• Systems administration
• Computer technology
• Computer support
• Computer programming
• Web development
• Network administrators

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 50 percent are employed; 50 percent continued their education.

RELATED PROGRAMS
Computer Engineering Technology
Computer Science
Cyber Security
Information Technology: Applications Software Development

Information Technology: Network Administration
Information Technology: Web Development

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry*
Recommended: Algebra 2
* Students who place into intermediate algebra will be required to take one additional mathematics course.

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT
A tier 2 laptop computer is required for students entering the computer information systems program. Laptop specifications are available at www.alfredstate.edu/required-laptops

COMPUTER INFORMATION SYSTEMS - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

First
CISY 1023 Intro to Information Tech 3
CISY 1123 Intro to Programming for IT OR 3
CISY 1113 Computer Programming I 3
COMP 1503 Freshman Composition 3
GLST 2113 Global Perspectives/Spcl Topic 3
XXXX xxx3 Gen. Ed. Elective 3

Second
CISY 2133 Computer Programming II 3
CISY 2143 Microcomputer Systems I 3
CISY 2153 Database Appl and Programming I 3
MATH xxx3 College Algebra or Higher* 3
LITR xxx3 Literature Elective 3

Third
CISY 4033 Networking I 3
CISY 3223 Intro to Web Page Development 3
MATH 1123 Statistics I OR 3
MATH 2124 Statistical Methods & Analysis 4
ACCT 1124 Financial Accounting 4
XXXX xxx3 Professional Elective 3

Fourth
CISY 4053 Linux/Unix Admin and Scripting OR 3
CISY 5403 Database Concepts 3
SPCH 1083 Effective Speaking OR 3
SPCH xxx2 Effective Speaking Equivalent 3
XXXX xxx3 Gen. Ed. Natural Science Elective 3
XXXX xxx3 Professional Elective 3
XXXX xxx3 Professional Elective 3
* If not required, take LAS elective to complete degree requirements of 3 credits, otherwise take free elective.

Adviser-approved mathematics courses do not include MATH 1004, MATH 1104, MATH 1014, or MATH 1143.

Professional electives may include CISY, business, and selected courses from math or engineering as approved by the adviser.

**GRADUATION REQUIREMENTS**

Must complete a minimum of 24 credit hours of required CISY courses and nine credit hours of professional electives approved by adviser with a minimum 2.0 cumulative index. Twenty credit hours of liberal arts courses, a minimum overall cumulative index of 2.0, along with other requirements as stated in the College Academic Regulations, must be met by candidates of the AAS degree. Must successfully complete a minimum of 61 credit hours of course work.
COMPUTER SCIENCE
AS DEGREE – CODE #0532
Ronald Keeney, Program Coordinator
Email address: keeneyrh@alfredstate.edu

The computer science program at Alfred State was one of the originally established programs in the SUNY system. It is a comprehensive program, which will prepare you for this fast-moving field with courses in the underlying theories of computing, as well as the specific applications of information manipulation and problem solving.

ADVANTAGES
Students develop strong written and oral communication, critical thinking, and problem-solving skills.

PROGRAM STUDENT LEARNING OUTCOMES
- Communicate effectively and efficiently, both orally and in writing.
- Employ critical thinking and problem-solving skills in developing solutions to problems.
- Create and modify functional, clear, concise software design and implementation with current programming languages.
- Create functional webpages using web scripting languages.
- Demonstrate the scientific method in one area of natural science.
- Assess and implement appropriate data structures within a programming project.
- Demonstrate proficiency in basic office automation software.
- Solve problems in a team setting as a team member.
- Identify issues of professional ethics, including copyright laws, plagiarism, and professional etiquette.
- Demonstrate proficiency with mathematical principles through the level of calculus or discrete mathematics.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS
Alfred State computer science graduates may enter directly into either the information technology: applications software development BTech, interdisciplinary studies BTech or technology management BBA degree program.

CONTINUING EDUCATION OPPORTUNITIES
The primary focus of the computer science program is transfer. The AS degree granted is specifically designed to maximize transfer credit to four-year programs. Transfer into the information technology programs: network administration, web development, and applications software development is possible with junior status with careful selection of courses for electives.

OCCUPATIONAL OPPORTUNITIES
- Network management
- Systems administration
- Computer engineering technology
- Computer support
- Computer programming
- Database administration
- Web development

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 100 percent continued their education.

RELATED PROGRAMS
Computer Engineering Technology
Computer Information Systems
Cyber Security
Information Technology: Applications Software Development
Information Technology: Network Administration
Information Technology: Web Development

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry, Algebra 2
Recommended: Pre-calculus, Physics

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT
A tier 2 laptop computer is required for students entering the computer science program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

COMPUTER SCIENCE - AS DEGREE
TYPICAL FOUR-SEMESTER PROGRAM

First
CISY 1023 Intro to Information Tech 3
CISY 1113 Computer Programming I 3
COMP 1503 Freshman Composition 3
MATH xxxx Pre-Calculus 1054 or above 3
XXXX xxxx Gen Ed Elective 3

Second
CISY 2133 Computer Programming II 3
MATH 1084 Calculus I 4
CISY 2153 Database Appl and Programming I 3
LITR xxxx Literature Elective 3
XXXX xxxx Gen Ed Elective 3

Third
CISY 4033 Networking I 3
CISY 3223 Intro to Web Page Development 3
MATH 2163 Discrete Mathematics 3
XXXX xxxx4 Gen Ed - Natural Science w/Lab 4
CISY 3193 Computer Architecture & Organi 3

Fourth
CISY 4053 Linux/Linux Admin and Scripting OR 3
CISY 5403 Database Concepts 3
CISY 4003 Comp Prgrmming III 3
SPCH 1083 Effective Speaking 3
XXXX xxxx Gen Ed Elective 3
XXXX xxxx Open Elective 3

Professional electives may include CISY, business, and selected courses from math or engineering as approved by the adviser.

GRADUATION REQUIREMENTS
Must complete a minimum of 24 credit hours of required CISY courses and one professional elective approved by adviser with a 2.0 cumulative index. A minimum cumulative index of 2.0, along with other requirements as stated in the College Academic Regulations, must be met by candidates for the AS degree. A minimum of 62 credit hours of course work with 30 credit hours in liberal arts is required.

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CONSTRUCTION ENGINEERING TECHNOLOGY

AAS DEGREE – CODE #0577
Erin Vitale, Program Coordinator
Email address: vitaleem@alfredstate.edu

The program in construction engineering technology includes a well-designed balance of theoretical and laboratory studies, providing students with a broad knowledge of civil engineering technology and the construction fields. This field is expanding rapidly, and our technical curricula will give you a broad-based education, as well as the hands-on skills and experience needed for leadership in today’s construction business.

ADVANTAGES
- The college offers testing and certification with the American Concrete Institute that students can earn their first semester.
- Students develop the ability to function effectively as a member of a technical team, as well as the ability to apply written, oral, and graphical communication in both technical and nontechnical environments.
- This program is accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org.

A student who completes the AAS degree can complete the bachelor’s degree in two additional years.

PROGRAM STUDENT LEARNING OUTCOMES
- An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to the discipline.
- An ability to design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes appropriate to the discipline.
- An ability to apply written, oral, and graphical communication in well-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.
- An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results.
- An ability to function effectively as a member of a technical team.

PROGRAM EDUCATIONAL OBJECTIVES
Program educational objectives were established with the assistance of the Industrial Advisory Committee and are reviewed periodically. The construction engineering technology program produces graduates who:

- Write, read, and orally present technical reports, letters, and projects that meet the standards of the profession.
- Understand and are able to complete various activities related to construction such as interpret construction documents, draw plans using computer-aided drafting, complete an estimate, manage project activities, and be able to technically review construction materials used on the project.
- Recognize the need for and have an ability to engage in continued formal education as well as lifelong learning.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS
Alfred State construction engineering technology graduates may enter directly into either the construction management BS, the construction supervision BTech, the interdisciplinary studies BTech, or the technology management BBA degree program.

OCCUPATIONAL OPPORTUNITIES

<table>
<thead>
<tr>
<th>Building inspector</th>
<th>Codes enforcement officer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction inspector</td>
<td>Construction superintendent</td>
</tr>
<tr>
<td>Engineering technician</td>
<td>Estimator</td>
</tr>
<tr>
<td>Installation supervisor</td>
<td>Materials tester</td>
</tr>
<tr>
<td>Project coordinator</td>
<td>Quality control technician</td>
</tr>
<tr>
<td>Sales representative</td>
<td>Structural detailer</td>
</tr>
<tr>
<td>Supt. of public works</td>
<td></td>
</tr>
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</table>

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 50 percent are employed; 50 percent continued their education.

ENROLLMENT AND GRADUATION DATA

<table>
<thead>
<tr>
<th>Year</th>
<th>Enrollment (based on fall census)</th>
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<tbody>
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<td>Degrees Awarded</td>
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<td>2018-2019</td>
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<td>2020-2021</td>
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</table>

RELATED PROGRAMS
- Construction Management
- Construction Supervision
- Surveying Engineering Technology

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
- Required: Algebra, Geometry, Algebra 2
- Recommended: Physics

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at DisabilityServices@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS
Students in the construction engineering technology program must meet the following requirements:

- Students must have the ability to use industry standard software and computers.
- Students must have the ability to traverse varying types of construction sites.

Students who believe they need a reasonable accommodation to participate in this program may contact the Office of Accessibility Services by email at DisabilityServices@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT
A tier 2 laptop computer is required for students entering the construction engineering technology program. Laptop specifications are available at www.alfredstate.edu/recommended-laptops.
CONSTRUCTION ENGINEERING TECHNOLOGY - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

<table>
<thead>
<tr>
<th>First</th>
<th>Course No</th>
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<th>Credits</th>
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<tr>
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<td>CIVL 1204</td>
<td>Surveying I</td>
<td>4</td>
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<td>CIVL 1013</td>
<td>Portland Cement Concrete</td>
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<td></td>
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<tr>
<td>CIVL 1182</td>
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<tr>
<td>MATH 1033</td>
<td>College Algebra</td>
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<tr>
<td>XXXX</td>
<td>Technical Elective</td>
<td>3</td>
<td></td>
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<tr>
<td>PHYS 1024</td>
<td>General Physics I</td>
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</tr>
<tr>
<td>MATH 2043</td>
<td>College Trigonometry</td>
<td>3</td>
<td></td>
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<tr>
<td>GLST 2133</td>
<td>Global Perspectives or Approved GE Equivalent</td>
<td>3</td>
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</table>

<table>
<thead>
<tr>
<th>Third</th>
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<th>Course Name</th>
<th>Credits</th>
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<tr>
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<td>3</td>
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</tr>
<tr>
<td>CIVL 4103</td>
<td>Structures I</td>
<td>3</td>
<td></td>
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<tr>
<td>PHYS 2023</td>
<td>General Physics II</td>
<td>3</td>
<td></td>
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<tr>
<td>MATH 1063</td>
<td>Technical Calculus I</td>
<td>3</td>
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<tr>
<td>LITR</td>
<td>Literature Elective</td>
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</table>

<table>
<thead>
<tr>
<th>Fourth</th>
<th>Course No</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVL 4143</td>
<td>Contracts, Specs, &amp; Estimating</td>
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<tr>
<td>CIVL 4043</td>
<td>Construction Management</td>
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<td>Effective Speaking</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SPCH</td>
<td>Approved GE Equivalent</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Entry level of student into math and composition/literature sequences is a function of student's high school preparation and mathematics and English placement examinations.

Students receiving credit for math classes shown in the typical four-semester program may require additional LAS electives to complete degree requirements.

Students must complete two technical electives and two General Education electives.

Suggested Technical Electives:
- CIVL 2204 Surveying II
- CIVL 6113 Environmental Technical Concepts
- CIVL 7103 Land Development and Design
- ARCH 4013 Municipal Codes & Regulations
- Other technical electives by department approval.

GRADUATION REQUIREMENTS

2.0 cumulative grade point average, and department requirement of 2.0 grade point average in major courses (CIVL).
CONSTRUCTION MANAGEMENT

BS DEGREE – CODE #1761
Reza Yadollahi, PhD, Program Coordinator
Email address: yadollahi@alfredstate.edu

Do you dream of a leadership role in the construction industry? Then this program is for you. Our expert faculty have designed a series of courses that will familiarize you with all aspects of construction management. Technical course work is combined with specific construction management courses as well as several business courses, giving you a broad-based education.

ADVANTAGES

- Alfred State students compete annually in the Associated Schools of Construction Northeast Region student competition.
- Students can compete for scholarships given by the Associated General Contractors of New York.
- Seniors in the BS program are required to take the Associate Constructor Level I exam prior to graduation.
- This program is accredited by the American Council for Construction Education (ACCE), [1717 North Loop Road 1604 East, Suite 320, San Antonio, TX 78232].
- This program is accredited by the Applied and Natural Science Accreditation Commission of ABET, www.abet.org
- Students typically gain work experience through summer employment with construction companies.

PROGRAM STUDENT LEARNING OUTCOMES (ACCE ACCREDITATION)

- Create written communications appropriate to the construction discipline.
- Create oral presentations appropriate to the construction discipline.
- Create a construction project safety plan.
- Create construction project cost estimates.
- Create construction project schedules.
- Analyze professional decisions based on ethical principles.
- Analyze construction documents for planning and management of construction processes.
- Analyze methods, materials, and equipment used to construct projects.
- Apply construction management skills as a member of a multi-disciplinary team.
- Apply electronic-based technology to manage the construction process.
- Apply basic surveying techniques for construction layout and control.
- Understand different methods of project delivery and the roles and responsibility of all constituencies involved in the design and construction process.
- Understand construction risk management.
- Understand construction accounting and cost control.
- Understand construction quality assurance and control.
- Understand construction project control processes.
- Understand the legal implications of contract, common, and regulatory law to manage a construction project.
- Understand the basic principles of sustainable construction.
- Understand the basic principles of structural behavior.
- Understand the basic principles of mechanical, electrical, and piping systems.

PROGRAM EDUCATIONAL OBJECTIVES

Program educational objectives were established with the assistance of the Industrial Advisory Committee and are reviewed periodically. The construction management program produces graduates who:

- Understand technical components and techniques of construction.
- Write, read, and orally present information standard to the construction industry.
- Understand methods and tools to manage both a construction project and construction company.
- Understand safety and risk management.
- Understand industry ethics and statutory requirements.

OCCUPATIONAL OPPORTUNITIES

- Project manager
- Project engineer

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 100 percent are employed.

ENROLLMENT AND GRADUATION DATA

<table>
<thead>
<tr>
<th>Year</th>
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<td>2021</td>
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Degrees Awarded

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<tbody>
<tr>
<td></td>
<td>21</td>
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</tbody>
</table>

RELATED PROGRAMS

- Architectural Technology
- Building Trades: Building Construction
- Construction Engineering Technology
- Construction Supervision

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry, Algebra 2
Recommended: Physics

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS

Students in the construction management program must meet the following requirements:

- Students must have the ability to use industry standard software and computers.
- Students must have the ability to traverse varying types of construction sites.

REQUIRED EQUIPMENT

A tier 2 laptop computer is required for students entering the construction management program. Laptop specifications are available at www.alfredstate.edu/required-laptops.
# Construction Management - BS Degree

## Typical Eight-Semester Program

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td></td>
<td>CIVL 2154</td>
<td>Quality Control of Const Matr</td>
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<tr>
<td></td>
<td>GLST 2113</td>
<td>Global Perspectives: Spec Topic</td>
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<tr>
<td><strong>Third</strong></td>
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<tr>
<td></td>
<td>CIVL 3553</td>
<td>Comm Bldg Const Methods &amp; Pract</td>
<td>3</td>
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<td>CIVL 4103</td>
<td>Structures I</td>
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<td>PHYS 2023</td>
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<td>Effective Speaking OR</td>
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<td>COMP 5703</td>
<td>Technical Writing II</td>
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<td>CIVL 6214</td>
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<td>CIVL 7223</td>
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<td>TMGT 7153</td>
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<td>CIVL 8123</td>
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<td>ECON 2023</td>
<td>Principles of Microeconomics</td>
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</table>

### General Notes:

Students receiving credit for math classes shown in the typical eight-semester program may require additional LAS electives to complete degree requirements.

Must meet seven of the 10 General Education areas.

### Graduation Requirements:

2.0 cumulative grade point average, and department requirement of 2.0 grade point average in major courses (CIVL).
CONSTRUCTION SUPERVISION

BTECH DEGREE – CODE #2649

Erin Vitale, Department Chair and Program Coordinator
Email address: vitaleem@alfredstate.edu

The Bachelor of Technology (BTech) in construction supervision is a completion degree that will add valuable construction business skills to a technical background. Students with carpentry, heavy equipment, electrical, mechanical, and architecture skills, to name a few, will be able to see how their skills are utilized to build the environment in which they live. The BTech in construction supervision will give graduates a working knowledge of construction estimating, scheduling, and contract law. These skills along with their technical competency will make graduates a prized asset to companies that are involved in the construction industry. The program includes a full-semester internship.

The program is set up as a completion degree, meaning students entering must have an associate degree or 60 credits in a related curriculum. A true 2+2 can be achieved with 21 credits of liberal arts and sciences, including five silos of SUNY General Education completed before entering the program.

ADVANTAGES

- Students take their distinct technical background and apply it in the construction industry through project-based learning.
- With a cohort of students from many different fields of prior study, students will gain an interdisciplinary appreciation of the construction industry.
- Students will gain a strong background in construction contractual requirements.
- Students will expand their understanding of construction job site cost control.

PROGRAM STUDENT LEARNING OUTCOMES

- Create written communication appropriate to the construction discipline.
- Create oral presentations.
- Create a construction project safety plan.
- Create construction project cost estimates.
- Create construction project schedules.
- Analyze professional decisions based on ethical principles.
- Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.
- Understand construction accounting and cost control.

OCCUPATIONAL OPPORTUNITIES

- Assistant superintendent
- Equipment and material sales
- Project manager for specialty trade contractors
- Superintendent

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 100 percent are employed.

ARTICULATION

Alfred State accepts students from other two-year institutions as juniors into the construction supervision BTech program with appropriate course work and grade point average.

GRADUATION REQUIREMENTS

- 2.0 cumulative GPA and 2.0 in major courses (CIVL)
- 30 credits liberal arts and sciences
- Seven of 10 General Education silos with math silo required

RELATED PROGRAMS

- Architectural Technology
- Building Trades: Building Construction
- Construction Management
- Electrical Engineering Technology
- Heavy Equipment Operations

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

- Required: Successful completion of an associate degree in a construction-related field or at least 60 transferrable credit hours, and a minimum cumulative GPA of 2.0. Other majors can be considered with construction related work experience. Applicants who have gone through a certified apprentice program and have obtained a journeyman's card with a recognized trade union may also be considered.
- Recommended: A minimum of 21 credits in liberal arts and sciences, and five different general education fields covered (BC and MA included).

Students without the required college credits can come into the individual studies (AS) program as a bridge program to the construction supervision (BTech) program.

Please Note: Students entering from an AOS degree program are accepted in the program as ASOP students to facilitate completion of the five bridge courses (15 credits) in Liberal Arts and Sciences/General Education. The Civil Engineering Technology Department chair or curriculum coordinator will review all college credits earned and will recommend specific courses to complete this bridge.

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS

Students in the construction supervision program must meet the following requirements:

- Students must have the ability to traverse varying types of construction sites.
- Students must have the ability to use industry-standard software and computers.

REQUIRED EQUIPMENT

A tier 2 laptop computer will be required of all students. See laptop specifications at www.alfredstate.edu/required-laptops.

REQUIRED EQUIPMENT

A tier 2 laptop computer will be required of all students. See laptop specifications at www.alfredstate.edu/required-laptops.
CONSTRUCTION SUPERVISION – BTECH
TYPICAL FIVE- THROUGH EIGHT-SEMESTER PROGRAM

<table>
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<td></td>
<td>CIVL 3053</td>
<td>Construction Methods &amp; Practic</td>
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<tr>
<td></td>
<td>CIVL 3553</td>
<td>Comm Bldg Const Methods &amp; Prac</td>
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<td>CIVL 6154</td>
<td>Supervisory Estimating</td>
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<tr>
<td></td>
<td>XXXX  xxx3</td>
<td>Business Electives - Upper</td>
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<tr>
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<td>XXXX  xxx3</td>
<td>Tech./Business Elective</td>
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<td></td>
<td>SPCH 1083</td>
<td>Effective Speaking</td>
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<td>Effective Speaking or Equiv.</td>
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<td>Global Perspectives/Spl Topic</td>
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<td>CIVL 7523</td>
<td>Construction Scheduling</td>
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<td>Business Elective - Upper</td>
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</table>

Be advised that a prior felony conviction may impede a student's ability to participate in an internship.
COURT AND REALTIME REPORTING

AAS DEGREE – CODE #0647

Danielle Green, Program Coordinator
Email address: greendr@alfredstate.edu

This program, approved by the National Court Reporters Association, will prepare you for a career in various court reporting fields—from official to freelance to realtime and closed captioning for the hearing impaired.

ATTRIBUTES
• Independence
• Great lifestyle
• Prestige
• Flexibility
• Mobility
• Exciting work environments

ADVANTAGES
• Development of high-speed recording skills to 225-plus words per minute through the use of realtime translation machine shorthand and computer aided transcription (CAT).
• In the first year, students learn realtime shorthand theory and develop computer skills that will enhance their overall employability.
• Development of skills in recording and transcribing specialized court reporting matter starts in the summer term and continues through the second year.
• The college offers court reporting courses online, making it possible for students who transfer in credit or attend other colleges to earn their degree from Alfred State in court and realtime reporting. This approach is perfect for working professionals, adult and returning students, and anyone who needs high flexibility in their academic schedule.

PROGRAM STUDENT LEARNING OUTCOMES
• Develop a shorthand recording speed on five minutes of unfamiliar dictation with at least 95 percent accuracy.
• Write a dictated list with 95 percent accuracy using advanced shorthand theory, special abbreviations, and phrasing principles.
• Perform readback and analysis of shorthand notes.
• Perform proper transcription and various other functions using the computer.
• Translate two-voice and multi-voice testimony.
• Analyze and describe various aspects of the technology of court reporting and captioning.
• Apply the rules of grammar, spelling, and punctuation, and capitalization of transcripts.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM

Alfred State court and realtime reporting AAS graduates may enter directly into either the interdisciplinary studies BTech or technology management BBA degree program at Alfred State.

OCCUPATIONAL OPPORTUNITIES
• Official court and hearing reporters
• General freelance reporters
• Realtime and closed-captioning reporters
• Scoping

PROFESSIONAL OUTLOOK
• According to the Bureau of Labor Statistics Occupational Outlook Handbook, the national median salary for court reporters and simultaneous captioners was $61,660 in 2020.
• The US Department of Labor projects that court reporting job opportunities will grow fastest in the careers that help the deaf or the hard of hearing, such as realtime captioning and communication access realtime translation (CART).

REQUIRED EQUIPMENT
A tier 1 laptop computer is required for students entering the court and realtime reporting program. Apple products are not compatible with stenographic software. Laptop specifications are available at http://www.alfredstate.edu/required-laptops.

RELATED PROGRAMS
Technology Management (BBA)

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Recommended: Algebra

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

Technical Standards
• Students must be able to tolerate the sitting position for prolonged periods of time (up to eight hours daily).
• Students must be able to meet industry standard speeds.
• Students must have sufficient manual dexterity to operate industry standard machinery.
• Students must possess adequate hearing to provide accurate verbatim transcripts.

REQUIRED EQUIPMENT
A tier 1 laptop computer is required for students entering the court and realtime reporting program. Apple products are not compatible with stenographic software. Laptop specifications are available at http://www.alfredstate.edu/required-laptops.

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 100 percent are employed.
## Typical Four-Semester Program (on campus and online)

### First Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
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<td>Realtime Writing Theory Ib OR</td>
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</tr>
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<td>Realtime Writing Theory Ila OR</td>
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### Second Semester

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<td>Realtime Writing Theory Iib OR</td>
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<td>CTRP 2282</td>
<td>Realtime Writing Theory Iva OR</td>
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<tr>
<td>CTRP 2292</td>
<td>Realtime Writing Theory IVb OR</td>
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<tr>
<td>CTRP 3373</td>
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<td>MATH xxx3</td>
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### Summer Session (required)

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<tr>
<td>CTRP 3363</td>
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### Third Semester

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<th>Course Title</th>
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<td>CTRP 4272</td>
<td>Speed Building IIb OR</td>
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<tr>
<td>CTRP 4283</td>
<td>Speed Building IIIa OR</td>
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<tr>
<td>CTRP 4293</td>
<td>Speed Building IIIb OR</td>
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<tr>
<td>CTRP 2603</td>
<td>Persil Dictionary Prod &amp; Maint</td>
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<tr>
<td>SPCH 1083</td>
<td>Effective Speaking OR</td>
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<td>XXXX xxx3</td>
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<td>Med &amp; Legal Term for Court Rep</td>
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### Fourth Semester

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<th>Course Code</th>
<th>Course Title</th>
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</tr>
<tr>
<td>CTRP 4372</td>
<td>Speed Building IVb OR</td>
<td>2</td>
</tr>
<tr>
<td>CTRP 4383</td>
<td>Speed Building Va OR</td>
<td>3</td>
</tr>
<tr>
<td>CTRP 4393</td>
<td>Speed Building Vb OR</td>
<td>3</td>
</tr>
<tr>
<td>CTRP 4602</td>
<td>Int &amp; Prac for Reporter &amp; Capt</td>
<td>2</td>
</tr>
<tr>
<td>CTRP 4635</td>
<td>Procedures for Reporters &amp; Capt</td>
<td>5</td>
</tr>
<tr>
<td>XXXX xxx3</td>
<td>Gen. Ed. Elective</td>
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</tbody>
</table>

**Total Credit Hours: 64**

Be advised that a prior felony conviction may impede a student’s ability to participate in an internship and complete the program.

### ADDITIONAL PROGRAM INFORMATION

- All students are required to take CTRP 3163 in the summer.
- Students are permitted to repeat a court reporting writing class (Theory I-IV & Speed Building I-V) two times only. If a student is unsuccessful in the same court reporting writing class three times, they will be unable to progress in the court reporting program.
- Students may submit a written appeal to the department, but if not approved, they will be unable to continue in the program.
- Students returning to Alfred State after a substantial break (six months or longer) or transferring from another school may be required to take a placement test to determine coursework at the discretion of the program.

### GRADUATION REQUIREMENTS

- A cumulative overall index of at least 2.0 is required in order to graduate.
- All CTRP skill writing classes must be taken and passed at Alfred State with a passing grade of “C” or better.
- Court reporting students must also meet all the NCRA requirements as stated in the course objectives, including the passing of three, five-minute tests on unfamiliar matter with 95 percent accuracy on two-voice material at 225 wpm, the completion of 40 verified hours of internship experience, including the production of a 40-page transcript; the transcription of a simulated RPR skills test at RPR speed levels in three hours; and the production of accurate transcripts using computer-aided technology as stated in the course outlines.

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COURT AND REALTIME REPORTING
This program, approved by the National Court Reporters Association, will prepare you for a career in various court reporting fields—from official to freelance to realtime and closed captioning for the hearing impaired.

**ATTRIBUTES**
- Independence
- Great lifestyle
- Prestige
- Flexibility
- Mobility
- Exciting work environments

**ADVANTAGES**
- Development of high-speed recording skills to 225-plus words per minute through the use of realtime translation machine shorthand and computer aided transcription (CAT).
- In the first year, students learn realtime shorthand theory and develop computer skills that will enhance their overall employability.
- Development of skills in recording and transcribing specialized court reporting matter starts in the summer term and continues through the second year.
- The college offers court reporting courses online, making it possible for students who transfer in credit or attend other colleges to earn their certificate from Alfred State in court and realtime reporting. The online approach still requires two years of course work and does not change any of the standards reflected in graduation requirements for all students. This approach is perfect for working professionals, adult and returning students, and anyone who needs high flexibility in their academic schedule.

**PROGRAM STUDENT LEARNING OUTCOMES**
- Develop a shorthand recording speed on five minutes of unfamiliar dictation with at least 95 percent accuracy.
- Write a dictated list with 95 percent accuracy using advanced shorthand theory, special abbreviations, and phrasing principles.
- Perform readback and analysis of shorthand notes.
- Perform proper transcription and various other functions using the computer.
- Translate two-voice and multi-voice testimony.
- Analyze and describe various aspects of the technology of court reporting and captioning.
- Apply the rules of grammar, spelling, and punctuation, and capitalization of transcripts.

**OCCUPATIONAL OPPORTUNITIES**
- Official court and hearing reporters
- General freelance reporters
- Realtime and closed-captioning reporters
- Scoping

**EMPLOYMENT STATISTICS**
Employment and continuing education rate of 100 percent – 100 percent are employed. Survey data can be found [here](#).

**RELATED PROGRAMS**
- Court and Realtime Reporting (AAS)
- Technology Management (BBA)

**ENTRANCE REQUIREMENTS/RECOMMENDATIONS**
Recommended: Algebra

**OFFICE OF ACCESSIBILITY SERVICES**
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**Technical Standards**
- Students must be able to tolerate the sitting position for prolonged periods of time (up to eight hours daily).
- Students must be able to meet industry standard speeds.
- Students must have sufficient manual dexterity to operate industry standard machinery.
- Students must possess adequate hearing to provide accurate verbatim transcripts.

**REQUIRED EQUIPMENT**
A tier 1 laptop computer is required for students entering the court reporting and captioning program. Apple products are not compatible with stenographic software. Laptop specifications are available at [http://www.alfredstate.edu/recommended-laptops](http://www.alfredstate.edu/recommended-laptops).
## COURT REPORTING AND CAPTIONING - CERTIFICATE

### Typical Four-Semester Program (on campus and online)

#### First

<table>
<thead>
<tr>
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<th>Course Title</th>
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<tr>
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**Summer Session (required)**

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</table>

Total Credit Hours: 43

Be advised that a prior felony conviction may impede a student's ability to participate in an internship and complete the program.

### Graduation Requirements

- A cumulative overall index of at least 2.0 is required in order to graduate.
- All CTRP skill writing classes must be taken and passed at Alfred State with a passing grade of "C" or better.
- Court reporting students must also meet all the NCRA requirements as stated in the course objectives, including the passing of three, five-minute tests on unfamiliar matter with 95 percent accuracy on two-voice material at 225 wpm, jury charge material at 200 wpm, and literary material at 180 wpm; the completion of 40 verified hours of internship experience, including the production of a 40-page transcript; the transcription of a simulated RPR skills test at RPR speed levels in three hours; and the production of accurate transcripts using computer-aided technology as stated in the course outlines.
- The internship course (CTRP 4602) is completed off campus.
- Students are permitted to repeat a court reporting writing class (Theory I-IV & Speed Building I-V) two times only. If a student is unsuccessful in the same court reporting writing class three times, they will be unable to progress in the court reporting program.
- Students may submit a written appeal to the department, but if not approved, they will be unable to continue in the program.
- Students returning to Alfred State after a substantial break (six months or longer) or transferring from another school may be required to take a placement test to determine coursework at the discretion of the program.
The Associate in Science (AS) degree in criminal justice provides graduates with a solid foundation in the field of criminal justice and its basic components. The program offers practical knowledge that is integrated across core criminal justice courses and that is then combined with other relevant course work. The program emphasizes the development, structure, and function of the criminal justice system within the US, as well as ethical law enforcement practices and community relations. In addition, the program’s professional course work includes a management component that helps prepare graduates for administrative and leadership positions within the criminal justice system.

ADVANTAGES

Students are taught by experts in the field of criminal justice to guide them in their academic and career goals. Students can take coursework in policing, corrections, courts, forensics and cybercrime to give them broad based knowledge and skills to prepare them for a job in criminal justice.

PROGRAM STUDENT LEARNING OUTCOMES

- Apply critical thinking skills in the context of professional practice.
- Perform the basic operations of personal computer use, as well as employ basic research techniques to locate, evaluate, and synthesize information from a variety of sources.
- Communicate effectively and appropriately in oral and written forms.
- Explain the importance of ethical behavior by criminal justice professionals as part of the social contract between a diverse citizenry and the criminal justice system.
- Apply basic management practices to the topical issues facing the police, court, and correction systems.
- Demonstrate basic knowledge of the New York State Penal Code and of Criminal Law Procedure.
- Demonstrate knowledge of the causes and consequences of crime.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM

Alfred State criminal justice graduates may enter directly into the criminal justice BS, interdisciplinary studies BTech, or the technology management BBA degree program.

CONTINUING EDUCATION OPPORTUNITIES

Graduates are well prepared to enter a police academy or to seamlessly transfer into Alfred State's criminal justice program at the baccalaureate level.

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 0 percent are employed; 100 percent continued their education.

RELATED PROGRAMS

- Criminal Justice (BS)
- Forensic Science Technology
- Human Services
- Individual Studies
- Interdisciplinary Studies
- Liberal Arts and Sciences: Social Science

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra

Recommended: Geometry and Biology

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.
The Bachelor of Science (BS) degree in criminal justice provides graduates with a solid foundation in the field of criminal justice, both its essential components and emerging areas, with a focus on leadership and applied learning. With strong preparation in conceptual knowledge, students gain practical experience in criminal justice, including the opportunity to complete either an internship or a lab-based criminal investigation course in their final semester. In order to prepare graduates for a wide variety of careers, the program emphasizes several areas within criminal justice:

- Ethical law enforcement practices
- Decision-making
- Community relations
- Working with diverse populations
- Public safety
- Criminal justice leadership and administration

ADVANTAGES
BS program students can attend the Police Academy and receive up to 12 credits toward their degree.

Police Academy: http://www.alfredstate.edu/police-academy

PROGRAM STUDENT LEARNING OUTCOMES
- Communicate effectively and appropriately in written and oral form.
- Apply critical thinking to modern criminal justice practices, procedures, and policies, as well as other disciplines.
- Perform the basic operations of personal computer use and employ basic research techniques to locate, evaluate, and synthesize information from a variety of sources.
- Describe the development of the US criminal justice system, its structures, laws, and functions, and how the system fits within the US democratic system.
- Explain the importance of ethical behavior by criminal justice professionals as part of the social contract between a diverse citizenry and the criminal justice system.
- Apply contemporary management and leadership concepts and theories.
- Show how theories of crime, crime prevention, treatment, and punishment have impacted public policy in the US.
- Show the connections between US constitutional law and state and local criminal law and procedures.
- Examine the importance of diversity training for criminal justice professionals across all levels and parts of the US system.
- Demonstrate knowledge of the causes and consequences of crime.

EMPLOYMENT OPPORTUNITIES
The US Bureau of Labor Statistics and the New York State Department of Labor predict that job opportunities will exist over the next decade in law enforcement at the local, county, state, and federal levels, and in correctional institutions, parole and probation departments, private security companies, and police science organizations, among others. Though the numbers point to no more than a stable projected job market over the next few years, the sheer volume of criminal justice positions should ensure ample opportunities for graduates possessing expertise in the field.

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 77 percent are employed; 23 percent have continued their education.

RELATED PROGRAMS
- Criminal Justice (AS)
- Human Services
- Human Services Management
- Liberal Arts and Sciences: Social Science

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra

Recommended: Geometry, Biology

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.
### CRIMINAL JUSTICE - BS DEGREE

#### TYPICAL EIGHT-SEMESTER PROGRAM

**First**

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<th>Course</th>
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<tr>
<td>COMP 1503</td>
<td>Freshman Composition</td>
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<td>MATH 1123</td>
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<td>MATH 1113</td>
<td>Statistical Concepts</td>
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<td>MATH 2124</td>
<td>Statistical Methods &amp; Analysis</td>
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<tr>
<td>PSYC 1013</td>
<td>General Psychology</td>
<td>3</td>
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<tr>
<td>SOCI 1163</td>
<td>General Sociology</td>
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<tr>
<td>CJUS 1003</td>
<td>Intro to Criminal Justice</td>
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- Minimum of "C" required: 15-16

**Second**

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<td>Abnormal Psychology</td>
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<td>PLSC 1043</td>
<td>American Government</td>
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<td>CJUS 2003</td>
<td>Introduction to Law</td>
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<td>XXXX</td>
<td>Physical Education</td>
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<tr>
<td>GLST 2113</td>
<td>Global Perspectives:Speci Topic</td>
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- 3 Electives: 15

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<tr>
<td>SOCI 1183</td>
<td>Contemporary Social Problems</td>
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<td>BUAD 3153</td>
<td>Fundamentals of Management</td>
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<td>SOCI 1243</td>
<td>Criminology</td>
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<td>XXXX</td>
<td>Gen Ed Elective - Natural Science</td>
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<tr>
<td>SPCH 1083</td>
<td>Effective Speaking</td>
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<td>Policing in a Free Society</td>
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<td>SOCI 1223</td>
<td>Power, Privilege, &amp; Difference</td>
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<td>XXXX</td>
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<tr>
<td>CJUS 4003</td>
<td>Corrections Process in the U.S</td>
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- 3 Electives: 15

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<td>Technical Writing II</td>
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<tr>
<td>SOCI 5023</td>
<td>Research Methods</td>
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<tr>
<td>CJUS 5003</td>
<td>Constitutional Issues in Crim</td>
<td>3</td>
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<tr>
<td>CJUS 5103</td>
<td>Courts in Contemporary Society</td>
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<td>XXXX</td>
<td>LAS Elective - Upper</td>
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<td>CJUS 6003</td>
<td>Law &amp; Criminal Evidence</td>
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<td>Ethics in Criminal Justice Adm</td>
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<td>PHIL 6003</td>
<td>Professional Ethics</td>
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<td>Family &amp; Intimate Rel Violence</td>
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<tr>
<td>SOCI 6003</td>
<td>Juvenile Justice Admin</td>
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- 3 Electives: 18

**Seventh**

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<td>Working w/Diverse Populations</td>
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<td>CJUS 7004</td>
<td>Criminal Investigation &amp; Mgmt</td>
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<td>Criminal Justice Internship</td>
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<td>SOCI 8003</td>
<td>Terrorism</td>
<td>3</td>
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<tr>
<td>CJUS 8203</td>
<td>Police Security Admin in America</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XXXX</td>
<td>Open Elective</td>
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<th>Course</th>
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<tr>
<td>CJUS 8203</td>
<td>Police Security Admin in America</td>
<td>3</td>
<td></td>
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<tr>
<td>SOCI 8003</td>
<td>Terrorism</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CJUS 8003</td>
<td>Criminal Investigation</td>
<td>3</td>
<td></td>
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<tr>
<td>SOCI 8003</td>
<td>Terrorism</td>
<td>3</td>
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<tr>
<td>XXXX</td>
<td>Open Elective</td>
<td>3</td>
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</table>

**INTERNSHIP REQUIREMENTS**

Students who elect to go the internship route will be responsible for locating and securing the internship. The internships (three-hour and 12-hour) require a minimum of either 120 or 480 hours of work experience in an approved public safety agency, commonly defined as police, courts, corrections, fire service, or in a commercial/industrial security agency. The agency or industry selected must be approved by the internship coordinator and the department chair and be specifically related to the curriculum of the student. Students must be in good academic standing (cumulative GPA of 2.0 or higher) and be able to pass any required background check.

Be advised that a prior felony conviction may impede a student’s ability to participate in an internship and complete the program.

**GRADUATION REQUIREMENTS**

- Good academic standing (cumulative GPA of 2.0 or higher)
- Successful completion of all courses in the prescribed eight-semester plan
- Submission of the college's degree application form
CULINARY ARTS
AOS DEGREE – CODE #0578
Debra Burch, Department Chair and Program Coordinator
Email address: burchda@alfredstate.edu
The courses train students in the principles applied to culinary arts. The goal is to prepare men and women for supervisory positions, and culinary positions that require special skills and knowledge of food and business. By learning fundamental and advanced culinary principles in the food service industry and employing the techniques of menu planning, preparation, and supervision in the lab classes, the students develop skills, confidence, and critical thinking.

ADVANTAGES
• Students may earn the manager servsafe certification from the Educational Foundation of the National Restaurant Association as part of the program.
• Graduates have the option of applying for readmission into a dual-degree program, whereby they may obtain a second degree in baking, production and management in one additional year.

PROGRAM STUDENT LEARNING OUTCOMES
• Interpret and comply with prevailing food safety regulations.
• Create products from complex recipes.
• Successfully vie for employment or continuing education in the food service industry.
• Productively utilize typical culinary equipment.
• Establish product and plate cost for menu items.
• Demonstrate the relationship among menu, equipment, layout, and design.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM
Alfred State culinary arts graduates may enter directly into the technology management BBA degree program. Graduates who have credit for freshman composition, statistics, literature, history, and speech may complete the BBA program in two additional years; others may complete the BBA program in two-and-one-half years.

OCCUPATIONAL OPPORTUNITIES
• Chef Manager
• Cook
• Sous Chef
• Chef
• Production Manager
• Health Care
• Food Service Manager
• School Servicer
• Caterer
• Food Sales Representative
• Food Marketing
• Dining Room Manager
• Entrepreneur

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 25 percent are employed; 75 percent continued their education.

EXPENSES
In addition to regular college expenses, the student must purchase a probe thermometer, calculator, uniform package, and uniform laundry service from the Alfred State Campus Store. Uniforms may cost approximately $360 to $460. The uniform laundry service is approximately $60 per semester. It is mandatory for all culinary arts students to have at least a five-meal, meal plan. First-semester textbooks cost approximately $500, and approximately $100 each succeeding semester.

RELATED PROGRAMS
Culinary Arts: Baking, Production and Management
# CULINARY ARTS - AOS DEGREE

## TYPICAL FOUR-SEMESTER PROGRAM

<table>
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<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td><strong>First</strong></td>
<td>CULN 1083</td>
<td>Food Safety &amp; Service Training</td>
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<td>CULN 1143</td>
<td>Culinary Foundations</td>
<td>3</td>
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<tr>
<td></td>
<td>CULN 1373</td>
<td>Purchasing &amp; Cost Control</td>
<td>3</td>
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<tr>
<td></td>
<td>CULN 1479</td>
<td>Kitchen Fundamentals</td>
<td>9</td>
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<tr>
<td><strong>Second</strong></td>
<td>CULN 2043</td>
<td>Fundamentals of Nutrition</td>
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<td>CULN 2183</td>
<td>Menu Planning</td>
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<td>CULN 2263</td>
<td>Cooking Techniques &amp; Preps</td>
<td>3</td>
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<td>CULN 2479</td>
<td>Culinary Preparations</td>
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<tr>
<td><strong>Third</strong></td>
<td>CULN 3253</td>
<td>Beverage &amp; Fermentation</td>
<td>3</td>
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<td>CULN 3353</td>
<td>Hospitality Supervision</td>
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<td>CULN 3479</td>
<td>Advanced Culinary Preparation</td>
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<td>CULN 3173</td>
<td>Intl Cook, Garde Manger &amp; Baki</td>
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<td><strong>Fourth</strong></td>
<td>CULN 4033</td>
<td>Intro to Food Science &amp; Techno</td>
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**GRADUATION REQUIREMENTS**

A student must successfully complete all courses in the prescribed four-semester program and earn a minimum cumulative grade point average of 2.0 in major courses.
A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at [www.alfredstate.edu/required-laptops](http://www.alfredstate.edu/required-laptops).

**ENTRANCE REQUIREMENTS/RECOMMENDATIONS**
Recommended: Knowledge of basic math, reading, and writing skills.

**OFFICE OF ACCESSIBILITY SERVICES**
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

**TECHNICAL STANDARDS**
It is essential that students in this degree program can participate fully and safely, with or without reasonable accommodation, in all classroom and laboratory settings required for completion of the program. Students in this degree program should be able to:

- Function in a safe manner, not placing themselves, faculty, staff, or other students in jeopardy.
- Appropriately and safely use standard laboratory equipment, materials, and instrumentation to include possession of fine motor skills and mobility.
- Make sensory visual and auditory observations during, and interpret data from, all required laboratory assignments.
- Communicate effectively, both orally and in writing.
- Capability to lift 50 pounds of kitchen product or equipment to industry standard counter height.
- Ability to professionally manage and cope with work in a high paced and crowded lab environment for several hours a day.

**GRADUATION REQUIREMENT**
A student must successfully complete all courses in the prescribed four-semester program and earn a minimum cumulative grade point average of 2.0 in major courses.

**CULINARY ARTS: BAKING, PRODUCTION AND MANAGEMENT - AOS DEGREE**

**TYPICAL FOUR-SEMESTER PROGRAM**

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<tbody>
<tr>
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<td>Baking Foundations 3</td>
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<td>CULN 1373</td>
<td>Purchasing &amp; Cost Control 9</td>
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<td>CULN 1579</td>
<td>Baking Fundamentals 18</td>
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<td>Baking Techniques &amp; Prep 3</td>
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<tr>
<td>CULN 4033</td>
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</table>

**EXPENSES**
In addition to the regular college expenses, the student must purchase decorating tips, a probe thermometer, calculator, uniform package, and uniform laundry service from the Alfred State Campus Store. Uniforms may cost approximately $360 to $460. The uniform laundry service is approximately $60 per semester. It is mandatory that all culinary arts: baking, production and management students have at least a five-meal, meal plan. First-semester textbooks cost approximately $500, and approximately $100 each succeeding semester.

**RELATED PROGRAMS**
- Culinary Arts

**REQUIRED TOOLS/EQUIPMENT**
A list of required tools, equipment, PPE, etc. for the program mentioned above can be found at [http://www.alfredstate.edu/tool-lists](http://www.alfredstate.edu/tool-lists).
The Bachelor of Technology degree in cyber security at Alfred State is designed to prepare you to enter the workforce as an information security professional—one of the fastest-growing computer and information technology career paths—with a special emphasis in network and host security, secure programming, secure database applications, mobile device security, and cloud security. From courses in security, to programming language sequences such as .NET, Java, and C++, this program will help you meet the needs of today’s and tomorrow’s information security industry. You will also receive a sound foundation in web development, networking, and microcomputer systems. And in order to give you the hands-on experience employers are looking for, a full-semester internship is included.

ADVANTAGES
- Organizations of all types and sizes need information technology professionals, and emphasis on security has never been higher.
- Due to the solid foundation in all the major fields of information technology, the job opportunities for graduates are wide and numerous.

TYPICAL EIGHT-SEMESTER PROGRAM

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<td>Cissy 2143 Microcomputer Systems I 3</td>
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<td>Cissy 2153 Database Appl and Programming I 3</td>
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<td>Third</td>
<td>Cissy 4033 Networking I 3</td>
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<td>Cissy 3223 Intro to Web Page Development 3</td>
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<td>Cissy 4053 Linux/Unix Admin and Scripting 3</td>
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<td>Cissy 4723 Essentials of Info Security 3</td>
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CONTINUING EDUCATION OPPORTUNITIES
Articulation agreements have been established with many community colleges and additional agreements are in development. It is possible, with careful selection of courses, to transfer from a variety of associate degrees, including computer information systems, information technology, computer science, and others. Upon completion of the bachelor’s degree, students will be prepared to pursue a graduate degree in information technology. The computer information systems degree (AAS) at Alfred State is especially well suited for transfer into the bachelor’s degree at the junior level.

OCCUPATIONAL OPPORTUNITIES
Organizations of all types and sizes need information technology professionals and emphasis on security has never been higher. The primary employment field includes security IT specialists, Virtual Private Network administrators, authentication specialists, database administrators, programmers, and system analysts. Due to the solid foundation in other areas, graduates will not be limited to these areas; thus, the job opportunities are wide and numerous.

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 100 percent are employed.

RELATED PROGRAMS
- Computer Engineering Technology
- Computer Information Systems
- Computer Science

Digital Media and Animation
Information Technology: Applications Software Development
Information Technology: Network Administration
Information Technology: Web Development

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry, Algebra 2

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT
A tier 2 laptop computer is required for students entering the cyber security program. Laptop specifications are available at www.alfredstate.edu/required-laptops.
## Fifth

<table>
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<tr>
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<td>Security Tools</td>
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<td>7013</td>
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<td>Sec Policies, Recov &amp; Risk Man</td>
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<td>CISY</td>
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<td>Sftw Intgtn &amp; Interoperability</td>
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<td>CISY</td>
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<td>Seminar Critical Issues in IT</td>
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<td>CISY</td>
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* If not required, take LAS elective to complete degree requirements of three credits; otherwise take free elective.

** BUAD 4003 or BUAD 6113 recommended.

GPA of 2.5 or higher is required in major courses; GPA of 2.0 minimum overall is required.

Internship is student-initiated.

Be advised that a prior felony conviction may impede a student's ability to participate in an internship and complete the program.

### GRADUATION REQUIREMENTS

- 124 credit hours
- 39 credit hours in major field required courses
- 24 credit hours in professional courses
- 18 credit hours in core concentration
- 30 credit hours in liberal arts/general education courses
- A 2.5 grade point average in the major is needed for the required internship
- Other requirements as stated in college academic regulations
- Seven general education areas are required, including three of the following five: art, language, other world civilizations, American history, or western civilization
DIAGNOSTIC MEDICAL SONOGRAPHY
AAS DEGREE - CODE #2560
Jennifer Updyke, Program Director
Email address: updykejs@alfredstate.edu

Diagnostic medical sonography is a two-year AAS degree program preparing qualified students to become health care professionals who use high-frequency sound waves to produce anatomical images for diagnostic purposes. The program coordinates on-campus didactic and laboratory classes and clinical experiences at area hospitals, to which students are responsible for their own transportation.

Students must be able to demonstrate technical standards and pass clinical competencies as described by the American Registry of Diagnostic Medical Sonography (ARDMS), and the Commission on Accreditation of Allied Health Education Programs (CAAHEP), recognized by the United States Department of Education as the national accreditation agency of programs for sonography.

Upon graduation, students are prepared to take the ARDMS SPI and Content Specialty Exams.

Clinical education is assigned to provide experiences consistent with the student's level of achievement in different hospital and outpatient environments. Through clinical assignments, students have opportunities to work with the most modern and specialized equipment available and knowledgeable staff with a wealth of experience in imaging. These assignments include a 10-week (40 hours per week) summer session that is required and provides valuable experience in developing clinical competency skills. In addition, 15 weeks of full-time clinical will be assigned in both fall and spring semesters of the second year of the program. Students will require housing close enough to their clinical placements to travel there on a daily basis.

The program currently admits 20 students each year, with a fall semester start date only. One student placement is reserved for an on-campus curriculum change, with the remaining 19 placements being filled by admissions.

ADVANTAGES
- Prepares the student for the American Registry of Diagnostic Medical Sonography registry exams.
- Sonography and simulation laboratory on campus.
- Low student-to-faculty ratio.
- Gaining proficiency in the technical skills necessary for diagnostic medical sonography.
- Extensive clinical experience in hospital setting.
- Availability of on-campus housing and variety of campus activities.

PROGRAM STUDENT LEARNING OUTCOMES
- Demonstrate appropriate technical and effective skills in the clinical setting.
- Demonstrate patient-centered, age-specific skills.
- Analyze images to determine diagnostic quality.
- Demonstrate proper work ethics.
- Examine the value of leadership, professional development, and growth.
- Demonstrate critical thinking and problem-solving skills in both the didactic and clinical setting.
- Apply written communication skills to the construction of documents of record that are established professional guidelines.
- Apply communication skills to the explanation of ideas and scientific terminology.
- Using technological resources effectively and appropriately, synthesize theory and concepts from the liberal education domain and other professions into radiologic technology.
- Explain cultural diversity and evaluate the role of cultural competency, values, and ethics in the patient care setting.

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 100 percent are employed; 0 percent have continued their education.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Applicants for the diagnostic medical sonography program must possess a recognized high school diploma or its equivalent. A standardized test (SAT or ACT) is not required but recommended. Specific high school course requirements and recommendations are:

Required: Algebra, Geometry, Algebra 2, Biology, Physics, Interview with the academic department.

Recommended: Chemistry

Applicants with previous college experience must submit an official college transcript and their success at the college level will be an admissions consideration. Due to the technical and science rigor, entrance requirements are higher than those of the institution.

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS
To participate in the program, the applicant must possess specific non-academic skills. The technical standards described below are consistent with the duties of an entry-level radiographer in a professional position and are required in order to provide adequate patient care and produce a diagnostic image.

The applicant should have the:
- Ability with reasonable accommodation, if necessary, to reach and position the patients on the exam table.
- Ability with reasonable accommodation, if necessary, to move, adjust, and manipulate equipment to perform imaging procedures.
- Ability to review and evaluate recorded images to determine the quality of the image with reasonable accommodation.
- Ability to communicate effectively with patients, doctors, and other personnel so that the patient is not placed in an “at-risk” situation.
- Ability to make proper decisions involving patient and co-worker safety.
- Ability with reasonable accommodation, if necessary, to hear sounds that are necessary to assess patient’s health status.

CONTINUING EDUCATION OPPORTUNITIES
The program allows graduates to transfer to a four-year program in imaging science or healthcare management.

OCCUPATIONAL OPPORTUNITIES
- Hospital Sonography Department Staff Technologist
- Advanced Sonography Modalities- Cardiac, Vascular, and Musculoskeletal
- Sonography Education
- Sonography Department Management
- Industry
- Private Physician Offices

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM
Graduates may enter directly into either the healthcare management BTech, the interdisciplinary studies BTech, or technology management BBA degree program.

Grade of “C+” or better required for all SONO, BIOL and RADT prefix courses.

REQUIRED EQUIPMENT
A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.
DIAGNOSTIC MEDICAL SONOGRAPHY - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

First

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<td>SONO</td>
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<td>Sonography/Ph Care</td>
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<td>RADT</td>
<td>Radiation Physics</td>
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<td>MATH</td>
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<td>BIOL</td>
<td>Anatomy &amp; Physiology I</td>
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<td>Sonographic Procedures I</td>
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<td>BIOL</td>
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<td>GLST</td>
<td>Global Perspectives:Speci Topic</td>
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<td>SONO</td>
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<td>Sonographic Procedures III</td>
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<td>SPCH</td>
<td>Effective Speaking</td>
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Be advised that a prior felony conviction may impede a student’s ability to participate in a required clinical experience.

GRADUATION REQUIREMENTS

The AAS degree in diagnostic medical sonography has finely prescribed courses reflective of accreditation standards for students to be prepared for admission to the American Registry of Diagnostic Medical Sonography (ARDMS) Certification Examination. Specific graduation requirements are:

- 64 total semester credit hours
- Minimum of 20 credit hours of liberal arts and sciences from three of the 10 SUNY General Education categories
- 2.0 cumulative GPA and a grade of “C+” or better in the core science courses (SONO and BIOL prefixes)
- Approval of department faculty
DIGITAL MEDIA AND ANIMATION

BS DEGREE – CODE #2018

Jennie Thwing, Program Coordinator
Email address: thwingj@alfredstate.edu

The emerging field of computer imaging and animation is impacting virtually every industry and profession. The digital media and animation program will provide you with a broad range of technical, creative, and problem-solving skills to facilitate your employment in new media and animation. At the core of the program is a sequence of studio courses that enhances individual artistic creativity and provides instruction in the traditional arts and industry-standard computer graphics software.

ADVANTAGES

• Students develop critical thinking skills by completing rigorous problem-solving activities.
• Gain experience creating a professional presentation, as well as evaluating, revising, and defending ideas and artistic decisions in presented work.

PROGRAM STUDENT LEARNING OUTCOMES

• Demonstrate adaptability/flexibility with technology.
• Illustrate critical thinking by completing course work.
• Demonstrate a strong work ethic through time management and quality works.
• Visually analyze their own work, as well as the work of others, in critiques, presentations, writing, and other activities.
• Apply knowledge of the history and theory relevant to digital media and animation through studio work.
• Communicate verbally using specific terminology associated with the software, hardware, and industry.

OCCUPATIONAL OPPORTUNITIES

• Animation
• Interactive media
• Digital imaging
• Media Design
• Fine art

RELATED PROGRAMS

Computer Engineering Technology
Graphic and Media Design
Information Technology: Web Development

ENTRANCE REQUIREMENT/RECOMMENDATIONS

Required: Algebra, Geometry
Recommended: Algebra 2

EMPLOYMENT STATISTICS

Employment and continuing education rate of 80 percent – 60 percent are employed; 20 percent continued their education.

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

GENERAL NOTES

Entry level of student into math and composition/literature sequences is a function of student's high school preparation and mathematics and English placement examinations.

Minimum of "C" is required for all core courses. A 2.0 GPA or greater in core courses or comparable courses at another institution is required to guarantee admission into DGMA 5103, 5403, and 5603.

Students must complete at least one course from seven of the 10 SUNY General Education silos.

Students are required to complete a digital portfolio assignment and annual reviews to meet graduation requirements.

REQUIRED EQUIPMENT

A tier 4 or Apple MacBook Pro laptop computer is required for students entering the digital media and animation program. Laptop specifications are available at www.alfredstate.edu/required-laptops.
**DIGITAL MEDIA AND ANIMATION – BS**

Be advised that a prior felony conviction may impede a student's ability to participate in an internship.

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DIGITAL MEDIA AND ANIMATION
AAS DEGREE – CODE #1212
Jennie Thwing, Program Coordinator
Email address: thwingj@alfredstate.edu

The emerging field of computer imaging and animation is impacting virtually every industry and profession. The digital media and animation program will provide you with a broad range of technical, creative, and problem-solving skills to facilitate your employment in new media and animation. At the core of the program is a sequence of studio courses that enhances individual artistic creativity and provides instruction in the traditional arts and industry-standard computer graphics software.

ADVANTAGES
- Students develop critical thinking skills by completing rigorous problem-solving activities.
- Gain experience creating a professional presentation, as well as evaluating, revising, and defending ideas and artistic decisions in presented work.

PROGRAM STUDENT LEARNING OUTCOMES
- Demonstrate adaptability/flexibility with technology.
- Illustrate critical thinking by completing course work.
- Demonstrate a strong work ethic through time management and quality works.
- Visually analyze their own work, as well as the work of others, in critiques, presentations, writing, and other activities.
- Apply knowledge of the history and theory relevant to digital media and animation through studio work.
- Communicate verbally using specific terminology associated with the software, hardware, and industry.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS
Alfred State digital media and animation AAS graduates may enter directly into the digital media and animation BS, the interdisciplinary studies BTech, or the technology management BBA degree program.

OCCUPATIONAL OPPORTUNITIES
- Animation
- Interactive media
- Digital imaging
- Media design
- Fine art

RELATED PROGRAMS
Computer Engineering Technology
Graphic and Media Design
Information Technology: Web Development

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry
Recommended: Algebra 2

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT
A tier 4 laptop computer is required for students entering the digital media and animation program. Laptop specifications are available at www.alfredstate.edu/required-laptops.
ELECTRICAL CONSTRUCTION AND MAINTENANCE ELECTRICIAN
AOS DEGREE – CODE #0498

Bradley Thompson, Department Chair and Program Coordinator
Email address: thompsbj@alfredstate.edu

This program provides in-depth instruction in the theories and principles of electricity. Principles of operation for electrical devices and equipment, and correct and safe operation of tools are covered. You will study and learn to interpret and apply the requirements of the National Electric Code for designing electrical layouts, installation methods, and the maintenance, troubleshooting, and repair of electrical circuits and equipment.

Practical (hands-on) application of the classroom theory is the main emphasis of the laboratory work. As an electrical construction and maintenance electrician student, you will assist in the design and installation of the electrical installations of many projects both on and off campus. Approximately one-third of lab time is spent on actual work sites, gaining real-life work experience.

In your senior year, you will create completely automated projects in the lab using PLCs, pneumatics, electronics, and process controls.

ADVANTAGES

- Summer internships are available to selected students through the International Brotherhood of Electrical Workers, Village of Wellsville Electrical Department, and RADEC Corporation in Rochester, allowing students to gain additional, valuable trade experience.
- Various IBEW Locals have agreed to award qualified graduates from Alfred State’s electrical construction and maintenance electrician program advanced placement in their apprenticeship programs. The degree of advanced placement to be awarded will be determined after review by the joint apprenticeship committee and after all conditions of the joint apprenticeship standards have been met.

PROGRAM STUDENT LEARNING OUTCOMES

- Read, interpret, and apply technical information from the National Electrical Code.
- Perform basic and complex mathematical equations as they apply to the electrical trade.
- Perform layout, design, and installation for commercial and industrial wiring systems.
- Perform entry-level layout, design, and installation of residential wiring systems.
- Apply combined knowledge to perform maintenance and troubleshooting procedures within the electrical trade.
- Students will develop an understanding of efficiency, design, and NEC requirements as pertaining to renewable energy systems.
- Design, sizing, layout, and selection of equipment for the electrical systems within a residential dwelling.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM

Alfred State electrical construction and maintenance electrician graduates may enter directly into the construction supervision BTech or technology management BBA degree program. Graduates who have credit for freshman composition, statistics, literature, history, and speech may complete the baccalaureate program in two additional years; others may complete the program in two-and-one-half years.

CONTINUING EDUCATION OPPORTUNITIES

The following local chapters of the International Brotherhood of Electrical Workers (IBEW) have signed articulation agreements with the electrical construction and maintenance electrician program at Alfred State.

IBEW Local 237, Niagara Falls
IBEW Local 241, Ithaca
IBEW Local 86, Rochester
IBEW Local 241, Ithaca

OCCUPATIONAL OPPORTUNITIES

- Electric motor control technician
- Private contractor (residential, commercial)
- Industrial maintenance electrician
- Technical field representative
- Wholesale representative
- Electrical technician
- Wind turbine technician/installer
- Photovoltaic technician/installer

EMPLOYMENT STATISTICS

Employment and continuing education rate of 90 percent – 82 percent are employed; 8 percent continued their education.

RELATED PROGRAMS

Building Trades: Building Construction
Electrical Engineering Technology

REQUIRED TOOLS/EQUIPMENT

A list of required tools, equipment, PPE, etc. for all of the programs listed above can be found at http://www.alfredstate.edu/tool-lists.

A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Recommended: Algebra; good writing and reading comprehension skills

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS

It is essential that students in this degree program can participate fully and safely, with or without reasonable accommodations in all classrooms, laboratory, or field experiences required for completion of the program. Students in this degree program:

- Must be able to function in a safe manner, not placing themselves, faculty, staff, or other students in jeopardy.
- Must be able to appropriately and safely use standard laboratory equipment, materials, and instrumentation that requires possession of fine motor skills and mobility.
- Must be able to lift 50 pounds of materials up to 5ft to mount electrical panels at standard industry height.
- Must be able to communicate orally with a person 6 to 10 feet away.
- Must be able to read and decipher information found in technical manuals.
- Must be able to visually translate information on analog or digital meters and other test equipment.

123
## TYPICAL FOUR-SEMESTER PROGRAM

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<td>ELTR 1166</td>
<td>Residential Wiring Lab IA</td>
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<td>ELTR 1176</td>
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<td>Residential Wiring II</td>
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<td>ELTR 3156</td>
<td>Electrical Power Systems</td>
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<td>ELTR 3326</td>
<td>Magnetic Motor Controls</td>
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<td>ELTR 3306</td>
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Note: Seniors will rotate through the six courses listed in the third and fourth semesters. These six are taught both semesters.

### GRADUATION REQUIREMENTS

A student must successfully complete all courses and earn a minimum cumulative index of 2.0, which is equivalent to a “C” average, in the prescribed four-semester program.
PROGRAM STUDENT LEARNING OUTCOMES (PSLOS) - AAS DEGREE

- An ability to apply the knowledge, techniques, skills, and modern tools of the discipline to narrowly defined engineering technology activities.
- An ability to apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require limited application of principles but extensive practical knowledge.
- An ability to conduct standard tests and measurements and to conduct, analyze, and interpret experiments.
- An ability to function effectively as a member of a technical team.
- An ability to identify, analyze, and solve narrowly defined engineering technology problems.
- An ability to apply written, oral, and graphical communication in both technical and non-technical environments, and an ability to identify and use appropriate technical literature.
- An understanding of the need for and an ability to engage in self-directed continuing professional development.
- An understanding of and a commitment to addressing professional and ethical responsibilities, including a respect for diversity.
- A commitment to quality, timeliness, and continuous improvement.
- The application of circuit analysis and design, computer programming, associated software, analog and digital electronics, and microcomputers, and engineering standards to the building, testing, operation, and maintenance of electrical/electronic(s) systems.
- The applications of physics or chemistry to electrical/electronic(s) circuits in a rigorous mathematical environment at or above the level of algebra and trigonometry.
- The ability to analyze, design, and implement control systems, instrumentation systems, communications systems, computer systems, or power systems.
- The ability to apply project management techniques to electrical/electronic(s) systems.
- The ability to utilize statistics/probability, transform methods, discrete mathematics, or applied differential equations in support of electrical/electronic(s) systems.

PROGRAM STUDENT LEARNING OUTCOMES (PSLOS) - BS DEGREE

- An ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes.
- An ability to design systems, components, or processes for broadly defined engineering technology problems appropriate to program educational objectives.
- An ability to function effectively as a member or leader on a technical team.
- An ability to identify, analyze, and solve broadly defined engineering technology problems.
- An ability to apply written, oral, and graphical communication in both technical and non-technical environments, and an ability to identify and use appropriate technical literature.
- An understanding of the need for and an ability to engage in self-directed continuing professional development.
- An understanding of and a commitment to address professional and ethical responsibilities, including a respect for diversity.
- A knowledge of the impact of engineering technology solutions in a societal and global context.
- A commitment to quality, timeliness, and continuous improvement.
- The application of circuit analysis and design, computer programming, associated software, analog and digital electronics, and microcomputers, and engineering standards to the building, testing, operation, and maintenance of electrical/electronic(s) systems.
- The applications of physics or chemistry to electrical/electronic(s) circuits in a rigorous mathematical environment at or above the level of algebra and trigonometry.
- The ability to analyze, design, and implement control systems, instrumentation systems, communications systems, computer systems, or power systems.
- The ability to apply project management techniques to electrical/electronic(s) systems.
- The ability to utilize statistics/probability, transform methods, discrete mathematics, or applied differential equations in support of electrical/electronic(s) systems.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM

Alfred State electrical engineering technology AAS graduates may enter directly into either the construction supervision BTech, the electrical engineering technology BS, the interdisciplinary studies BTech, or technology management BBA degree program.

OCCUPATIONAL OPPORTUNITIES

- Electrical or electronics technician (two-year)
- Electrical or electronics technologist (four-year)
- Communications technician/technologist
- Computer technician/technologist
- Semiconductor manufacturing technician/technologist
- Electrical power technician/technologist

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent:
- Electrical Engineering Technology (AAS degree): 100 percent 100 percent
- Electrical Engineering Technology (BS degree): 100 percent – 86 percent
- Semiconductor manufacturing technician: 100 percent
- Electrical power technician: 96 percent

ENROLLMENT AND GRADUATION DATA

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<td>2022</td>
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Degrees Awarded

- 2021-2022: 7
- 2020-2021: 4
- 2019-2020: 7
ELECTRICAL ENGINEERING TECHNOLOGY

BS Degree

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Degrees Awarded

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RELATED PROGRAMS

Computer Engineering Technology
Electrical Construction and Maintenance Electrician

CERTIFICATION OR LICENSURE

The Bachelor of Science degree in electrical engineering technology is recognized as a "professional degree" that qualifies for experience/education credit toward New York Professional Engineering Licensure. Graduates from Alfred State’s program are allowed six years of the required 12 years of education/experience credit and are eligible to take the Fundamentals of Engineering (FE), formerly called Engineer-in-Training (EIT), examination upon graduation.

Be advised that a prior felony conviction may impede a student's ability to receive licensure.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS (AAS)

Required: Algebra, Geometry, Algebra 2
Recommended: Physics

ENTRANCE REQUIREMENT/RECOMMENDATIONS (BS)

Required: Algebra, Geometry, Algebra 2
Recommended: Physics

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS

It is essential that students are able to fully participate, with or without a reasonable accommodation, in engineering technology lab and test procedures. Engineering technology students should be able to:

- Maintain ethical standards as defined by professional societies such as ASME and IEEE (non-exhaustive list)
- Appropriately use hand and power tools.
- Appropriately use test, analysis, and measurement equipment
- Maintain professional integrity in the classroom and laboratory setting
- Communicate effectively, orally and written
- Perform experiments safely in a laboratory environment
- Visually decipher lab equipment digital or analogue displays
- Understand and retain information found in equipment manuals, data sheets, and lab instructions
- Comprehend written and oral directions; act on those directions safely
- Visually identify and select hardware components
- Visually distinguish computer software user interface elements
- Interpret software outputs to analyze data
- Have sufficient dexterity to finely adjust equipment settings
- Interpret complex data tables and graphs

Courses that repeat or significantly overlap those taken in the student’s associate degree program cannot be taken for upper-level credit. If the associate degree covered the subject matter in one of the required baccalaureate courses, a different course must be substituted and approved by the faculty adviser.

REQUIRED EQUIPMENT

A tier 2 laptop computer is required for students entering the electrical engineering technology programs. Laptop specifications are available at www.alfredstate.edu/required-laptops. Some courses require specialized tools and/or electronic components.

ELECTRICAL ENGINEERING TECHNOLOGY - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

First

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If not required to take math due to placement scores, take LAS elective to complete degree requirements of three credits; otherwise, take free elective.

GRADUATION REQUIREMENTS - AAS DEGREE

- 64 semester credit hours
- 28 semester credit hours of liberal arts and sciences from at least five of the General Education content groups: mathematics, natural sciences, social sciences, humanities, western civilization, American history, other world civilization, arts, foreign language, and basic communications (must include COMP 1503)
- 2.0 grade point average in major courses
- 2.0 cumulative grade point average, and
- Approval of department faculty

126
ELECTRICAL ENGINEERING TECHNOLOGY – BS DEGREE

TYPICAL FIVE-THROUGH EIGHT-SEMESTER PROGRAM

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
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<td>ELET 5113</td>
<td>Electronic Communications</td>
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<td>EMET 5004</td>
<td>Instrumentation</td>
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<td></td>
<td>CHEM 5013</td>
<td>Applied Chemical Principles</td>
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<td>COM 5703</td>
<td>Technical Writing II</td>
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<td>MATH 2074</td>
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<td>MATH 6114</td>
<td>Differential Equations</td>
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<td>SPCH 1083</td>
<td>Effective Speaking</td>
<td>3</td>
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<tr>
<td></td>
<td>SPCH xxx3</td>
<td>Effective Speaking Equivalent</td>
<td>3</td>
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<tr>
<td></td>
<td>ELET xxx4</td>
<td>Tech. Elective - Upper</td>
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<tr>
<td></td>
<td>MATH 7123</td>
<td>Statistics for Engr Tech &amp; Sci</td>
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<td>Seventh</td>
<td>BSET 7001</td>
<td>Senior Seminar &amp; Project Des</td>
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<td>Economic Analy for Engr Tech</td>
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<td>PHYS 8013</td>
<td>Modern Physics</td>
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<td>ELET xxx4</td>
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<td>EMET 6004</td>
<td>Feedback Control Systems</td>
<td>4</td>
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<td>BSET 8003</td>
<td>Senior Technical Project</td>
<td>3</td>
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<td></td>
<td>XXXX xxx4</td>
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<td>4</td>
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<td>Gen. Ed./LAS Elective</td>
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<td></td>
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<td>13</td>
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GRADUATION REQUIREMENTS - BS DEGREE

- 126 semester credit hours
- 60 semester credit hours of liberal arts and sciences from at least seven of the General Education content groups: mathematics, natural sciences, social sciences, humanities, western civilization, American history, other world civilization, arts, foreign language, and basic communications (must include COMP 1503)
- Minimum of 45 hours upper division
- Minimum of 24 hours upper division in major
- Minimum of 30 hours upper division in residence
- 2.0 grade point average in major courses
- 2.0 cumulative grade point average
- Approval of department faculty
FINANCIAL PLANNING
BBA DEGREE – CODE #1938
Scott DuMond, Program Coordinator
Email address: dumondo@alfredstate.edu

Personal financial services is one of the most lucrative and rapidly expanding professions in existence. By combining expertise in estate planning, investment planning, risk management, insurance evaluation, tax planning, retirement planning, and employee benefits planning, the CERTIFIED FINANCIAL PLANNER™ professional offers one-stop comprehensive expert advice that would have formerly required a variety of different professionals. As a student completing this four-year degree, you will be eligible to sit for the CERTIFIED FINANCIAL PLANNER™ examination. While there are numerous job opportunities for employment in various types of financial institutions - banks, investment firms, and the insurance industry - perhaps the greatest earnings potential lies in becoming a self-employed CFP® practitioner.

ADVANTAGES
• Students receiving their AAS or AS degree in virtually any business concentration will be able to seamlessly transfer into this program and receive the BBA degree in four more semesters, which includes a full-semester internship in the field.
• Students develop the ability to integrate and synthesize the knowledge identified by the CFP® Board’s required topic list and gained from core courses, into decision making, critical thinking, and problem-solving skills.
• This program is registered with the Certified Financial Planner Board of Standards, Inc.

PROGRAM STUDENT LEARNING OUTCOMES
• Demonstrate competence in domestic and global environments within the principle functional areas of business.
• Analyze personal finance problems and devise solutions using critical thinking, decision-making processes, and decision-support tools.
• Formulate a financial plan while integrating the major functional areas of business and personal finance.
• Incorporate software, technology, and information systems into personal finance.
• Identify comprehensive personal finance issues and communicate findings and solutions.
• Identify the personal finance environment in relation to the current financial, legal, economic, and social environments.
• Analyze the role of ethics, government regulations, and legalities in personal financial planning processes.

OCCUPATIONAL OPPORTUNITIES
• Banking
• Insurance
• Investment firms
• Financial planning firms
• Attorneys’ offices
• Self-employment
• Employee benefits specialists
• Accounting firms
• Wealth management firms
• Broker-dealer (securities) firms

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 100 percent are employed.

RELATED PROGRAMS
Accounting
Business Administration
Marketing

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry, Algebra 2

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT
A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

CERTIFIED FINANCIAL PLANNER®: THE HIGHEST STANDARD
Today more than ever, CFP® pros are an essential resource. From budgeting, to planning for retirement, to saving for education, to managing your taxes and your insurance coverage, “finances” doesn’t mean just one thing for most Americans - and “financial planning” means much more than just investing. Bringing all the pieces of your financial life together is a challenging task.

Although many professionals may call themselves “financial planners,” CFP® professionals have completed extensive training and experience requirements and are held to rigorous ethical standards. They understand all the complexities of the changing financial climate and are required to make financial planning recommendations in your best interest.

WHY CERTIFICATION MATTERS
Most people think all financial planners are “certified,” but this isn’t true, nor are all certifications the same. Anyone may call him or herself a “financial planner,” but only those who have fulfilled the certification and renewal requirements of the CFP Board can display the CFP® certification marks, which represent a high level of competency, ethics, and professionalism. CFP Board’s Standards of Professional Conduct require CFP® pros to look out for your interests above their own when delivering financial planning advice.

EDUCATION
Unlike many financial advisors, CFP® pros are required to develop their theoretical and practical knowledge by completing a comprehensive course of study at a college or university with a curriculum approved by the CFP Board. Planning professionals with training outside of the CFP Board’s approved list may meet the education requirement through a review process, which looks at transcripts, previous course work, and other professional designations.

EXAMINATION
CFP® professionals must pass the comprehensive CFP® Certification Exam, which tests their ability to apply financial planning knowledge to real-life situations. The exam covers the financial planning process, tax planning, employee benefits and retirement planning, estate planning, investment management and insurance. The average pass rate for the exam is approximately 60%.

EXPERIENCE
CFP® professionals must have a minimum of three years’ experience in the financial planning process prior to earning the right to use the CFP® certification marks. This hands-on experience guarantees that CFP® professionals have practical financial planning knowledge, so you can count on them to help you create a realistic financial plan that fits your individual needs.

ETHICS
When it comes to financial planning, CFP® professionals are held to the highest of standards. CFP Board’s Code of Ethics outlines CFP® professionals’ obligations to uphold principles of integrity, objectivity, competence, fairness, confidentiality, professionalism and diligence. The Rules of Conduct require CFP® professionals to put clients’ interests above their own, and to provide their financial planning services as a “fiduciary” — acting in the best interest of their financial planning clients. CFP® professionals are subject to sanctions if they violate these standards.

ENFORCEMENT
CFP Board’s rigorous enforcement of its Standards of Professional Conduct — including releasing disciplinary information to the public — distinguishes the CFP® certification from the many other designations in the financial services industry. Anyone who seeks CFP® certification is subject to a background check, and those whose past conduct falls short of CFP Board’s ethical and practice standards can be barred from becoming certified. After attaining certification, a CFP® professional who violates CFP Board’s ethical and practice standards becomes subject to disciplinary action, which could include
the permanent revocation of certification. Through diligent enforcement of its ethical and practice standards, CFP Board provides you with the confidence that your CFP® professional is both competent and ethical.

FINANCIAL PLANNING - BBA DEGREE

TYPICAL EIGHT-SEMESTER PROGRAM

<table>
<thead>
<tr>
<th>First</th>
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<tbody>
<tr>
<td>ACCT  1124</td>
<td>Financial Accounting</td>
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<tr>
<td>COMP  1503</td>
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<td>MKTG  2073</td>
<td>Principles of Marketing</td>
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<td>ACCT  2224</td>
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<td>GLST  2113</td>
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<td>SPCH  1083</td>
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<table>
<thead>
<tr>
<th>Third</th>
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<tbody>
<tr>
<td>BUAD  3153</td>
<td>Fundamentals of Management</td>
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<tr>
<td>BUAD  3043</td>
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<td>BUAD  4203</td>
<td>Intro Personal Financial Plan</td>
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<td>ECON  1013</td>
<td>Principles of Macroeconomics</td>
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<td>Principles of Sales</td>
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<td>ECON  2023</td>
<td>Principles of Microeconomics</td>
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<table>
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<td>ACCT  3453</td>
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<td>Management Communications</td>
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<td>BUAD  5023</td>
<td>Human Resource Management</td>
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<td>FSMA  7023</td>
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<td>XXXX  xxx</td>
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<table>
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<tr>
<td>BUAD  5033</td>
<td>Retirement Planning</td>
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<td>FSMA  7103</td>
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<thead>
<tr>
<th>Eighth</th>
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<tbody>
<tr>
<td>FSMA  8112</td>
<td>Financial Planning Internship</td>
</tr>
</tbody>
</table>

Be advised that a prior felony conviction may impede a student’s ability to participate in an internship and complete the program.

GRADUATION REQUIREMENTS

- 122 credit hours
- 30 credit hours of the 45 upper-level credit hours for this degree must be taken at Alfred State
- Cumulative overall index of at least 2.0
- Seven of the 10 SUNY approved General Education categories must be fulfilled

END-OF-PROGRAM EXAM REQUIREMENTS

All students are required to complete an end-of-program exam. This exam will be taken in the capstone course for the student’s specific program in FSMA 7123 Personal Financial Planning Capstone. The end-of-program exam will also be considered an assignment in the capstone course. The benefit of taking the end-of-program exam is to test the student’s knowledge at the time of graduation. Students may include the progress from the end-of-program exams on their resume. Taking the end-of-program exam will have some fees, which are currently $45 per exam. Exams will be taken once and they will impact the student’s capstone course grade by 5%. Please refer to the syllabi for the relevant capstone course to know the grading scale for the end-of-program exam.

The end-of-program exams are required, not optional.

Information on how to take the exams will be given in the course prior to the end-of-program exam.

**How should I prepare for the assessment exam?**

The comprehensive end-of-program exam covers topics taught throughout the degree program, which are aligned to the topics required for accreditation. The preparation for the exam comes from your educational experience with the school, specifically through the required courses for your degree. The exam assesses the foundational knowledge areas for your discipline.
The forensic science technology major is a technically rigorous four-year program culminating in a Bachelor of Science degree. Students in this laboratory-based on-campus program will complete classwork focusing on three areas of physical evidence analysis:

- Biological applications within forensics, e.g., DNA technologies, genetic analysis, and microbiology.
- Chemical practicalities, notably: physicochemical analysis and identification of drugs, poisons, and fire debris.
- Microscopic-based examinations, including the analysis of fingerprints, firearms evidence, and trace evidence.

The forensic science technology program is fully accredited by FEPAC (Forensic Science Education Programs Accreditation Commission).

**MISSION STATEMENT**

The mission of the forensic science technology program at Alfred State is to provide our students with a strong foundation in the natural and physical sciences. This includes not only theoretical didactic delivery, but also a wealth of hands-on laboratory-based forensic analytical techniques. Graduates of the program will be equipped with the knowledge and skills necessary to obtain entry-level positions as laboratory technicians, scientists, or examiners in a variety of governmental, institutional, and industrial settings, or with the background necessary for successful transfer into graduate-level programs in the forensic, biological, and chemical sciences or related subjects.

**VISION STATEMENT**

Through a rigorous hands-on curriculum rooted in the natural and physical sciences, the forensic science technology program at Alfred State strives to produce graduates prepared to be active contributors in a variety of career and educational options.

**ADVANTAGES**

- All students in the program are required to take a core course load that includes preparation in chemistry, biology, physics, and mathematics as well as more advanced training in organic chemistry, genetics, biochemistry, instrumental methods, analytical chemistry, microbiology, biotechniques, evidentiary law, public speaking, and technical writing.
- Students are trained in the usage and theory of modern instrumental techniques that are utilized by employees in crime laboratories nationwide.
- Students have the opportunity to broaden and deepen their training by selecting from a list of approved technical elective course work.
- All students in the program are required to complete either an off-campus internship or on-campus directed research experience. Students selecting the internship option will be exposed to a workplace setting and may complete this course at a multitude of off-campus locations offering laboratory testing services.
- Students selecting the directed research option will receive preparatory training for future graduate and/or professional school options. In addition, these students will have the opportunity to present their research at both on- and off-campus conferences and/or showcases.

**FUTURE EDUCATIONAL OPPORTUNITIES**

- Evaluate scientific literature to distinguish fact from opinion, develop informed and reasonable conclusions, apply knowledge and understanding to problems, develop rational and reasonable interpretations, suspend beliefs and remain open to new information and methods, and assimilate information learned into knowledge base.
- Use technological resources effectively and appropriately to communicate, collaborate, and retrieve information; determine when technology is useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems.
- Apply written communication skills to the construction documents of record that are well organized and contain appropriate format, grammar, punctuation, sentence structure, and spelling in accordance with established professional guidelines.
- Apply oral communication skills to the explanation of ideas, scientific terminology, and results of scientific examinations in a competent and confident manner.

**OCCUPATIONAL OPPORTUNITIES**

- Government crime laboratories and medical examiner’s offices
- Private forensic testing laboratories
- Industrial laboratories employing chemical or biological technologists
- Quality control/quality assurance positions in testing laboratories

Examples of locations where our graduates have obtained employment include:

- New York City Office of the Chief Medical Examiner
- New York Police Department Crime Laboratory
- National Security Agency
- United States Army Criminal Investigations Division
- Hamilton County (Ohio) Coroner's Office
- Onondaga County Medical Examiner’s Office
- Erie County Crime Lab
- Erie County Medical Examiner’s Office
- NMS Labs

**PROGRAM STUDENT LEARNING OUTCOMES**

- Apply the scientific principles of chemistry, biology, and physics to specific applications in forensic science.
- Explain and show competency in basic chemical and biological lab procedures, including the identification of and the synthesis of various compounds and the forensic analysis of DNA.
- Demonstrate an understanding of the capabilities, use, potential, and limitations of various laboratory instrumental techniques widely utilized in forensic science.
- Recognize and use appropriate professional and ethical behavior as defined by the forensic science community.
- Demonstrate an understanding of the scientific principles of crime scene investigation and reconstruction, including evidence collection, preservation, and documentation.
- Summarize the criminal justice system and explain the role of the forensic scientist and physical evidence within the criminal justice system.

**LECOM EARLY ACCEPTANCE PROGRAM**

- Alfred State's Forensic Science Technology program has an affiliation agreement with Lake Erie College of Osteopathic Medicine (LECOM).
- As a high school senior you can apply to both Alfred State College and LECOM's Early Acceptance Program (EAP) for the College of Osteopathic Medicine of the College of Pharmacy.
- Current Alfred State Forensic Science Technology students with at least two years remaining can also apply to LECOM's EAP.
- Through the 4+4 program, students who earn a BS in Forensic Science Technology at Alfred State College will continue their education at LECOM. For more information visit https://lecom.edu/academics/early-acceptance-program/.
FORENSIC SCIENCE TECHNOLOGY - BS DEGREE

TYPICAL EIGHT-SEMESTER PROGRAM

First
- FRSC 1001 Intro to Forensic Science 1
- CHEM 1984 Chemical Principles I 4
- BIOL 1104 General Biology I 4
- COMP 1503 Freshman Composition 3
- MATH 1084 Calculus I 4
- MATH 5003 Biotechniques 3

Second
- FRSC 2001 Intro to Forensic Science Tech II 1
- CHEM 2984 Chemical Principles II 4
- BIOL 2204 General Biology II 4
- SPCH 1083 Effective Speaking 3
- GLST 2113 Perspectives:Spcl Topic 3

Third
- FRSC 3001 Topics in Forensic Science I 1
- CHEM 3514 Organic Chemistry I 4
- PHYS 1044 College Physics I 4
- LITR xxx3 Literature Elective 3
- XXXX xxx3 General Education Elective 3

Fourth
- FRSC 4001 Topics in Forensic Science II 1
- CHEM 4524 Organic Chemistry II 4
- PHYS 2044 College Physics II 4
- MATH 2124 Statistical Methods & Analysis 4
- XXXX xxx3 General Education Elective 3

Fifth
- CJUS 1003 Intro to Criminal Justice 3
- CHEM 5414 Analytical Principles 4
- BIOL 5254 Principles of Microbiology 4
- COMP 5703 Technical Writing II 3
- XXXX xxx3 Technical Elective 3

Sixth
- BIOL 6534 Genetics 4
- CHEM 6614 Instrumental Analysis 4
- CJUS 6003 Law & Criminal Evidence 3
- FRSC 6214 Microscopy and Criminalistics 4

Seventh
- FRSC 7214 Forensic Chemistry 4
- CHEM 7784 Biochemistry 4
- XXXX xxx3 Technical Elective 3
- XXXX xxx3 Technical Elective 3

Eighth
- FRSC 8214 Forensic Biology 4
- FRSC 8111 Forensic Science Tech Capstone 1
- FRSC 8113 Forensic Sci Tech Prof Prepar 3
- FRSC 8703 Senior Research Project 3
- FRSC 8713 Forensic Sci Tech Internship 3
- BIOL 5013 Biotechniques 3

Approved Technical Electives:
- BIOL 1304 Botany
- BIOL 1404 Anatomy & Physiology I
- BIOL 2504 Anatomy & Physiology II

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 92 percent are employed; 8 percent continued their education.

STUDENT ACHIEVEMENT DATA
Employment and Continuing Education Report

Program and College Graduation Rates

<table>
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<tr>
<th>Major</th>
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<th>Fall 2015</th>
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<td>Freshmen</td>
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<tr>
<td>Enrollment</td>
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<tr>
<td># Grad win 6 yrs.</td>
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<td>9</td>
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<td>6-yr Grad Rate %</td>
<td>80.0%</td>
<td>75.0%</td>
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College (Bachelor’s)

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<tr>
<td># Grad win 6 yrs.</td>
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<td>100</td>
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<tr>
<td>6-yr Grad Rate %</td>
<td>70.2%</td>
<td>67.8%</td>
<td>65.8%</td>
<td>42.9%</td>
<td>41.9%</td>
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</table>

RELATED PROGRAMS
- Biological Science
- Criminal Justice
- Health Sciences

INTERNSHIP OPPORTUNITIES
Students have completed internship experiences at various locations, including the FBI, ATF, New York State Police Crime Laboratories, multiple county and municipal crime laboratories both inside and outside of New York State, private testing and industrial laboratories, and hospital clinical laboratories.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry, Algebra 2, Biology, Chemistry
Recommended: Physics, SAT and/or ACT test scores

Note: Alfred State is test optional for the spring 2023, fall 2023, and spring 2024 semesters. Therefore, it is not necessary to take the SAT or ACT exam to be considered for admission to all majors as well as for merit-based scholarships.

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT
A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.
BIOL 4403 Pathophysiology
BIOL 4900 Directed Study, Biology
BIOL 5900 Directed Study, Biology
BIOL 6003 Molecular and Cell Biology
BIOL 6403 Advanced Pathophysiology
BIOL 7723 Research Methods in Health Sciences
CHEM 4900 Directed Study, Chemistry
CHEM 5900 Directed Study, Chemistry
FRSC 3113 Forensic Pathology
FRSC 4900 Directed Study, Forensic Science
FRSC 5900 Directed Study, Forensic Science
MATH 2094 Calculus II
MATH 6104 Multivariate and Vector Calculus
MATH 6114 Differential Equations
MEDR 1132 Essen. of Pharmacology and MEDR 1133 Med. Terminology

Students pursuing a career in forensic biology/DNA are advised that the following three courses are required at the undergraduate level: Biochemistry, Genetics, and Molecular and Cell Biology.

TECHNICAL STANDARDS

It is essential that students in this degree program are able to fully and safely participate, with or without reasonable accommodation, in all classroom, laboratory, field, internship, and research experiences required for completion of the program. Students in this degree program should be able to:

- Function in a safe manner, not placing themselves, faculty, staff, or other students in jeopardy.
- Appropriately and safely use standard laboratory equipment, materials, and instrumentation to include possession of fine motor skills and mobility.
- Make sensory visual and auditory observations during, and interpret data from, all required laboratory assignments.
- Communicate effectively, both orally and in writing.

In addition, this degree program requires students to complete either an off-campus internship experience or a research project. Students in this degree program are expected to meet the following professional standards:

- Maintain confidentiality in professional workplace settings.
- Maintain professional composure at all times.

Be advised that a prior felony conviction may impede a student's ability to participate in an internship experience. In addition, students desiring careers within the field of forensic science should be aware that they will likely have to undergo background checks prior to being offered employment or an internship at a crime laboratory. These background checks are often similar to those required for law enforcement officers and may include questions regarding drug usage, criminal history, driving records, credit history, personal associations, and/or past work performance. In addition, they may include drug tests, polygraph examinations, and physical and medical examinations.

GRADUATION REQUIREMENTS

- Minimum of 122 total semester credit hours
- Completion of at least one course from seven of the 10 SUNY General Education categories
- 60 Liberal Arts & Science credits
- Minimum of 45 upper-division semester credit hours
- Minimum of 30 upper-division semester credit hours in residence
- 3 credit hours of research or internship
- 2.0 cumulative grade point average
- Grade of "C" or higher in courses with BIOL, CHEM, and FRSC prefixes
- Completion of a "mock trial" capstone experience
- Approval of department faculty

All laboratory-based courses for this academic program must be completed in an in-person format. Laboratory-based courses in the on-line format will not fulfill degree requirements.
The game and interactive design (G&ID) program offers a hands-on, studio-based approach to design, programming, and storytelling. Course work covers the breadth of interactive design from AAA (triple A) game titles to the interactions of application interfaces. Skills developed in the program are applicable to the growing fields of user experience (UX) design, application design, web design, data visualization, and interactive entertainment.

ADVANTAGES
Graduates of the game and interactive design Bachelor of Science program will possess the skills and technical knowledge base necessary to be proficient and capable in both the design and development of interactive media. They will be well prepared for entry-level positions in the fields of experience (UX) design, application design, web design, data visualization, and interactive entertainment. The program's strength is in the versatility and flexibility of the graduating student, allowing employment opportunities to expand well beyond a singular field of design.

PROGRAM STUDENT LEARNING OUTCOMES
- Demonstrate proficiency and flexibility with technology associated with game and interactive design.
- Organize and produce works of interactive media in a team environment.
- Create quality works of game design and interactive media that utilize relevant history and theory.
- Analyze their own work, as well as the work of others in critiques, presentations, writings, and other activities.
- Demonstrate a strong work ethic through time management and quality works.
- Demonstrate critical thinking by completing problem-solving activities.

OCCUPATIONAL OPPORTUNITIES
- Game design
- UX (user experience design)
- Interactive entertainment
- Application design
- Data visualization
- Web design

EMPLOYMENT STATISTICS
No data available.

RELATED PROGRAMS
- Digital Media and Animation
- Graphic and Media Design
- Information Technology: Web Development

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra and Geometry. Transfer applicants must possess a 2.0 cumulative grade point average as well as a grade of "C" or better in each course taken during the most recent semester of attendance. Individuals with less than a 2.0 cumulative grade point average may be considered with additional documentation.

Recommended: Algebra 2, Physics

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT
A tier 4 or Apple MacBook Pro laptop computer is required for students entering the game and interactive design program. Laptop specifications are available at www.alfredstate.edu/required-laptops.
BS DEGREE GRADUATION REQUIREMENTS

- Complete 121 total semester credit hours
- 60 credit hours of liberal arts and sciences from eight of the 10 SUNY general education categories
- 2.0 cumulative GPA
- Grade of "C" or better in core courses (DGMA and CISY prefixes)
- Students are also required to complete a digital portfolio assignment and annual reviews to meet graduation requirements.
GAME & INTERACTIVE DESIGN (AS)

DEGREE - CODE #2920

Luke Bernfeld, Program Coordinator
Email address: bernfels@alfredstate.edu

The game and interactive design (AS) program will offer a hands-on, studio-based approach to design, programming, and storytelling. Course work covers the breadth of interactive design from AAA (triple A) game titles to the interactions of application interfaces. Skills developed in the program are applicable to the growing fields of user experience (UX) design, application design, web design, data visualization and interactive entertainment. The program will develop foundational skills, yet provide versatility and flexibility in the graduating student, allowing employment opportunities to expand well beyond a singular field of design.

ADVANTAGES

Graduates of the game and interactive design Associate in Science (AS) program will possess the skills and technical knowledge base necessary to be proficient and capable in both the design and development of interactive media. They will be prepared for entry-level positions in the fields of experience (UX) design, application design, web design, data visualization, and interactive entertainment, as well as prepared for transfer to a bachelor's-level program.

PROGRAM STUDENT LEARNING OUTCOMES

Graduates of the program will be able to:

• Demonstrate proficiency with the technology associated with game and interactive design.
• Organize and produce works of interactive media.
• Create quality works of game design and interactive media.
• Analyze their own work, as well as the work of others in critiques, presentations, writings, and other activities.
• Demonstrate a strong work ethic through time management and quality works.
• Demonstrate critical thinking by completing problem-solving activities.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS

Alfred State game and interactive design AS graduates may enter directly into the game and interactive design BS, the interdisciplinary studies BTech, or the technology management BBA degree program.

OCCUPATIONAL OPPORTUNITIES

• Game design
• UX (user experience design)
• Interactive entertainment
• Application design
• Data visualization
• Web design

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 100 percent continued their education.

RELATED PROGRAMS

• Digital Media and Animation
• Graphic and Media Design
• Information Technology: Web Development

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry
Recommended: Algebra 2, Physics

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT

A tier 4 or Apple MacBook Pro laptop computer is required for students entering the game and interactive design program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

A typical day consists of two, one-hour lectures and a two-hour studio in the freshman and sophomore years. At the junior and senior levels, three-hour studios are required.

TYPICAL FOUR-SEMESTER PROGRAM

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<thead>
<tr>
<th>First</th>
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<th>Fourth</th>
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<tbody>
<tr>
<td>DGMA 1403</td>
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<td>DGMA 3703</td>
<td>2D Game Design</td>
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<tr>
<td>CISY 1113</td>
<td>Computer Programming I</td>
<td>CISY 2133</td>
<td>Computer Programming II</td>
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<td>College Physics I</td>
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<td>Survey of Design</td>
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<td>GLST 2113</td>
<td>Global Perspectives: Spcl Topic</td>
<td>XXXX xxx3</td>
<td>CISY or DGMA Technical Elective</td>
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15

<table>
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<td>DGMA 3003</td>
<td>3D Game Design</td>
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<td>XXXX xxx3</td>
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<tr>
<td>XXXX xxx3</td>
<td>Gen Ed/LAS Elective</td>
<td>SPCH xxx3</td>
<td>Effective Speaking or Equivalent</td>
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</table>

16
The graphic and media design (AS) program provides graduates with foundational knowledge in graphic design for screen-based and print media. The program focuses on developing the contemporary problem-solving and design skills needed to apply the elements and principles of design, drawing, and visual communication. An awareness of design history is combined with the latest topics in graphic and media design to provide an informed student aimed at innovation in the field.

Graduates will possess the skills necessary to be well rounded in both design and production across a wide variety of print and digital media. They will be prepared for entry-level positions at design firms and in-house design and/or production departments within larger companies.

ADVANTAGES

The Alfred State graphic and media design (GMD) program is different from other such programs because it is constructed to meet the current needs for design in a time-based, screen-filled world. From cellphones to video billboards, new venues are demanding movement and interaction. This program is built to take advantage of new and ever-changing technologies and remain at the leading edge of design.

Because designers are being asked to design for print and screen, this requires new thinking, new versatility, and a new type of creative problem-solver. A new versatile designer is what Alfred State’s graphic and media design program is designed to produce.

PROGRAM STUDENT LEARNING OUTCOMES

- Demonstrate proficiency and flexibility with technology associated with graphic and media design.
- Demonstrate use of a professional design process to conceptualize and create a finished design project.
- Analyze their own work, as well as others through critiques, presentations, and other activities.
- Employ critical thinking to complete problem-solving activities.
- Create quality graphic and media design that utilizes relevant design history and theory.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM

Graphic and media design AS graduates may enter directly into either the graphic and media design BS, the interdisciplinary studies BTech, or the technology management BBA degree program.

CONTINUING EDUCATION OPPORTUNITIES

Graduates will be well prepared to continue into baccalaureate programs in graphic design, media production, and education.

FACILITIES

- Video and audio production studio
- High-end computer labs
- Screen printing
- Large-format printing
- Traditional materials studios
- 24-hour studio access
- HD video and surround-sound in each studio
- Real-world collaborative studio environments
- Virtual reality and 3D sculpting studio
- 3D printing and laser cutting lab

OCCUPATIONAL OPPORTUNITIES

- Graphic design
- Media design
- Fine art
- Video and audio production
- Marketing
- Communications
- Education

RELATED PROGRAMS

- Digital Media and Animation
- Game and Interactive Design

RELATED CLUBS

- Visual Impact Club

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry
Recommended: Algebra 2

REQUIRED EQUIPMENT

A tier 4 or Apple MacBook Pro laptop computer is required for students entering the graphic and media design program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

GRAPHIC AND MEDIA DESIGN (AS DEGREE)

TYPICAL FOUR-SEMESTER PROGRAM

First

- DGMA 1401 Freshman Seminar 1
- DGMA 1403 Digital Foundations I 3
- DGMA 1423 Intro to Visual Communication 3
- DGMA 1413 Foundations/Form/Space Rtnshp 3
- COMP 1503 Freshman Composition 3
- FNAT 1313 Art History 3

Second

- DGMA 2503 Digital Foundations II 3
- FNAT 2423 3D Design/Color 3
- FNAT 2333 Survey of Design 3
- GLST 2113 Global Perspectives:Spcl Topic 3
- MATH xxx3 Math Elective 3

Third

- DGMA 3303 Digital Photography 3
- DGMA 3503 Typography 3
- DGMA 3603 Production I 3
- LITR xxx3 Literature Elective 3
- XXXX xxx3 Gen Ed/Natural Science Elective 3
- XXXX xxx3 Gen Ed/Social Science Elective 3

Fourth

- DGMA 4103 Interactive Design 3
- FNAT 3513 Art History II 3
- DGMA xxx3 Technical Elective 3
- COMP 3603 Writing for Emergent Media 3
- SPCH 1083 Effective Speaking or OR 3
- SPCH xxx3 Effective Speaking or Equivalent 3

Minimum of “C” is required for all core courses.

Students are required to complete a digital portfolio assignment and annual review to meet graduation requirements.
The graphic and media design program provides graduates with expertise in graphic design for screen-based and print media. The program focuses on developing the contemporary problem-solving and design skills needed to apply principles of design, drawing, and visual communication. An awareness of design history is combined with the latest topics in graphic and media design to provide an informed student aimed at innovation in the field.

ADVANTAGES
The graphic and media design (GMD) program at Alfred State is different from other graphic design programs. It is designed to meet the current needs for design in a time-based and screen-filled world. From cellphones to video billboards, new venues are demanding movement and interaction. This program is built to take advantage of new and ever-changing technologies and remain at the leading edge of design. Currently, designers are asked to be able to design for print and screen. This requires new thinking, new versatility, and a new type of creative problem solver. This new versatile designer is what this program is designed to produce.

PROGRAM STUDENT LEARNING OUTCOMES
- Demonstrate proficiency and flexibility with technology associated with graphic and media design.
- Demonstrate use of a professional design process to conceptualize and create a finished design project.
- Analyze their own work, as well as others through critiques, presentations, and other activities.
- Employ critical thinking to complete problem-solving activities.
- Create quality graphic and media design that utilizes relevant design history and theory.

FACILITIES
- Video and audio production studio
- High-end computer labs
- Screen printing
- Large-format printing
- Traditional materials studios
- 24-hour studio access
- HD video and surround-sound in each studio
- Real-world collaborative studio environments
- Virtual reality and 3D sculpting studio
- 3D printing and laser cutting lab

OCCUPATIONAL OPPORTUNITIES
- Graphic design
- Media design
- Fine art
- Video and audio production
- Marketing
- Communication
- Education

RELATED PROGRAMS
- Digital Media and Animation
- Game and Interactive Design
- Information Technology: Web Development

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry
Recommended: Algebra 2

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 80 percent are employed; 20 percent continued their education.
# Graphic and Media Design - BS Degree

## Typical Eight-Semester Program

### First

<table>
<thead>
<tr>
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<td>DGMA</td>
<td>1423</td>
<td>Intro to Visual Communication</td>
<td>3</td>
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<tr>
<td>DGMA</td>
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<td>Foundations: Form/Space Rlnship</td>
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<tr>
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<td>3D Design/Color</td>
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<tr>
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<tr>
<td>DGMA</td>
<td>3503</td>
<td>Typography</td>
<td>3</td>
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<tr>
<td>DGMA</td>
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<td>Production I</td>
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<tr>
<td>XXXX</td>
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<td>SPCH</td>
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<td>Effective Speaking</td>
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<td>DGMA</td>
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<td>Interactive Media</td>
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<td>XXXX</td>
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<td>Gen Ed/LAS Elective (Upper Level)</td>
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### Sixth

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<td>Technical Elective (Upper Level)</td>
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<td>Motion Graphics</td>
<td>3</td>
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<tr>
<td>DGMA</td>
<td>7703</td>
<td>Adv Topics Interactive Design</td>
<td>3</td>
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<tr>
<td>XXXX</td>
<td>xxx3</td>
<td>Gen Ed/LAS Elective (IC or FL)</td>
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<tr>
<td>XXXX</td>
<td>xxx3</td>
<td>LAS Elective (Upper Level)</td>
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### Seventh

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<td>Special Topics Media Design I</td>
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<td>DGMA</td>
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<td>Advanced Motion Graphics</td>
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<td>DGMA</td>
<td>8503</td>
<td>Special Topics Media Design II</td>
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## Graduation Requirements

To fulfill degree requirements, each student must complete 124 total semester credit hours, including a minimum of 60 credit hours of liberal arts and sciences from eight of the 10 State University of New York general education categories, and earn a 2.0 cumulative GPA and a grade of "C" or better in the core courses (DGMA and FNAT prefixes).

Students are required to complete a digital portfolio assignment and annual review to meet graduation requirements.

A typical day consists of two, one-hour lectures and a two-hour studio in the freshman and sophomore years.
HEALTH INFORMATION TECHNOLOGY
AAS DEGREE – CODE #1969
Erica Matteson, RHIA, Program Coordinator
Email address: matteses@alfredstate.edu

Health information technology (HIT) professionals play an integral role in modern healthcare organizations. HIT professionals are highly trained in the latest information management technology applications. They understand the workflow process in healthcare provider organizations, from large hospital systems to smaller private practices, and are vital to the daily operations, management of health information and electronic health records (EHRs). They ensure a patient’s health information is complete, accurate, and protected.

HIT professionals have an extraordinary impact. They are the link between clinicians, administrators, allied health departments, legal and regulatory agencies, financial services and information technology professionals.

These professionals affect the quality of patient information and patient care at every touch point in the healthcare delivery cycle. HIT professionals work on the classification of diseases and treatments to ensure they are standardized for clinical, financial, and legal uses in healthcare. HIT professionals care for patients by caring for their medical data and are responsible for the quality, integrity, security, and protection of patients’ health information.

ADVANTAGES
• Graduates are eligible to take the national certification examination to become a registered health information technician (RHIT). Since the program was created in 1968, Alfred State HIT graduates have traditionally achieved a passing rate above the national average.
• Teaching faculty in HIT curriculum have real-world Health Information Management (HIM) industry experience.

PROGRAM STUDENT LEARNING OBJECTIVES
• Apply biomedical knowledge (including medical terminology, anatomy & physiology, pathophysiology, and pharmacology) to apply diagnosis/ procedure codes (ICD-9-CM, ICD-10-CM, ICD-10-PCS, CPT, and HCPCS level II) according to current nomenclature.
• Use established federal guidelines, accreditation standards, and APC and DRG calculator/grouper software to comply with health care documentation (review), reimbursement, and reporting requirements.
• Apply HIM knowledge as defined by organizational policy and external regulations (e.g., Medicare, Medicaid, managed care) and standards to maintain the accuracy and completeness of the patient record.
• Apply HIM knowledge of policies and procedures for confidentiality and security measures regarding the access and disclosure of protected health information (PHI) to authorized users.
• Apply HIM knowledge in the collection, maintenance, and reporting of data for clinical indices/databases/registries to meet specific organizational and regulatory needs for the purposes of medical research and education.
• Organize and present data for quality management, utilization management, risk management, and other related studies.
• Apply HIM knowledge of legal, ethical, accreditation and certification standards as appropriate for the management of patient information.
• Apply basic methods when calculating descriptive, institutional, and health care vital statistics.
• Apply the use of common software applications (e.g., spreadsheets, databases, word processing, graphics, presentation, email, and so on) and HIM-related software applications (e.g., release of information, electronic health record, patient record abstracting, and so on).
• Apply HIM knowledge to promote ethical standards of practice to health information management and coding.
• Demonstrate effective written and oral communication as appropriate to health information management and coding practices. Communicate effectively with consumers, providers, and other health care professionals.
• Demonstrate critical thinking to problem solving and reasoning skills to health information management and coding practices.

PROFESSIONAL PRACTICE EXPERIENCES
Students complete non-paid professional practice experiences (PPEs) in the Health Information Department of a health care facility (160 hours) in their study. PPE arrangements are made in consultation with each student to identify locations considered to be within a reasonable distance. Students are not a substitute for paid staff during PPEs, which means they are expected to receive appropriate supervision and mentoring during completion of all tasks. The professional practical experience (PPE) includes the completion of on-site hours in the Health Information Management (HIM) Department of a hospital (or other health care facility) with adequate facilities to provide varied work opportunities in HIM.

The Joint Commission Hospital Accreditation Standards Manual requires hospitals to implement “a process to ensure that a person’s qualifications are consistent with their job responsibilities.” This standard “applies to staff, students, and volunteers,” and if further states the hospital is responsible for verifying “the following according to law, regulation, or hospital policy: information on criminal background.” As such, Alfred State students who complete PPEs in the HIT program may be required to undergo a criminal background check prior to placement at the facility.

The PPE facility may require students to undergo a physical examination (on-site at the facility or by the student’s primary care provider) prior to beginning the professional practice experience. The physical examination may include drug screening, a TB test, and/or DTB, hepatitis B, and/or MMRV, influenza and/or COVID immunization or status. Students may be required to incur costs associated with the criminal background check and/or physical examination.

Be advised that a prior felony conviction may impede a student’s ability to participate in a required professional practice experience. Students may be required to attend an on-site orientation at the professional practice facility, which could be several days in length beyond the 160 PPE hours. NOTE: Students must make appropriate arrangements with their current employer to complete the 160 hours at the PPE host site.

CONTINUING EDUCATION OPPORTUNITIES
Although not limited to these schools, common transfer institutions for HIT bachelor’s degree programs include SUNY Polytechnic, Stephens College, St. Scholastica, Regis University, University of Cincinnati, and Saint Joseph’s College of Maine.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS
Alfred State health information technology AAS graduates may enter directly into the healthcare management BTech, the interdisciplinary studies BTech, or the technology management MBA degree program.

Alfred State’s Healthcare Management program is not accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM) and will not yield RHIA eligibility.

CERTIFICATION
Graduates are eligible to take the Registered Health Information Technician (RHIT), Certified Coding Specialist (CCA, CCS, CCS-P), and Certified Professional Coder (CPC, CPC-A, CPC-H-A, CPC-H, CPC-P) exams.

OCCUPATIONAL OPPORTUNITIES
• Hospitals and other health care facilities
• Clinics and physicians’ offices
• Insurance companies
• State and federal agencies
• Law firms
• Software companies
• Consulting

EMPLOYMENT STATISTICS
Employment and continuing education rate of 91 percent – 83 percent are employed; 8 percent continued their education.

RHIT EXAMINATION
The RHIT examination pass rate for the August 2021 - July 2022 reporting period is 86 percent. Twelve of fourteen first-time RHIT examination test-takers passed on their first attempt. One repeat test taker also completed their RHIT exam with a passing score on their second attempt.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Biology, Algebra
Recommended: Keyboarding and knowledge of Microsoft Office Professional

Must be able to attend Professional Practice Experience (PPE) courses including 160 hours at a health care facility within reasonable driving/travel distance to their home.
HEALTH INFORMATION TECHNOLOGY
OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

GENERAL NOTES

- Working in the Health Information Management HIM profession requires long periods of standing and/or sitting.
- Job duties typically include handling paper documents and use of computer screens.
- Near vision reading of paper records or computer screens, including the use of multiple computer applications, is required 95 percent of the time.
- Documents are handwritten on paper, and other documents and information used are on computer screens, including scanned documents and images.
- The computer screen fonts may be small. The extensive use of a computer keyboard and mouse is required.
- HIM professionals spend the greater portion of the work day reading and analyzing both handwritten and computerized documents and use multiple software applications such as the electronic health record.
- Individuals should assess their personal limitations and abilities within these working environments, as HIM candidates will be assessed in all of these skill sets during the hiring process.

REQUIRED EQUIPMENT

A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops. (A desktop of similar specifications can be used instead of a laptop for specified courses).

HEALTH INFORMATION TECHNOLOGY - AAS DEGREE
TYPICAL FOUR-SEMESTER PROGRAM - Full-time (12 credit hours or more)

This program is offered as an internet-based program only

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<tbody>
<tr>
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<tr>
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HIT students are required to earn a grade of at least a “C” or better in each BIOL and MEDR prefix course prior to placement in the PPEs. Students must also earn a grade of at least a “C” in all BIOL, MEDR, and COMP 1503 courses to graduate from the HIT program. Students receiving a grade of D/F in MEDR or BIOL courses may attempt the course a second time. If the second attempt results in the grade of D/F, the student will be dismissed from the program.
HEALTH SCIENCES
BS DEGREE - CODE #2564
Holly Young, Program Coordinator
Email address: younghm@alfredstate.edu

The Bachelor of Science in health sciences program is a rigorous four-year baccalaureate degree in biological sciences designed to satisfy requirements for students entering health care professions or graduate-level biomedical research. Students in the program will be exposed to a rich offering of liberal arts courses and will advance from basic biology, chemistry, and physics courses to upper-level courses in biology, chemistry, health care, and research. The program further provides opportunities to select from a wide range of health-related technical electives to enhance and broaden the student’s expertise. These will prepare the graduate for working with future colleagues from the health care professions and the diverse population that will require their services. In addition, this program will prepare the graduate to seek transfer options to graduate-level or initial professional degree programs.

ADVANTAGES
- Students will build a solid foundation in biology and chemistry courses.
- Students will be able to internally and seamlessly transfer from Alfred State’s biological science (AAS) degree.
- Students will further advance knowledge and skills in biology, chemistry, health care, and research through courses, including microbiology, genetics, bio-techniques, molecular and cellular biology, biochemistry, culture of health care, ethical issues in health care, and research methods.
- Students will have the opportunity to enhance and broaden their training by selecting from a list of approved health-related technical electives such as advanced pharmacology, complementary and alternative medicine, genomics, instrumental analysis, medical anthropology, and more.
- Students will conceptualize and implement their knowledge and skills through a directed research experience or professional internship.

PROGRAM STUDENT LEARNING OUTCOMES (PSLOS)
- Apply the scientific principles of biology and chemistry to specific applications in health sciences.
- Explain and show competency in basic biological and chemical laboratory procedures.
- Demonstrate an understanding of the capabilities, use, potential, and limitations of various laboratory instrumental techniques widely utilized in health sciences.
- Recognize and use appropriate professional and ethical behavior as defined by the health sciences community.
- Evaluate scientific literature to distinguish fact from opinion, develop informed and reasonable conclusions, apply knowledge and understanding to problems, develop rational and reasonable interpretations, suspend beliefs and remain open to new information and methods, and assimilate information learned into knowledge base.
- Use technological resources effectively and appropriately to communicate, collaborate, and retrieve information; determine when technology is useful; and select the appropriate tool(s) and technology resources to address a variety of tasks and problems.
- Apply written communication skills to construct documents of record that are well organized and contain appropriate format, grammar, punctuation, sentence structure, and spelling in accordance with established professional guidelines.
- Apply oral communication skills to the explanation of ideas, scientific terminology, and results of scientific examinations in a competent and confident manner.
- Synthesize theory and concepts from the liberal arts education domain and other professions into health sciences.

OCCUPATIONAL OPPORTUNITIES
- Laboratory assistant
- Pharmaceutical sales representative
- Environmental health safety officer
- Food scientist
- Biomedical researcher
- Public health worker

FUTURE EDUCATIONAL OPPORTUNITIES
- Medicine
- Physician assistant
- Dentistry
- Optometry
- Osteopathy
- Pharmacy
- Audiology
- Physical therapy
- Occupational therapy
- ChiropRACTIC
- Clinical psychology
- Graduate level biology, chemistry, or biomedical science

LECOM EARLY ACCEPTANCE PROGRAM
Alfred State’s health sciences program has an affiliation agreement with Lake Erie College of Osteopathic Medicine (LECOM).

As a high school senior you can apply to both Alfred State College and LECOM's Early acceptance Program (EAP) for the College of Osteopathic Medicine or the College of Pharmacy.

Current Alfred State health science students with at least two years remaining can also apply to LECOM's EAP.

Through this 4+4 program, students who earn a BS in health sciences at Alfred State College will continue their education at LECOM. For more information visit https://lecom.edu/academics/early-acceptance-program/.

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 33 percent are employed; 67 percent continued their education.

RELATED PROGRAMS
- Biological Science
- Forensic Science Technology

INTERNSHIP OPPORTUNITIES
- Academic or industrial research laboratory
- Health care or clinical laboratory
- Pharmacy
- Health care practitioner's office

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Specific high school course requirements and recommendations are:
Required: Algebra, Geometry, Algebra 2, Biology, Chemistry
Recommended: Physics, ACT and/or SAT test scores

Note: Alfred State is test optional for the spring 2023, fall 2023, and spring 2024 semesters. Therefore, it is not necessary to take the SAT or ACT exam to be considered for admission to all majors as well as for merit-based scholarships.

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS
It is essential that students in this degree program are able to fully and safely participate, with or without reasonable accommodation, in all classroom, laboratory, field, internship, and research experiences required for completion of the program. Students in this degree program should be able to:
- Function in a safe manner, not placing themselves, faculty, staff, or other students in jeopardy.
- Appropriately and safely use standard laboratory equipment, materials, and instrumentation to include possession of fine motor skills and mobility.
• Make sensory visual and auditory observations during, and interpret data from, all required laboratory assignments.
• Communicate effectively, both orally and in writing.

In addition, this degree program requires students to complete either an off-campus internship experience or a research project. Students in this degree program are expected to meet the following professional standards:
• Maintain confidentiality in professional workplace settings.
• Maintain professional composure at all times.

Be advised that a prior felony conviction may impede a student’s ability to participate in an internship experience.

GRADUATION REQUIREMENTS
• 124 total semester credit hours
• Completion of at least one course from seven of the 10 SUNY Gen Ed categories.
• Minimum of 60 semester credit hours of Liberal Arts & Science credit hours.
• 48 upper-division credit hours
• 42 upper-division credit hours in the major
• Minimum of 30 upper-division credit hours in residence
• 3 credit hours of research or internship
• 2.0 cumulative grade point average
• Grade of “C” or higher in courses with BIOL, CHEM, HLSC, and HLTH prefixes
• Approval of department faculty

All laboratory-based courses for this academic program must be completed in an in-person format. Laboratory-based courses in the online format will not fulfill degree requirements.

REQUIRED EQUIPMENT
A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.
# TYPICAL EIGHT-SEMESTER PROGRAM

## HEALTH SCIENCES – BS DEGREE

### First Quarter

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<tbody>
<tr>
<td>BIOL 1104</td>
<td>General Biology I</td>
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<tr>
<td>CHEM 1984</td>
<td>Chemical Principles I</td>
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<td>MATH xxx</td>
<td>Math Elective (MATH 1003 or higher)</td>
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<td>COMP 1503</td>
<td>Freshman Composition</td>
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<tr>
<td>HLSC 1101</td>
<td>Introduction to Health Science OR</td>
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<tr>
<td>BIOL 1101</td>
<td>Topics in General Biology</td>
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### Second Quarter

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<td>BIOL 2204</td>
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<td>Global Perspectives/Spol Topic</td>
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### Third Quarter

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<tr>
<td>BIOL 5254</td>
<td>Principles of Microbiology</td>
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<tr>
<td>CHEM 3514</td>
<td>Organic Chemistry I</td>
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<tr>
<td>PSYC 1013</td>
<td>General Psychology</td>
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<td>XXXX xxx</td>
<td>Open Elective</td>
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<td>LITR xxx</td>
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### Fourth Quarter

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<tr>
<td>BIOL 6534</td>
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<td>CHEM 4524</td>
<td>Organic Chemistry II</td>
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<tr>
<td>MATH 2124</td>
<td>Statistical Methods &amp; Analysis</td>
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<td>XXXX xxx</td>
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<td>HLSC 2111</td>
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<td>BIOL 2111</td>
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<tr>
<td>HLTH 5233</td>
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<tr>
<td>PHYS 1044</td>
<td>College Physics I</td>
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<tr>
<td>BIOL 7723</td>
<td>Research Methods in Health</td>
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<td>COMP 5703</td>
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<td>NURS 5003</td>
<td>Ethical Issues in Health Care</td>
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<tr>
<td>PHYS 2044</td>
<td>College Physics II</td>
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<td>XXXX xxx</td>
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<td>XXXX xxx</td>
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<td>BIOL 6003</td>
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### LOWER LEVEL TECHNICAL ELECTIVES:

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<td>BIOL 1113</td>
<td>Biology of Human Sexuality</td>
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<tr>
<td>BIOL 1313</td>
<td>Nutrition</td>
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<td>BIOL 1404</td>
<td>Anatomy &amp; Physiology I</td>
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<tr>
<td>BIOL 2504</td>
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<td>Histotechniques</td>
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<td>Complementary &amp; Altiv Medicine</td>
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<td>End of Life Dilemmas</td>
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<td>Informatics &amp; Tech App in Hlthcare</td>
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HEALTHCARE MANAGEMENT

BTECH DEGREE – CODE #2647

Kathy Young, Department Chair
(607) 587-4129
Email address: youngk@alfredstate.edu

The Bachelor of Technology in healthcare management (HCM-BT) is an online, upper-division program designed to allow a student or working professional who has earned an associate degree (AAS, AA, or AS) in a health-related area (or at least 60 credits toward such a degree) to complete a bachelor’s degree. Individuals may currently be working in a laboratory, radiology, records, occupational therapy, surgical technology, paramedic, or ultrasound setting, and seeking advancement into management or administrative positions. The HCM-BT will open doors for these working adults by providing flexible online courses and laddering with all health-related two-year degrees granted by both colleges of technology and community colleges. The program emphasizes the development of managerial skills through a set of core courses and a wide array of electives to address areas such as healthcare finance/accounting, the culture of healthcare, human resources, communications, healthcare law and ethics and policies, information systems, marketing, and quality control. This degree will also provide an opportunity for students to continue their education toward an MBA to become a CNO, CEO, or COO.

ADVANTAGES

• Students will build a solid foundation in healthcare-related management courses from those currently working in the field.
• Students will be able to internally, seamlessly transfer from Alfred State’s radiologic technology, diagnostic medical sonography, health information technology, and nursing AAS degrees.
• Students will have the opportunity to enhance and broaden their training by selecting from a list of approved healthcare technical electives.

PROGRAM STUDENT LEARNING OUTCOMES

• Apply an understanding of self, as well as an understanding of the dynamics of groups and team interaction.
• Discuss and apply the methods used to plan, organize, and lead a healthcare facility.
• Analyze and use the appropriate skills and techniques needed for problem solving and decision making.
• Analyze and explain the application of employment laws and the legal system to the healthcare environment.
• Communicate effectively: oral, written, and nonverbal, using current technology where appropriate.
• Illustrate basic accounting methods and apply them using current technology.
• Perform financial and statistical analysis.
• Discuss the uses of and be able to prepare a comprehensive healthcare marketing plan.

OCCUPATIONAL OPPORTUNITIES

• Medical and health services department managers
• Public relations and fundraising managers
• Administrative services managers
• Training and development managers

FUTURE EDUCATIONAL OPPORTUNITIES

• Master of Business Administration (MBA)
• Master of Science (MS) Health Services Administration
• Master of Science (MS) Healthcare Management
• Doctorate of Philosophy (PhD) Healthcare Administration

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 100 percent are employed; 0 percent continued their education.

RELATED PROGRAMS

Diagnostic Medical Sonography (AAS)
Health Information Technology (AAS)
Radiologic Technology (AAS)
Technology Management (BTech)

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

• Required: Successful completion of an associate degree in a health-related field or at least 60 transferrable credit hours, and a minimum GPA of 2.00.
• Recommended: A minimum of 21 credits in liberal arts and sciences, and five different general education fields covered.
• Students without the required college credits can come into the individual studies (AS) program as a bridge program.

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT

A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops. (A desktop of similar specifications can be used instead of a laptop for specified courses).

HEALTHCARE MANAGEMENT – BTECH DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

<table>
<thead>
<tr>
<th>First 7-Week Session</th>
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</thead>
<tbody>
<tr>
<td>TMGT 7153 Principles of Management 3</td>
</tr>
<tr>
<td>HLTH 5233 The Culture of Healthcare 3</td>
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<tr>
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<tbody>
<tr>
<td>ACCT 5043 Accounting Perspectives 3</td>
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<tr>
<td>GLST 2113 Global Perspectives:Spcl Topic 3</td>
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<tbody>
<tr>
<td>HLTH 5433 Healthcare Marketing 3</td>
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<td>XXXX xxx3 General Education Elective 3</td>
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<tr>
<th>Summer 4-Week Session</th>
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<tbody>
<tr>
<td>BUAD 6003 Managerial Finance 3</td>
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<tr>
<td>COMP 5703 Technical Writing II 3</td>
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<tbody>
<tr>
<td>BUAD 5023 Human Resource Management 3</td>
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<tr>
<td>XXXX xxx3 Upper Technical Elective 3</td>
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<tr>
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<tbody>
<tr>
<td>BUAD 7033 Operations Management 3</td>
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<tr>
<td>BUAD 5003 Management Communications 3</td>
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HEALTHCARE MANAGEMENT

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**Fourth Session**

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**Second 7-Week Session**

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<td>xxxx xxx</td>
<td>Upper Technical Elective</td>
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**GRADUATION REQUIREMENTS**

- 120 total semester credit hours
- 30 semester credit hours of general education.
- 45 upper-division credit hours in the major
- Minimum of 30 upper-division credit hours in residence
- 2.0 cumulative grade point average and a grade of “C” or better in the required core courses
- Approval of department faculty

**GENERAL EDUCATION ELECTIVES:**

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<th>Course Title</th>
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<td>Medical Anthropology</td>
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<tr>
<td>HIST 1113</td>
<td>Hist of West Civil Since 1648</td>
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<tr>
<td>ECON 1013</td>
<td>Principles of Macroeconomics</td>
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<tr>
<td>LITR 2603</td>
<td>Introduction to Literature</td>
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<tr>
<td>SOCI 1163</td>
<td>General Sociology</td>
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<td>SOCI 5023</td>
<td>Research Methods</td>
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**UPPER TECHNICAL ELECTIVES:**

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<tr>
<td>SOCI 5023</td>
<td>Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>BUAD 6113</td>
<td>Strategic &amp; Creative Prob Solv</td>
<td>3</td>
</tr>
<tr>
<td>BUAD 6403</td>
<td>Proj Mgmt for Busi Protocols</td>
<td>3</td>
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<tr>
<td>BUAD 5013</td>
<td>Principles of Leadership</td>
<td>3</td>
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<tr>
<td>MKTG 6003</td>
<td>Strategic Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUAD 7023</td>
<td>Legal Environment of Business</td>
<td>3</td>
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<tr>
<td>PSYC 5103</td>
<td>Industrial-Orgnztl Psychology</td>
<td>3</td>
</tr>
<tr>
<td>HLTH 5203</td>
<td>End of Life Dilemmas</td>
<td>3</td>
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<tr>
<td>HLTH 6003</td>
<td>Healthcare Management</td>
<td>3</td>
</tr>
<tr>
<td>HLTH 7003</td>
<td>Healthcare Compliance</td>
<td>3</td>
</tr>
<tr>
<td>ANTH 5333</td>
<td>Medical Anthropology</td>
<td>3</td>
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</table>
HEATING, VENTILATION, AND AIR CONDITIONING
AOS DEGREE - CODE #0464

Clinton Gray, Department Chair
Email address: GrayCJ@alfredstate.edu

The heating, ventilation, and air conditioning program will prepare you for this growing field with courses on all phases of residential and commercial installation, maintenance, troubleshooting, and repair. It includes forced air, hot water and steam heating, gas and oil burner systems, along with hands-on air conditioning and heat pump technology.

The plumbing aspect of the program provides instruction in the basic skills required by the plumber in the construction of residential housing and commercial buildings. The program ranges from the installation of waste and sewage lines to the installation of potable water lines and plumbing fixtures.

ADVANTAGES
• The program provides the necessary theory connected with plumbing and HVAC, as well as on-the-job training experience overseen by expert tradesmen.
• Students will take the National Refrigerant Handling Certification Course and Test and the National ARI HVAC (Air Conditioning & Refrigeration Institute Heating Ventilation & Air Conditioning) Competency Test.

PROGRAM STUDENT LEARNING OUTCOMES
• Accurately measure and layout PHVAC (plumbing, heating, ventilation, and air conditioning) projects.
• Apply safe practices to hand tools, power tools, and the environment.
• Select and apply the various materials used in the PHVAC trade.
• Perform appropriate trade-related math, including interpretation of charts and graphs.
• Perform installation service and troubleshooting of fuels and emergency sources used in residential and commercial PHVAC.
• Effectively communicate orally.
• Use the computer to access equipment information and operating specifications.
• Effectively communicate in writing.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM
Alfred State heating, ventilation, and air conditioning graduates may enter directly into the construction supervision BTech or technology management BBA degree program. Graduates who have credit for freshman composition, statistics, literature, history, and speech may complete the baccalaureate program in two additional years; others may complete the program in two-and-one-half years.

OCCUPATIONAL OPPORTUNITIES
• Maintenance personnel
• Maintenance supervisor
• Sheet metal fabricator
• Sales representative
• Pipe fitter
• Sprinkler installer
• HVAC mechanic or troubleshooter
• Water or sewer plant operator
• Private contractor

EMPLOYMENT STATISTICS
Employment and continuing education rate of 81 percent – 81 percent are employed.

RELATED PROGRAMS
Building Trades: Building Construction
Masonry

REQUIRED TOOLS/EQUIPMENT
A list of required tools, equipment, PPE, etc. for all of the programs mentioned above can be found at http://www.alfredstate.edu/tool-lists.

A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Recommended: Algebra and Geometry

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS

HEATING, VENTILATION, AND AIR CONDITIONING - AOS DEGREE
TYPICAL FOUR-SEMESTER PROGRAM

First

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BLC3413</td>
<td>Blueprint Reading-Bldg</td>
<td>3</td>
</tr>
<tr>
<td>BLC3423</td>
<td>Pipe Fitting - Math Estimating</td>
<td>3</td>
</tr>
<tr>
<td>BLC3433</td>
<td>Cop Pipe &amp; Tub, Water Sys Des</td>
<td>3</td>
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<tr>
<td>BLC3443</td>
<td>Drainage Systems &amp; Piping</td>
<td>3</td>
</tr>
<tr>
<td>BLC3453</td>
<td>Plumb Trade History &amp; Safety</td>
<td>3</td>
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<tr>
<td>BLC3463</td>
<td>Warf Heats-Plumb Fix Inst/Rpr</td>
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Second

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<tr>
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<tbody>
<tr>
<td>BLC4143</td>
<td>Basic House Wiring- Forced Air</td>
<td>3</td>
</tr>
<tr>
<td>BLC4153</td>
<td>Sheet Metal Fabrication</td>
<td>3</td>
</tr>
<tr>
<td>BLC4163</td>
<td>Mid &amp; Hi Effy-Furn-Alt Warm Ar</td>
<td>3</td>
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<tr>
<td>BLC4173</td>
<td>Sheet Mil Air Dist Syst &amp;Vent</td>
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<tr>
<td>BLC4183</td>
<td>Sheet Metal Trade Safety</td>
<td>3</td>
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<tr>
<td>BLC3473</td>
<td>Heating Fuels-Comb TheodTroubl</td>
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<tr>
<td>BLC3483</td>
<td>Electrical Fundamentals</td>
<td>3</td>
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<tr>
<td>BLC3493</td>
<td>Forced Air Furnace Controls</td>
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</tr>
<tr>
<td>BLC3503</td>
<td>Hydro Comp, Circu Pump&amp;Ht Emit</td>
<td>3</td>
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<tr>
<td>BLC3513</td>
<td>Hydronic Controls and Motors</td>
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<tr>
<td>BLC3523</td>
<td>Hydronic Funds &amp; Heat Sources</td>
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<tr>
<td>BLC3533</td>
<td>Hydronic Piping Systems</td>
<td>3</td>
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</table>
GRADUATION REQUIREMENTS

A student must successfully complete all courses in the prescribed four-semester program and earn a minimum cumulative grade point average of 2.0 in major courses.
HEAVY EQUIPMENT OPERATIONS
AOS DEGREE – CODE #1908
Clinton Gray, Department Chair
Email address: GrayCJ@alfredstate.edu

This program will provide you with the hands-on skills and expert training required by heavy equipment operators for the light construction and heavy highway industries. Instruction is provided in heavy equipment operations theory, as well as grades, soils, blueprint reading, safety, and supervision.

You will spend approximately 25 percent of your lab time operating real, industry-standard equipment; the balance of the lab time is spent on equipment inspection, maintenance, grades, lot layout, operation support, and estimating.

ADVANTAGES
Programs leading to an AOS degree are hands-on and do not include liberal arts and sciences courses. Offered at the School of Applied Technology campus in Wellsville, heavy equipment operations is geared toward a person who would like to enter the heavy equipment operation industry following graduation.

PROGRAM STUDENT LEARNING OUTCOMES
- Select the correct piece of equipment and demonstrate the proper use for an earth moving or excavation project.
- Select and use the necessary PPE for a given construction project.
- Demonstrate the proper set-up and use of various types of survey equipment.
- Read and interpret blueprints.
- Accurately estimate materials for a project.
- Demonstrate essential problem-solving and supervisory skills.
- Perform common mathematical calculations.
- Demonstrate how to excavate to meet construction and OSHA standards, based on the soil type.
- Safely operate various equipment utilized in the construction industry.
- Perform computer-based research and communication.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM
Alfred State heavy equipment operations graduates may enter directly into the construction supervision BTech or technology management BBA degree program. Graduates who have credit for freshman composition, statistics, literature, history, and speech may complete the baccalaureate program in two additional years; others may complete the program in two-and-one-half years.

OCCUPATIONAL OPPORTUNITIES
- Town, village, or county department of public works
- NYS Department of Transportation
- Highway and heavy construction companies
- Mining companies
- Logging companies
- Energy industry
- Self-employment
- Equipment operator
- Construction foreman
- Construction superintendent

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 97 percent are employed; 3 percent continued their education.

RELATED PROGRAMS
Heavy Equipment, Truck & Diesel Technician

REQUIRED TOOLS/EQUIPMENT
A list of required tools, equipment, PPE, etc. for the program mentioned above can be found at http://www.alfredstate.edu/tool-lists.

A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Letters of recommendation, essay, and resume indicating related work experience and/or knowledge of field

Recommended: Algebra and Geometry

Students will be accepted for the heavy equipment operations program based on the strength of their application. Criteria for consideration will include high school average, regents exam scores (if a New York State student), grades in related course work, results of standardized tests (if available), and additional information provided through letters of recommendation, a personal essay indicating career goals, and a resume.

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS
It is crucial that all student applicants in this degree program must be able to meet the following requirements, with or without reasonable accommodation.

- Lift and carry up to or 50 pounds of building materials/equipment without accommodations.
- Perform and function in a safe manner in all laboratory and classroom environments in a safe and ethical manner. Students must be able to:
  - Lift and carry up to or 50 pounds of building materials/equipment without accommodations.
  - Perform and function in a safe manner in all laboratory and classroom environments and off campus job site locations.
  - Effectively communicate with classmates and instructional staff using appropriate visual and/or auditory communication from a distance of 20 feet.
  - Physically setup, move, or climb ladders, scaffolding, etc., unaided, using the designated safety method.
  - Identify and react to safety alarms which include, but not limited to, fire alarms, back up alarms and those meant for emergencies.
# HEAVY EQUIPMENT OPERATIONS - AOS DEGREE

## TYPICAL FOUR-SEMESTER PROGRAM

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<td>BLCT 1302</td>
<td>Blueprint Reading &amp; Grades I</td>
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<td>BLCT 1312</td>
<td>Introduction to Earth Moving</td>
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<td>BLCT 1322</td>
<td>Preventive Maintenance Checks</td>
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<td>BLCT 1222</td>
<td>Construction Math</td>
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<td>Operations Part I</td>
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<td>BLCT 1306</td>
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<td>BLCT 2352</td>
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<td>Advanced Operations</td>
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<td>BLCT 3332</td>
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<td>BLCT 3342</td>
<td>Construction Proj Supervision</td>
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<td>BLCT 3352</td>
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<td>BLCT 4412</td>
<td>Finish Processes</td>
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<td>BLCT 4422</td>
<td>Project Management &amp; Support</td>
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**GRADUATION REQUIREMENTS**

A student must successfully complete all courses in the prescribed four-semester program and earn a minimum cumulative grade point average of 2.0 in major courses.
HEAVY EQUIPMENT, TRUCK & DIESEL TECHNICIAN
AOS DEGREE – CODE #0452
Eric Wilmot, Department Chair and Program Coordinator
Email address: wilmote@alfredstate.edu

One of our most popular programs, this specialization includes 1,800 hours of practical experience and classroom training designed to prepare you to enter the dynamic field of heavy equipment maintenance and repair. You will receive a strong foundation on all types of vehicles during your first year, followed by a year of concentration on trucks, bulldozers, earthmovers, farm tractors, and other diesel-powered equipment during your senior year.

ADVANTAGES
• Our heavy equipment, truck and diesel technician program is the only program in New York and New England that is approved by the Association of Diesel Specialists (ADS). The heavy equipment, truck and diesel technician program is one of only nine national ADS TechSmart training programs.
• Students successfully completing the heavy equipment, truck and diesel technician program may return for a third year (senior year) in automotive service technician or motorsports technology and earn a second associate degree. They may be admitted to autobody repair with the department chair’s approval.

PROGRAM STUDENT LEARNING OUTCOMES
• Demonstrate a focused, coherent, organized written report.
• Perform mathematical calculations required for entry-level automotive employment.
• Demonstrate a functional ability to read and retain/write written instructions and specifications relevant to their work environment.
• Demonstrate the ability to diagnose and repair heavy equipment/truck drive trains.
• Demonstrate the ability to diagnose and repair heavy equipment/truck electrical and electronic systems.
• Demonstrate the ability to diagnose and repair heavy equipment/truck gas engines.
• Demonstrate the ability to diagnose and repair heavy equipment/truck brakes, steering, and suspension systems.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM
Alfred State heavy equipment, truck and diesel technician graduates may enter directly into the technology management BBA degree program. Graduates who have credit for freshman composition, statistics, literature, history, and speech may complete the BBA program in two additional years; others may complete the BBA program in two-and-one-half years.

OCCUPATIONAL OPPORTUNITIES
• Agricultural equipment mechanic
• Service manager
• Diesel engine specialist
• Diesel fuel system specialist
• Shop foreman
• Heavy equipment mechanic
• Truck fleet mechanic
• Industrial equipment mechanic
• Marine engine service technician

EMPLOYMENT STATISTICS
Employment and continuing education rate of 97 percent – 97 percent are employed.

RELATED PROGRAMS
Autobody Repair
Automotive Service Technician
Mechanical Engineering Technology
Welding Technology

REQUIRED TOOLS/EQUIPMENT
A list of required tools, equipment, PPE, etc. for all of the programs mentioned above can be found at http://www.alfredstate.edu/tool-lists.

A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Recommended: Algebra

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS
It is essential that students in this degree program are able to participate fully and safely, with or without reasonable accommodation, in all classroom and laboratory experiences required for completion of the program. Students in this degree program should be able to:

1. Lift 50 pounds to industry standard automotive lift height
2. Effectively communicate with a person six (6) to ten (10) feet away.
3. Visually decipher small images on a monitor or digital display.
4. Distinguish sounds associated with mechanical failures.
5. Comprehend written information found in service repair resources.
6. Possess a valid motor vehicle driver’s license.
7. Function in a safe manner, not placing themselves, faculty, staff, other students, or property in jeopardy.
8. Appropriately and safely use standard laboratory equipment, materials, and instrumentation to include possession of fine motor skills and mobility.

CERTIFICATION OR LICENSURE
Students may take Automotive Service Excellence (ASE) certification exams in eight areas and the ADS TechCert test. Students are eligible for New York State inspection certification upon successful completion of their freshman year. In their senior year, students may take the test for certification in Basic Engine Theory through the Association of Diesel Specialists.

HEAVY EQUIPMENT, TRUCK AND DIESEL TECHNICIAN - AOS DEGREE
TYPICAL FOUR-SEMESTER PROGRAM

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<td>AUTO 1219 Truck Brake, Steer &amp; Sus Sys</td>
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<td>Second</td>
<td>AUTO 1239 Trk Insp, Maint, AC</td>
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<td></td>
<td>AUTO 2169 Cng/Hng Truck Electrical, Fuel &amp; Emis</td>
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<tr>
<td>Third</td>
<td>AUTO 3609 Heavy Duty Drive Train</td>
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<tr>
<td></td>
<td>AUTO 3649 Diesel Engine Service</td>
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CONTINUING STUDENTS
Students successfully completing the heavy equipment, truck & diesel technician program receive first priority for space if they wish a third year (senior year) in automotive service technician. They may be admitted to autobody repair with the department chair’s approval.
GRADUATION REQUIREMENTS

A student must successfully complete all courses in the prescribed four-semester program and earn a minimum cumulative grade point average of 2.0 in major courses.
The human services program is a broadly based, applied program emphasizing both professional course work in the human services and course work in the social sciences and liberal arts. As a student, you will take courses that provide you with the skills and knowledge to be successful when working in a variety of human services agencies. You will also have the opportunity to take electives in specialty areas such as education, substance abuse, criminal justice, and gerontology.

**PROGRAM STUDENT LEARNING OUTCOMES**

- Apply critical thinking skills in the context of professional practice.
- Perform the basic operations of personal computer use, as well as employ basic research techniques to locate, evaluate, and synthesize information from a variety of sources.
- Communicate effectively and appropriately in oral and written forms.
- Demonstrate ethical professional behaviors.
- Identify the components of one’s own belief systems and the assumptions underlying them.
- Analyze the impact of social policies on client systems, workers, and agencies.
- Identify the bio-psycho-social variables that affect individual and group development and behavior.
- Examine the role of diversity in the human services field.

**DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS**

Alfred State human services graduates may enter directly into either the human services management BS, the interdisciplinary studies BTech, or the technology management BBA degree program.

**CONTINUING EDUCATION OPPORTUNITIES**

The human services program offers excellent transfer potential in fields such as psychology, human services, human services management, education, social work, sociology, criminal justice, gerontology, and communications. Among the colleges to which recent graduates have successfully transferred are: Alfred University, Mansfield University, Hilbert College, SUNY at Brockport, University of Buffalo, and SUNY at Stony Brook.

**INTERNSHIP OPPORTUNITIES**

In Practicum (HUSR 1074) students complete a substantial internship providing direct service to clients at one local/regional human services agency. Agencies include Accord Corp., Alfred Montessori School, Allegany County ARC, Allegany County Department of Health, Allegany County Office of the Aging, Allegany Rehabilitation Associates, Inc., Catholic Charities, Hornell Area Concern for Youth, Trapping Brook House, and the YMCA of Hornell.

Be advised that a prior felony conviction may impede a student’s ability to participate in an internship and complete the program.

**OCCUPATIONAL OPPORTUNITIES**

- Early childhood programs
- Education
- Social services
- Youth services
- Elderly services
- Criminal justice
- Disability services
- Substance abuse programs
- Activity directors

**EMPLOYMENT STATISTICS**

Employment and continuing education rate of 75 percent – 25 percent are employed; 50 percent continued their education.

**RELATED PROGRAMS**

- Human Services Management
- Individual Studies
- Interdisciplinary Studies
- Liberal Arts & Sciences: Social Science

**ENTRANCE REQUIREMENTS/RECOMMENDATIONS**

Required: Algebra

Recommended: Geometry, Biology

**OFFICE OF ACCESSIBILITY SERVICES**

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

**Technical Standards - Human Services**

These technical standards have been established to inform students of the skills and standards necessary for completion of the human services program and as a professional in the field of human services.
**ABILITY**

**Physical Demands/Motor Skills**

Students must possess physical ability to navigate in the classroom, intern site, and community.

- **STANDARD**
  - Attend class and complete required number of hours during internship.
  - Attend and perform safely and satisfactorily in the classroom and in a human/social services agency/organization.
  - Meet the physical demands of internship placement, including demands related to the use of sensory and motor skills.

- **EXAMPLES of necessary activities (not all-inclusive)**
  - Students must sign a document indicating they understand that if they have a felony conviction they may not pass a background check for employment in human services.

**Critical Thinking/Observation/Sensory/Reasoning Skills**

Demonstrate remembering, understanding, applying, analyzing, and evaluating human services-related skills.

- **STANDARD**
  - Have sensory abilities to carry out necessary assessment activities.
  - Think critically, analyze, and interpret objective and subjective data.
  - Apply effective problem-solving skills.

- **EXAMPLES of necessary activities (not all-inclusive)**
  - Have ability to pass a background check.

**Emotional and Mental**

Demonstrate emotional and mental regulation.

- **STANDARD**
  - Demonstrate appropriate coping mechanisms when managing life-stressors.
  - Use appropriate self-care.
  - Evaluate and appropriately modify behavior for medical or emotional problems that interfere with academic and internship performance.

**Behavioral/Social Skills and Professionalism**

Capacity to work with individuals, families, groups, and colleagues from a variety of social/mental, agencies/organizations that support them.

- **STANDARD**
  - Resolve ethical dilemmas that may occur among classmates, during class projects, and while at practicum sites.
  - Comply with applicable ethical and legal standards of privacy and confidentiality as they relate to clients, class activities, and internship placements.
  - Adhere to College policies on academic integrity and code of conduct.

**Communication Skills**

Communication skills sufficient to communicate in class and in human service agencies/organizations.

- **STANDARD**
  - Communicate effectively through presentations, written assignments, small group settings, and through electronic means.
  - Perceive and interpret nonverbal communication.
  - Demonstrate competency in writing skills.

**HUMAN SERVICES - AS DEGREE**

**TYPICAL FOUR-SEMESTER PROGRAM**

**HUSR 2083 fall only**

**Second**

- PSYC 1023  Human Development  3
- PSYC 1063  Basic Helping Skills  3
- HUSR 4033  Issues in Human Services  3
- XXX  xxx3  Liberal Arts Elective  3
- MATH 1113  Statistical Concepts  3
- MATH 1123  Statistics I  3

**HUSR 4033 spring only**

**Third**

- SCI 1223  Power, Privilege, & Difference  3
- LITR  xxx3  Literature Elective  3
- XXX  xxx3  Department Elective  3
- XXX  xxx3  Natural Science Elective  3
- SPCH 1083  Effective Speaking  3

**Fourth**

- SCI 1183  Contemporary Social Problems  3
- HUSR 1074  Practicum in Human Services  4
- XXX  xxx3  American History Elective  3
- XXX  xxx3  Liberal Arts Elective  3
- XXX  xxx3  Open Elective  3

**Also required:** One credit hour of physical education.

**PRACTICUM (HUSR 1074) PREREQUISITES**

- Good academic standing (cumulative GPA of 2.0 or higher)
- Completion of PSYC 1063 and either HUSR 2083 or HUSR 4033 with a "C" or higher grade
- Submission of HUSR 1074 practicum application form to the departmental practicum coordinator
- Approval of the department faculty
- Ability to pass any agency required background check

**GRADUATION REQUIREMENTS**

- Good academic standing (cumulative GPA of 2.0 or higher)
- Successful completion of all courses in the prescribed four-semester plan
- "C" average or higher needed in HUSR 2083, HUSR 4033, and PSYC 1063
- HUSR 1074 with a “B” or higher
- Submission of the college’s degree application form

*Students must sign a document indicating they understand that if they have a felony conviction they may not pass a background check for employment in human services.
HUMAN SERVICES MANAGEMENT

BS DEGREE – CODE #2153

BS Degree - Accelerated - 3 year - Code #2603

Dr. Jill Priest Amati, Department Chair and Program Coordinator
Email address: amatij@alfredstate.edu

The US Bureau of Labor Statistics expects demand for bachelor-prepared human services professionals to grow faster than average through the next decade, especially in rural areas that already face a significant shortage of human services professionals.

The baccalaureate degree (BS) program in human services management will prepare you as a generalist who can work with clients in a wide range of human services agencies and also can employ sound management practices. This interdisciplinary program will not only instruct you on how to offer direct service to clients, but also how to build a strong foundation in the basics of program management and supervision. The program requires you to take lower- and upper-level courses in the human services and additional courses in management, accounting, and leadership.

ADVANTAGES

- Internship opportunities are available. See details below.
- Graduate-level programs exist in areas including human services, human services administration, social work, social work administration, business administration, and non-profit public administration.
- An accelerated three-year option exists for highly motivated and academically talented students.

PROGRAM STUDENT LEARNING OUTCOMES

- Apply critical thinking skills in the context of professional practices.
- Perform the basic operations of personal computer use and employ basic research techniques to locate, evaluate, and synthesize information from a variety of sources.
- Communicate effectively and appropriately in oral and written forms.
- Apply a core set of management skills in human resources, finance, operations, and leadership.
- Apply a core set of generalist practice skills in planning, implementing, and evaluating client interventions.
- Adhere to professional ethical standards and value diversity in all areas of practice, including the supervised field practicum, academic experiences, and community involvement.
- Analyze and design intervention strategies to improve social policies impacting client systems at individual, organizational, and community levels.
- Construct a professional portfolio to prepare for employment or graduate study.

FUTURE EDUCATIONAL OPPORTUNITIES

Graduate-level programs in areas including human services, human services administration, social work, social work administration, business administration, and non-profit public administration.

RELATED PROGRAMS

- Business Administration
- Human Services
- Interdisciplinary Studies
- Liberal Arts and Sciences: Social Science

INTERNSHIP OPPORTUNITIES

In Field Practicum (HUSR 5314) students complete 400 hours of a management-focused internship. Internship opportunities exist with a number of local and regional human services agencies including, but not limited to, ACCORD Corp., Adelphi Behavioral Sciences, Alfred Montessori School, Allegany County ARC, Allegany County Department of Health, Allegany County Department of Social Services, Allegany County Office for the Aging, Allegany Rehabilitation Associates, Inc., Catholic Charities, Hillside Children's Services, Hornell Area Concern for Youth, St. James Mercy Healthcare, Trapping Brook House, and the YMCA of Hornell.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

- Applicants are informed that many human services agencies require that field practicum students pass background checks before being allowed to begin their field placements.
- While the program allows students to pursue their degrees on a part-time basis, applicants should be aware that they must enroll as full-time students in the semester in which they take their senior fieldwork (HUSR 5314).

Required: Algebra

Recommended: Geometry, Biology

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

Technical Standards - Human Services Management

These technical standards have been established to inform students of the skills and standards necessary for completion of the human services program and as a professional in the field of human services.

FUTURE EDUCATIONAL OPPORTUNITIES

Graduate-level programs in areas including human services, human services administration, social work, social work administration, business administration, and non-profit public administration.

OCCUPATIONAL OPPORTUNITIES

- Case, program, or residential manager
- Human services supervisor
- Aftercare coordinator
- Quality assurance specialist
- Outreach coordinator
- Grants management and organizational development specialist
- Program planner

EMPLOYMENT STATISTICS

Employment and continuing education rate of 90 percent - 70 percent employed; 20 percent decided to continue their education.

The US Bureau of Labor Statistics expects demand for bachelor-prepared human services professionals to grow faster than average through the next decade, especially in rural areas that already face a significant shortage of human services professionals.
GRADUATION REQUIREMENTS

- Good academic standing (cumulative GPA of 2.0 or higher)
- Successful completion of all courses in the prescribed eight-semester plan
- Grade of "B" or higher in HUSR 1074 and HUSR 5314
- Completion of HUSR 5003, HUSR 5103, HUSR 5203, and HUSR 5213 with a "C" or higher grade in each course
- Submission of the college's degree application form
- Grade of "C" or higher in HUSR 2083, HUSR 4033, and PSYC 1063

HUMAN SERVICES MANAGEMENT- BS DEGREE

TYPICAL EIGHT-SEMESTER PROGRAM

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**ONLINE OPTION (FOR LAST TWO YEARS)**

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# ACCELERATED 3-YEAR PROGRAM

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Note: Minimum of "C" required (Fall only)

## Summer

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<td>Gen Ed American History Elective****</td>
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<td>Principles of Leadership Note: Minimum of &quot;C&quot; required</td>
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<td>HUSR</td>
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<td>Social Policy &amp; Human Services Note: Minimum of &quot;C&quot; required (Spring only)</td>
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<td>Counseling Theory Note: Minimum of &quot;C&quot; required (Fall only)</td>
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<td>Business Ethics Note: Minimum of &quot;C&quot; required</td>
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<td>HUSR</td>
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<td>Human Svcs Field Pract &amp; Sem (Spring only. Grade of &quot;B&quot; or higher required. Minimum 400 hours field work, three-hour weekly seminar)</td>
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For all human services management programs: Be advised that a prior felony conviction may impede a student's ability to participate in an internship and complete the program.

Note:

* Any non-required course designated as "Liberal Arts and Sciences" in the college catalog.

** Any non-required course taught in the Department of Social & Behavioral Sciences.

*** HUSR 1074 requires a "C" or higher between PSYC 1063 and either HUSR 2083 or HUSR 4033.

**** One of HIST 1143 (American History I), HIST 2143 (American History II), PLSC 1043 (American Government) or GEAH 9100.
IMAGING SCIENCE

BTech DEGREE - CODE #3172

Kathy Young, Department Chair and Program Director

Email Address: youngk@alfredstate.edu

The Imaging Science (BTech) program is designed to provide an upper-level, online vehicle by which students or working professionals who have earned an associate degree, or a certificate of completion from JCERT accredited program, can pursue baccalaureate degree credentialing. It targets those individuals currently working as radiologic technologists who wish to advance into professional positions in management or healthcare administration in addition to advancing their clinical imaging skills. Academic delivery of required coursework will be accomplished through flexibly scheduled online courses.

As an upper-level bachelor’s degree completion program, applicants will need to possess an associate degree in a healthcare related field (or have accumulated a minimum of 60 credits therein), ARRT certification, and have completed a minimum of 20 LAS credits that include fulfillment of the specifically required general education categories. Applicants must submit an official transcript and their acceptance will be an admissions determination, in consultation where needed with the Allied Health Department chair.

To further increase clinical competencies in imaging science, matriculated students will be required to select and complete an upper-level certificate that will allow students to gain additional credentials or certifications. Alfred State has developed two on-year certificates in computed tomography (CT) and magnetic resonance imaging (MRI). These two certificates, including their clinicals, have been registered in distance education format by the New York State Education Department. These two certificate programs have already been reviewed and approved by SUNY and NYSED. Completion of the certificates in CT or MRI will allow graduates that already hold radiologic technology credentials (ARRT) the ability to sit for the certification exam in either area through the ARRT. Additional imaging certificates may be added as BTech degree options as they are developed and approved by SUNY and the NYS Department of Education.

Complementing the certificate requirement will include an emphasis on developing career-specific managerial skills through core management courses that encompass specific exposure to the area of healthcare. Management electives in support of that objective will include options in healthcare finance/accounting; human resource; communications; employment law, ethics and policies; information systems; marketing; and quality control.

ADVANTAGES

The imaging science (BTech) program is designed to provide an upper-level, online vehicle by which students or working professionals who have earned an associate degree (AAS), or a certificate of completion for a JCERT accredited program, can pursue bachelor degree credentialing. It targets those individuals currently working as radiologic technologists who wish to advance into professional positions such as management and healthcare administration, teaching, or sales in addition to advancing their clinical imaging skills. The BTech in imaging science will provide convenient access for working adults through flexible online courses. It is supported by regional and state allied health care industry needs.

This program allows current students to expand their education within Alfred State College and further facilitate attainment of professional goals with a higher degree earned for their specialty.

PROGRAM STUDENT LEARNING OUTCOMES

Graduates from this program will be able to:

• Apply an understanding of individual and group dynamics, specifically in regards to decision making process and team interaction.
• Discuss and apply the methods used to plan, organize, and lead quality control within a healthcare setting.
• Analyze and explain the application of regulations and laws in the healthcare setting.
• Illustrate effective written communication methods and apply them utilizing current technology.
• Perform statistical analysis.
• Synthesize theory and concepts from the liberal education domain in radiology and healthcare.

Specific to the CT track:

• Demonstrate correct positioning skills.
• Select proper technical factors.
• Utilize appropriate radiation protection techniques.
• Exhibit patient-centered skills.
• Critique images to determine diagnostic quality.
• Display proper work ethics.
• Adapt standard procedures for non-routine patients.
• Apply written communication skills to the construction of documents of record that are established professional guidelines.
• Apply oral communication skills to the explanation of ideas and scientific terminology.
• Use technological resources effectively and appropriately, synthesize theory and concepts from the liberal education domain and other professions into computed tomography.

Specific to the MRI track:

• Apply an understanding of self, as well as an understanding of the dynamics of group and team interaction.
• Discuss and apply the methods used to plan, organize and lead a healthcare facility.
• Analyze and use the appropriate skills and techniques needed for problem solving and decision making.
• Analyze and explain the application of employment laws and the legal system to the healthcare environment.
• Communicate effectively: Oral, written, and nonverbal, using current technology where appropriate.
• Illustrate basic accounting methods and apply them using current technology.
• Discuss the uses of and be able to prepare a comprehensive healthcare marketing plan.

Specific to the Healthcare Management track:

• Demonstrate correct positioning skills.
• Select proper technical factors.
• Utilize appropriate radiation protection techniques.
• Exhibit patient-centered skills.
• Critique images to determine diagnostic quality.
• Display proper work ethics.
• Adapt standard procedures for non-routine patients.
• Apply written communication skills to the construction of documents of record that are established professional guidelines.
• Apply oral communication skills to the explanation of ideas and scientific terminology.
• Using technological resources effectively and appropriately, synthesize theory and concepts from the liberal education domain and other professions into MRI.

CONTINUING EDUCATION OPPORTUNITIES

Graduates with this BTech degree can transfer directly into a master of business administration (MBA) or masters of health administration program (MHA) at another college.

OCCUPATIONAL OPPORTUNITIES

• Hospitals (government and private)
• Nursing homes
• Private clinics
• Surgical centers
• Diagnostic centers
• Private physician offices
• Education
• Sales
• Application specialist

EMPLOYMENT STATISTICS

The United States Department of Labor, Bureau of Labor Statistics does not differentiate computed tomography (CT) technicians from magnetic resonance
imaging (MRI) technicians for reporting purposes. Employment of magnetic resonance imaging clinicians is projected to grow 13% from 2016 to 2026, much faster than the average for all occupations. Nation-wide in 2016 there were 241,700 employed noted by the United States Bureau of Labor Statistics.

According to the United States Department of Labor, Bureau of Labor Statistics there were 352,200 jobs nationally in 2016. This is expected to grow 20% in 2016-2026 nationally. This is considered to be faster than average growth.

RELATED PROGRAMS
Computed Tomography
Diagnostic Medical Sonography
Radiologic Technology

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Applicants for the imaging science program must possess either a recognized Associate of Applied Science (AAS) degree in radiologic technology or possess a certificate of completion from a Joint Review Committee on Education in radiologic technology (JRCERT) program. They must also have American Registry of Radiologic Technologists (AART) certification.

REQUIRED EQUIPMENT
A tier 1 laptop computer is required for students entering the accounting program. Laptop specifications are available at http://www.alfredstate.edu/required-laptops.

IMAGING SCIENCE - BTECH
TYPICAL FOUR-SEMESTER PROGRAM

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INDIVIDUAL STUDIES

AS DEGREE – CODE #0688

Matt Hollis Department Chair
Email address: hollism@alfredstate.edu

This program offered on campus or online will give you the opportunity to explore majors, career options, and futures. It is also excellent preparation for transfer into four-year programs or various colleges and universities, and can be tailored to fulfill a career goal that cannot be met by traditional program offerings.

ADVANTAGES

• Flexibility to choose online courses that fit your needs.
• Ability to sample or select courses from different fields.
• Excellent preparation for transfer or tailoring to specific goals.

PROGRAM STUDENT LEARNING OUTCOMES

• Create written communication (including the appropriate use of technology) appropriate for degree type and level that meets standards of style, clarity, and grammatical correctness as described in the Writing Rubric.
• Demonstrate oral communication proficiency.
• Demonstrate foundational knowledge required to be an informed citizen in a global community by successfully completing ("D" or better) seven of the 10 SUNY General Education skill areas.
• Complete 15 credit hours in a career area concentration and describe their coherent sequence of study and transfer focus.
• Critical thinking (problem-solving, reasoning skills appropriate to degree level and type).
• Use library, online, and other resources to locate and evaluate scholarly articles and other research materials. Perform the basic operations of personal computer use, understand and use basic research techniques and locate, evaluate, and synthesize information from a variety of sources.
• Demonstrate competence in arithmetic, algebra, geometry, data analysis, and quantitative reasoning. Employ basic problem-solving strategies.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS

Alfred State individual studies graduates may enter directly into either the interdisciplinary studies BTech or the technology management BBA degree program.

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 60 percent are employed; 40 percent continued their education.

RELATED PROGRAMS

Business Administration
Liberal Arts and Sciences: Adolescent Education - Teacher Education Transfer
Liberal Arts and Sciences: Humanities
Liberal Arts and Sciences: Math and Science
Liberal Arts and Sciences: Social Science
Undeclared

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra
Recommended: Geometry, Biology

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

INDIVIDUAL STUDIES - AS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

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<td>OR</td>
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*Depending on student's career area, additional general education and/or liberal arts credits may be needed to reach the 30-credit-hour requirement of each. If met by career area courses, these are open electives.

GRADUATION REQUIREMENTS

• A minimum of 61 hours is required for graduation, with a cumulative index of 2.0.
• Students must have a clear career or transfer focus with at least 15 credit hours, with a 2.0 GPA
• Students must complete at least 30 liberal arts and sciences credits
The Bachelor of Technology degree in information technology: applications software development at Alfred State is designed to prepare you to enter the workforce as an IT professional with a special emphasis in the fast-moving field of programming and database applications. From database application to programming language sequences, including C#, Java, and C++, our expert faculty have created a curriculum to help you meet your career goals. You will also receive a sound foundation in web development, networking, and microcomputer systems. And a full-semester internship will give you the hands-on experience employers are looking for.

ADVANTAGES
Due to the solid foundation in all the major fields of information technology, the job opportunities for graduates are wide and numerous.

PROGRAM STUDENT LEARNING OUTCOMES
- Produce object-oriented application software with current development programming languages.
- Produce functional databases with current DBMS such as Oracle, MySQL, Access, etc.
- Use the appropriate database design methodologies.
- Perform the full life cycle of software development.
- Develop an outline for an information system project.
- Install, configure, and troubleshoot basic hardware.
- Identify and utilize business principles and problem-solving techniques.
- Demonstrate and use managerial principles of business.
- Demonstrate knowledge of multiple areas within the liberal arts arena.
- Apply accumulated knowledge and skills in an actual industry environment.

CONTINUING EDUCATION OPPORTUNITIES
Articulation agreements have been established with many community colleges and additional agreements are in development. It is possible, with careful selection of courses, to transfer from a variety of associate degrees, including computer information systems, information technology, computer science, and others. Upon completion of the bachelor's degree, students will be prepared to pursue a graduate degree in information technology. The computer information systems degree (AAS) at Alfred State is especially well suited for transfer into the bachelor's degree at the junior level.

OCCUPATIONAL OPPORTUNITIES
Organizations of all types and sizes need computer professionals. The primary employment field includes database administrators, programmers, and systems analysts. Due to the solid foundation in all the major fields of information technology, the job opportunities for graduates are wide and numerous. They include database administrators, software developers, network support, project managers, user support, web developers, IT managers, technical sales, and technical support staff, to name a few.

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 100 percent are employed.

RELATED PROGRAMS
- Computer Engineering Technology
- Computer Information Systems
- Computer Science
- Cyber Security
- Information Technology: Network Administration
- Information Technology: Web Development

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry, Algebra 2

OFFICE OF ACCESSIBILITY SERVICES
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## INFORMATION TECHNOLOGY: APPLICATIONS SOFTWARE DEVELOPMENT - BTECH DEGREE

### TYPICAL EIGHT-SEMESTER PROGRAM

#### First

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<td>GLST 2113</td>
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<td>CISY 2133</td>
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<td>Open Elective</td>
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*If not required, take LAS elective to complete degree requirements of three credits; otherwise take free elective.

GPA of 2.5 or higher required in major courses; GPA of 2.0 minimum overall; internship is student-initiated.

Be advised that a prior felony conviction may impede a student's ability to participate in an internship and complete the program.

### GRADUATION REQUIREMENTS

- 124 credit hours
- 39 credit hours in major field required courses
- 24 credit hours in professional courses
- 18 credit hours in core concentration
- 30 credit hours in liberal arts courses
- A 2.5 grade point average in the major is needed for the required internship
- Other requirements as stated in college academic regulations
- Seven general education areas are required, including three of the following five: art, language, other world civilizations, American history, or western civilization
The Bachelor of Technology degree in information technology: network administration at Alfred State is designed to prepare you to enter the workforce as an IT professional with a special emphasis in the growing field of networking. After completing the course work, you will have a strong foundation to obtain professional certification in: Cisco Certified Network Association (CCNA), CCNA Security, Microsoft Certified Technology Specialist, CompTIA A+, and Network+. Core courses will also provide you with a foundation in other essential areas, including web server administration, programming, database applications, and microcomputer systems. And a full-semester internship will give you the hands-on experience employers are looking for.

ADVANTAGES
Due to the solid foundation in all the major fields of information technology, the job opportunities for graduates are wide and numerous.

PROGRAM STUDENT LEARNING OUTCOMES
- Demonstrate troubleshooting strategies and techniques with a variety of networking problems.
- Identify and configure a variety of networking topologies and protocols.
- Demonstrate effective network operation and management.
- Install and configure both client and server networking software.
- Demonstrate effective network design for LAN and WAN.
- Install and configure web, database, file, and application servers.
- Develop and implement effective security and disaster recovery systems and policies.
- Develop and maintain technical documentation and procedures for network management.
- Demonstrate knowledge of multiple areas within the liberal arts arena.
- Apply accumulated knowledge and skills in an actual industry environment.
- Identify and utilize business principles and problem-solving techniques.

CONTINUING EDUCATION OPPORTUNITIES
Articulation agreements have been established with many community colleges and additional agreements are in development. It is possible, with careful selection of courses, to transfer from a variety of associate degrees, including computer information systems, information technology, computer science, and others. The computer information systems degree (AAS) at Alfred State is especially well suited for transfer into this degree at the junior level.

OCCUPATIONAL OPPORTUNITIES
Organizations of all types and sizes need computer professionals. Due to the solid foundation in all the major areas of computer information technology and systems, job opportunities for graduates are wide and numerous. They include network administrators, systems analysts, project managers, user support, web developers, security specialists, IT managers, and technical support staff, to name just a few.

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 100 percent are employed.

RELATED PROGRAMS
- Computer Engineering Technology
- Computer Information Systems
- Computer Science
- Cyber Security
- Information Technology: Applications Software Development
- Information Technology: Web Development

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry, Algebra 2

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT
A tier 2 laptop computer is required for students entering the information technology: network administration program. Laptop specifications are available at www.alfredstate.edu/required-laptops.
**INFORMATION TECHNOLOGY: NETWORK ADMINISTRATION - BTECH DEGREE**

**TYPICAL EIGHT-SEMESTER PROGRAM**

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<td>CISY 3223</td>
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<td>Linux/Unix Admin and Scripting</td>
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*If not required, take LAS elective to complete degree requirements of three credits; otherwise take free elective.

**BUAD 5003 or BUAD 6113 recommended.

GPA of 2.5 or higher required in major courses; GPA of 2.0 minimum overall; internship is student-initiated.

Be advised that a prior felony conviction may impede a student's ability to participate in an internship and complete the program.

**GRADUATION REQUIREMENTS**

- 124 credit hours
- 29 credit hours in major field required courses
- 24 credit hours in professional courses
- 30 credit hours in liberal arts/general education courses
- 18 credit hours in core concentration
- A 2.5 grade point average in the major is needed for the required internship
- Other requirements as stated in college academic regulations
- Seven general education areas are required, including three of the following five: art, language, other world civilizations, American history, or western civilization
INFORMATION TECHNOLOGY: WEB DEVELOPMENT

BTECH DEGREE – CODE #1506

Evan Enke, Department Chair and Program Coordinator
Email address: enkeeg@alfredstate.edu

The Bachelor of Technology degree in information technology: web development at Alfred State is designed to prepare you to enter the workforce as an IT professional with a special emphasis in web development and applications. Web publishing, programming, and web server administration constitute the upper level of courses. Additionally, the web is integrated across the entire program, beginning with the very first course. Through core courses, you will also be given an essential foundation in programming, database administration, networking, and microcomputer systems. And a full-semester internship will give you the hands-on experience employers are seeking.

ADVANTAGES

Due to the solid foundation in other areas, graduates will find that job opportunities are wide and numerous.

PROGRAM STUDENT LEARNING OUTCOMES

- Produce dynamically functional software with web development and scripting languages.
- Perform full life cycle of web software development.
- Create and use a database with appropriate web design principles.
- Produce functional web applications using web composing software.
- Analyze and create interface design.
- Install, configure, and troubleshoot basic hardware.
- Identify and utilize business principles and problem-solving techniques.
- Demonstrate and use managerial principles of business.
- Demonstrate knowledge of multiple areas within the liberal arts arena.
- Apply accumulated knowledge and skills in an actual industry environment.

CONTINUING EDUCATION OPPORTUNITIES

Articulation agreements have been established with many community colleges and additional agreements are in development. It is possible, with careful selection of courses, to transfer from a variety of associate degrees, including computer information systems, information technology, computer science, and others. Upon completion of the bachelor’s degree, students will be prepared to pursue a graduate degree in information technology. The computer information systems degree (AAS) at Alfred State is especially well suited for transfer into this bachelor's degree at the junior level.

OCCUPATIONAL OPPORTUNITIES

Organizations of all types and sizes need computer professionals. The primary employment field includes web administrators and developers. Due to the solid foundation in other areas, graduates will not be limited to these areas; thus, the job opportunities are wide and numerous. They include database administrators, programmers, systems analysts, network support, project managers, user support, IT managers, technical sales, and technical support staff, to name just a few.

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 100 percent are employed.

RELATED PROGRAMS

- Computer Engineering Technology
- Computer Information Systems
- Computer Science
- Cyber Security
- Digital Media and Animation
- Information Technology: Applications Software Development
- Information Technology: Network Administration

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry, Algebra 2

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT

A tier 2 laptop computer is required for students entering the information technology: web development program. Laptop specifications are available at www.alfredstate.edu/required-laptops.
## INFORMATION TECHNOLOGY: WEB DEVELOPMENT - BTECH DEGREE

### TYPICAL EIGHT-SEMESTER PROGRAM

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<td>CISY 6103</td>
<td>Web Server Administration OR</td>
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<td></td>
<td>CISY 6503</td>
<td>Object-Oriented Programming OR</td>
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<td>XXXX xxx3</td>
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<td>XXXX xxx3</td>
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</table>

**Eighth**

- CISY 8712 Info Technology Internship 12

*If not required, take LAS elective to complete degree requirements of three credits; otherwise take free elective.

** Recommended: BUAD 5003 or BUAD 6113

*** Recommended: CISY 5233 - Human Computer Interaction or CISY 4053 Linux/Unix Admin & Scripting

GPA of 2.5 or higher required in major courses; GPA of 2.0 minimum overall; internship is student-initiated.

Be advised that a prior felony conviction may impede a student's ability to participate in an internship and complete the program.

**GRADUATION REQUIREMENTS**

- 124 credit hours
- 39 credit hours in major field required courses
- 24 credit hours in professional courses
- 18 credit hours in core concentration
- 30 credit hours in liberal arts/general education courses
- A 2.5 grade point average in the major is needed for the required internship
- Other requirements as stated in college academic regulations
- Seven general education areas are required, including three of the following five: art, language, other world civilizations, American history, or western civilization

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GPA of 2.5 or higher required in major courses; GPA of 2.0 minimum overall; internship is student-initiated. Be advised that a prior felony conviction may impede a student’s ability to participate in an internship and complete the program.
The Bachelor of Technology in interdisciplinary studies program is designed to provide a four-year curriculum in which students are empowered to personalize, within specified core and concentration areas, their technology-based program of study. The program is founded in academic flexibility by providing two sets of broad-based academic options. Students start with a core set of courses selected for years one and two of the program and two concentration areas for years three and four. The general academic categories are as follows:

YEARS ONE AND TWO CORE AREAS (SELECT ONE):
- Science/Technology/Engineering/Math (STEM)
- Management
- Design
- Health/Agriculture/Science (HAS)
- Humanities/Social Sciences
- Technical Communication

YEARS THREE AND FOUR CONCENTRATION AREAS (SELECT TWO):
- Science/Technology/Engineering/Math (STEM)
- Management
- Technical Communication/Design
- Humanities/Social Sciences
- Health/Science

ADVANTAGES
- Students must complete 18 credit hours in a core area during the first two years of the program; most associate degrees will satisfy this.
- Students must also satisfy a minimum of 12 credit hours in each of two academic concentrations during the junior and senior years. Courses satisfying these requirements are identified and categorized by prefix.
- The program affords students the opportunity to design and complete a rigorous, yet flexible interdisciplinary course of study in technology-based disciplines.
- The program will provide an avenue by which students can pursue precise career interests that cannot be accommodated within typical majors.
- With appropriate advisement, graduates will be well prepared to enter and succeed in a wide range of technology-based careers.

PROGRAM STUDENT LEARNING OUTCOMES
- Evaluate the value of the lower-level courses and analyze the relationship of those in the context of the interdisciplinary nature of the degree.
- Synthesize two or more upper-level concentration areas within an approved interdisciplinary course of study.
- Employ written communication skills (including the appropriate use of technology) appropriate for the degree type and level that meets standards of style, clarity, and grammatical correctness.
- Employ verbal communication skills (including the appropriate use of technology) appropriate for the degree type and level that meets standards of style, clarity, and grammatical correctness.
- Employ problem solving, reasoning and critical thinking skills to a situation relevant to the concentration choices.
- Demonstrate foundational knowledge required to be an informed citizen in a global community. (VED)
- Use library, online, and other resources to locate and evaluate scholarly articles and other research materials.
- Competently employ computer technology to present and manage data.

OCCUPATIONAL OPPORTUNITIES
The nature of the program allows for many occupational opportunities. Some of the more common interest areas are as follows:
- Purchasing manager (i.e., for a hospital)
- Health and safety engineer
- Cost estimator
- Training and development specialist
- Computer systems analyst
- Occupational health and safety specialist
- Graphic designer
- Self-employed

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 100 percent are employed; 0 percent continued their education.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, second year of advanced math, two units of science

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

INTERDISCIPLINARY STUDIES - BTECH DEGREE
TYPICAL EIGHT-SEMESTER PROGRAM

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| Required: Algebra, second year of advanced math, two units of science |

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<tr>
<th>PROGRAM STUDENT LEARNING OUTCOMES</th>
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<tr>
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<tr>
<th>OCCUPATIONAL OPPORTUNITIES</th>
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<tr>
<td>- Technical writer</td>
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<td>- Health office manager</td>
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<td>- Sales engineer</td>
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<td>- Logistician</td>
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<th>ADVANTAGES</th>
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<td>- With appropriate advisement, graduates will be well prepared to enter and succeed in a wide range of technology-based careers.</td>
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<tr>
<td>XXXX</td>
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**GRADUATION REQUIREMENTS – BT DEGREE**

- 124 total semester credit hours
- 30 semester credit hours of liberal arts
- 30 semester credit hours of general education from seven of 10 SUNY General Education categories (will include math, written and oral communication, natural science and diversity/global awareness).
- 48 upper-division credit hours from the approved list
- Good academic standing and at least a 2.0 cumulative grade point average
- Approval of the advising committee
INTERIOR DESIGN

AAS DEGREE – CODE #0656

Kevin Hofmann, Program Coordinator
Email address: hofmankn@alfredstate.edu

The AAS interior design program is designed to provide students with knowledge and skills for entry-level positions in the interior design discipline. The program consists of a core graphics sequence with additional courses in appropriate technical areas. Digital tools are integrated throughout the four-semester program.

ADVANTAGES

• The faculty consists of experienced interior designers, as well as licensed architects and engineers.
• Students develop the ability to think creatively, visually, and volumetrically, exhibiting a variety of ideas, approaches, and concepts when designing interior projects.
• Students gain an understanding of how design solutions affect and are impacted by construction systems, power and mechanical, lighting and ceiling systems, acoustics, building methods, materials, and regulatory requirements.

PROGRAM STUDENT LEARNING OUTCOMES

• Think creatively, visually and volumetrically, exhibiting a variety of ideas, approaches, and concepts when designing interior projects.
• Understand and utilize color principles, theories, and systems in design projects.
• Demonstrate competent design skills in selection of interior finishes, layout of furniture, lighting, and decorative elements.
• Demonstrate understanding of ergonomics and the relationship between human behavior and the built environment.
• Demonstrate understanding of the history of art, architecture, interiors, and furnishings.
• Apply 2- and 3-dimensional design principles and elements in the development of the spatial envelope.
• Demonstrate programming skills, including identifying the problem, client and user needs, and gathering and analyzing information.
• Demonstrate competence in manual and computer-aided graphic presentation of interior design projects.
• Express ideas clearly in oral presentations and critiques, and communicate clearly in writing concept statements, reports, and research.
• Understand that design solutions affect and are impacted by construction systems.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS

Alfred State interior design graduates may enter directly into the technology management MBA or the interdisciplinary studies BTech degree program.

CONTINUING EDUCATION OPPORTUNITIES

An articulation agreement exists between Alfred State and Villa Maria College (with placement based on a portfolio review and an interview).

CAREER OPPORTUNITIES

• Interior designer (after successfully passing the NCIDQ and completing internship requirements)
• Kitchen and bath designer
• Space planner
• Product showroom manager
• Product specifier
• Manufacturer’s representative
• Facilities manager

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 25 percent are employed; 75 percent continued their education.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry
Recommended: Algebra 2

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TYPICAL PROGRAM

In the first and second years, a typical day consists of two one-hour lectures and a two-hour studio. Students can expect to spend additional time working on projects and course work out of studio.

GENERAL NOTES

Entry level of student into math and composition/literature sequences is a function of student’s high school preparation and mathematics and English placement examinations.

Minimum of “C” is required to continue from one studio course to the next. (This includes: ARCH 1184, ARCH 2394, DSGN 2204, and DSGN 2304).

GRADUATION REQUIREMENTS

A student must successfully complete all courses in the prescribed four-semester program and earn a minimum cumulative index of 2.0, which is equivalent to a “C” average.

REQUIRED EQUIPMENT

All students in both the architecture and interior design programs are required to purchase a laptop computer in addition to other equipment. A tier 2 laptop computer is required for students entering this degree program. Typically the costs of these purchases can be covered using financial aid. Please consult a financial aid counselor for further details. Laptop specifications are available at www.alfredstate.edu/required-laptops.

INTERIOR DESIGN - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

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<td>Architectural History I</td>
<td>3</td>
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<td>Furniture &amp; Finishes</td>
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<td>ARCH</td>
<td>2394</td>
<td>Design Fundamentals 2</td>
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<td>ARCH</td>
<td>2014</td>
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<td>DSGN</td>
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<tr>
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This transfer program will prepare you to enter into baccalaureate programs in adolescent education at public and private colleges and universities. As a graduate, you will have satisfied all of SUNY’s general education knowledge requirements and will have completed two courses in a foreign language, one course in adolescent development, one in foundations of education, and at least four courses in one of six concentrations – history/social studies, biology, chemistry, English, math, or physics.

ADVANTAGES
• Students have the benefit of small classes taught by expert faculty who take an interest in each student’s success and are advised by faculty within their concentration area.
• The US Department of Labor expects employment for secondary school teachers to grow 8 percent through 2026.

PROGRAM STUDENT LEARNING OUTCOMES
• Apply critical thinking skills to the analysis of typical issues in education.
• Perform the basic operations of personal computer use and employ basic research techniques to locate, evaluate, and synthesize information from a variety of sources.
• Communicate effectively and appropriately in written and oral forms.
• Demonstrate competence of subject matter in the content area of specialization.
• Identify the basic concepts and theories in adolescent development.
• Identify basic pedagogical terms and theories.
• Demonstrate competence in all 10 general education knowledge areas defined by SUNY.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS
Alfred State liberal arts and sciences: adolescent education (teacher education transfer) graduates may enter directly into either the interdisciplinary studies BTech or the technology management BBA degree program.

CONTINUING EDUCATION OPPORTUNITIES
Transfer requirements for students in adolescent education vary across public and private colleges and universities. Therefore, students should work closely with their faculty adviser to ensure that they meet the particular entrance requirements of their transfer college of choice. The minimum cumulative grade point average for admission as a transfer student in adolescent education to SUNY colleges and universities varies from 2.5 to 3.0, with some transfer colleges also setting minimum grade point averages in concentration courses and in courses in adolescent development and foundations of education.

EMPLOYMENT STATISTICS
Employment and continuing education data not available

RELATED PROGRAMS
Biological Science
Interdisciplinary Studies
Liberal Arts and Sciences: Humanities
Liberal Arts and Sciences: Math and Science
Liberal Arts and Sciences: Social Science

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
• Biology and Chemistry concentrations: Algebra, Geometry, Algebra 2, Biology, Chemistry required
• History/Social Studies and English concentrations: Algebra required
• Math and Physics concentrations: Algebra, Geometry, Algebra 2, Biology, and Chemistry or Physics required

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email
### HISTORY/SOCIAL STUDIES CONCENTRATION

**First**

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<tr>
<th>Course</th>
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<tr>
<td>LITR</td>
<td>2343 Children's Literature</td>
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<tr>
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<td>2603 Introduction to Literature</td>
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<td>HIST</td>
<td>3003 World History I</td>
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**Fourth**

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<tr>
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<tr>
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### CHEMISTRY CONCENTRATION

**First**

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<td>MATH</td>
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<tr>
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<td>1984 Chemical Principles I</td>
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### BIOLOGY CONCENTRATION

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<tr>
<td>BIOL</td>
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### ENGLISH CONCENTRATION

**First**
- **COMP** 1503: Freshman Composition 3
- **PSYC** 1013: General Psychology 3
- **MATH** xxx3: Math Elective 3
- **HIST** xxx3: Gen Ed Elective (American History) 3
- **XXX** xxx3: Foreign Language I 3
- **HPED** xxx1: Physical Education Elective 1

**Second**
- **PSYC** 2033: Adolescent Development 3
- **LITR** 2603: Introduction to Literature 3
- **XXX** xxx4: General Education Elective (Natural Science) w/lab 4
- **GLST** 2113: Global Perspectives: Spec. Topic 3
- **XXX** xxx3: Foreign Language II 3

**Third**
- **COMP** 3503: Advanced Composition 3
- **XXX** xxx3: General Education Elective (Western Civilization) 3
- **LITR** 3333: Survey of British Literature I 3
- **FNAT** xxx3: Fine Arts Elective 3
- **LITR** 2343: Children's Literature 3

**Fourth**
- **EDUC** 2163: Foundations of Education 3
- **SPCH** 1083: Effective Speaking 3
- **LITR** 3233: Survey of American Lit I 3
- **XXX** xxx3: Open Elective 3
- **XXX** xxx3: Liberal Arts Elective 3

### MATH CONCENTRATION

**First**
- **COMP** 1503: Freshman Composition 3
- **PSYC** 1013: General Psychology 3
- **MATH** 1054: Precalculus 4
- **HIST** xxx3: General Education Elective (American History) 3
- **XXX** xxx3: Foreign Language I 3
- **HPED** xxx1: Physical Education Elective 1

**Second**
- **PSYC** 2033: Adolescent Development 3
- **LITR** 2603: Introduction to Literature 3
- **OR** LITR 2603: Introduction to Literature 3
- **LITR** 2343: Children's Literature 3
- **PHYS** 1064: Physics for Engr & Science I 4
- **MATH** 2094: Calculus II 4
- **XXX** xxx3: Foreign Language II 3

**Third**
- **CHEM** 1984: Chemical Principles I 4
- **CISY** 1113: Computer Programming I 3
- **MATH** 6114: Differential Equations 4
- **PHYS** 2064: Physics for Engr & Sci II 4

**Fourth**
- **EDUC** 2163: Foundations of Education 3
- **SPCH** 1083: Effective Speaking 3
- **MATH** 6104: Multivariate & Vector Calculus 4
- **MATH** 2124: Statistical Methods & Analysis 4
- **CHEM** 2984: Chemical Principles II 4
- **HPED** xxx1: Physical Education Elective 1

### PHYSICS CONCENTRATION

**First**
- **COMP** 1503: Freshman Composition 3
- **PSYC** 1013: General Psychology 3
- **MATH** 1084: Calculus I 4
- **GLST** 2113: Global Perspectives: Spec. Topic 3
- **XXX** xxx3: Foreign Language I 3

**Second**
- **PSYC** 2033: Adolescent Development 3
- **LITR** 2343: Children's Literature 3
- **LITR** 2603: Introduction to Literature 3
- **PHYS** 1064: Physics for Engr & Science I 4
- **MATH** 2094: Calculus II 4
- **XXX** xxx3: Foreign Language II 3

**Third**
- **CHEM** 1984: Chemical Principles I 4
- **CISY** 1113: Computer Programming I 3
- **MATH** 6114: Differential Equations 4
- **PHYS** 2064: Physics for Engr & Sci II 4

**Fourth**
- **EDUC** 2163: Foundations of Education 3
- **SPCH** 1083: Effective Speaking 3
- **MATH** 6104: Multivariate & Vector Calculus 4
- **CHEM** 2984: Chemical Principles II 4
- **HPED** xxx1: Physical Education Elective 1
If you’re planning on continuing your education at another four-year college or university, the liberal arts and sciences: humanities program might be for you. By careful selection of elective credits, you will be qualified to enter a baccalaureate program as a third-year student in a wide variety of fields. The program also serves an exploratory function if you have not decided on a field of study or a specific career.

ADVANTAGES
- The liberal arts and sciences: humanities program prepares students for life by stressing the importance of reading, writing, and thinking while developing in them an appreciation of the arts and the wisdom of great minds.
- Colleges, universities, and large corporations are increasingly emphasizing the importance of a liberal arts education upon which to build a career.

PROGRAM STUDENT LEARNING OUTCOMES
- Create written communication appropriate for audience and purpose and that meets standards of style, clarity, and grammatical correctness as described in the Writing Rubric.
- Create oral communication appropriate for audience and purpose and which meets standards of presentation as described in the Effective Speaking Rubric.
- Construct and recognize arguments in both written and oral formats that are free from logical defects, as described in the Critical Thinking Rubric.
- Use library, online, and other resources to locate and evaluate scholarly articles and other research materials.
- Create research-based prose in literature, history, philosophy, or the arts.
- Articulate the relevance of the humanities to the self and society.
- Complete eight of the 10 SUNY General Education requirements and meet the two infused competencies.
- Evaluate self and demonstrate sensitivity to others of different cultures or perceptions to work constructively in a pluralistic society
- Analyze and appraise moral and ethical dilemmas.
- Analyze and evaluate the obligations of knowledge to promote common good.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS
Alfred State liberal arts and sciences: humanities graduates may enter directly into technical communication and emergent media BS, the interdisciplinary studies BTech or the technology management BBA degree program.

EMPLOYMENT STATISTICS
Employment and continuing education stats not reported.

RELATED PROGRAMS
Health Information Technology
Human Services
Individual Studies
Liberal Arts and Sciences: Math and Science
Liberal Arts and Sciences: Social Science
Nursing

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra
Recommended: Geometry, Biology

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.
The mathematics and science emphasis will provide you with a solid foundation in mathematics and/or science, perfect for transferring and entering into career programs that depend on those skills.

**PROGRAM STUDENT LEARNING OUTCOMES**

- Demonstrate competence in arithmetic, algebra, geometry, data analysis, and quantitative reasoning.
- Demonstrate methods scientists use to explore natural phenomena, including observation, hypothesis development, measurement and data collection, experimentation, evaluation of evidence, and employment of mathematical analysis.
- Employ proficient written and verbal communication skills.
- Students will identify, analyze, and evaluate arguments as they occur in their own and others' work and develop well-reasoned arguments.
- Students will perform the basic operations of personal computer use, understand and use basic research techniques and locate, evaluate, and synthesize information from a variety of sources.
- Students will successfully transfer to a bachelor's or terminal associate degree.

**DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS**

Alfred State liberal arts and sciences: math and science graduates may enter directly into either the interdisciplinary studies BTech or the technology management BBA degree program.

**CONTINUING EDUCATION OPPORTUNITIES**

This program is designed in such a way that the student and adviser work together to match courses at Alfred State with first- and second-year courses at the desired transfer school so that the student may enter a baccalaureate program as a full third-year student. Some typical fields of study that graduates choose to enter are mathematics, statistics, math or science education, physical education, biology, chemistry, physics, physical therapy, athletic training, engineering, pre-med, pre-vet, dentistry, or pharmacy.

**EMPLOYMENT STATISTICS**

Employment and continuing education rate of 100 percent – 100% are employed; 0% continued their education.

**RELATED PROGRAMS**

- Biological Science
- Forensic Science Technology
- Individual Studies
- Liberal Arts and Sciences: Humanities
- Liberal Arts and Sciences: Social Science
- Pre-Environmental Science and Forestry

**ENTRANCE REQUIREMENTS/RECOMMENDATIONS**

Required: Algebra, Geometry, and Algebra 2; Biology; Chemistry or Physics

Recommended: Both Chemistry and Physics

**OFFICE OF ACCESSIBILITY SERVICES**

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**DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS**

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**EMPLOYMENT STATISTICS**

Employment and continuing education rate of 100 percent – 100% are employed; 0% continued their education.

**RELATED PROGRAMS**

- Biological Science
- Forensic Science Technology
- Individual Studies
- Liberal Arts and Sciences: Humanities
- Liberal Arts and Sciences: Social Science
- Pre-Environmental Science and Forestry

**ENTRANCE REQUIREMENTS/RECOMMENDATIONS**

Required: Algebra, Geometry, and Algebra 2; Biology; Chemistry or Physics

Recommended: Both Chemistry and Physics

**OFFICE OF ACCESSIBILITY SERVICES**

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LIBERAL ARTS & SCIENCES: SOCIAL SCIENCE

AA DEGREE – CODE #0212

Dr. Jill Priest Amati, Department Chair and Program Coordinator
Email address: amatijp@alfredstate.edu

This transfer program emphasizes course work in the social and behavioral sciences and in the liberal arts. By careful selection of electives, you will be well placed to enter baccalaureate programs at the third-year level with all your general education requirements met.

ADVANTAGES

- Students have the benefit of small classes taught by expert faculty who take an interest in each student’s success, and are advised by faculty within their concentration area.
- Students interested in education, criminal justice, psychology, sociology, history, or political science may enroll in advanced courses at Alfred University through cross-registration at no extra cost.

PROGRAM STUDENT LEARNING OUTCOMES

- Apply critical thinking skills to the analysis of topical issues in the social sciences.
- Perform the basic operations of personal computer use, as well as employ basic research techniques to locate, evaluate, and synthesize information from a variety of sources.
- Communicate effectively and appropriately in oral and written forms.
- Discuss the social, psychological, and historical influences on human behavior.
- Identify the steps of the scientific method and discuss the research methods employed by social scientists.
- Recognize the effects of globalization.
- Identify the terminology related to theories of and research in the social sciences.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS

Alfred State liberal arts and sciences: social science graduates may enter directly into either the interdisciplinary studies BTech or the technology management BBA degree program.

CONTINUING EDUCATION OPPORTUNITIES

Graduates are qualified to enter baccalaureate programs in a variety of academic disciplines such as psychology, sociology, anthropology, history, and political science, as well as professional fields such as early childhood education, adolescent education, criminal justice, pre-law, human services management, and business administration. Among the colleges to which recent graduates have successfully transferred are Alfred University, University of Buffalo, Cornell University, SUNY Cortland, SUNY Fredonia, SUNY Geneseo, and St. Bonaventure University.

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 0 percent are employed; 100 percent continued their education.

RELATED PROGRAMS

Criminal Justice
Human Services
Human Services Management
Individual Studies
Interdisciplinary Studies
Liberal Arts and Sciences: Adolescents Education (Teacher Education Transfer)
Liberal Arts and Sciences: Humanities
Liberal Arts and Sciences: Math and Science

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra
Recommended: Geometry, Biology

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

LIBERAL ARTS AND SCIENCES - AA DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

| First | COMP 1503 | Freshman Composition | 3 |
| PSYC 1013 | General Psychology | 3 |
| SOCI 1163 | General Sociology | 3 |
| MATH xxx | Gen Ed Math Elective | 3 |
| HPED xxx1 | Phys Ed Elective | 1 |
| GLST 2113 | Global | 3 |
| PSYC 1023 | Introduction to Literature | 3 |
| LITR 2603 | Sociology Elective | 3 |
| XXXX xxx | Open Elective | 3 |
| XXXX xxx | Gen Ed American History Elective | 3 |
| XXXX xxx | History Elective | 15 |
| Third | SOCI 1183 | Contemporary Social Problems | 3 |
| PSYC xxx | Psychology Elective | 3 |
| SPCH 1083 | Effective Speaking | 3 |
| XXXX xxxx | Natural Science Elective | 3-4 |
| XXXX xxxx | Applied Open Elective | 3 |
| Fourth | HIST 1113 | Hist of West Civil Since 1648 | 3 |
| XXXX xxxx | Natural Science Elective | 3-4 |
| XXXX xxx | Open Elective | 3 |
| XXXX xxx | Open Elective | 3 |
| SOCI 1223 | Power, Privilege, & Difference | 3 |
| | | | 15-16 |

Also required: One credit hour of physical education.

GRADUATION REQUIREMENTS

- Good academic standing (2.0 cumulative GPA) or higher
- Successful completion of all courses in the prescribed four-semester plan
- Submission of the college’s degree application form

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MAGNETIC RESONANCE IMAGING

CERTIFICATE – CODE #3061

Jenna Zetwick, Program Coordinator
Email address: zetwick@alfredstate.edu

The certificate program in magnetic resonance imaging (MRI) is an upper-level, online program that will produce graduates, who are capable of working under the supervision of a physician, and who are proficient in the application of magnetic resonance imaging equipment and techniques to gather critical radiologic data to enable the diagnosis of a variety of conditions and diseases.

The program targets the acquisition of specialized MRI certification by place-bound college graduates currently employed in the medical field as licensed radiological technologists. It will consist of 15 credits total, delivered online, over a minimum of two academic semesters.

The curriculum will include: Instruction in pathologic data recording; magnetic resonance imaging data processing; magnetic resonance imaging equipment operation; and professional standards and ethics. Students in the program will complete didactic courses online, as well as clinical rotations at designated hospitals and imaging centers.

ADVANTAGES

The MRI certificate program targets existing radiologic technologists who wish to expand and diversify their clinical skills within the healthcare market place. With the exception of the clinical requirement, the program is designed to be an online experience.

PROGRAM STUDENT LEARNING OUTCOMES

Graduates of the magnetic resonance imaging (MRI) will be able to:

- Demonstrate correct positioning skills.
- Select proper technical factors.
- Utilize appropriate radiation protection techniques.
- Exhibit patient-centered skills.
- Critique images to determine diagnostic quality.
- Display proper work ethics.
- Adapt standard procedures for non-routine patients.
- Apply written communication skills to the construction of documents of record that are established professional guidelines.
- Apply oral communication skills to the explanation of ideas and scientific terminology.
- Using technological resources effectively and appropriately, synthesize theory and concepts from the liberal education domain and other professions into MRI.
- Upon successful completion of the program, students will be eligible to sit for the national certification examination of the American Registry of Radiologic Technologists (ARRT).

CONTINUING EDUCATION OPPORTUNITIES

Students may transfer directly into one of our own BS or BTech degree programs or to another college.

Occupational Opportunities

- Clinics
- Diagnostic medical centers
- Government agencies
- Hospitals
- Private physician offices

EMPLOYMENT STATISTICS

Employment of magnetic resonance imaging employment statistics not available for this new program

RELATED PROGRAMS

Health Sciences
Interdisciplinary Studies
Healthcare Management

ENRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Associate degree in radiologic technology from an accredited program or certificate of completion from JRCERT program. Must provide proof of ARRT certification.

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT

A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

MAGNETIC RESONANCE IMAGING - CERTIFICATE

TWO-SEMESTER PROGRAM

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Graduation Requirements

- 16 total semester credit hours
- 2.0 minimum cumulative grade point average
- Approval of department faculty
MARKETING

AAS DEGREE – CODE #0633

Susan Gorman, Program Coordinator
Email address: gormansf@alfredstate.edu

The American Marketing Association defines marketing as “the process of planning and executing the conception, promotion, and distribution of ideas, goods, and services to create exchanges that satisfy individual and organizational objectives.” Marketing is a fast-moving, diverse field that includes the numerous business activities required to satisfy the needs of both the consumer and the industrial buyer. Our program will help you develop a strong background in communication, management, accounting, advertising, consumer behavior, industrial marketing, and salesmanship. And the degree’s liberal arts foundation will provide you with a solid basis for the human relations elements in the study of marketing.

ADVANTAGES

Students gain a thorough understanding of many areas, including the design and implementation of a sales presentation, consumer-buying behavior, the use of technology in marketing communications, and much more.

PROGRAM STUDENT LEARNING OUTCOMES

- Recognize the primary theories within the principle functional areas of business.
- Demonstrate professional business communication.
- Illustrate critical thinking and effective decision-making within the principle functional areas of marketing.
- Identify ethical issues within marketing.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS

Alfred State marketing graduates may enter directly into the business administration BBA, the interdisciplinary studies BTech, or the technology management BBA degree program at Alfred State.

CONTINUING EDUCATION OPPORTUNITIES

Students may transfer directly into one of our own BBA degree programs or to another college. Although not limited to these schools, common transfer institutions include Alfred University, St. Bonaventure University, Rochester Institute of Technology, St. John Fisher College, SUNY at Albany, University at Buffalo, SUNY College at Brockport, SUNY College at Fredonia, SUNY College at Geneseo, SUNY College at Oneonta, SUNY College at Oswego, SUNY at Binghamton, Canisius College, Niagara University, and Hilbert College.

OCCUPATIONAL OPPORTUNITIES

- Consumer and industrial sales
- Service institutions
- Banks
- Advertising agencies
- Financial and credit agencies
- Insurance companies
- Recreational businesses
- Tourist bureaus

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 100 percent are employed.

RELATED PROGRAMS

Accounting
Business Administration (AS)
Business Administration (BBA)
Financial Planning
Technology Management

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra
Recommended: Geometry, Algebra 2

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT

A tier 1 laptop computer is required for students entering the marketing program. Laptop specifications are available at http://www.alfredstate.edu/required-laptops.

MARKETING - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

<table>
<thead>
<tr>
<th>First</th>
<th>Second</th>
<th>Third</th>
<th>Fourth</th>
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<td>GLST</td>
<td>2113</td>
<td>1124</td>
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</table>

END-OF-PROGRAM EXAM REQUIREMENTS

All students are required to complete an end-of-program exam. This exam will be taken in the capstone course for the student’s specific program in MKTG 3153 Web Design & Marketing. The end-of-program exam will also be considered an assignment in the capstone course. The benefit of taking the end-of-program exam is to test the student’s knowledge at the time of graduation. Students may include the progress from the end-of-program exams on their resume. Taking the end-of-program exam will have some fees, which are currently $23 per exam. Exams will be taken once and they will impact the student’s capstone course grade by 5%. Please refer to the syllabi for the relevant capstone course to know the grading scale for the end-of-program exam.

The end-of-program exams are required, not optional.

Information on how to take the exams will be given in the course prior to the end-of-program exam.

How should I prepare for the assessment exam?

The comprehensive end-of-program exam covers topics taught throughout the degree program, which are aligned to the topics required for accreditation. The
preparation for the exam comes from your educational experience with the school, specifically through the required courses for your degree. The exam assesses the foundational knowledge areas for your discipline.
MASONRY
AOS DEGREE – CODE #0401
Clinton Gray, Department Chair
Email address: GrayCJ@alfredstate.edu

Stephen Richard, Program Coordinator
Email address: richarsb@alfredstate.edu

Each year, more and more students and employers have asked for additional instruction and skills-based training in masonry beyond what is provided by the building construction program. Our masonry program was designed with these desires in mind. It will provide you with extensive instruction after completing the common first-year building construction curricula.

PROGRAM STUDENT LEARNING OUTCOMES
• Estimate, layout, and build various masonry and concrete flatwork systems and explain how to supervise people.
• Properly choose and implement personal and job site safety and access equipment.
• Read and interpret construction drawings and specifications.
• Communicate construction details and estimates with written documents and scale shop drawings.
• Lay out, prepare, and install various concrete flatwork, block work, stone work, and brick work.
• Use the computer to access trade-related specifications.
• Perform computer-based research and communication.
• Demonstrate effective oral communication.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM
Alfred State masonry graduates may enter directly into the construction supervision BTech or technology management BBA degree program. Graduates who have credit for freshman composition, statistics, literature, history, and speech may complete the baccalaureate program in two additional years; others may complete the BBA program in two-and-one-half years.

OCCUPATIONAL OPPORTUNITIES
• Brick or stone salesman
• Kiln mason
• Construction foreman
• Estimator
• Salesperson
• Private or commercial remodeler
• Maintenance supervisor
• Construction superintendent
• Concrete foreman
• Expediter
• Contractor
• Mason

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 100 percent are employed.

RELATED PROGRAMS
Heating, Ventilation, and Air Conditioning
Building Trades: Building Construction
Electrical Construction and Maintenance Electrician

REQUIRED TOOLS/EQUIPMENT
A list of required tools, equipment, PPE, etc. for all of the programs mentioned above can be found at http://www.alfredstate.edu/tool-lists.

A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Recommended: Algebra and Geometry

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS
It is crucial that all student applicants in this degree program must be able to meet the following requirements, with or without reasonable accommodation. Students who are enrolled in this degree program should have the physical capabilities to be able to engage in all training, field, and laboratory environments in a safe and ethical manner. Students must be able to:
• Lift and carry up to or 50 pounds of building materials/equipment without accommodations.
• Perform and function in a safe manner in all laboratory and classroom environments and off campus job site locations.
• Effectively communicate with classmates and instructional staff using appropriate visual and/or auditory communication from a distance of 20 feet.
• Physically setup, move, or climb ladders, scaffolding, etc., unaided, using the designated safety method.
• Identify and react to safety alarms which include, but not limited to, fire alarms, back up alarms and those meant for emergencies.
**MASONRY - AOS DEGREE**

**TYPICAL FOUR-SEMESTER PROGRAM**

### First

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>BLCT 1202</td>
<td>Portable Tools &amp; Fastening Sys</td>
<td>2</td>
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<tr>
<td>BLCT 1002</td>
<td>Intro to Construction Safety</td>
<td>2</td>
</tr>
<tr>
<td>BLCT 1212</td>
<td>Foundation Systems &amp; Layout</td>
<td>2</td>
</tr>
<tr>
<td>BLCT 1222</td>
<td>Construction Math</td>
<td>2</td>
</tr>
<tr>
<td>BLCT 1232</td>
<td>Framing I</td>
<td>2</td>
</tr>
<tr>
<td>BLCT 1242</td>
<td>Framing II</td>
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<tr>
<td>BLCT 1206</td>
<td>Building Construction Lab I</td>
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<tr>
<td>BLCT 2202</td>
<td>Insulation and Drywall</td>
<td>2</td>
</tr>
<tr>
<td>BLCT 2212</td>
<td>Exterior Building</td>
<td>2</td>
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<tr>
<td>BLCT 2232</td>
<td>Siding and Cornices</td>
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</tr>
<tr>
<td>BLCT 2242</td>
<td>Wood Products &amp; Fabrication</td>
<td>2</td>
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<tr>
<td>BLCT 2252</td>
<td>Intro to Print Reading &amp; Estim</td>
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<tr>
<td>BLCT 2262</td>
<td>Masonry</td>
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<td>BLCT 2206</td>
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<td>BLCT 3702</td>
<td>Residential Foundations</td>
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<tr>
<td>BLCT 3712</td>
<td>Building Stone</td>
<td>2</td>
</tr>
<tr>
<td>BLCT 3722</td>
<td>Fireplace &amp; Hearth</td>
<td>2</td>
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<tr>
<td>BLCT 3732</td>
<td>Masonry Restoration</td>
<td>2</td>
</tr>
<tr>
<td>BLCT 3742</td>
<td>Sustainability w/ Masonry Const</td>
<td>2</td>
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<tr>
<td>BLCT 3752</td>
<td>All Weather Masonry</td>
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<tr>
<td>BLCT 3706</td>
<td>Masonry Construction Lab III</td>
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<tr>
<td>BLCT 4502</td>
<td>ACI Concrete Testing</td>
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<tr>
<td>BLCT 4512</td>
<td>Masonry Stairs &amp; Ramps</td>
<td>2</td>
</tr>
<tr>
<td>BLCT 4522</td>
<td>Hardscaping with Masonry</td>
<td>2</td>
</tr>
<tr>
<td>BLCT 4532</td>
<td>Print Reading for Masonry</td>
<td>2</td>
</tr>
<tr>
<td>BLCT 4542</td>
<td>Masonry Sketching &amp; Detailing</td>
<td>2</td>
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<tr>
<td>BLCT 4552</td>
<td>Business Planning Masonry/Conc</td>
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<tr>
<td>BLCT 4506</td>
<td>Masonry Construction Lab IV</td>
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</table>

**GRADUATION REQUIREMENTS**

A student must successfully complete all courses in the prescribed four-semester program and earn a minimum cumulative grade point average of 2.0 in major courses.
MECHANICAL ENGINEERING TECHNOLOGY

AAS DEGREE - CODE #0493

BS DEGREE - CODE #0235

Aric Bryant, Department Chair and AAS Program Coordinator
Email address: bryantam@alfredstate.edu

Dr. Matthew Lawrence, BS Program Coordinator
Email address: lawremj@alfredstate.edu

As a mechanical engineering technology program graduate, you will be well prepared to be a mechanical engineer (B.S.) or technician (AAS) for the industry in engineering-related areas, including automotive component design; heating, ventilation, and air conditioning (HVAC); process and component design; mechanical systems design; energy systems; product development; and technical support and sales. You will be able to design, specify, test, analyze, and install mechanical systems. This broad content exposure occurs through the development of analytical skills and theory in the classroom and experience working with engines, complete energy systems, compressors, fans, pumps, controls, instrumentation, engineering graphics, and material testing.

ADVANTAGES
• Both the AAS and BS mechanical engineering technology programs are accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org.
• The Bachelor of Science in mechanical engineering technology is recognized as a “professional degree” that qualifies for experience/education credit toward Professional Engineering (PE) licensure.

PROGRAM STUDENT LEARNING OUTCOMES (PSLOS) - AAS DEGREE
• An ability to apply the knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to the discipline.
• An ability to design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes appropriate to the discipline;
• An ability to apply written, oral, and graphical communication in well-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
• An ability to conduct standard tests and measurements, and experiments to analyze and interpret the results; and
• An ability to function effectively as a member of a technical team.

PROGRAM STUDENT LEARNING OUTCOMES (PSLOS) - BS DEGREE
• An ability to apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to the discipline;
• An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline;
• An ability to design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes appropriate to the discipline;
• An ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline;
• An ability to apply written, oral, and graphical communication in well-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
• An ability to apply written, oral, and graphical communication in broadly-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
• An ability to conduct standard tests and measurements, and experiments and to analyze and interpret the results;
• An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes;
• An ability to function effectively as a member of a technical team; and
• An ability to function effectively as a member as well as a leader on technical teams.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS
Alfred State mechanical engineering technology AAS graduates may enter directly into the construction supervision BTech, the interdisciplinary studies BTech, the mechanical engineering technology BS, or the technology management BBA degree program.

CONTINUING EDUCATION OPPORTUNITIES
A cooperative/transfer program involving one year of appropriate study in either mechanical engineering technology or engineering science at selected regional community colleges, together with a second year of study at Alfred State, will result in the awarding of the AAS degree to qualified graduates.

Graduates from the associate-level mechanical engineering technology program are eligible to continue their education by enrolling in a baccalaureate degree program in mechanical or related engineering technology at Alfred State or elsewhere. Our mechanical engineering technology AAS two-year degree program is the same as the first two years of the mechanical engineering technology BS four-year degree program.

OCCUPATIONAL OPPORTUNITIES

Employment and continuing education rate:
• Mechanical engineering technology (AAS degree): 100 percent – 33 percent are employed; 67 percent continue their education.
• Mechanical engineering technology (BS degree): 97 percent – 97 percent are employed.

RELATED PROGRAMS
Mechatronics Technology

ENROLLMENT AND GRADUATION DATA

<table>
<thead>
<tr>
<th>AAS Degree</th>
<th>Enrollment (based on Fall Census)</th>
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<td>2022</td>
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<td>2022</td>
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<td>2021</td>
<td>129</td>
</tr>
<tr>
<td>2020</td>
<td>166</td>
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</tbody>
</table>

CERTIFICATION OR LICENSURE
The Bachelor of Science in mechanical engineering technology is recognized as a “professional degree” that qualifies for experience/education credit toward Professional Engineering (PE) licensure. Graduates from Alfred State’s program are allowed six years of the required 12 years of education/experience credit and are eligible to take the Fundamentals of Engineering (FE), formerly called Engineer-in-Training (EIT), examination upon graduation.

Be advised that a prior felony conviction may impede a student’s ability to receive licensure.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS (AAS)
Required: Algebra, Geometry, Algebra 2
Recommended: Physics

ENTRANCE REQUIREMENTS/RECOMMENDATIONS (BS)
Required: Algebra, Geometry, Algebra 2
Recommended: Physics

Courses that repeat or significantly overlap those taken in the student’s associate degree program cannot be taken for upper-level credit. If the associate degree covered the subject matter in one of the required baccalaureate courses, a different course must be substituted and approved by the faculty adviser.

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS

It is essential that students are able to fully participate, with or without a reasonable accommodation, in engineering technology lab and test procedures. Engineering technology students should be able to:

• Maintain ethical standards as defined by professional societies such as ASME and IEEE (non-exhaustive list)
• Appropriately use hand and power tools.
• Appropriately use test, analysis, and measurement equipment
• Maintain professional integrity in the classroom and laboratory setting
• Communicate effectively, orally and written
• Perform experiments safely in a laboratory environment
• Visually decipher lab equipment digital or analogue displays
• Understand and retain information found in equipment manuals, data sheets, and lab instructions
• Comprehend written andoral directions; act on those directions safely
• Visually identify and select hardware components
• Visually distinguish computer software user interface elements
• Interpret software outputs to analyze data
• Have sufficient dexterity to finely adjust equipment settings
• Interpret complex data tables and graphs

REQUIRED EQUIPMENT

A tier 3 laptop computer is required for students entering the mechanical engineering technology programs. Laptop specifications are available at www.alfredstate.edu/required-laptops.

MECHANICAL ENGINEERING TECHNOLOGY - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

First

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>MECH 1203</td>
<td>Materials Science</td>
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<tr>
<td>MECH 1603</td>
<td>Graphics/CAD</td>
<td>3</td>
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<tr>
<td>COMP 1503</td>
<td>Freshman Composition</td>
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<tr>
<td>MATH 1033</td>
<td>College Algebra</td>
<td>3</td>
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<tr>
<td>GLST 2113</td>
<td>Global Perspectives: Spec Topic</td>
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<tr>
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<tr>
<td>MECH 1663</td>
<td>Manufacturing Processes</td>
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<tr>
<td>MECH 4003</td>
<td>Solid Modeling</td>
<td>3</td>
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<tr>
<td>MECH 4523</td>
<td>Control System Fundamentals</td>
<td>3</td>
</tr>
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<td>MATH 2043</td>
<td>College Trigonometry</td>
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<tr>
<td>PHYS 1024</td>
<td>General Physics I</td>
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Third

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<tr>
<td>MECH 3334</td>
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<tr>
<td>MECH 3223</td>
<td>Mechanical Design Principles</td>
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<td>MATH 1063</td>
<td>Technical Calculus I</td>
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<td>PHYS 2023</td>
<td>General Physics II</td>
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<td>SPCH 1083</td>
<td>Effective Speaking</td>
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<td>SPCH xxx3</td>
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<td>MECH 4024</td>
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<tr>
<td>MATH 2074</td>
<td>Technical Calculus II</td>
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<td>MECH xxx4</td>
<td>Tech. Elective</td>
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<tr>
<td>MECH xxx4</td>
<td>Tech. Elective</td>
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</table>

If not required to take MATH 1033 and MATH 2043, take LAS elective(s) to complete degree requirements.

GRADUATION REQUIREMENTS

• 63 credits
• 20 credits of liberal arts and sciences
• 2.0 grade point average in major courses
• 2.0 cumulative grade point average
• Approval of department faculty
• Four of 10 General Education areas
# Mechanical Engineering Technology — BS Degree

## Typical Five-Through Eight-Semester Program

### Fifth Semester

<table>
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<tr>
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<tr>
<td>MECH 7114</td>
<td>Applied Thermodynamics</td>
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<tr>
<td>MECH 5334</td>
<td>Mechanics of Materials</td>
<td>4</td>
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<tr>
<td>MECH 6334</td>
<td>Fluid Mechanics</td>
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<tr>
<td>LITR xxx3</td>
<td>Literature Elective</td>
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<td>CHEM 5013</td>
<td>Applied Chemical Principles</td>
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<tr>
<td>MATH 6114</td>
<td>Differential Equations</td>
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<td>COMP 5703</td>
<td>Technical Writing II</td>
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<tr>
<td>MATH 7123</td>
<td>Statistics for Engr Tech &amp; Sci</td>
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OR

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<tr>
<td>SPCH xxx3</td>
<td>Effective Speaking</td>
<td>3</td>
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</table>

### Seventh Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSET 7001</td>
<td>Senior Seminar &amp; Project Des</td>
<td>1</td>
</tr>
<tr>
<td>MECH 7603</td>
<td>Heat Transfer</td>
<td>3</td>
</tr>
<tr>
<td>MATH 7113</td>
<td>Economic Analy for Engr Tech</td>
<td>3</td>
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<tr>
<td>MECH xxx3</td>
<td>Major Elective</td>
<td>3</td>
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<tr>
<td>XXXX xxx3</td>
<td>Gen Ed Elective</td>
<td>3</td>
</tr>
<tr>
<td>XXXX xxx4</td>
<td>Major Elective - Upper</td>
<td>4</td>
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</tbody>
</table>

### Eighth Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>BSET 8003</td>
<td>Senior Technical Project</td>
<td>3</td>
</tr>
<tr>
<td>MECH xxx3</td>
<td>Major Elective - Upper</td>
<td>3</td>
</tr>
<tr>
<td>XXXX xxx3</td>
<td>Liberal Arts/Science</td>
<td>3</td>
</tr>
<tr>
<td>XXXX xxx3</td>
<td>Liberal Arts/Science</td>
<td>3</td>
</tr>
</tbody>
</table>

### Typical Liberal Arts/Science Electives:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 1113</td>
<td>Hist of West Civil Since 1648</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1143</td>
<td>Surv of American History I</td>
<td>3</td>
</tr>
<tr>
<td>HIST 2153</td>
<td>Surv of American History II</td>
<td>3</td>
</tr>
<tr>
<td>PLSC 1053</td>
<td>International Relations</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 1013</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>FNAT 1023</td>
<td>Introduction to Theatre</td>
<td>3</td>
</tr>
<tr>
<td>FNAT 1313</td>
<td>Art History</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 1163</td>
<td>General Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

### BS Degree Graduation Requirements

- Completion of above courses
- 126 credit hours
- 45 upper-division credit hours
- 60 credit hours of liberal arts and sciences
- 2.0 grade point average in major courses
- 2.0 cumulative grade point average
- Approval of department faculty
- Seven of 10 General Education areas
MECHATRONICS TECHNOLOGY
AAS DEGREE – CODE #2729
BS DEGREE - CODE #2882

Timothy Cochran, Program Coordinator (AAS and BS)
Email address: cochratj@alfredstate.edu

Mechatronics interweaves electrical, mechanical, and computer engineering technology with applications in automated industrial processes and robotics. Mechatronics professionals are the technicians and engineers who design and maintain automated equipment. Technicians and engineers conduct their work in laboratories, offices or on-site at manufacturing plants. These professionals work toward the same goal of producing safe and efficient automated equipment. While technicians primarily maintain machinery, engineers are more concerned with the design and development of components and products. A mechatronics technology graduate will design, adapt, and troubleshoot electro-mechanical systems that are controlled by programmable digital devices.

ADVANTAGES
- Combines strength in electrical and mechanical engineering technology.
- Broad background to fit many possibilities and small employers.
- Learn in laboratories outfitted with excellent electronic test equipment.
- Hands-on metal and circuit board fabrication facilities.
- Program different devices to perform electromechanical tasks.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM
Alfred State mechatronics technology AAS graduates may enter directly into the construction supervision BTech, the interdisciplinary studies BTech, the mechatronics technology BS, or technology management BBA degree program.

OCCUPATIONAL OPPORTUNITIES
- Robotics Testing Technician
- Mechatronics Technician
- Industrial Robotics Mechanic
- Programmable Logic Controller Assembler
- Electromechanical Technician

Employment and continuing education rate of 100 percent:
Mechatronics technology (AAS degree): 100 percent – 100 percent continued their education.
Mechatronics technology (BS degree): 100 percent – 97 percent are employed; 3 percent continued their education.

RELATED PROGRAMS
Computer Engineering Technology
Electrical Engineering Technology
Mechanical Engineering Technology

ENROLLMENT AND GRADUATION DATA

<table>
<thead>
<tr>
<th>Degree</th>
<th>Enrollment (based on Fall census)</th>
<th>Degrees Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>25</td>
<td>9</td>
</tr>
<tr>
<td>2021</td>
<td>22</td>
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<tr>
<td>2020</td>
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<tr>
<td>BS</td>
<td></td>
<td></td>
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<td>11</td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

ENTRANCE REQUIREMENTS/RECOMMENDATIONS (AAS)

ENTRANCE REQUIREMENTS/RECOMMENDATIONS (BS)

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS
It is essential that students are able to fully participate, with or without a reasonable accommodation, in engineering technology lab and test procedures. Engineering technology students should be able to:
- Maintain ethical standards as defined by professional societies such as ASME and IEEE (non-exhaustive list)
- Appropriately use hand and power tools.
- Appropriately use test, analysis, and measurement equipment
- Maintain professional integrity in the classroom and laboratory setting
- Communicate effectively, orally and written
- Perform experiments safely in a laboratory environment
- Visually decipher lab equipment digital or analogue displays
- Understand and retain information found in equipment manuals, data sheets, and lab instructions
- Comprehend written and oral directions; act on those directions safely
- Visually identify and select hardware components
- Visually distinguish computer software user interface elements
- Interpret software outputs to analyze data
- Have sufficient dexterity to finely adjust equipment settings
- Interpret complex data tables and graphs

REQUIRED EQUIPMENT
A tier 3 laptop computer is required for students entering the mechatronics technology programs. Laptop specifications are available at www.alfredstate.edu/required-laptops. Some courses may require specialized tools and/or electronic components.
## MECHATRONICS TECHNOLOGY - AAS DEGREE

### TYPICAL FOUR-SEMESTER PROGRAM

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
<th>Third Semester</th>
<th>Fourth Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELET 1133 Digital Logic 3</td>
<td>ELET 1142 Electronic Fabrication 2</td>
<td>ELET 2103 Electronics Theory I 3</td>
<td>PHYS 2023 General Physics II 3</td>
</tr>
<tr>
<td>ELET 1111 Digital Logic Laboratory 1</td>
<td>ELET 2151 Electronics Laboratory I 1</td>
<td>ELET 2151 Electronics Laboratory I 1</td>
<td>MATH 2074 Technical Calculus II 4</td>
</tr>
<tr>
<td>COMP 1503 Freshman Composition 3</td>
<td>MECH 3334 Statics 4</td>
<td>MECH 5334 Statics 4</td>
<td>XXXX xxx3 Technical Elective 3</td>
</tr>
<tr>
<td>MATH 1033 College Algebra 3</td>
<td>ELET 2143 Embedded Controller Fundmmts 3</td>
<td>MATH 5004 Instrumentation 4</td>
<td>XXXX xxx3 Technical Elective 3</td>
</tr>
<tr>
<td>MECH 1603 Graphics/CAD 3</td>
<td>MATH 1063 Technical Calculus I 3</td>
<td>XXXX xxx3 Technical Elective 3</td>
<td>SPCH 1083 Effective Speaking 3</td>
</tr>
<tr>
<td>ELET 1202 Intro to Electrical Eng Tech 2</td>
<td>GLST 2113 Global Perspectives:Spcl Topic 3</td>
<td>SPCH 1083 Effective Speaking 3</td>
<td>SPCH xxx3 Effective Speaking Equivalent 3</td>
</tr>
<tr>
<td>ELET 1001 Seminar 1</td>
<td>ELET 1001 Seminar 1</td>
<td>ELET 1001 Seminar 1</td>
<td>SHST 2113 Technical Elective 3</td>
</tr>
</tbody>
</table>

### ASSOCIATE DEGREE GRADUATION REQUIREMENTS

- 63 semester credit hours
- Minimum of 20 credit hours of liberal arts and sciences
- Five of 10 SUNY General Education categories
- 2.0 cumulative grade point average and a grade of "C" or better in the core courses
- Approval of department faculty

If not required to take math due to placement scores, take LAS electives to complete degree requirements of LAS credits.

## MECHATRONICS TECHNOLOGY - BS DEGREE

### TYPICAL EIGHT-SEMESTER PROGRAM

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
<th>Third Semester</th>
<th>Fourth Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELET 1133 Digital Logic 3</td>
<td>ELET 1142 Electronic Fabrication 2</td>
<td>ELET 2103 Electronics Theory I 3</td>
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<td>ELET 1111 Digital Logic Laboratory 1</td>
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<td>MATH 2074 Technical Calculus II 4</td>
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<tr>
<td>COMP 1503 Freshman Composition 3</td>
<td>MECH 3334 Statics 4</td>
<td>MECH 5334 Statics 4</td>
<td>XXXX xxx3 Technical Elective 3</td>
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<tr>
<td>MATH 1033 College Algebra 3</td>
<td>ELET 2143 Embedded Controller Fundmmts 3</td>
<td>MATH 5004 Instrumentation 4</td>
<td>XXXX xxx3 Technical Elective 3</td>
</tr>
<tr>
<td>MECH 1603 Graphics/CAD 3</td>
<td>MATH 1063 Technical Calculus I 3</td>
<td>XXXX xxx3 Technical Elective 3</td>
<td>SPCH 1083 Effective Speaking 3</td>
</tr>
<tr>
<td>ELET 1202 Intro to Electrical Eng Tech 2</td>
<td>GLST 2113 Global Perspectives:Spcl Topic 3</td>
<td>SPCH 1083 Effective Speaking 3</td>
<td>SPCH xxx3 Effective Speaking Equivalent 3</td>
</tr>
<tr>
<td>ELET 1001 Seminar 1</td>
<td>ELET 1001 Seminar 1</td>
<td>ELET 1001 Seminar 1</td>
<td>SHST 2113 Technical Elective 3</td>
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</table>

### FIFTH THROUGH EIGHT-SEMESTER PROGRAM

<table>
<thead>
<tr>
<th>Fifth Semester</th>
<th>Sixth Semester</th>
<th>Seventh Semester</th>
<th>Eighth Semester</th>
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</thead>
<tbody>
<tr>
<td>CHEM 5013 Applied Chemical Principles 3</td>
<td>ELET 6143 Electrical Machine and Control 3</td>
<td>BSET 7001 Senior Seminar &amp; Project Design 1</td>
<td>EMET 6004 Feedback Control Systems 4</td>
</tr>
<tr>
<td>MECH 5334 Mechanics of Materials 4</td>
<td>MATH 6114 Differential Equations 4</td>
<td>MECH 7153 Fluid Power Systems Design 3</td>
<td>BSET 8003 Senior Technical Project 3</td>
</tr>
<tr>
<td>MCET 5004 Instrumentation 4</td>
<td>MATH 7113 Economic Analy for Engr Tech 3</td>
<td>PHYS 8013 Modern Physics 3</td>
<td>MATH 7123 Statistics for Engr Tech &amp; Sci 3</td>
</tr>
<tr>
<td>XXXX xxx3 Technical Elective (Upper) 3</td>
<td>COMP 5703 Technical Writing II 3</td>
<td>SPCH 1083 Effective Speaking 3</td>
<td>MECH 6643 Process Engineering &amp; Manufact 3</td>
</tr>
<tr>
<td>XXXX xxx3 General Education/LAS Elective 3</td>
<td>XXXX xxx3 Technical Elective 3</td>
<td>MCET 7143 Process Controls 3</td>
<td>XXXX xxx3 Gen Ed/LAS Elective 3</td>
</tr>
<tr>
<td>SHST 2113 Technical Elective 3</td>
<td>SHST 2113 Technical Elective 3</td>
<td>SHST 2113 Technical Elective 3</td>
<td>SHST 2113 Technical Elective 3</td>
</tr>
</tbody>
</table>

16 credit hours required for degree.
BS DEGREE GRADUATION REQUIREMENTS

- Completion of above courses
- 126 credit hours
- 52 upper-division credit hours
- 60 credit hours of liberal arts and sciences
- 2.0 grade point average in major courses
- 2.0 cumulative grade point average
- Approval of department faculty
- Seven of 10 General Education areas
MOTORSPORTS TECHNOLOGY
AOS DEGREE - CODE #1619
Eric Wilmot, Department Chair and Program Coordinator
Email address: wilmotej@alfredstate.edu

This specialization includes 1,800 hours of practical experience and classroom training designed to prepare you for the exciting, fast-paced motorsports field. Our high-tech program includes brake systems, alignment procedures, electronic controls, engine overhaul, and transmission overhaul. Ever dream of learning how to work on real race vehicles alongside industry experts? A major component of our curriculum involves the fabrication and set-up of various types of these incredible machines.

ADVANTAGES
- Students may take Automotive Service Excellence (ASE) certification exams.
- First-year courses are certified by NATEF (National Automotive Technicians Educational Foundation, Inc.).
- Students successfully completing the motorsports technology program may return for a third year (senior year) in the automotive service technician program and earn a second associate degree.

PROGRAM STUDENT LEARNING OUTCOMES
- Demonstrate a focused, coherent, organized written report.
- Perform mathematic calculations required for entry-level automotive employment.
- Demonstrate a functional ability to read and retain/apply written instructions and specifications relevant to their work environment.
- Demonstrate the ability to describe operation of, diagnose, and repair race automotive drive train systems.
- Demonstrate the ability to describe operation of, diagnose, and repair race engines.
- Demonstrate the ability to describe operation of, diagnose, and repair race automotive steering, brakes, and suspension systems.
- Demonstrate the ability to fabricate materials required to build and maintain race vehicle chassis, bodies, and components.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM
Alfred State motorsports technology graduates may enter directly into the technology management BBA degree program. Graduates who have credit for freshman composition, statistics, literature, history, and speech may complete the BBA program in two additional years; others may complete the BBA program in two-and-one-half years.

OCCUPATIONAL OPPORTUNITIES
- Chassis specialist
- High performance motorsport technician
- Crew foreman
- Pit crew member
- Engine builder
- Transmission builder

EMPLOYMENT STATISTICS
Employment and continuing education rate of 83 percent – 83 percent are employed.

RELATED PROGRAMS
- Autobody Repair
- Automotive Service Technician
- Mechanical Engineering Technology
- Welding Technology

REQUIRED TOOLS/EQUIPMENT
A list of required tools, equipment, PPE, etc. for all of the programs mentioned above can be found at http://www.alfredstate.edu/admissions/accepted-students/required-tools-supplies.

A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Recommended: Algebra

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS
It is essential that students in this degree program are able to participate fully and safely, with or without reasonable accommodation, in all classroom and laboratory experiences required for completion of the program. Students in this degree program should be able to:

1. Lift 50 pounds to industry standard automotive lift height
2. Effectively communicate with a person six (6) to ten (10) feet away.
3. Visually decipher small images on a monitor or digital display.
4. Distinguish sounds associated with mechanical failures.
5. Comprehend written information found in service repair resources.
6. Possess a valid motor vehicle driver’s license.
7. Function in a safe manner, not placing themselves, faculty, staff, other students, or property in jeopardy.
8. Appropriately and safely use standard laboratory equipment, materials, and instrumentation to include possession of fine motor skills and mobility.

CERTIFICATION OR LICENSURE
Students may take Automotive Service Excellence (ASE) certification exams.

MOTORSPORTS TECHNOLOGY - AOS DEGREE
TYPICAL FOUR-SEMESTER PROGRAM

First
AUTO 1109 Brakes, Steering & Susp Sys 9
AUTO 1169 Auto Electric, Fuel & Emission 9

Second
AUTO 3409 Engine Service 9
AUTO 4449 Drive Train Service 9

Third
AUTO 3506 Introduction to Motorsports 6
AUTO 3504 Motorsport Fabrication I 4
AUTO 3545 Motorsport Fabrication II 5
AUTO 3514 Racing Suspension Dynamics 4

Fourth
AUTO 3535 Hgh Prfmnce Engine Building 5
AUTO 3544 Motorsports Aerodynamics 4
AUTO 3534 Hgh Prfmnce Strng/Brks/Chassis 4
AUTO 3524 Hgh Prfmnce Tune-up/Electrics 4

GRADUATION REQUIREMENTS
A student must successfully complete all courses in the prescribed four-semester program and earn a minimum cumulative grade point average of 2.0 in major courses.
Nursing
AAS Degree - Code #0622
Jody Blankenship, Department Chair
Email address: NursingDepartment@alfredstate.edu

The nursing AAS program will prepare you to become a registered nurse — one of the fastest-growing fields in the country. Courses are sequential and progress from simple to more complex situations, with specialized content in obstetrics, mental health, and pediatric nursing. Learning is enhanced through the use of skill practice for a hands-on approach to gain expertise. During the first year, there is a seven-hour per week clinical experience. During the second year, the clinical experience increases in time and complexity. Simulation is incorporated into the laboratory experience.

Clinical experience, an essential part of each nursing course, further enables students to gain technical competence to apply theoretical knowledge with practice. Clinical experiences are gained through a variety of health care facilities.

Advantages
- The associate degree in nursing (AAS) is currently being offered in different educational pathways:
  - Traditional two-year program (AAS)
  - Dual-degree format (AAS to BS in Nursing)
- Graduates of the AAS degree may directly enroll in the RN-BS in Nursing program after filling out the “Joint Intent to Enroll” form.
- Graduates of the AAS degree are eligible to apply for licensure as a registered nurse.

Facilities
Facilities used for clinical experiences may include: Cuba Memorial Hospital, Elderwood, Guthrie Healthcare Hospital, Highland Park Rehabilitation & Nursing Center, Jones Memorial Hospital, Noyes Memorial Hospital, Olean General Hospital, St. James Hospital, Unity Hospital, Wyoming County Nursing Center, Jones Memorial Hospital, Noyes Memorial Hospital, Olean General Hospital, St. James Hospital, Unity Hospital, Wyoming County Community Hospital, Hornell Gardens, as well as other area facilities and community sites.

Program Student Learning Outcomes
- Patient-centered care — Acquires self-empowerment to provide holistic care to a diverse population while providing health education using learner-centered focused principles.
- Teamwork and collaboration — Demonstrates accountability and effective interpersonal relationships with clients and members of the health care team, and works collaboratively in professional practice.
- Evidence-based practice — Implement evidence-based practice to promote a caring environment that ensures client's safety, comfort, dignity, and self-esteem consistent with his/her developmental stage in an effective and efficient manner.
- Quality improvement — Demonstrates responsibility for continued learning and further growth.
- Safety — Manages care for clients while evaluating own performance to improve professional practice, quality of care, and safety in a timely and cost-effective manner.
- Informatics — Applies technology and information management skills to retrieve data, communicate, support decision making, and submit information.

Reference: Quality and Safety Education for Nurses, 2019

Direct Entry Into Baccalaureate Degree Program
Alfred State nursing graduates may enter directly into either the healthcare management BTech, the interdisciplinary studies BTech, the BS in Nursing, or the technology management BBA degree program.

Professional Opportunities
- Industry
- Physician offices
- Visiting nurses’ agencies

Employment Statistics
Employment and continuing education rate of 100 percent - 60 percent are employed; 40 percent continued their education.

NCLEX-RN First-Time Candidate Pass Rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Pass Rate</th>
<th>New York State</th>
<th>Alfried State College</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>82.8%</td>
<td>86.4%</td>
<td>82.8%</td>
</tr>
<tr>
<td>2020</td>
<td>81.8%</td>
<td>83.17%</td>
<td>81.8%</td>
</tr>
<tr>
<td>2021</td>
<td>83.76%</td>
<td>83.76%</td>
<td>83.76%</td>
</tr>
</tbody>
</table>

Student Completion of the Dual Degree Nursing Program

<table>
<thead>
<tr>
<th>Program</th>
<th>2019 Completion Rate</th>
<th>2020 Completion Rate</th>
<th>2021 Completion Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAS</td>
<td>0% (0/2)</td>
<td>73% (11/15)</td>
<td>81% (17/21)</td>
</tr>
</tbody>
</table>

**Students who complete the program within 1.5 times the length of program

Related Programs
- Biological Science
- Diagnostic Medical Sonography
- Health Information Technology
- Health Science
- Human Services
- Liberal Arts and Sciences: Humanities

Enrollment Requirements/Recommendations
- Required: Algebra, Biology, and Chemistry
- Recommended: 980 combined reading/writing and math SAT score or composite ACT score of 19
- Required: It is essential that students are able to fully participate, with or without a reasonable accommodation, in clinical caring for clients as assigned. Nursing students should be able to:
  - Ambulate in a sufficient manner in order to appropriately and safely perform patient care.
  - Lift at least 35 pounds.
  - Function in a safe manner, not placing clients in jeopardy.
  - Maintain confidentiality in regard to professional practice.
  - Appropriately use standard medical equipment.
  - Interpret data from electronic devices in a health care setting for the purpose of client care.
  - Maintain professional composure at all times.
  - Communicate effectively orally and in writing.

Office of Accessibility Services
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

Licensure
Graduates are eligible to apply for licensure in any state as well as sit for the NCLEX-RN. Completion of the AAS nursing program does not assure licensure as a registered nurse. Graduates of this AAS nursing program meet the education requirements for admittance to the NCLEX-RN licensure exam; however, there is a requirement that the applicant be of “good moral character” and a fee must be paid for the test and license.

To be licensed and registered as a RN in New York State, you must:
- Be of good moral character
- Be at least eighteen years of age
- Graduate from a nursing education program acceptable to NYSED
- Pass the National Council Licensure Examination for Registered Nurses (NCLEX-RN) or another license examination acceptable to NYSED
**REQUIRED EQUIPMENT**

A tier 1 laptop computer is required for students entering this degree program, as it will be needed for on-campus exams and other educational purposes. Microsoft Office is required; internet access is required. In addition, a handheld pocket-sized electronic device is required (i.e. smart phone) for downloading program software. The device must have the capability to turn off both phone and camera. Further system requirements will be sent via a newsletter in early June to newly admitted, transfer, and continuing students. Laptop specifications are available at [www.alfredstate.edu/required-laptops](http://www.alfredstate.edu/required-laptops).

- See our nursing website for full disclosure documentation at [www.alfredstate.edu/nursing](http://www.alfredstate.edu/nursing).

### REGISTERED NURSE PROGRAM NURSING - AAS DEGREE

**TYPICAL TWO-YEAR PROGRAM**

<table>
<thead>
<tr>
<th>First</th>
<th>Second</th>
<th>Third</th>
<th>Fourth</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMP 1503</td>
<td>PSYC 1013</td>
<td>BIOL 2504</td>
<td>GLST 2113</td>
</tr>
<tr>
<td>Freshman Composition</td>
<td>General Psychology</td>
<td>Anatomy &amp; Physiology</td>
<td>Global</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>NURS 1055</td>
<td>BIOL 3055</td>
<td>NURS 2055</td>
<td>SPCH 1083</td>
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<tr>
<td>Nursing I</td>
<td>Nursing III</td>
<td>Nursing II</td>
<td>Effective Speaking</td>
</tr>
<tr>
<td>5</td>
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<td>3</td>
</tr>
<tr>
<td>NURS 1133</td>
<td>NURS 3155</td>
<td>NURS 2133</td>
<td>NURS 4055</td>
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<tr>
<td>Nursing I Lab</td>
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<td>Nursing II Lab</td>
<td>Nursing IV</td>
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<td>5</td>
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<td>5</td>
</tr>
</tbody>
</table>

Min. of "C+" is required in BIOL 1404 to progress

Min. of a "C" grade is required for Nursing I

Min. of "C+" is required in BIOL 2504 to progress

Min. of a "C" grade is required for Nursing II

Min. of a "C" grade is required for Nursing IV

Min. of a "C+" grade is required for NURS 4055 and NURS 4155.

Min. of a "C+" grade is required for Nursing IV

**GRADUATION REQUIREMENTS**

- 63 credit hours
- 36 credits of nursing (Nursing I, II, III, IV)
- 12 credits of natural science (Anatomy & Physiology I and II, Microbiology)
- 6 credits of social science (General Psychology, Human Development)
- 6 credits of Humanities (Freshman Composition, Effective Speaking)
- 3 credits of other world civilization (Global Perspectives)
- A student must successfully complete all courses in the prescribed four-semester program and earn a minimum cumulative GPA of 2.0 which is equivalent to a C average.

**GENERAL NOTES:**

A zero-tolerance for incivility is in effect at Alfred State Nursing. Furthermore, if a student's behavior compromises or threatens the health or safety of others, including clients, peers, faculty, and staff, the student may be denied enrollment or continuation in the program. A policy regarding chemical impairment is publicized to enrolled nursing students.

Background checks may be required by affiliating agencies. Background checks will be at the expense of the student. Any costs associated with clinical would be the responsibility of the student.

Nursing students are required to provide documentation of an annual two-step PPD and a self-report health assessment. Hepatitis B vaccine, flu vaccine, Covid vaccinations, and other requirements may be specified by affiliating agencies. CPR certification is required before taking Nursing I and must remain active throughout the nursing program.

Specific policies related to progression in the nursing program and readmission to the nursing program are publicized to enrolled nursing students in the Nursing Student Handbook.

**RN TRANSFER PROGRAM**

Alfred State students may transfer to most New York State baccalaureate programs consistent with NYS transfer agreement.

### ACCREDITATION

- The AAS nursing program at Alfred State College located in Alfred, NY is accredited by the Accreditation Commission for Education in Nursing (ACEN): 3900 Peachtree Road NE, Suite 1400, Atlanta, GA 30326 phone 404-975-5000.
- The most recent accreditation decision made by the ACEN Board of Commissioners for the AAS nursing program is Continuing Accreditation.
- View the public information disclosed by the ACEN regarding this program at [http://www.acenursing.com/accreditedprograms/programsearch.htm](http://www.acenursing.com/accreditedprograms/programsearch.htm).
- The AAS nursing program is registered by the New York State Education Department.

### TYPICAL TWO-YEAR PROGRAM

- 36 credits of nursing (Nursing I, II, III, IV)
- 12 credits of natural science (Anatomy & Physiology I and II, Microbiology)
- 6 credits of social science (General Psychology, Human Development)
- 6 credits of Humanities (Freshman Composition, Effective Speaking)
- 3 credits of other world civilization (Global Perspectives)
- A student must successfully complete all courses in the prescribed four-semester program and earn a minimum cumulative GPA of 2.0 which is equivalent to a C average.

### REQUIRED EQUIPMENT

- A tier 1 laptop computer is required for students entering this degree program, as it will be needed for on-campus exams and other educational purposes.
- Microsoft Office is required; internet access is required. In addition, a handheld pocket-sized electronic device is required (i.e. smart phone) for downloading program software. The device must have the capability to turn off both phone and camera. Further system requirements will be sent via a newsletter in early June to newly admitted, transfer, and continuing students. Laptop specifications are available at [www.alfredstate.edu/required-laptops](http://www.alfredstate.edu/required-laptops).

- See our nursing website for full disclosure documentation at [www.alfredstate.edu/nursing](http://www.alfredstate.edu/nursing).
NURSING

BS IN NURSING DEGREE - CODE #0291

Jody Blankenship, Department Chair
Email address: NursingDepartment@alfredstate.edu

The demand for nurses with bachelor's degrees or higher has never been greater. To maintain licensure as a registered nurse (RN) in New York State, RNs must have attained a baccalaureate degree or higher in nursing within 10 years of initial licensure. To meet those needs, Alfred State offers a Bachelor of Science degree in nursing (BS in Nursing). This upper-division completion program will enhance your knowledge and skills foundation to function more autonomously and interdependently in diverse, complex, and dynamic health care environments.

The program will serve as a solid academic foundation for advanced study in nursing. The BS in Nursing program is offered in an online format, providing flexibility and learning style choices for the adult student and working professional.

The graduate will be prepared to assume a leadership role in the health care delivery system using gained experience, research, and technology for evidence-based decision making. The baccalaureate graduate will be able to deliver, design, and coordinate care for a variety of individuals from diverse backgrounds to improve client outcomes.

The core foundation nursing courses are arranged to increase the student's knowledge base and skill level for the expanded role as a baccalaureate-prepared practitioner.

A professional capstone course (NURS 8013) is required as a culminating educational experience of the BS in Nursing program. To further advance the student's knowledge base and skill level, there are clinical components integrated within the program.

Meeting the needs of registered nurses seeking a bachelor's degree, the BS in Nursing program is offered primarily as an online format. This provides flexibility and learning style choices for the adult student and working professional.

A computer with internet access, webcam, and Microsoft Office is required for the nursing program. Written work must be submitted in Word and APA format.

Students are permitted to repeat an upper-level (5000 or higher) nursing core course one time only. If a student is unsuccessful in the same nursing course twice, they will be unable to progress in the nursing program.

Bachelor-level students are expected to write at a BS level proficiency, using APA format. Writing proficiency, grammar, spelling, and APA formatting are all essential elements of every nursing course. Failure to write at a BS level may result in failure of nursing course work.

It is strongly recommended that clinical site affiliations are submitted at least two months prior to taking the course to ensure a clinical site agreement is in place. Clinical components will be required in the following courses:

- NURS 6003 - Nursing Leadership and Management
- NURS 6413 - Health Assessment and Promotion Across the Lifespan
- NURS 7004 - Population Focused Care in the Community

ADVANTAGES

The BS in nursing program can be taken entirely online, allowing the student to progress at their own pace. Articulation agreements are in place between multiple regional community colleges and Alfred State for the BS in Nursing program.

STUDENT ACHIEVEMENT DATA

The completion rate for the May 2019 graduates is 76 percent.

PROGRAM STUDENT LEARNING OUTCOMES

- Synthesize theory and concepts from nursing, the liberal education domain, and other professions to expand knowledge.
- Create a plan to foster social justice through civic engagement.
- Apply principles of critical reflection, inquiry, and evidence-based practice to resolve nursing issues.

- Integrate leadership principles to design, manage, and coordinate care for individuals and populations in complex and changing health care delivery systems.
- Appraise issues related to health promotion and disease prevention to promote healthy life for individuals, families, groups, and populations across the life span, with attention to rural communities, maintenance, and end of life.
- Apply knowledge of informatics to foster inter- and intra-professional communication and collaboration in the delivery of safe, quality health care.
- Create a philosophy as a foundation for commitment to the profession, advancement, and lifelong learning.
- Use a variety of methods to communicate in written and oral form throughout the program.

PROFESSIONAL OPPORTUNITIES

Leadership, management, research, education, and practice opportunities exist in a variety of health care settings and institutions throughout New York State and the US.

EARN A DOCTOR OF NURSING PRACTICE (DNP) WITHOUT LEAVING ALFRED

Once you've gained a BS in Nursing at ASC, we offer a dynamic pathway to advance your career. Alfred State is a partner with the University at Buffalo's Post-BS to DNP Program. Doctoral studies are mostly online with limited face-to-face requirements on the Alfred campus and in surrounding hospitals. ASC proudly announced this partnership that increases access to healthcare in rural areas.

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 100 percent are employed; 0 percent are continuing their education.

ADMISSIONS REQUIREMENTS

Admission to the BS in Nursing program requires graduation from an accredited or state-approved associate degree in nursing or certified diploma program in nursing, and plans to secure licensure as a registered professional nurse by completion of the first semester in the program. The minimum GPA requirement for admission is 2.00. The applicant's associate degree course work must include the following:

- A minimum of 30 credits of nursing
- A minimum of 24 hours of liberal arts and sciences credit
- A minimum of three of 10 SUNY General Education categories
- Eight credits of anatomy and physiology (taken at the same school in a classroom setting)
- A lab course in microbiology in the classroom
- A minimum of three SUNY General Education categories
- Course work in composition, global studies or other world civilization, and psychology

It is essential that students are able to fully participate, with or without a reasonable accommodation, in clinical caring for clients as assigned. Nursing students should be able to:

- Function in a safe manner, not placing clients in jeopardy
- Maintain confidentiality in regard to professional practice
- Appropriately use standard medical equipment
- Interpret data from electronic devices in health care setting for the purpose of client care
- Maintain professional composure at all times
- Communicate effectively, orally and in writing

Students must have an active, unencumbered state license to progress into the second semester of BS in Nursing courses.

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.
Laptop specifications are available at www.alfredstate.edu/required-laptops. A tier 1 laptop computer is required for students entering this degree program.

REQUIRED EQUIPMENT

A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

ACCREDITATION/CERTIFICATION

- Alfred State College is accredited by the Middle States Commission on Higher Education (MSCHE), 3624 Market St., Philadelphia, PA 19104; 215-662-5606, http://www/msche.org. The MSCHE is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation (CHEA). Effective February 28, 2022 the Alfred State College BS in Nursing program is a candidate for initial accreditation by the Accreditation Commission for Education in Nursing. The candidacy status expires on February 28, 2024. Accreditation Commission for Education in Nursing (ACEN), 3390 Peachtree Road NE, Suite 1400, Atlanta, GA 30326 (404) 975-5000 http://www.acenursing.com/candidates/candidacy.asp. Note: Upon granting of initial accreditation by the ACEN Board of Commissioners, the effective date of initial accreditation is the date on which the nursing program was approved by the ACEN as a candidate program that concluded in the Board of Commissioners granting initial accreditation.
- The baccalaureate degree program in nursing at The State University of New York College of Technology at Alfred is accredited by the Accreditation Commission for Education in Nursing (ACEN) 3390 Peachtree Road NE, Suite 1400, Atlanta, GA 30326. Phone 404-975-5000
- The BS in Nursing program is registered by the NYS Education Department.

General Notes: A zero tolerance for incivility is in effect at Alfred State nursing. Furthermore, if a student's behavior compromises or threatens the health or safety of others, including clients, peers, faculty, and staff, the student may be denied enrollment or continuation in the program. A policy regarding chemical impairment is publicized to enrolled nursing students. Background checks may be required by affiliating agencies. Background checks will be at the expense of the student. Any costs associated with clinical would be the responsibility of the student. Nursing students are required to provide health related documentation or other requirements to the affiliating agencies. Student are permitted to repeat an upper-level (5000 or higher) nursing core course one time only. If a student is unsuccessful in any upper-level nursing course twice, they will be unable to progress in the nursing program. Bachelor-level students are expected to write at a BS level proficiency, using APA format. Writing proficiency, grammar, spelling, and APA formatting are all essential elements of every nursing course. Failure to write at a BS level may result in failure of nursing course work.

ARTICULATION AGREEMENTS

Articulation agreements are between multiple regional community colleges and Alfred State for the BS in Nursing program.

TYPICAL TWO-YEAR UPPER-LEVEL COMPLETION PROGRAM

<table>
<thead>
<tr>
<th>First</th>
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</tr>
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<tbody>
<tr>
<td>NURS 5023</td>
<td>NURS 6413*</td>
<td>NURS 6003*</td>
</tr>
<tr>
<td>Contemporary Nursing</td>
<td>Health Assessment/ Promotion*</td>
<td>Nursing Leadership/ Management</td>
</tr>
<tr>
<td>NURS 8003</td>
<td>XXX - xxx</td>
<td>NURS 7003</td>
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<tr>
<td>Informatics&amp;Tech App in Healthcare</td>
<td>LAS Elective - Upper</td>
<td>Nursing Research</td>
</tr>
<tr>
<td>BIOL 1313</td>
<td>BIOL 6403</td>
<td>NURS xxx</td>
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<tr>
<td>Nutrition</td>
<td>Advanced</td>
<td>Nursing Elective - Upper</td>
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<tr>
<td>LITR xxx3</td>
<td>SOCI 1163</td>
<td>XXX xxx</td>
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<tr>
<td>Literature Elective</td>
<td>General Sociology</td>
<td>Liberal Arts Elective - Upper</td>
</tr>
<tr>
<td>NURS 5003</td>
<td>MATH 1123</td>
<td>XXX xxx</td>
</tr>
<tr>
<td>Ethical Issues in Health Care</td>
<td>Statistics I</td>
<td>General Ed (PA, FL, WC, or AH)</td>
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<tr>
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</tr>
<tr>
<td>3</td>
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<tr>
<td>3</td>
<td>OR</td>
<td>3</td>
</tr>
<tr>
<td>15</td>
<td>4</td>
<td>15-16</td>
</tr>
</tbody>
</table>

A minimum of a "C" grade in all upper-level nursing courses is required

Fourth

| NURS 7004* | Population Focused Care in Com |
| NURS 8013 | Professional Capstone |
| ANTH 5113 | Cross-Cultural Encounters |
| XXX x | Liberal Arts Elective - Upper |
| XXX x | Liberal Arts Elective - Upper |
| 4 | 3 | 3 |
| 3 | 3 | 3 |

A minimum of a "C" grade in all upper level nursing courses is required

Be advised that a prior felony conviction may impede a student’s ability to participate in a required professional practice experience.

*Course has a 45-hour clinical immersion experience.

**See our nursing website for full disclosure documentation at www.alfredstate.edu/nursing

GRADUATION REQUIREMENTS

- 124 credit hours
- 28 credits of upper-level nursing credits (36 hours from prior AAS degree)
- Three credits of natural science (nutrition) (12 from prior AAS degree: Anatomy & Physiology I and II, Microbiology)
- Three credits of social science (General Sociology) (six from prior AAS degree: General Psychology, Human Development)
- Three credits of humanities (literature elective)
- Three credits of math (Statistics I or Statistical Methods)
- A minimum of a "C" grade in all upper-level nursing courses
- Three credits of a general education elective in American History, Western Civilization, Foreign Arts, or Foreign Language. From prior degree: Basic communication. A student must successfully complete all courses in the
prescribed four-semester program and earn a minimum cumulative GPA of 2.0 which is equivalent to a C average.
The demand for nurses with bachelor's degrees has never been greater. According to the Health and Medicine Division's (HMD) Future of Nursing: Leading Change, at a minimum, 80 percent of nurses should have at least a bachelor's degree by 2020. To maintain licensure as a registered nurse (RN) in New York State, RNs must have attained a baccalaureate degree or higher within 10 years of initial licensure. To meet this need, Alfred State now offers a dual degree.

The new dual degree nursing program is a model to meet the high demand for bachelor's degrees in nursing, while allowing the student to earn both an associate and baccalaureate degree over four years. The graduates of the associate program are eligible to sit for the NCLEX-RN exam at the end of the third year. The nursing program will prepare you to become a registered nurse - one of the fastest-growing professions in the country. Courses are sequential and progress from simple to more complex situations, with specialized content in obstetrics, mental health, and pediatrics integrated into the program. Clinical experience, an essential part of each nursing course, further enables you to gain technical competence to apply theoretical knowledge with practice.

ADVANTAGES

Both the AAS and BS in nursing programs are registered by NYS Education Department. Graduates of the AAS degree are eligible to apply for licensure as a registered nurse and sit for the NCLEX-RN (RN National Boards) in any state.

Graduates of the AAS degree are eligible to apply for licensure as a registered nurse and sit for the NCLEX-RN in any state.

The BS in nursing program can be taken entirely online, allowing the student to progress at their own pace. The BS in nursing Program is registered by the NYS Education Department.

Articulation agreements are in place between multiple regional community colleges and Alfred State for the BS in Nursing program.

FACILITIES

Facilities used for clinical experiences may include: Cuba Memorial Hospital, Elderwood, Guthrie Healthcare Hospital, Unity Hospital, FF Thompson Hospital, Highland Park Rehabilitation & Nursing Center, Jones Memorial Hospital, Noyes Memorial Hospital, Olean General Hospital, St. James Hospital, Wyoming County Community Hospital, Hornell Gardens, as well as other area facilities and community sites.

Students may be placed in day, evening, and night clinical placement, weekend and weekday rotations, and will be responsible for their own transportation.

The upper-division completion program will enhance your knowledge and skills foundation to function more autonomously and interdependently in diverse, complex, and dynamic health care environments. Moreover, the program will enhance your potential to expand your responsibilities in practice to become a leader, coordinator, and manager of care. Lastly, the program will serve as a solid academic foundation for advanced study in nursing at the graduate level. Some of the BSN core courses will begin to be offered in both an on-campus setting (for residential students), while online opportunities will be available for students not living on or near campus, providing flexibility and learning style choices for the adult student and working professional.

It is strongly recommended that clinical site affiliations are submitted at least two months prior to taking the course to ensure that a clinical site agreement is in place.

Clinical components will be required in the following courses:

- NURS 6003 - Nursing Leadership and Management
- NURS 6413 - Health Assessment and Promotion Across the Lifespan
- NURS 7004 - Population Focused Care in the Community

As a graduate of this program, you will be prepared to assume a leadership role in the health care delivery system using gained experience, research, and technology for evidence-based decision making. You will be equipped to deliver, lead, and coordinate care for a variety of individuals from diverse backgrounds to improve client outcomes.

PROGRAM STUDENT LEARNING OUTCOMES - AAS

- Patient-centered care – Acquires self-empowerment to provide holistic care to a diverse population while providing health education using learner-centered focused principles.
- Teamwork and collaboration – Demonstrates accountability and effective interpersonal relationships with clients and members of the health care team, and works collaboratively in professional practice.
- Evidence-based practice – Implements evidence-based practice to promote a caring environment that ensures client's safety, comfort, dignity, and self-esteem consistent with his/her developmental stage in an effective and efficient manner.
- Quality improvement – Demonstrates responsibility for continued learning and further growth.
- Safety – Manages care for clients while evaluating own performance to improve professional practice, quality of care, and safety in a timely and cost-effective manner.
- Informatics – Applies technology and information management skills to retrieve data, communicate, support decision making, and submit information.

Reference: Quality and Safety Education for Nurses, 2019

PROGRAM STUDENT LEARNING OUTCOMES - BS IN NURSING

- Synthesize theory and concepts from nursing, the liberal education domain, and other professions to expand knowledge.
- Create a plan to foster social justice through civic engagement.
- Apply principles of critical reflection, inquiry, and evidence-based practice to resolve nursing issues.
- Integrate leadership principles to design, manage, and coordinate care for individuals and populations in complex and changing health care delivery systems.
- Appraise issues related to health promotion and disease prevention to promote healthy life for individuals, families, groups, and populations across the lifespan, with attention to rural communities.
- Apply knowledge of informatics to foster inter- and intra-professional communication and collaboration in the delivery of safe, quality health care.
- Create a philosophy as a foundation for commitment to the profession, advancement, and lifelong learning.
- Use a variety of methods to communicate in written and oral form throughout the program.

PROFESSIONAL OPPORTUNITIES

- Hospitals
- Clinics
- Long-term care facilities
- Physician offices
- Industry
- Ambulatory settings
- Visiting nurses' agencies
- Schools
- Home health care
- Health insurance providers
- Leadership, management, research, education, and practice opportunities exist in a variety of health care settings and institutions throughout New York State and the US.

EARN A DOCTOR OF NURSING PRACTICE (DNP) WITHOUT LEAVING ALFRED

Once you've gained a BS in Nursing at ASC, we offer a dynamic pathway to advance your career. Alfred State is a partner with the University at Buffalo's Post-BS to DNP Program. Doctoral studies are mostly online with limited face-to-face requirements on the Alfred campus and in surrounding hospitals. ASC proudly announced this partnership that increases access to healthcare in rural areas.
NYCLEX-RN FIRST-TIME CANDIDATE PASS RATE

<table>
<thead>
<tr>
<th>Year</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfred State College</td>
<td>82.8%</td>
<td>81.8%</td>
<td>70.69%</td>
</tr>
<tr>
<td>New York State</td>
<td>86.4%</td>
<td>83.17%</td>
<td>78.97%</td>
</tr>
<tr>
<td>National Average</td>
<td>86.0%</td>
<td>86.56%</td>
<td>83.76%</td>
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</table>

STUDENT COMPLETION OF THE DUAL DEGREE NURSING PROGRAM

<table>
<thead>
<tr>
<th>Program</th>
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<th>2020</th>
<th>2021</th>
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</thead>
<tbody>
<tr>
<td>Dual Degree (AAS/BS)</td>
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<td>NA</td>
<td>45% (39/87)</td>
</tr>
</tbody>
</table>

**students who complete the program within 1.5 times of the length of program**

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent - 100 percent are employed; 0 percent continued their education

Related Programs

- Biological Science
- Diagnostic Medical Sonography
- Health Information Technology
- Health Sciences
- Human Services
- Liberal Arts and Sciences: Humanities
- Radiologic Technology

ENTRANCE REQUIREMENTS

Required: Algebra, Biology, Chemistry

Required: It is essential that students are able to fully participate, with or without a reasonable accommodation, in clinical caring for clients as assigned.

Nursing students should be able to:

- Ambulate in a sufficient manner in order to appropriately and safely perform patient care.
- Lift at least 35 pounds.
- Function in a safe manner, not placing clients in jeopardy.
- Maintain confidentiality in regard to professional practice.
- Appropriately use standard medical equipment.
- Interpret data from electronic devices in a health care setting for the purpose of client care.
- Maintain professional composure at all times.
- Communicate effectively orally and in writing.

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT

A tier 1 laptop computer is required for students entering this degree program, as it will be needed for on-campus exams and other educational purposes. Microsoft Office is required; internet access is required. In addition, a handheld pocket-sized electronic device is required (i.e. smart phone) for downloading program software. The device must have the capability to turn off both phone and camera. Further system requirements will be sent via a newsletter in early June to newly admitted, transfer, and continuing students. Laptop specifications are available at www.alfredstate.edu/required-laptops.

LICENSURE

Upon completion of the AAS degree portion of the dual degree program, graduates are eligible to apply for licensure. Completion of the AAS nursing program does not assure licensure as a registered professional nurse. Graduates of this portion of the dual degree nursing program meet the education requirements for admittance to the RN licensure exam; however, there is a requirement that the applicant be of “good moral character” and a fee must be paid for the test and license. To be a licensed and registered as an RN in New York State, you must:

- Be of good moral character
- Be at least 18 years of age
- Graduate from a nursing education program acceptable to NYSED
- Complete New York State required infection control coursework and child abuse reporting coursework
- Pass the National Council Licensure Examination for Registered Nurses (NCLEX_RN) or another license examination acceptable to NYSED
- Apply for an RN license with NYSED

On the application for New York State licensure, the applicant is required to truthfully answer the following questions:

- Have you ever been found guilty after trial, or pleaded guilty, no contest, or nolo contendere to a crime (felony or misdemeanor) in any court?
- Are criminal charges pending against you in any court?
- Has any licensing or disciplinary authority refused to issue you a license or ever revoked, annulled, canceled, accepted surrender of, suspended, placed on probation, refused to renew a professional license or certificate held by you now or previously, or ever fined, censured, reprimanded, or otherwise disciplined you?
- Are charges pending against you in any jurisdiction for any sort of professional misconduct?
- Has any hospital or licensed facility restricted or terminated your professional training, employment of privileges, or have you ever voluntarily or involuntarily resigned or withdrawn from such association to avoid imposition of such measures?

ACCREDITATION/CERTIFICATION

- The AAS nursing program at Alfred State College located in Alfred, NY is accredited by the Accreditation Commission for Education in Nursing (ACEN), 3390 Peachtree Road NE, Suite 1400, Atlanta, GA 30326 404-975-5000, www.acenursing.org.
- The most recent accreditation decision made by the ACEN Board of Commissioners for the AAS nursing program is Continuing Accreditation.
- View the public information disclosed by the ACEN regarding this program at http://www.acenursing.com/ accreditedprograms/programsearch.htm.
- The Alfred State College BS in nursing program is accredited by the Accreditation Commission for Education in Nursing. (ACEN), 3390 Peachtree Road NE, Suite 1400, Atlanta, GA 30326 (404) 975-5000 http://www.acenursing.com/candidates/candidacy.asp
- Both the AAS and BS in Nursing Programs are registered by the NYS Education Department.

DUAL DEGREE PROGRAM NURSING – AAS TO BS IN NURSING DEGREE

TYPICAL FOUR-YEAR PROGRAM

For the AAS Nursing courses students must earn a "C" in Nursing I (NURS 1055 and NURS 1133) and Nursing II (NURS 2055 and NURS 2133) and a "C+" in Nursing III (NURS 3055 and 3155) and Nursing IV (NURS 4055 and NURS 4155) to progress in the nursing program. Competency in medication clinical computation is required each semester and is tested as part of each nursing semester.

NOTE: BIOL 1404 Anatomy & Physiology I and BIOL 2504 Anatomy & Physiology II have to be completed with a "C+" and must be taken in the classroom with lab component at the same college in a face-to-face environment. Microbiology must be taken in the classroom with lab component at the same college in a face-to-face environment.
Specific policies related to progression in the nursing program and readmission to the nursing program are publicized to enrolled nursing students in the Nursing Student Handbook.

First

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>BIOL 1404</td>
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<td>Anatomy &amp; Physiology I</td>
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<tr>
<td>COMP 1503</td>
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<td>Freshman Composition</td>
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<tr>
<td>PSYC 1013</td>
<td>3</td>
<td>General Psychology</td>
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<tr>
<td>SOCI 1163</td>
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<td>General Sociology</td>
</tr>
<tr>
<td>GLST 2113</td>
<td>3</td>
<td>Perspectives: Special Topic</td>
</tr>
</tbody>
</table>

A minimum of "C" grade is required for all upper-level nursing courses.

Minimum of "C+" grade is required in BIOL 1404 to progress.

Second

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>BIOL 2504</td>
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<td>PSYC 1023</td>
<td>3</td>
<td>Human Development</td>
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<tr>
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<td>Nutrition</td>
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<tr>
<td>MATH 1123</td>
<td>3</td>
<td>Statistics I</td>
</tr>
<tr>
<td>MATH 2124</td>
<td>4</td>
<td>Statistical Methods &amp; Analysis</td>
</tr>
</tbody>
</table>

Minimum of "C+" grade is required for Nursing I.

Third

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 1055</td>
<td>5</td>
<td>Nursing I</td>
</tr>
<tr>
<td>BIOL 4254</td>
<td>4</td>
<td>General Microbiology</td>
</tr>
<tr>
<td>ANTH 5113</td>
<td>3</td>
<td>Cross-Cultural Encounters</td>
</tr>
<tr>
<td>NURS 1133</td>
<td>3</td>
<td>Nursing I Lab</td>
</tr>
</tbody>
</table>

BIOL 4254 is a prerequisite for NURS IV. A minimum grade of "C+" is required for BIOL 4254.

Minimum of "C+" grade is required for NURS 4055 and NURS 4155.

Fourth

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 2055</td>
<td>5</td>
<td>Nursing II</td>
</tr>
<tr>
<td>NURS 2133</td>
<td>3</td>
<td>Nursing II Lab</td>
</tr>
<tr>
<td>SPCH 1083</td>
<td>3</td>
<td>Effective Speaking</td>
</tr>
<tr>
<td>XXXX xxx3</td>
<td>3</td>
<td>Gen Ed Elective</td>
</tr>
</tbody>
</table>

A minimum of a "C" grade is required for all upper-level nursing courses.

Fifth

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 3055</td>
<td>5</td>
<td>Nursing III</td>
</tr>
<tr>
<td>NURS 3155</td>
<td>5</td>
<td>Nursing III Lab</td>
</tr>
<tr>
<td>NURS 8003</td>
<td>3</td>
<td>Informatics &amp; Tech App in Healthcare</td>
</tr>
<tr>
<td>NURS 5023</td>
<td>3</td>
<td>Contemporary Nursing</td>
</tr>
</tbody>
</table>

Sixth

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 4055</td>
<td>5</td>
<td>Nursing IV</td>
</tr>
<tr>
<td>NURS 4155</td>
<td>5</td>
<td>Nursing IV Lab</td>
</tr>
<tr>
<td>BIOL 6403</td>
<td>3</td>
<td>Advanced Pathophysiology</td>
</tr>
<tr>
<td>NURS 6413</td>
<td>3</td>
<td>Health Assessment &amp; Promotion Across Populations</td>
</tr>
</tbody>
</table>

A minimum of a "C" grade in all upper-level nursing courses is required.

Student is eligible to apply for licensure as a registered professional nurse (RN-NCLEX) in any state.

Seventh

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 5003</td>
<td>3</td>
<td>Ethical Issues in Health Care</td>
</tr>
<tr>
<td>NURS 6003</td>
<td>3</td>
<td>Nursing Leadership/Management</td>
</tr>
<tr>
<td>NURS 7003</td>
<td>3</td>
<td>Nursing Research</td>
</tr>
<tr>
<td>XXXX xxx3</td>
<td>3</td>
<td>Liberal Arts Elective (Upper Level)</td>
</tr>
</tbody>
</table>

Minimum of a "C+" grade is required for all upper-level nursing courses.

Eighth

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 7004</td>
<td>4</td>
<td>Population Focused Care in Com</td>
</tr>
<tr>
<td>NURS 8013</td>
<td>3</td>
<td>Professional Capstone</td>
</tr>
<tr>
<td>XXXX xxx3</td>
<td>3</td>
<td>Liberal Arts Elective (Upper Level)</td>
</tr>
</tbody>
</table>

A minimum of a "C" grade in all upper-level nursing courses is required.

GRADUATION REQUIREMENTS

AAS

- 63 credit hours
- 36 credits of nursing (Nursing I, II, III, IV)
- 12 credits of natural science (Anatomy & Physiology I and II, Microbiology)
- 6 credits of social science (General Psychology, Human Development)
- 6 credits of humanities (Freshman Composition, Effective Speaking)
- 3 credits of other world civilization (Global Perspectives)
- A student must successfully complete all courses in the prescribed four-semester program and earn a minimum cumulative GPA of 2.0 which is equivalent to a C average.

BS in nursing degree credits

- 124 credit hours
- 28 credits of upper-level nursing credits (36 hours from prior AAS degree)
- 12 credits of natural science (Nutrition) (12 from prior AAS degree: Anatomy & Physiology I and II, Microbiology)
- 6 credits of social science (General Sociology) (six from prior AAS Degree: General Psychology, Human Development)
- 3 credits of humanities (literature elective)
- 3 credits of math (Statistics I or Statistical Methods)
- A student must successfully complete all courses in the prescribed four-semester program and earn a minimum cumulative GPA of 2.0 which is equivalent to a C average.

Any student wishing for more information should contact the Nursing Department.
Environmental science and forestry is a diverse field requiring professionals of many specialties. That’s why we’ve designed this program to prepare you to enter into several areas—from environmental science to paper science engineering to forestry and natural resource conservation.

ADVANTAGES

• This program prepares graduates for the Bachelor of Science degree program in environmental science and/or the associate degree in forestry and natural resource conservation from the SUNY College of Environmental Science and Forestry (ESF).
• After the first two years of study at Alfred State, transfers to ESF may apply to a variety of programs. These include: the biological sciences (botany and forestry pathology, entomology, zoology, wildlife biology, and pest management); chemistry (natural and synthetic polymers, biochemistry, and natural products, environmental); forest engineering; paper science engineering; wood products engineering; and forestry (resource management, forest resource science, management science, environmental education and communications, urban forestry, world forestry, and applied resource management). The program in landscape architecture leads to a baccalaureate degree after one additional year, a Bachelor of Landscape Architecture degree (BLA).
• A student taking the pre-ESF 1+1 ranger option, forest technology, natural resources conservation, or land surveying, completes one year of required liberal arts and sciences courses at Alfred State, and then spends the second year at the Wanakena Campus of ESF. Successful completion of this program leads to an AAS degree in forest technology.

PROGRAM STUDENT LEARNING OUTCOMES

• MATHEMATICS: Demonstrate competence in arithmetic, algebra, geometry, data analysis, and quantitative reasoning.
• NATURAL SCIENCES: Demonstrate understanding of the methods scientists use to explore natural phenomena, including observation, hypothesis development, measurement and data collection, experimentation, evaluation of evidence, and employment of mathematical analysis.
• COMMUNICATION & INFORMATION: Employ proficient written and verbal communication skills, including the appropriate uses of technology.
• REASONING: Identify, analyze, and evaluate arguments as they occur in their own and others’ work, and develop well-reasoned arguments.
• INFORMATION MANAGEMENT: Perform the basic operations of personal computer use; understand and use basic research techniques; and locate, evaluate, and synthesize information from a variety of sources.
• TRANSFERABILITY: Students will successfully transfer to a bachelor’s or associate degree.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM

Alfred State pre-environmental science and forestry graduates may enter directly into the interdisciplinary studies BTech or technology management BBA degree program.

CONTINUING EDUCATION OPPORTUNITIES

Students in this program spend two years at Alfred State, and then generally transfer to the SUNY College of Environmental Science and Forestry (ESF) at Syracuse. Those students who complete, with a “C” or better, the lower-division sequences prescribed by ESF, gain admission to ESF 1 with full junior status. An articulation agreement is available with SUNY ESF at Syracuse.

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent - 100 percent are employed.

RELATED PROGRAMS

Agricultural Business
Agricultural Technology
RADIOLOGIC TECHNOLOGY

AAS DEGREE - CODE #0628

Jenna Zetwick, Program Director
Email address: zetwickj@alfredstate.edu

Radiologic technology is a two-year AAS degree program preparing qualified students to become health care professionals who administer ionizing radiation to produce photographic and digital anatomical images for diagnostic, therapeutic, and research applications. The program coordinates on-campus didactic and laboratory classes and clinical experiences at area hospitals to which students are responsible for their own transportation. Students must be able to demonstrate technical standards and pass clinical competencies as described by the American Registry of Radiologic Technologists (ARRT) and the Joint Review Committee on Education in Radiologic Technology (JRCERT), recognized by the United States Department of Education as the national accreditation agency of programs for radiographers. Upon graduation, students are prepared to take the American Registry Certification Exam administered by ARRT and be granted New York State licensure through the New York State Department of Health.

Clinical education is assigned to provide experiences consistent with the student’s level of achievement in different hospital environments. Through clinical assignments, students have opportunities to work with the most modern and specialized equipment available and knowledgeable staff with a wealth of experience in imaging. Clinical education assignments include eight clinical hours per week during the second semester of study and 24 clinical hours per week the third and fourth semesters. In addition, a 15-week (40 hours per week) summer session is required and provides valuable experience in developing clinical competency skills. Clinical placements are in hospitals near Alfred State, so students completing the summer session will require housing close enough to their clinical placements to travel there on a daily basis. For those who need it, summer housing is available at Alfred State; contact the Office of Residential Services for details.

The program currently admits 35 students each year, with a fall semester start date only. Four student placements are reserved for an on-campus curriculum change, with the remaining 31 placements being filled by Admissions.

ADVANTAGES
- Prepares the student for the American Registry of Radiologic Technologists’ certification examination and New York State licensure.
- Energized laboratory on campus.
- Low student-to-faculty ratio.
- Major emphasis in the required courses is gaining proficiency in the technical skills necessary for radiologic technology.
- Extensive clinical experience in area hospitals.

PROGRAM STUDENT LEARNING OUTCOMES
- Demonstrate appropriate technical and affective skills in the clinical setting.
- Apply appropriate radiation protection techniques.
- Demonstrate patient-centered, age-specific skills.
- Analyze images to determine diagnostic quality.
- Demonstrate proper work ethics.
- Examine the value of leadership, professional development, and growth.
- Demonstrate critical thinking and problem-solving skills in both the didactic and clinical setting.
- Apply written communication skills to the construction of documents of record that are established professional guidelines.
- Apply oral communication skills to the explanation of ideas and scientific terminology.
- Using technological resources effectively and appropriately, synthesize theory and concepts from the liberal education domain and other professions into radiologic technology.
- Explain cultural diversity and evaluate the role of cultural competency, values, and ethics in the patient care setting.

MISSION STATEMENT

The radiologic technology program embraces the mission and vision statements of Alfred State. It enables students to become competent, efficient, and caring radiographers. The program also has the primary responsibility to ensure that the student has acquired the positive characteristics of dedication to duty, quality care, teamwork, and high ethical standards as they relate to the patient, their families, physicians, and other health care providers. The program embraces the mission and core values of Alfred State in its education of students enrolled in the program.

PROGRAM GOALS
- To develop competent practitioners capable of functioning in the highly technical and dynamic field of radiologic technology.
- To develop competent practitioners who demonstrate proficiency in communication skills.
- To develop competent practitioners who demonstrate proficiency in critical thinking skills and problem-solving skills.
- To develop practitioners who model professionalism.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS

Alfred State radiologic technology graduates who pass their ARRT exam may enter directly into the imaging sciences BTech with the option of either computed tomography, MRI, or healthcare management concentration.

ACCREDITATION/CERTIFICATION

The radiologic technology program at Alfred State is fully accredited by JRCERT (the Joint Review Committee on Education in Radiologic Technology) through 2025. JRCERT is the only agency recognized by the US Department of Education for accreditation of educational programs in radiologic technology.

JRCERT
20 N. Wacker Drive, Suite 2850
Chicago, IL, 60606-3182
Phone: 312-704-5300
Fax: 312-704-5304
Email: mail@jrcert.org
http://www.jrcert.org

PROGRAM EFFECTIVENESS DATA

ARRT Examination Pass Rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Students Attempting Exam</th>
<th>Number of Students Passing Exam on First Attempt</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>11</td>
<td>8</td>
<td>73%</td>
</tr>
<tr>
<td>2018</td>
<td>16</td>
<td>13</td>
<td>81%</td>
</tr>
<tr>
<td>2019</td>
<td>14</td>
<td>14</td>
<td>100%</td>
</tr>
<tr>
<td>2020</td>
<td>14</td>
<td>11</td>
<td>79%</td>
</tr>
<tr>
<td>2021</td>
<td>17</td>
<td>14</td>
<td>82%</td>
</tr>
<tr>
<td></td>
<td>Five Year Average</td>
<td></td>
<td>83.3%</td>
</tr>
</tbody>
</table>

Program Completion Rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Students Beginning the Program</th>
<th>Number of Students Graduating From the Program</th>
<th>Percent Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>13</td>
<td>11</td>
<td>85%</td>
</tr>
<tr>
<td>2018</td>
<td>20</td>
<td>16</td>
<td>80%</td>
</tr>
<tr>
<td>2019</td>
<td>18</td>
<td>14</td>
<td>78%</td>
</tr>
<tr>
<td>2020</td>
<td>19</td>
<td>14</td>
<td>74%</td>
</tr>
<tr>
<td>2021</td>
<td>18</td>
<td>17</td>
<td>94.4%</td>
</tr>
<tr>
<td></td>
<td>Five Year Average</td>
<td></td>
<td>83.3%</td>
</tr>
</tbody>
</table>

Job Placement Rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Students Actively Seeking Employment</th>
<th>Number of Students Employed Within 12 Months</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>11</td>
<td>11</td>
<td>100%</td>
</tr>
<tr>
<td>2018</td>
<td>15</td>
<td>16</td>
<td>94%</td>
</tr>
<tr>
<td>2019</td>
<td>14</td>
<td>14</td>
<td>100%</td>
</tr>
<tr>
<td>2020</td>
<td>12</td>
<td>12</td>
<td>100%</td>
</tr>
<tr>
<td>2021</td>
<td>16</td>
<td>16</td>
<td>98.6%</td>
</tr>
<tr>
<td></td>
<td>Five Year Average</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The job placement rate is the number of graduates employed in the radiologic sciences compared to the number of graduates actively seeking employment in the radiologic sciences within twelve months of graduating.

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 93 percent are employed; 7 percent continued their education.
ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Applicants for the radiologic technology program must possess a recognized high school diploma or its equivalent. A standardized test (SAT or ACT) is not required but recommended. Specific high school course requirements and recommendations are:

Required: Algebra, Geometry, Algebra 2, Biology, Interview with the academic department.
Recommended: Chemistry and Physics

Applicants with previous college experience must submit an official college transcript, as their success at the college level will be an admissions consideration. Due to the technical and science rigor, entrance requirements are higher than those of the institution.

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS
To participate in the program, the applicant must possess specific non-academic skills. The technical standards described below are consistent with the duties of an entry-level sonographer in a professional position and are required in order to provide adequate patient care and produce a diagnostic image.

The applicant should have the:
- Ability with reasonable accommodation, if necessary, to reach and position the patients on the exam table.
- Ability with reasonable accommodation, if necessary, to move, adjust, and manipulate equipment to perform imaging procedures.
- Ability to review and evaluate recorded images to determine the quality of the image with reasonable accommodation.
- Ability to communicate effectively with patients, doctors, and other personnel so that the patient is not placed in an “at-risk” situation.
- Ability to make proper decisions involving patient and co-worker safety.
- Ability with reasonable accommodation, if necessary, to hear sounds that are necessary to assess patient’s health status.

FACILITIES
The program is located in the radiologic technology suite, which includes two lecture classrooms connected to a non-energized and an energized radiology laboratory. Clinical experience is at various local hospitals and clinic sites.

CONTINUING EDUCATION OPPORTUNITIES
The program allows graduates to transfer to a two-year program in radiologic science such as ultrasound, advanced radiologic imaging, nuclear medicine, and radiation therapy.

OCCUPATIONAL OPPORTUNITIES
- Hospital Radiology Department staff technologist
- Advanced imaging modalities - CT, cardiovascular intervention, mammography
- Radiology education
- Radiology Department management
- Industry
- Private physician offices

REQUIRED EQUIPMENT
A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

RADIOLOGIC TECHNOLOGY - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

<table>
<thead>
<tr>
<th>First</th>
<th>BIOL</th>
<th>Anatomy &amp; Physiology I</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RADI</td>
<td>Fundamentals of Radiologic Sci</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>RADT</td>
<td>Procedures I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>RADT</td>
<td>Procedures I LAB</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>RADT</td>
<td>Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MEDR</td>
<td>Radiation Observation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Second</td>
<td>RADT</td>
<td>Radiological Protection</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>RADT</td>
<td>Radiographic Procedures II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>RADT</td>
<td>Procedures II Lab</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>BIOL</td>
<td>Medical Physiology</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MATH</td>
<td>Radiation Physics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Summer</td>
<td>RADT</td>
<td>Radiation Clinical II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Third</td>
<td>RADT</td>
<td>Diagnostic Imaging I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>COMP</td>
<td>Freshman Composition</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>RADT</td>
<td>Radiology Clinical III</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>BIOL</td>
<td>Pathophysiology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MATH</td>
<td>College Algebra or higher</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Fourth</td>
<td>RADT</td>
<td>Diagnostic Imaging II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GLST</td>
<td>Global Pers:Spec Topic</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>RADT</td>
<td>Radiology Clinical IV</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PSYC</td>
<td>General Psychology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>SPCH</td>
<td>Effective Speaking</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

POLICY: ACADEMIC STANDARDS AND GRADING
Students who do not maintain at least a C+ grade in all RADT and BIOL courses will not meet program requirements and will be unable to progress further into the program. Students are subject to warnings, probation, mandatory remedial study and/or dismissal if multiple failures (two or more courses) exist. A student will not be able to continue in the program until the prerequisites for the previous class have been successfully completed. Student support services and counseling are available for all students.

Grading Scale

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90 and above</td>
</tr>
<tr>
<td>B+</td>
<td>90-99</td>
</tr>
<tr>
<td>B</td>
<td>80-84</td>
</tr>
<tr>
<td>C+</td>
<td>75-79</td>
</tr>
<tr>
<td>C</td>
<td>70-74</td>
</tr>
<tr>
<td>D+</td>
<td>65-69</td>
</tr>
<tr>
<td>D</td>
<td>60-64</td>
</tr>
<tr>
<td>F</td>
<td>60 and below</td>
</tr>
</tbody>
</table>

Be advised that a prior felony conviction may impede a student’s ability to participate in a required clinical experience.

GRADUATION REQUIREMENTS
The AAS degree in radiologic technology has finely prescribed courses reflective of accreditation standards for students to be prepared for admission to the American Registry of Radiologic Technologists’ Certification Examination and New York State licensure granted by the Department of Health. Specific graduation requirements are:

- 64 total semester credit hours
- Minimum of 20 credit hours of liberal arts and sciences from three of the 10 SUNY General Education categories
• 2.0 cumulative GPA and a grade of “C+” or better in the core science courses (RADT and BIOL prefixes)
• Approval of department faculty
SPORT MANAGEMENT

AS DEGREE - CODE #1396
Brandon Harrison, Program Coordinator
Email address: harrisbg@alfredstate.edu

The growing emphasis on athletics, coupled with the increasing amount of leisure time the public now enjoys, has made the world of sports one of the fastest-growing segments of American business. The sports industry requires a great variety of people with expertise in business. The goal of this program is to prepare you — using both hands-on and theory-based training — for a career in many areas of sport management and administration.

ADVANTAGES
Students obtain a holistic and in-depth understanding in many areas, such as principles of facility management, the unique aspects of sports marketing, promotions, finance, sport law, media relations, ticket sales, and sponsorship.

PROGRAM STUDENT LEARNING OUTCOMES
• Recognize the primary theories within the principle functional areas of business and sport management.
• Demonstrate professional business communication.
• Illustrate critical thinking and effective decision-making within the principle functional areas of sport management.
• Identify ethical issues within sport management
• 2020-2021 SLO Matrix

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS
Alfred State sport management graduates may enter directly into the business administration BBA, the interdisciplinary studies BTech, the sport management BBA, or the technology management BBA program.

CONTINUING EDUCATION OPPORTUNITIES
Students may transfer directly into our four-year sport management program, which results in a BBA degree.

OCCUPATIONAL OPPORTUNITIES
• Professional sports
• College sports
• Minor league sports
• Olympic organizations
• Recreational sport organizations
• Philanthropic sport organizations
• International sport organizations
• Ticket sales
• Sports marketing and promotions
• Sports sponsorship
• Media relations and sports broadcasting
• Sports law and sports agencies
• Facilities and event management

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 67 percent employed; 33 percent continued their education.

RELATED PROGRAMS
Business Administration
Sport Management (BBA)

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry
Recommended: Algebra 2

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT
A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

SPORT MANAGEMENT - AS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

First
CISY xxx3 Info Technology 3
COMP 1503 Freshman Composition 3
SPMG 1123 Intro to Sport Management 3
XXXX xxx3 Gen Ed Elective 3
MKTG 2073 15

Second
BUAD 2033 Business Communication 3
SPMG 2003 Sport in Society 3
LITR xxx3 Gen Ed Literature 3
GLST 2113 Global Perspectives:Spec Topic 3
MATH xxx3 Gen Ed Math Elective 3

Third
BUAD 3153 Fundamentals of Management 3
ACCT 1124 Principles of Microeconomics 3
ECON 1013 Business Law I 3
SPMG 3001 Field Experience I 1
SPCH 1083 Effective Speaking 3
SPCH xxx3 Effective Speaking Equivalent 3

Fourth
ECON 2023 Principles of Macroeconomics 3
SPMG 4001 Field Experience II 1
SPMG 4123 Sport Facility Management 3
XXXX xxx3 Gen Ed/Natural Science 3
XXXX xxx3 Gen Ed/LAS Elective 3
ACCT 2224 Managerial Accounting 4

GRADUATION REQUIREMENTS
64 semester hours with a 2.0 cumulative index.

END-OF-PROGRAM EXAM REQUIREMENTS
All students are required to complete an end-of-program exam. This exam will be taken in the capstone course for the student’s specific program in SPMG 4123 Sport Facility Management. The end-of-program exam will also be considered an assignment in the capstone course. The benefit of taking the end-of-program exam is to test the student’s knowledge at the time of graduation. Students may include the progress from the end-of-program exams on their resume. Taking the end-of-program exam will have some fees, which are currently $23 per exam. Exams will be taken once and they will impact the student’s capstone course grade by 5%. Please refer to the syllabi for the relevant capstone course to know the grading scale for the end-of-program exam.

The end-of-program exams are required, not optional.

Information on how to take the exams will be given in the course prior to the end-of-program exam.

How should I prepare for the assessment exam?

The comprehensive end-of-program exam covers topics taught throughout the degree program, which are aligned to the topics required for accreditation. The preparation for the exam comes from your educational experience with the school, specifically through the required courses for your degree. The exam assesses the foundational knowledge areas for your discipline.
SPORT MANAGEMENT

BBA DEGREE - CODE #0182

Brandon Harrison, Program Coordinator
Email address: harrisbg@alfredstate.edu

The growing emphasis on athletics, coupled with the increasing amount of leisure time the public now enjoys, has made the world of sports one of the fastest-growing segments of American business. The sports industry requires a great variety of people with expertise in business. The goal of this program is to prepare you — using both hands-on and theory-based training — for a career in the areas of administration, marketing, sales, fund development, finance, event promotion and management, communication, and facility management.

ADVANTAGES

- BBA students will complete a specialization in marketing and event promotion field experiences during the second year, and a full-semester internship in the senior year.
- Students will study the core body of knowledge in sport management, a sport management specialization, and the required SUNY general education component.

PROGRAM STUDENT LEARNING OUTCOMES

- Demonstrate technical competence in domestic and global environments within the principle functional areas of business.
- Analyze sport-related business problems and devise solutions using critical thinking, decision-making processes, and decision-support tools.
- Formulate solutions to current sport issues by incorporating the major functional areas of business and sport management.
- Incorporate software, technology, and information systems into sport-related operations.
- Identify comprehensive sport management issues and communicate findings and solutions.
- Identify the sport management environment in relation to the current financial, legal, economic, and social environments.
- Analyze the role of ethics, industry-based organizational regulations, and legalities in sport management processes.

OCCUPATIONAL OPPORTUNITIES

- Professional sports
- College sports
- Minor league sports
- Olympic organizations
- Recreational sport organizations
- Philanthropic sport organizations
- International sport organizations
- Ticket sales
- Sports marketing and promotions
- Sports sponsorships
- Media relations and sports broadcasting
- Sports law and sports agencies
- Facilities and event management

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 90 percent are employed; 10 percent continued their education.

RELATED PROGRAMS

Business Administration (BBA)
Business Administration (AS)
Financial Planning (BBA)
Marketing

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry
Recommended: Algebra 2

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT

A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.
### SPORT MANAGEMENT - BBA DEGREE

#### TYPICAL EIGHT-SEMESTER PROGRAM

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<td>Freshman Composition</td>
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<td>SPMG 1123</td>
<td>Intro to Sport Management</td>
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<tr>
<td></td>
<td>MKTG 2073</td>
<td>Principles of Marketing</td>
<td>3</td>
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<tr>
<td></td>
<td>XXXX xxx3</td>
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<td>Second</td>
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<td>MATH xxx3</td>
<td>Gen Ed Math Elective</td>
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<td>GLST 2113</td>
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<td>SPMG 2033</td>
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<td>LITR xxx3</td>
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<td>BUAD 3043</td>
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<td>ECON 1013</td>
<td>Principles of Macroeconomics</td>
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<tr>
<td></td>
<td>SPMG xxx3</td>
<td>Effective Speaking or Approved GE Equivalent OR</td>
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<td>SPMG 1083</td>
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<td>LITR xxx3</td>
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<td>ECON 2023</td>
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<td>SPMG 4123</td>
<td>Sport Facility Management</td>
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<td>SPMG 4001</td>
<td>Field Experience II</td>
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<td>ACCT 2224</td>
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<td>XXXX xxx3</td>
<td>Gen Ed/LAS Elective</td>
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<td>XXXX xxx3</td>
<td>Gen Ed/Natural Science Elective</td>
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<td>Sport Marketing</td>
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<td>SPMG 5003</td>
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<td>XXXX xxx3</td>
<td>Open Elective - Upper</td>
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<td>SPMG 6013</td>
<td>Licensing and Endorsements</td>
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<td>SPMG 6023</td>
<td>Event Promotion and Sales</td>
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<td>SPMG 6043</td>
<td>Sport Law</td>
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<td>SPMG 7001</td>
<td>Pre-Internship Seminar</td>
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<td>SPMG 7023</td>
<td>Strategic Mgmt in Sport Organizn</td>
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<td></td>
<td>SPMG 7013</td>
<td>Sport Management Capstone</td>
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<td>XXXX xxx3</td>
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<td>Open Elective</td>
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<tr>
<td>Eighth</td>
<td>SPMG 8112</td>
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</table>

Be advised that a prior felony conviction may impede a student’s ability to participate in an internship and complete the program.

### GRADUATION REQUIREMENTS

- 122 credit hours
- 30 credit hours of the 45 upper-level credit hours for this degree must be taken at Alfred State
- Cumulative overall index of at least 2.0
- Seven of the 10 SUNY approved General Education categories must be fulfilled

### END-OF-PROGRAM EXAM REQUIREMENTS

All students are required to complete an end-of-program exam. This exam will be taken in the capstone course for the student’s specific program in SPMG 7013 Sport Management Capstone. The end-of-program exam will also be considered an assignment in the capstone course. The benefit of taking the end-of-program exam is to test the student’s knowledge at the time of graduation. Students may include the progress from the end-of-program exams on their resume. Taking the end-of-program exam will have some fees, which are currently $45 per exam. Exams will be taken once and they will impact the student’s capstone course grade by 5%. Please refer to the syllabi for the relevant capstone course to know the grading scale for the end-of-program exam.

The end-of-program exams are required, not optional.

Information on how to take the exams will be given in the course prior to the end-of-program exam.

### How should I prepare for the assessment exam?

The comprehensive end-of-program exam covers topics taught throughout the degree program, which are aligned to the topics required for accreditation. The preparation for the exam comes from your educational experience with the school, specifically through the required courses for your degree. The exam assesses the foundational knowledge areas for your discipline.
SURVEYING AND GEOMATICS ENGINEERING TECHNOLOGY

BS DEGREE - CODE #1046
Richard Carlson, Program Coordinator
Email address: carlsonr@alfredstate.edu

Governmental agencies, private industries, and individuals all benefit from the surveying and mapping of our natural resources and planning of transportation systems, recreational facilities, new cities, and land subdivisions. Using advanced surveying equipment such as the electronic total stations to measure angles and distances, the modern surveyor has learned to increase his/her productivity and measurement accuracy. Particularly exciting about the future of the surveying profession are the emerging technologies of Global Positioning Systems (GPS), Geographic Information Systems (GIS), and Land Information Systems (LIS).

This program will provide you with a thorough understanding of the basic sciences of mathematics and physics, as well as applied subjects such as graphics and computer-aided drafting and design. The knowledge obtained from these basic courses is applied to a well-rounded study of modern surveying theory and practice.

ADVANTAGES
- The student constantly applies theoretical knowledge in meaningful and comprehensive laboratory sessions. Graduates are educated in a two-fold sense, both theoretically and practically.
- Both the surveying engineering technology (AAS) and the surveying and geomatics engineering technology (BS) programs are accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org.

PROGRAM STUDENT LEARNING OUTCOMES
- An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly defined engineering problems appropriate to the discipline.
- An ability to design systems, components, or processes meeting specified needs for broadly defined engineering problems appropriate to the discipline.
- An ability to apply written, oral, and graphical communication in broadly defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.
- An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes.
- An ability to function effectively as a member and a leader on technical teams.

PROGRAM EDUCATIONAL OBJECTIVES
Program educational objectives were established with the assistance of the Industrial Advisory Committee and are reviewed periodically. The surveying and geomatics engineering technology program produces graduates who:
- Write, read, and orally present technical reports, letters, and projects that meet the standards of the profession.
- Recognize the need for, and an ability to engage in, continued formal education as well as lifelong learning.
- Will be capable of sitting successfully for the Land Surveyor Examination.
- Have the skills to perform a land title survey in all its complexity.
- Will be capable of employing state-of-the-art surveying techniques in leading a survey crew to the accomplishment of its goal.

OCCUPATIONAL OPPORTUNITIES
- Land surveyor (after successfully meeting state requirements)
- Surveying engineering technician
- Project surveyor
- Party chief
- Mapping technologist
- GPS surveyor

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 86 percent are employed; 14 percent continued their education.

ENROLLMENT AND GRADUATION DATA

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<thead>
<tr>
<th>Year</th>
<th>Enrollment (based on Fall census)</th>
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<tbody>
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<td>2020</td>
<td>26</td>
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<td>2021</td>
<td>29</td>
</tr>
<tr>
<td>2022</td>
<td>29</td>
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<table>
<thead>
<tr>
<th>Year</th>
<th>Degrees Awarded</th>
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<td>2020-2021</td>
<td>5</td>
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<tr>
<td>2021-2022</td>
<td>7</td>
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</table>

RELATED PROGRAMS
Building Trades: Building Construction
Construction Management

CERTIFICATION OR LICENSURE
Both the surveying engineering technology (AAS) and the surveying and geomatics engineering technology (BS) are accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org.

Graduates of the BS program will receive four years of credit toward the total statutory time requirement for licensure as a land surveyor in New York State.

Graduates of the BS program will receive six years of credit toward the statutory time requirement for licensure as a land surveyor in New York State. The BS graduates are eligible to take the first part of the NCEES licensing exam for land surveying in their senior year, eighth semester, if within 20 semester credit hours of graduation.

Additionally, graduates of the BS program will receive six years of credit toward the statutory time for licensure as a professional engineer in New York State. The BS graduates are eligible to take the first part of the NCEES licensing exam for professional engineer in the fall following their graduation.

ARTICULATION AGREEMENTS
Alfred State accepts students from other two-year institutions as juniors into the BS surveying and geomatics engineering technology program with appropriate course work and grade point averages.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry, Algebra 2

Recommended: Physics

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS
Students in the surveying and geomatics program must meet the following:
- Students must have the ability to complete field work over natural terrain.
- Students must have the ability to use standard software of the profession.

GRADUATION REQUIREMENTS
2.0 cumulative grade point average and department requirement of 2.0 grade point average in major courses (CIVL).

REQUIRED EQUIPMENT
A tier 2 laptop computer is required for students entering the surveying engineering technology programs. Laptop specifications are available at www.alfredstate.edu/required-laptops.
## Surveying and Geomatics Engineering Technology - BS Degree

### Typical Eight-Semester Program

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<th>Title</th>
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<td>CIVL 1021</td>
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<td>CIVL 1204</td>
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<td>CIVL 1182</td>
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<td>PHYS 1024</td>
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<td>MATH 2043</td>
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<td>Global Perspectives:Spcl Topic</td>
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<td>Legal Asp &amp; Prac of Land Surv</td>
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<td>PHYS 2023</td>
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<td>Sr Seminar &amp; Project Design</td>
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<td>Total</td>
<td>3</td>
</tr>
</tbody>
</table>

Must meet seven of the 10 General Education areas.

Be advised that a prior felony conviction may impede a student's ability to receive licensure.

### Suggested Technical or Business Electives
- CIVL 6113
- CIVL 7103
- BUAD 5000+
- TMGT 5000+
- ACCT 5000+

204
SURVEYING ENGINEERING TECHNOLOGY
AAS DEGREE - CODE #1039
Nicholas Ford, Program Coordinator
Email address: fordnb@alfredstate.edu

Governmental agencies, private industries, and individuals all benefit from the surveying and mapping of our natural resources and planning of transportation systems, recreational facilities, new cities, and land subdivisions. Using advanced surveying equipment such as the electronic total stations to measure angles and distances, the modern surveyor has learned to increase his/her productivity and measurement accuracy. Particularly exciting about the future of the surveying profession are the emerging technologies of Global Positioning Systems (GPS), Geographic Information Systems (GIS), and Land Information Systems (LIS).

This program will provide you with a thorough understanding of the basic sciences of mathematics and physics, as well as applied subjects such as graphics and computer-aided drafting and design. The knowledge obtained from these basic courses is applied to a well-rounded study of modern surveying theory and practice.

A tier 2 laptop computer is required for students entering the surveying engineering technology program. Laptop specifications are available at www.alfredstate.edu/requird-laptops.

ADVANTAGES

- The student constantly applies theoretical knowledge in meaningful and comprehensive laboratory sessions. Graduates are educated in a two-fold sense, both theoretically and practically.
- Both the surveying engineering technology (AAS) and the surveying and geomatics engineering technology (BS) programs are accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org.

PROGRAM STUDENT LEARNING OUTCOMES

- An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to the discipline.
- An ability to design solutions for well-defined technical problems and to assist with the engineering design of systems, components, or processes appropriate to the discipline.
- An ability to apply written, oral, and graphical communication in well-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.
- An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results.
- An ability to function effectively as a member of a technical team.

PROGRAM EDUCATIONAL OBJECTIVES

Program educational objectives were established with the assistance of the Industrial Advisory Committee and are reviewed periodically. The surveying engineering technology program produces graduates who:

- Write, read, and orally present technical reports, letters, and projects that meet the standards of the profession.
- Have an understanding of and are able to implement basic field and office survey procedures.
- Are capable of performing elementary research.
- Are competent in surveying techniques.
- Recognize the need for engagement and an ability to engage in continued formal education, as well as lifelong learning.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS

Alfred State surveying engineering technology AAS graduates may enter directly into the construction supervision BTech, the interdisciplinary studies BTech, the surveying and geomatics engineering technology BS, or the technology management BBA degree program.

OCCUPATIONAL OPPORTUNITIES

- Office assistant
- Instrument person
- Mapping technologist

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 100 percent are employed.

ENROLLMENT AND GRADUATION DATA

<table>
<thead>
<tr>
<th>Years</th>
<th>Enrollment (based on Fall census)</th>
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<td>2021</td>
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RELATED PROGRAMS

- Building Trades: Building Construction
- Construction Engineering Technology
- Construction Management
- Construction Supervision

CERTIFICATION OR LICENSURE

The surveying engineering technology (AAS) program is accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org. Accreditation means that the graduates from the AAS program will receive two years of credit toward the total statutory time requirement for licensure as a land surveyor in New York State.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry, Algebra 2

Recommended: Physics

Entry level of student into math and composition/literature sequences is a function of student’s high school preparation and mathematics and English placement examinations.

Math through technical calculus I must be completed. Freshman composition and introduction to literature must be taken.

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS

Students in the surveying engineering technology program must meet the following:

- Students must have the ability to complete field work over natural terrain.
- Students must have the ability to use standard software of the profession.
### First Semester

<table>
<thead>
<tr>
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<th>Code</th>
<th>Title</th>
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### Second Semester

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<td>PHYS</td>
<td>1024</td>
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### Third Semester

<table>
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</table>

Students receiving credit for math classes shown in the typical four-semester program may require additional LAS electives to complete degree requirements.

Be advised that a prior felony conviction may impede a student's ability to receive licensure.

**GRADUATION REQUIREMENTS**

2.0 cumulative grade point average and department requirement of 2.0 grade point average in major courses (CIVL).

**SUGGESTED TECHNICAL ELECTIVES**

- CIVL 1013
- CIVL 2154
- CIVL 6113
- Other technical electives approved by department.
The technical communication and emergent media (BS) program will address the growing demand by industry for strong writing and communication skills in technical areas. Job opportunities in technical communication and emergent media are expanding and expected to grow over the next several years. As skilled professionals trained to clearly communicate technical information and to mediate between expert and non-expert audiences, technical writers typically find employment in a wide variety of sectors including engineering and manufacturing, insurance and financial services, computer technology, and more.

**ADVANTAGES**

The technical communication and emergent media BS will offer experiential technical education in:

- Composing, managing, analyzing, and delivering technical information to specific audiences in a variety of forms, media, and contexts.
- Creating and analyzing communication in emergent media environments and communities.
- Entering the global marketplace as skilled intercultural communicators, technical practitioners, and scholars.

Additionally the program will prepare students to be technical practitioners and scholars who can communicate about specialized information with technology and project management skills. Students will be equipped to pursue opportunities in a variety of industries by selecting competencies in several potential areas to enhance employability for graduates of the program.

**PROGRAM STUDENT LEARNING OUTCOMES (PSLOS)**

The TCEM BS holds educational objectives:

- To prepare students to communicate effectively to diverse audiences through a variety of media.
- To prepare students for technical career paths via current technology, theory, and practice.
- To maintain currency in technical communication and emergent media.

Graduates will be able to do the following:

- Demonstrate proficiency in designing, producing, and revising technical communication for multiple audiences.
- Analyze written, oral, and multimodal communication using major theories of new and emergent media.
- Select user-appropriate media for composing, managing, and delivering information.
- Use information literacy skills to locate, evaluate, and synthesize sources in technical documents.
- Demonstrate competency in intercultural communication.
- Evaluate approaches to the ethical challenges of communication, including and especially issues of diversity and social justice.

**JOB OUTLOOK FROM THE U.S. BUREAU OF LABOR STATISTICS**

Employment of technical writers is projected to grow 6 percent from 2021 to 2023, about as fast as the average for all occupations.

About 5,400 openings for technical writers are projected each year, on average, over the decade. Many of those openings are expected to result from the need to replace workers who transfer to different occupations or exit the labor force, such as to retire.

**EMPLOYMENT STATISTICS**

As product innovation continues, technical writers will be needed to convert complex information into a format that non-technical users of these products understand. The continuing expansion of scientific and technical products and growth in digital product support needs will drive employment demand for these writers.
## Typical Eight-Semester Program

### First Semester
- **COMP 1503**: Freshman Composition 3
- **FNAT xxx3**: Fine Arts Gen. Ed. Elective 3
- **MATH 1113 OR 1123 OR 2124**: Mathematical Concepts 3
- **ANTH/ECON/PLSC/PSYC/SOCI xxx3**: Social Science Gen. Ed. Elective 3
- **HIST OR PLSC 1113 OR XXX3**: Western Civ. or American History Gen. Ed. Elective 3
- **HPED xxx1**: Phys Ed Elective 1

### Second Semester
- **LITR xxx3**: Effective Speaking or equivalent 3
- **COMP 2703**: Intro. to Technical Communication and Emergent Media 3
- **COMP 2903**: English in a Global Context 3
- **GLST 2113**: Global Perspectives: Special Topic 3

### Third Semester
- **XXX xxx3**: Open Elective 3
- **COMP 3603**: Writing for Emergent Media 3
- **SPAN/JAPN/ITAL xxx3**: Foreign Language Gen. Ed. Requirement or equivalent 3
- **AGPS/Biol/Chem xxx4**: Gen Ed - Nat Sci Elective 4
- **COMP/LITR/SPCH xxx3**: Major Elective 3

### Fourth Semester
- **SPCH 4003**: Intercultural Communication 3
- **COMP/LITR/SPCH xxx3**: Major Elective 3
- **XXX xxx3**: Open Elective 3
- **XXX xxx3**: Open Elective 3
- **XXX xxx3**: Open Elective 3

### Fifth Semester
- **SPCH 5003**: Mediated Argumentation in Public Spheres 3
- **COMP 5703**: Technical Writing II 3
- **COMP/LITR/SPCH xxx3**: Major Elective - Upper 3
- **XXX xxx3**: Open Elective 3
- **XXX xxx3**: Open Elective 3

### Sixth Semester
- **PHIL 6003**: Professional Ethics 3
- **COMP 6003**: Technical Editing and Content Management 3
- **COMP/LITR/SPCH xxx3**: Major Elective - Upper 3
- **XXX xxx3**: Open Elective 3
- **XXX xxx3**: Open Elective 3

### Seventh Semester
- **COMP 7603**: Writing for Emergent Media II 3
- **COMP 7003**: Designing and Editing for Usability and Accessibility 3
- **COMP/LITR/SPCH xxx3**: Major Elective - Upper 3
- **XXX xxx3**: Open Elective-Upper 3
- **XXX xxx3**: Open Elective 3

### Eighth Semester
- **COMP 8003**: Capstone Seminar 3
- **COMP 8103**: Internship 3
- **COMP/LITR/SPCH xxx3**: Major Elective - Upper 3
- **XXX xxx3**: Open Elective - Upper 3
### PROGRAM TOTAL SUMMARY

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<th>SUNY GER Credits</th>
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<th>Elective and Other Credits</th>
<th>Upper Division Credits</th>
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Open Elective - Upper: 3

Upper Division Credits: 15
The technology management BBA is designed to allow you to take your professional/technical degree to new heights. We’ve constructed this program to provide you with the hands-on business, administrative, and technological course work necessary to advance into management and supervisory positions in your field. That means you’ll have the skills necessary to run a small-to-medium-sized business, manage a department or a division, or own and manage your own business.

In order to earn the bachelor’s degree, students entering the program with an earned associate degree must complete all specified upper-level requirements for the bachelor’s degree, fulfill all required prerequisites for upper-level courses, and earn a minimum of 60 credits beyond the associate degree. The student will take courses that will result in the fulfillment of seven SUNY General Education course areas.

ADVANTAGES
- The technology management degree is designed to allow a student who has earned an associate degree (AAS, AA, AS, or AOS) in a technical or professional area (or at least 60 credits toward such a degree) to complete a bachelor’s degree through this upper-division program.
- The program includes an internship in the final semester of the senior year.
- Graduates of this program are eligible for employment in many industries that require both a technical and business background.
- The college offers technology management courses online, making it possible for students who transfer in credit or attend other colleges to earn their degree from Alfred State in technology management. This approach is perfect for working professionals, adult and returning students, or anyone who needs high flexibility in their academic schedule.

PROGRAM STUDENT LEARNING OUTCOMES
- Demonstrate technical competence in domestic and global environments within the principle functional areas of business.
- Analyze business problems and devise solutions using critical thinking, decision-making processes, and decision-support tools.
- Formulate a strategic plan using effective teamwork while integrating the major functional areas of business and innovation.
- Demonstrate and incorporate software, technology, and information systems into business operations.
- Identify comprehensive business issues and communicate findings and solutions.
- Identify the technology-related business environment in relation to the current financial, legal, economic, and social environments.
- Analyze the role of ethics, government regulations, and legalities in management processes.

EMPLOYMENT STATISTICS
Employment and continuing education rate of 88 percent – 88 percent are employed.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
- Required: Successful completion of an associate degree (AAS, AA, AS, or AOS), or at least 60 transferrable credit hours, and a minimum cumulative GPA of 2.0. Applicants who have gone through a certified apprentice program and have obtained a journeyman’s card with a recognized trade union may also be considered.
- Recommended: A minimum of 21 credits in liberal arts and sciences, and five different general education fields covered.
- Please note: Students entering this major from an AOS degree program are accepted in the program as ASOP students to facilitate completion of the five bridge courses (15 credits) in Liberal Arts and Sciences/General Education. The Business Department chair will review all college credits earned and will recommend specific courses to complete this bridge.

OFFICE OF ACCESSIBILITY SERVICES
Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT
A tier 1 laptop computer will be required of all students. See laptop specifications at www.alfredstate.edu/required-laptops.

TECHNOLOGY MANAGEMENT - BBA DEGREE

TYPICAL FIVE- THROUGH EIGHT-SEMESTER PROGRAM

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<td>Accounting Perspectives</td>
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<td>Principles of Management</td>
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<td></td>
<td></td>
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<td>12</td>
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</table>

Students seeking permission to take four upper-level classes in lieu of completing an internship must submit an appeal form with their justification, along with a faculty member's statement of support. Internship appeal forms should be emailed or hand-delivered to the department secretary and will be reviewed by Business Department faculty. Appeal forms are due no later than Oct. 15 for the fall semester and March 15 for the spring semester. Be advised that a prior felony conviction may impede a student’s ability to participate in an internship.

GRADUATION REQUIREMENTS
- Total minimum credit hours for graduation is 123.
- A cumulative overall index of at least 2.0 is required in order to graduate.
- 30 credit hours of the 45 upper-level credit hours for this degree must be taken at Alfred State.
• Seven of the 10 SUNY approved General Education categories must be fulfilled.

ADDITIONAL PROGRAM INFORMATION
• 12 credit hours may be transferred back within a seven-year period if you leave Alfred State prior to completing your degree.

END-OF-PROGRAM EXAM REQUIREMENTS
All students are required to complete an end-of-program exam. This exam will be taken in the capstone course for the student’s specific program in TMGT 7003 Managing Technology & Innovation Capstone. The end-of-program exam will also be considered an assignment in the capstone course. The benefit of taking the end-of-program exam is to test the student’s knowledge at the time of graduation. Students may include the progress from the end-of-program exams on their resume. Taking the end-of-program exam will have some fees, which are currently $45 per exam. Exams will be taken once and they will impact the student’s capstone course grade by 5%. Please refer to the syllabi for the relevant capstone course to know the grading scale for the end-of-program exam.

The end-of-program exams are required, not optional.

Information on how to take the exams will be given in the course prior to the end-of-program exam.

How should I prepare for the assessment exam?
The comprehensive end-of-program exam covers topics taught throughout the degree program, which are aligned to the topics required for accreditation. The preparation for the exam comes from your educational experience with the school, specifically through the required courses for your degree. The exam assesses the foundational knowledge areas for your discipline.
If you’re undecided about your career goals, the undeclared major may be right for you. This program gives you the opportunity to try different options and select a course of study the first two semesters that fits your interests and background. Along the way, you can take advantage of extensive support services, including career planning and counseling, offered by caring faculty and staff throughout the program.

Since the primary goal of the program is to explore various academic areas of interest, individual course schedules will vary. The suggested program includes both a component of core courses (English, math, social science) and a component of electives in support of your interests.

Students enrolled in the undeclared major must transfer to a degree-granting program within two semesters. Depending on the choice of major, students may enter the workforce upon graduation, or continue their education in a bachelor's degree program.

**ENTRANCE REQUIREMENTS/RECOMMENDATIONS**

Required: Algebra

Recommended: Biology

**OFFICE OF ACCESSIBILITY SERVICES**

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

**UNDECLARED MAJOR**

**TYPICAL TWO-SEMESTER PROGRAM**

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<td>Freshman Composition**</td>
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<tr>
<td>XXXX</td>
<td>xxx3</td>
<td>Math</td>
</tr>
<tr>
<td>XXXX</td>
<td>xxx3</td>
<td>Social Science Elective</td>
</tr>
<tr>
<td>XXXX</td>
<td>xxxx</td>
<td>Exploratory Elective</td>
</tr>
<tr>
<td>XXXX</td>
<td>xxxx</td>
<td>Exploratory Elective</td>
</tr>
<tr>
<td></td>
<td>16-18</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>XXXX</td>
<td>xxx3</td>
<td>Introduction to Literature</td>
</tr>
<tr>
<td>XXXX</td>
<td>xxxx</td>
<td>Math or Science</td>
</tr>
<tr>
<td>GLST</td>
<td>2113</td>
<td>Global Perspectives: Spec Topic</td>
</tr>
<tr>
<td>XXXX</td>
<td>xxxx</td>
<td>Exploratory Elective</td>
</tr>
<tr>
<td>XXXX</td>
<td>xxxx</td>
<td>Exploratory Elective</td>
</tr>
<tr>
<td></td>
<td>15-17</td>
<td></td>
</tr>
</tbody>
</table>

*ASOP students will also take other ASDC courses

**Some students may be required to also take COMP 1403 based on placement
Licensed veterinary technicians are indispensable members of the veterinary medical team, capable of providing everything from life support and surgical assistance to physical therapy and nutritional management. Our program is designed to provide you with extensive training in the theory and principles, reinforced with the hands-on technical, animal, and laboratory experience needed to prepare you for this exciting field.

**ADVANTAGES**

- This program has full accreditation status as granted by the American Veterinary Medical Association, Committee on Veterinary Technician Education and Activities, Education and Research Division, [1931 N. Meacham Road, Suite 100, Schaumburg, IL 60173-4360; 847-925-8070].
- Students are eligible to sit for the Veterinary Technician National Exam (VTNE), the state licensing exam for veterinary technicians. Demand for licensed veterinary technicians is strong across the country.

**VETERINARY TECHNICIAN NATIONAL EXAM PERFORMANCE**

<table>
<thead>
<tr>
<th>VTNE Accreditation Test</th>
<th>July 1, 2017 – June 30, 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of first-time candidates that have taken the VTNE</td>
<td>92</td>
</tr>
<tr>
<td>Three year VTNE pass percentage</td>
<td>93.5%</td>
</tr>
</tbody>
</table>

**PROGRAM STUDENT LEARNING OUTCOMES**

- Demonstrate a working knowledge of anatomy and physiology of domestic, laboratory, and exotic animal species encountered in veterinary medicine.
- Successfully perform animal care and husbandry, restraint, imaging, surgical, anesthetic and laboratory specimen analyses commonly encountered in veterinary clinical practice.
- Demonstrate written and oral communication skills appropriate for animal health care professionals.
- Critically think and reason when calculating and administering therapeutic agents used in veterinary medicine.
- Follow and uphold applicable laws and the veterinary technology profession's ethical codes to provide high-quality patient care.
- Troubleshoot and safely utilize all instruments and equipment commonly utilized in veterinary clinical practice.
- Display the knowledge and skills necessary to successfully pass the Veterinary Technician National Exam.

**DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS**

Alfred State veterinary technology graduates may enter directly into the interdisciplinary studies BTech, the technology management BBA, or the healthcare management BTech degree program.

**EXPENSES**

Rabies vaccinations are required for all veterinary technology students. Textbooks are the primary annual expense, with the cost averaging $1,000 to $1,200 each year.

**CONTINUING EDUCATION OPPORTUNITIES**

The Alfred State veterinary technology program has an established transfer agreement with Cornell University's College of Agriculture. Students have also successfully transferred into the Purdue University BS veterinary technology program.

**OCCUPATIONAL OPPORTUNITIES**

- Veterinary hospitals (small animal, large animal, mixed animal, and exotic animal)
- Biomedical research institutions
- Zoological parks
- Educational institutions
- Specialized dairy calf or cow management
- Colleges of Veterinary Medicine

**EMPLOYMENT STATISTICS**

Employment and continuing education rate of 100 percent – 95 percent are employed; 5 percent continued their education.

**RELATED PROGRAMS**

- Agricultural Technology
- Nursing

**ENTRANCE REQUIREMENTS/RECOMMENDATIONS**

Required: Algebra, Geometry, Algebra 2, Biology, Chemistry

Recommended: Physics

**OFFICE OF ACCESSIBILITY SERVICES**

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

**CERTIFICATION OR LICENSURE**

The veterinary technology program at Alfred State is a two-year educational course of study leading to an Associate in Applied Science degree and students are eligible to sit for the Veterinary Technology National Exam (VTNE). The VTNE is the New York State licensing exam for veterinary technicians. The demand for graduate-licensed or license-eligible veterinary technicians is strong across the country.

**REQUIRED COURSE PREREQUISITES**

If students do not place into MATH 1033, College Algebra, then MATH 1014, Algebra Concepts, is a required prerequisite for completion of the major.
Veterinary Technology - AAS Degree

TYPICAL FOUR-SEMESTER PROGRAM

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>VETS 1203</td>
<td>Intro to Veterinary Technology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>VETS 1214</td>
<td>Anatomy &amp; Physiology of Animals I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>CHEM 1114</td>
<td>General Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ANSC 1204</td>
<td>Introduction to Animal Science</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MATH xxxx</td>
<td>Quantitative Reasoning, College Algebra, or Higher</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GLST 2113</td>
<td>Global Perspectives: Spec. Topic</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>Second</td>
<td>VETS 2014</td>
<td>Anatomy &amp; Physiology of Animals II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>VETS 3013</td>
<td>Animal Parasitology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>VETS 3003</td>
<td>Animal Health Care</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>VETS 3204</td>
<td>Farm Animal Management</td>
<td>OR</td>
</tr>
<tr>
<td></td>
<td>CHEM 1114</td>
<td>General Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>COMP 1503</td>
<td>Freshman Composition</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>Third</td>
<td>VETS 3023</td>
<td>Radiography</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>VETS 4103</td>
<td>Laboratory Animal and Exotics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>BIOL 5254</td>
<td>Principles of Microbiology</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>VETS 3103</td>
<td>Patho &amp; Pharm of An. Disease I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>VETS 3022</td>
<td>Anesthesia &amp; Surgical Nursing</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>VETS 3301</td>
<td>Veterinary Technology Precept.</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>Fourth</td>
<td>VETS 3004</td>
<td>Anesthesia &amp; Surgical Nursing</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>VETS 3024</td>
<td>Clinical Laboratory Techniques</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>VETS 4403</td>
<td>Veterinary Practice Essentials</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>VETS 4203</td>
<td>Patho &amp; Pharm of An. Disease 2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>14</td>
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<tr>
<td>Technical Electives</td>
<td>CHEM 2124</td>
<td>General Chemistry II</td>
<td>4</td>
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<tr>
<td></td>
<td>BIOL 6534</td>
<td>Genetics</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ANSC 3223</td>
<td>Dairy Calf Management</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ANSC 3203</td>
<td>Dairy Cattle Production I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ANSC 3204</td>
<td>Dairy Cattle Production III</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ANSC 2102</td>
<td>Dairy Cattle Reprod &amp; A.I.Tech</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>ANSC 3003</td>
<td>Feeds and Nutrition</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ANSC 3103</td>
<td>Livestock Mgmt &amp; Production</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>BIOL 1104</td>
<td>General Biology I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>BIOL 2204</td>
<td>General Biology II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MATH 1054</td>
<td>Precalculus</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MATH 1084</td>
<td>Calculus</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MATH 1123</td>
<td>Statistics I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>VETS 3022</td>
<td>Anesthesia &amp; Surgical Nag I</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>VETS 4202</td>
<td>Small Animal Nutrition</td>
<td>2</td>
</tr>
</tbody>
</table>

Preceptorship* of 240 hours, either during summer or semester break after successful completion of second semester course requirements. Preceptorship hours can be fulfilled through part-time employment at an appropriate facility.

In order to progress in the veterinary technology program, students must earn a “C” or better in each required veterinary technology course, with the exception of VETS 1214 Animal Anatomy and Physiology I, which requires a minimum of a “D” to pass the course. Students receiving an “F” in two or more required courses will be required to change majors.

ASOP students must earn a “C” or better in the Introduction to Veterinary Technology course and the Domestic Animal Anatomy and Physiology course in order to progress to the next level of core veterinary courses.

Be advised that a prior felony conviction may impede a student’s ability to participate in an internship.

GRADUATION REQUIREMENTS*

Students must:

- Successfully complete the prescribed sequence of courses.
- Achieve a minimum of 2.0 in their core courses and a minimum of 2.0 overall.
- Be recommended by the department faculty.
- Complete the 240-hour preceptorship.

*The 240-hour preceptorship is a program requirement and a graduation requirement.

The Admissions and Performance Standards discussed in the following paragraphs define performance expectations that must be met for successful completion of the veterinary technology program at Alfred State. It is the policy of Alfred State to provide reasonable accommodations for those with disabilities as defined under the Americans with Disabilities Act. If you need an accommodation due to a disability under the Americans with Disabilities Act, please contact the Student Success Center office at 607-587-4122. Some accommodations may require up to six weeks to prepare. For progression in the veterinary technology program, students are expected to meet the following performance standards:
### Some Examples of Necessary Activities (not all-inclusive)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal</td>
<td>Interpersonal abilities sufficient to interact with patients, clients, families, and groups from a variety of social, emotional, cultural, and intellectual backgrounds. Establish rapport with patients/clients and colleagues. Recognize appropriate boundaries in relationships with patients/clients and colleagues.</td>
</tr>
<tr>
<td>Communication</td>
<td>Communication abilities for interaction with others orally and in writing. Explain treatment procedures, initiate health teaching, document and interpret nursing actions and patient/client responses. Team-building skills.</td>
</tr>
<tr>
<td>Mobility</td>
<td>Physical abilities sufficient to move from room to room, maneuver in small spaces, and provide assistance to patients. Move around in patient and treatment areas. Administer CPR. Provide physical assistance to clients and colleagues to ensure safety within the environment. Ability to prevent or escape injury caused by animals (e.g., biting, kicking, stampeding).</td>
</tr>
<tr>
<td>Motor Skills</td>
<td>Gross and fine motor abilities sufficient to provide safe, effective nursing care in a timely manner. Use of instruments, supplies, safety devices, and communication equipment in the care of patients. Performance of nursing care, surgical assistance, and laboratory techniques.</td>
</tr>
<tr>
<td>Hearing</td>
<td>Auditory ability sufficient to monitor and assess health needs. Auditory ability sufficient to hear auscultatory sounds, monitor alarms, and monitor and assess health emergency signals and cries for help. Hear needs/warning sounds from animals and humans of impending danger/injury.</td>
</tr>
<tr>
<td>Visual</td>
<td>Visual ability sufficient for observation and assessment necessary in nursing care. Observe patients for expected and unexpected physical and emotional responses to nursing and medical treatment regimens. Use of diagnostic equipment such as a microscope, thermometer, refractometer, etc.</td>
</tr>
<tr>
<td>Tactile</td>
<td>Tactile ability sufficient for physical assessment and performance of nursing duties in a timely manner. Perform palpation functions of physical exam. Administer oral, intramuscular, subcutaneous, and intravenous medications. Insert and remove tubes and perform wound care management. Surgical assistance.</td>
</tr>
<tr>
<td>Physical Condition</td>
<td>Physical ability and stamina sufficient to restrain, lift, and assist in the care of a variety of species of animals. Ability to stand for extended periods of time. Ability to withstand extreme weather conditions. Immune system competence. Safely lift, position, and restrain animals and supplies for treatment. Surgical assistance. Daily clinical routine. Year-round treatment and care of outdoor animals. Exposure to a wide range of chemical and biological agents.</td>
</tr>
</tbody>
</table>
WELDING TECHNOLOGY

AOS DEGREE - CODE #0666

Bradley Thompson, Department Chair
Email address: thompsbj@alfredstate.edu

This high-tech program focuses on welding processes performed in all positions on both plate and pipe. You will learn proper safety methods, required math, related skills, layout and fit up, welding codes and standards, welding inspection, testing, and drawing/welding symbol interpretation.

The first year, students will complete AWS Level I standards for an entry-level welder. The second year will take students toward AWS Level II - advanced welder and expert welder. Additional techniques such as high-pressure vessel and high-pressure pipe will be taught, as well as other advanced welding techniques.

ADVANTAGES

The welding technology program is taught according to the standards set by the American Welders Society (AWS) and is AWS-certified.

PROGRAM STUDENT LEARNING OUTCOMES

- Demonstrate mathematical operations using accepted mathematical applications.
- Practice shop safety and welding safety.
- Perform straight and bevel cuts using manual and automatic oxyfuel and plasma equipment.
- Set up and operate constant current welding equipment.
- Set up and operate constant voltage welding equipment.
- Perform fillet and groove welds in all positions on carbon steel plate.
- Perform fillet and groove welds on pipe in all positions.
- Identify and describe the heat relationship to the grain structure of various metals.
- Maintain and develop testing and inspection records.
- Demonstrate layout and fabrication skills resulting from the previous materials used in program.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM

Alfred State welding technology graduates may enter directly into the technology management BBA degree program. Graduates who have credit for freshman composition, statistics, literature, history, and speech may complete the BBA program in two additional years; others may complete the BBA program in two-and-one-half years.

OCCUPATIONAL OPPORTUNITIES

- Industrial welder
- Steel construction
- Equipment repair
- Self-employment
- Fabrication welder
- Structural welder

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 83 percent are employed; 17 percent continued their education.

RELATED PROGRAMS

- Autobody Repair
- CNC Manufacturing and Machining
- Heating, Ventilation, and Air Conditioning
- Mechanical Engineering Technology

REQUIRED TOOLS/EQUIPMENT

A list of required tools, equipment, PPE, etc. for all of the programs mentioned above can be found at http://www.alfredstate.edu/tool-lists.

A tier 1 laptop computer is required for students entering this degree program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Recommended: In-depth knowledge of basic math skills.

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

TECHNICAL STANDARDS

It is essential that students in this degree program participate fully and safely, with or without reasonable accommodations in all classrooms, laboratory, or field experiences required for completion of the program. Students in this degree program:

- Must be able to function in a safe manner, not placing themselves, faculty, staff, or other students in jeopardy.
- Must be able to appropriately and safely use standard laboratory equipment, materials, and instrumentation that requires possession of fine motor skills and mobility.
- Must be able to lift 50 pounds of materials up to 5 ft, on to a standard height work bench.
- Must be able to communicate orally with a person 6 to 10 feet away in a shop environment.
- Must be able to diagnose mechanical failures that are distinguished audibly.
- Must be able to understand and retain information found in service repair manuals and diagnostic flow charts.
- Must be able to visually read all displays on welding equipment.
- Must be able to stand for long periods of time.

WELDING - AOS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

<table>
<thead>
<tr>
<th>First</th>
<th>Second</th>
<th>Third</th>
<th>Fourth</th>
</tr>
</thead>
<tbody>
<tr>
<td>WELD 1105</td>
<td>Int Shld Metl Arc Weld (SMAW)</td>
<td>WELD 3005</td>
<td>Shielded Metal Welding</td>
</tr>
<tr>
<td>WELD 1205</td>
<td>Shielded Metal Arc Weld I</td>
<td>WELD 3015</td>
<td>GMWII, FCAW II</td>
</tr>
<tr>
<td>WELD 1715</td>
<td>Gas Weld, Cutting &amp; Plasma Cut</td>
<td>WELD 3025</td>
<td>Gas Tungsten Arc Welding II</td>
</tr>
<tr>
<td>WELD 1733</td>
<td>Blueprint Reading, Insp &amp; Test</td>
<td>WELD 3813</td>
<td>Metlgy, Codes, Certs &amp; Inspect</td>
</tr>
<tr>
<td>WELD 2715</td>
<td>Shld Mtl Arc &amp; Flx Ord</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>WELD 2725</td>
<td>Arc Wdl</td>
<td>WELD 3005</td>
<td>Shielded Metal Arc Welding</td>
</tr>
<tr>
<td>WELD 2735</td>
<td>Gas Tungsten Arc Welding I</td>
<td>WELD 3015</td>
<td>GMWII, FCAW II</td>
</tr>
<tr>
<td>WELD 1723</td>
<td>Welders Calculations I</td>
<td>WELD 3025</td>
<td>Gas Tungsten Arc Welding II</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WELD 3813</td>
<td>Metlgy, Codes, Certs &amp; Inspect</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>WELD 4425</td>
<td>GMW III &amp; GTAW IV</td>
<td>WELD 4435</td>
<td>Gas Tungsten Arc Welding III</td>
</tr>
<tr>
<td>WELD 4445</td>
<td>Welding Fabrication</td>
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<td>5</td>
</tr>
<tr>
<td>WELD 4013</td>
<td>Senior Project</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

GRADUATION REQUIREMENTS

- A student must successfully complete all courses and earn a minimum cumulative index of 2.0, which is equivalent to a “C” average, in the prescribed four-semester program.
• Students are required to have earned a minimum grade of “C” in both WELD 1723 (Welders Calc) and WELD 4013 (Senior Project) to be eligible for graduation. (Articulation is available in WELD 1723)
Course Descriptions

ACCT - ACCOUNTING

ACCT - 1124 Financial Accounting, 4.00 Credits
Level: Lower
Topics included in this course are the fundamental principles of accounting, the accounting cycle and basic procedures, statement of financial position, determination and reporting of periodic earnings, cash and accrual basis of accounting; accounting for a merchandising firm and inventory valuation, principles of internal control. Other topics include accounting for the acquisition, depreciation, and disposition of property, plant, and equipment.

ACCT - 2224 Managerial Accounting, 4.00 Credits
Prerequisite(s): ACCT 1124 with D or better
Level: Lower
Topics include: Cost benefits analysis, direct and indirect costs, variable, fixed, and mixed costs, current liabilities; nature of corporations and related equity and income reporting issues; long-term liabilities; statement of cash flows; nature and behavior of manufacturing costs; introduction to cost accounting concepts and systems; cost-volume-profit relationships; introduction to budgetary and activity based costing systems and planning.

ACCT - 3423 Intermediate Accounting I, 3.00 Credits
Prerequisite(s): ACCT 2224 with D or better
Level: Lower
This course provides an in-depth examination of accounting theory in the treatment of assets, liabilities and stockholder's equity. The accounting cycle is reviewed in detail and a full examination and analysis of financial statement development and usage is undertaken. Continual focus will be on fundamental accounting concepts and principles with special emphasis given to the contemporary accounting theories and practice that are developing. Topics covered include the foundations of accounting, the accounting process, accounting statements, and asset structure of the balance sheet.

ACCT - 3463 Tax Accounting I, 3.00 Credits
Prerequisite(s): ACCT 1124 with D or better
Level: Lower
Applied Learning-Practicum
This course will focus on fundamental income tax concepts related to understanding and completing individual federal income tax returns. Manual and computerized income tax preparation will be required. Coverage will include: income tax formula for individuals, gross income and exclusions, tax on self-employed individuals, retirement plans, rental properties, standard vs itemized deductions, tax credits and additional taxes, depreciation, and capital gains/losses. Students will apply course theory to a contemporary tax software product through the computerized completion of progressively challenging federal tax returns.

ACCT - 4323 Intermediate Accounting II, 3.00 Credits
Prerequisite(s): ACCT 3423 with D or better
Level: Lower
Continuation of ACCT 3423. Topics include: long-term investments, fixed assets, current and long-term debt, and stockholder's equity. Special problems of income determination, statement of cash flow and statements from incomplete records. Students must complete an end-of-program exam hosted by an external vendor.

ACCT - 4663 Accting Sys & Computer Appl, 3.00 Credits
Prerequisite(s): ACCT 2224 with D or better
Level: Lower
Applied Learning-Practicum
This course will cover all aspects of accounting for payroll, including the requirements of the Fair Labor Standards Act, calculations relative to gross pay, statutory and non-statutory deductions, employee and employer payroll taxes, general journal entry work relative to payroll, the payroll register, and the individual earnings record. Determining the amount and timing of payroll deposits, and preparing required quarterly and annual reports will also be covered. The course will then apply payroll and other accounting activities to a contemporary accounting software product covering the following topics: creating a new business, establishing a chart of accounts, recording typical business transactions, creating related financial statements, closing the books and employing available business research and evaluation techniques.

ACCT - 5043 Accounting Perspectives, 3.00 Credits
Level: Upper
Upper Level
This course is intended to examine and apply the basic assumptions, principles, concepts, and methods commonly used in the accounting profession. The course is intended more for the users of accounting information than for the originators of it. Debits and credits are virtually ignored. Thus, the student examines the "whys" of accounting to a much greater degree than the "hows." The course is split into two major components. The first half examines financial accounting topics, using the financial statements as a basis of study. The second half examines managerial accounting topics, with the primary emphasis being the fulfillment of the needs of management. The course will be particularly beneficial to individuals in engineering technology, management, marketing, and vocational technology curriculums where the graduate will not actually be expected to do accounting, but will be expected to effectively comprehend accounting reports and statements as well as communicate with accounting personnel. Students will complete a major research project on applying technology to chosen career path.

AGEC - AGRICULTURE ECON/BUS

AGEC - 2011 Farm Records, 1.00 Credit
Level: Lower
In this course, students will learn data navigation, extraction, creation techniques and evaluation of records pertaining to operations and management of agricultural entities such as agronomy, animal units, and financial data.
AGPS - 5113 Sustainable Fruit Production, 3.00 Credits
Prerequisite(s): AGPS 1104 with D or better or AGRI 2013 with D or better or BIOL 1304 with D or better or BIOL 1104 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level
This course will provide experiences and develop proficiency in basic farm skills. Formal management and team building training will also be incorporated into the experience.

AGRI - AGRICULTURE

AGRI - 1001 Farm Practicum I, 1.00 Credit
Level: Lower
Applied Learning-Practicum
Students enrolled in this course will work 45 hours at the college farm. They will learn practical farming skills such as mixing feed, spreading manure, milking cows, and other daily duties as assigned by the farm manager. Students will keep a daily journal of their experiences and develop proficiency in basic farm skills. Formal management and team building training will also be incorporated into the experience.

AGRI - 2001 Farm Practicum II, 1.00 Credit
Level: Lower
Applied Learning-Practicum
Students enrolled in this course will work 45 hours at the college farm. They will learn practical farming skills such as mixing feed, spreading manure, milking cows, and other daily duties as assigned by the farm manager. Students will keep a daily journal of their experiences and develop proficiency in basic farm skills. Formal management and team building training will also be incorporated into the experience.

AGRI - 2013 Organic & Sustainable Ag Tech, 3.00 Credits
Level: Lower
This course is a comprehensive study of the management of plant nutrients in agronomic systems, systems for economic response and environmental protection; diagnosis of nutrient availability and prediction of crop response to fertilizers; interactions between nutrient response and chemical, physical, and biological properties of soils.

AGRI - 4002 Senior Seminar/Capstone Proj, 2.00 Credits
Level: Lower
Applied Learning-Practicum
This course enables the student to develop career professionalism, job finding techniques and the personal and social skills necessary for success in the world of work. A job search will be organized, resumes prepared with cover letters, and practice interviews will be conducted. Many types of jobs relating to agriculture will be studied using successful graduates. Professional and personal goals will be discussed.

AGRI - 4011 Farm Practicum IV, 1.00 Credit
Level: Lower
Applied Learning-Practicum
Students enrolled in this course will work 45 hours at the college farm. They will learn practical farming skills such as mixing feed, spreading manure, milking cows, and other daily duties as assigned by the farm manager. Students will keep a daily journal of their experiences and develop proficiency in basic farm skills. Formal management and team building training will also be incorporated into the experience.

AGPS - 6204 Soil Fertility, 4.00 Credits
Prerequisite(s): AGPS 1104 with D or better
Level: Upper
Upper Level
This course is a comprehensive study of the management of plant nutrients in agronomic systems, systems for economic response and environmental protection; diagnosis of nutrient availability and prediction of crop response to fertilizers; interactions between nutrient response and chemical, physical, and biological properties of soils.
COURSE DESCRIPTIONS

ANTH - ANTHROPOLOGY

ANTH - 1013 Cultural Anthropology, 3.00 Credits
Level: Lower
Gen Ed - Other World Civilizat, Gen Ed - Social Sciences, Liberal Arts and Science

This course promotes understanding of the world's cultures by providing an introduction to cultural anthropology and the study of contemporary cultures worldwide, with an emphasis on non-western cultures. This course will introduce the student to anthropological methodologies, theories and concepts. It is a broad survey of a variety of belief systems, social and family structures, and different ways anthropologists understand individuals and cultures. Case studies are selected for specific ethnocultural focus, through which to explore different approaches to life. The experiences of cross-cultural encounters are examined. After completion of this class the student should be able to define basic anthropological concepts, understand theories of cultural anthropology and critically reflect on personal assumptions you may have about human beings and cultural differences.

ANTH - 5113 Cross-Cultural Encounters, 3.00 Credits
Level: Upper
Gen Ed - Other World Civilizat, Liberal Arts and Science, Upper Level

This course develops a framework for cross-cultural literacy - understanding different cultural contexts and the dynamics of cross-cultural communication. Attention is paid to the challenges that might be encountered in multi-cultural environments and how they might be resolved. Leading social, economic, and political institutions of several specific cultures will be examined. The course is writing-intensive and a project is required.

ANTH - 5223 Archaeology - Cities of Fire, 3.00 Credits
Level: Upper
Gen Ed - Social Sciences, Liberal Arts and Science, Upper Level

The discovery of the buried city of Pompeii in the 18th century gave birth to the modern science of archaeology, and at the same time led to our understanding of Roman civilization. "Cities of Fire" is an introduction to the many aspects of urban history and the history of Mediterranean civilization. Field lectures at sites including Pompeii, Herculanum, Baia, Cumia, Puteoli, Mt. Vesuvius and Napoli enrich classroom presentations, and provide a first-hand experience of the ancient cultures of Greece and Rome. Students investigate specific aspects of Roman architecture, city planning, and culture, and present their findings in research reports during field visits.

ANTH - 5333 Medical Anthropology, 3.00 Credits
Level: Upper
Gen Ed - Other World Civilizat, Liberal Arts and Science, Upper Level

This course will introduce students to the diversity in health seeking practices and beliefs across the globe. Students will learn how to analyze medical practice, including biomedicine, as a cultural institution. We will explore how culture shapes our perceptions of what it means to be sick or healthy. This course will provide a context for understanding the way in which culture plays an integral role in our understanding, managing and restoring health. We will also examine how social structures and cultural misunderstandings can lead to inequalities in health outcomes and healthcare experiences.

ARCH - ARCHITECTURE AND DESIGN

ARCH - 1184 Design Fundamentals 1, 4.00 Credits
Level: Lower
Prerequisite(s): ARCH 2014 with D or better

This course introduces the student to the fundamental principles of mechanical, electrical and plumbing (MEP) systems for small buildings. Students will explore basic strategies and their effects on active MEP building systems. The course will emphasize holistic analyses of sites, buildings and small building systems with respect to geographic regions. Instruction will focus on impacts of the built environment on global resources. Tests, calculations and delineation of building systems will form the basis of instruction.

ARCH - 2014 Computer Visualization, 4.00 Credits
Level: Lower
Prerequisite(s): ARCH 1184 with C or better or CIAT 1184 with C or better

This is an introductory course that examines the practical and theoretical issues of architectural modeling software (BIM) as a tool for all aspects of the architectural design and development process. Students learn to create and execute projects populated with elements "of process and technique" that will form a foundation tool for sequence courses.

ARCH - 2394 Design Fundamentals 2, 4.00 Credits
Prerequisite(s): ARCH 1184 with C or better or CIAT 1184 with C or better

This course extends knowledge previously acquired in Design Fundamentals 1. Students will explore further the relationship between design and the built environment. Their work will be integrated within the context of a specific cultural setting and the student's personal environment. Students continue to develop their understanding and application of the design process, spatial relationships, design ordering systems and design principles. The course examines these topics through readings and quizzes, and design projects incorporating graphic, written and verbal presentation skills. Students also explore the characteristics of materials through hands-on material alteration and model building.

ARCH - 3003 Environmental Controls 1, 3.00 Credits
Prerequisite(s): ARCH 2014 with D or better

This course introduces the student to the fundamental principles of mechanical, electrical and plumbing (MEP) systems for small buildings. Students will explore basic strategies and their effects on active MEP building systems. The course will emphasize holistic analyses of sites, buildings and small building systems with respect to geographic regions. Instruction will focus on impacts of the built environment on global resources. Tests, calculations and delineation of building systems will form the basis of instruction.
**ARCH - 3014 Construction Technology 1, 4.00 Credits**
Prerequisite(s): ARCH 4304 with C or better
Level: Lower
Course Fee $106.00

This course introduces students to the materials, methods and systems commonly used in residential construction. Emphasis is placed on contemporary details and methods of construction. Student evaluations are based on Building Information Modeling (BIM) computer generated projects and periodic tests.

**ARCH - 4013 Municipal Codes & Regulations, 3.00 Credits**
Prerequisite(s): ARCH 3014 with D or better or CIAT 3014 with D or better
Level: Lower

This course covers the municipal code review process and definition of model building and zoning codes. The course emphasizes use and occupancy, special use and occupancy, building heights and areas, types of construction, fire-resistive construction, interior finishes, fire-protection systems, means of egress, accessibility, interior environment, energy efficiency, exterior walls, roofs, walls, frames, foundations, building materials and systems and existing structures as described in the Building Code of New York State.

**ARCH - 4014 Construction Technology 2, 4.00 Credits**
Prerequisite(s): ARCH 3014 with D or better
Level: Lower

This course builds on the construction topics begun in Construction Technology 1. The course is focused on construction techniques for commercial buildings. Topics covered include: steel frame, reinforced concrete, pre-cast concrete and building envelope systems. Emphasis is placed on contemporary details and methods of construction. Student evaluations are based on Building Information Modeling (BIM) computer generated projects and periodic tests.

**ARCH - 4304 Design Studio 2, 4.00 Credits**
Prerequisite(s): ARCH 3104 with C or better or CIAT 3104 with C or better
Level: Lower
Course Fee $106.00

The course concentrates on problem-solving methods for a variety of architectural project types and sizes. Students working individually and in teams explore and document their work through sketches, study models and preliminary working drawings. The students are encouraged to develop a professional approach to investigating, analyzing and solving architectural problems. This is the second studio course and will help students in preparing for more advanced and challenging studio course work in the curriculum.

**ARCH - 4900 Directed Study, 1.00 TO 4.00 Credits**
Level: Lower

A student may contract for one to four credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the process of the study.

**ARCH - 5306 Design Studio 3, 6.00 Credits**
Prerequisite(s): ARCH 4304 with C or better and ARCH 4014 with D or better
Level: Upper
Course Fee $106.00, Upper Level

This studio is designed to develop the student’s ability to apply and integrate architectural principles and methods of design to buildings and spaces. The exploration and study of architectural design and technology makes connections between theory and practice through the design of buildings and environments that explore the relationship between architecture, building systems, and human experience. Students will be expected to progress through the schematic design and design development phases of short-term and extended design projects.

**ARCH - 5900 Directed Study, 1.00 TO 6.00 Credits**
Level: Upper

Upper Level

A student may contract for one to six credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the process of the study.

**ARCH - 9901 STAR Center Civic Engagement, 1.00 Credit**
Prerequisite(s): ARCH 2394 with D or better
Level: Upper

Upper Level

This course will be offered to students who want to pursue a civic engagement project through the Southern Tier Architectural Resource (STAR) Center. Each semester the project(s) for this course will change depending on the projects that the STAR Center receives from the public. Students will be given a “real-world” project within the Southern Tier Region to complete with an advising instructor and a client. The student should produce a final project that will be presented to the client at the end of the semester.

**ARCH - 6306 Design Studio 4, 6.00 Credits**
Prerequisite(s): ARCH 5306 with C or better or CIAT 5306 with C or better
Level: Upper

Applied Learning-Field Study, Course Fee $106.00, Upper Level

This course is intended to develop a systemic design approach to historical buildings. Specifically, this course concentrates on developing student critical thinking and problem solving skills associated with historic building projects, guided by treatments set forth by the federal and state governments. Over the course of the semester, students synthesize building research, analysis, and documentation in the scope of potential new building program requirements. As warranted, students may formulate schematic design proposals for future use. Projects will involve researching the historical evolution of the building, documentation of the existing, the analysis of building materials, construction methods and conditions, understanding of the building’s relationship to its wider physical, social and cultural environment and making appropriate design decisions with respect to future use.

**ARCH - 6406 Studio Sorrento, 6.00 Credits**
Prerequisite(s): ARCH 5306 with C or better
Level: Upper

Applied Learning-Intl/Dom Trvl, Upper Level

Studio Sorrento is intended solely for students enrolled in the Third-Year Study Abroad Program in Sorrento, Italy. The course will be structured around the experiences, field trips and other learning opportunities during the semester of study abroad. Particular attention will focus on elements of traditional town design, sustainable building strategies, historic building analysis, and adaptive/reuse of historic structures. Students will work for the semester will include: the development of a journal of site visits and analyses, photographic and metric documentation, reflective writing, and small design projects within the Sorrento environment.

**ARCH - 6433 Urban Sketching & Journaling, 3.00 Credits**
Level: Upper

Applied Learning-Intl/Dom Trvl, Upper Level

Urban sketching and journaling is offered to students enrolled at Santi’Anna Institute as part of the study abroad program in Sorrento, Italy. The course is designed to augment the student’s culture students’ experience of their semester abroad by developing drawing skills and observational acuity. Emphasis is placed on the advanced use of drawing as an invaluable tool for seeing, learning, thinking, and communicating. Lectures are centered on the use of graphite, pen & ink, and watercolor, for observational sketching and note-taking. Lab exercises will capitalize on the unique urban environments of Sorrento and southern Italy. Students are required to keep a running journal that documents their thoughts and experiences throughout the semester.

**ARCH - 7003 Environmental Controls 2, 3.00 Credits**
Prerequisite(s): (ARCH 2123 with D or better or CIAT 2123 with D or better or ARCH 3003 with D or better) and (ARCH 3304 with D or better or CIAT 3304 with D or better or ARCH 4014 with D or better)
Level: Upper

Upper Level

This course reinforces advanced technical and design strategies to maximize sustainability in large building designs, and their relationship to other building service systems. Emphasis will be placed on applications of photovoltaic, geothermal and wind systems in a sustainable environmental context. Qualitative and quantitative measures of building environments with a focus on efficient use of energy through integrated design practices will be employed. Other topics of discussion will include commercial building design practices related to MEP, acoustic, communication, vertical transportation, security, and fire protection systems. Course studies and projects will form the basis of instruction.

**ARCH - 7306 Design Studio 5, 6.00 Credits**
Prerequisite(s): ARCH 6306 with C or better or ARCH 6406 with C or better
Level: Upper

Course Fee $159.00, Upper Level

This studio focuses on the design of buildings and places in an urban setting that require an intense concentration of support systems. The course exploration and study of architectural design, technology and planning principles is designed to bridge the gap between architectural theory and practice through the design of structures and places for human use and inspiration. Students will be expected to progress through the schematic design and design development phases of short-term and extended design projects. Conventional media and three-dimensional computer modeling will be used to define, analyze and present solutions to complex architectural problems. Assignments and in-class exercises related to design, theory, technology and criticism will also be used to reinforce topics discussed in class. Civic Engagement Intensive (CEI) sections exist.

**ARCH - 8003 Professional Practice, 3.00 Credits**
Prerequisite(s): ARCH 4014 with D or better
Level: Upper

Upper Level

The context within which buildings and spaces are created is rapidly evolving as is the way in which architecture and design is practiced. This advanced course is designed to provide the future practitioner with a comprehensive study of the business and practice of architecture and design. Emphasis will be placed on practical skills and usable information that will enhance the student’s ability to function within the design professions and/or related disciplines.

**ARCH - 8306 Design Studio 6, 6.00 Credits**
Prerequisite(s): ARCH 7306 with C or better or CIAT 7306 with C or better
Level: Upper

Applied Learning-Creative Work, Course Fee $159.00, Upper Level

This course requires students to conceptualize and develop a comprehensive design solution for a semester-long project that integrates sound architectural design with thorough consideration of site conditions, environmental stewardship, structural systems, building envelope assemblies, building mechanical systems, and regulatory code compliance, including accessibility for the physically impaired. Emphasis is placed on the ability to make effective design decisions while generating and considering multiple options in a schedule-driven setting, punctuated by a series of milestone presentations throughout the semester. The students will individually present their final, comprehensive design solution to a panel of faculty and visiting professionals, and defend the decision-making processes that gave rise to their solution.
ARCH - 8716 Design Studio 7-Thesis Defnmt, 6.00 Credits
Prerequisite(s): ARCH 8306 with C or better
Level: Upper
Applied Learning-Creative Work, Course Fee $159.00, Upper Level
Thesis Definition is the first studio course of a two-studio course sequence offered in the final year of the B.Arch. program. The coursework prepares students for the culmination of their undergraduate academic professional preparation in architecture by providing a guided framework that will encourage the student to independently discern, discriminate, plan, research, and discover. Successful completion of this studio will result in the submission of a thesis proposal and oral presentation. These efforts will be comprehensive and successful presentation of a thesis project. Significant emphasis on research, planning, and iterative investigation of a topical architecture issue frames the project in which students will work closely with a thesis committee composed of a chief faculty mentor, a secondary faculty mentor, and a volunteer member of the profession. Throughout the duration of the semester each student will complete a research plan and a significant research and precedent study that will result in a rigorous and controlled schematic design. The initial output from this course will comprise the first portion of a 2-part publication and design project that will serve as the basis for further exploration, research, and development in the ARCH 8776 course that follows in sequence. The course is structured into a communal lecture sequence that will encompass week by week seminars, and weekly tutorials on scientific method, design process, and the iterative process. Attendant to the lecture section is a lab section that is led by the primary thesis advisor for each individual student. Periodic, interim, and final critiques are scheduled as a function of the lecture section.

ARCH - 8733 Modern Architectural Theory, 3.00 Credits
Prerequisite(s): (FAT 5033 with C or better and ( ARCH 8306 with C or better or CIAT 8306 with C or better )
Level: Upper
Upper Level
This seminar introduces the student to theories and criticisms of contemporary architecture from the beginnings of the modern period to contemporary issues. This seminar course is designed to be highly interactive and will consist of facilitated discussion, weekly writing assignments, in-class exercises and presentations. Students will have the responsibility of initiating weekly discussion of the assigned readings. In-class discourse includes discussion and analysis of the central arguments and conclusions of the theoretical constructs presented in the course. The student will be required to present a contemporary or future practice of architecture. Students will prepare a series of learning research papers that analyze and synthesize the arguments presented in the selected readings for the course. A brief oral presentation will accompany the written paper. Students will be expected to engage classmates and invited guests in critical commentary.

ARCH - 8753 Advanced Structural Concepts, 3.00 Credits
Prerequisite(s): CIVL 5213 with C or better
Level: Upper
Upper Level
This course addresses advanced architectural structures, exterior building envelopes and production technologies. It explores structural elements and expands to include more complex forms, materials and systems. Material composition for glaz, steel and advanced composite structures. Material performance and detailing of the exterior envelope are emphasized with digital projects utilizing node based parametric programming and pattern based surface development.

ARCH - 8776 Design Studio 8-Thesis Develop, 6.00 Credits
Prerequisite(s): ARCH 8716 with C or better
Level: Upper
Applied Learning-Creative Work, Course Fee $159.00, Upper Level
This course is the capstone of the two-semester sequence of architectural design studios. Building upon the thesis research completed during the previous semester in Design Studio 7 - Structure, Definition, students will finalize a design project for their chosen thesis project. They will carry out a comprehensive design development study, present their design solution to a panel of faculty and visiting professionals, and defend the decision making process that gave rise to their design. The student is expected to show competence and care in their technical solutions and in the creation of a livable, efficient, and contextually appropriate structure.

ARCH - 8793 Professional Development, 3.00 Credits
Prerequisite(s): ARCH 8003 with C or better or CIAT 8003 with C or better
Level: Upper
Upper Level
This comprehensive course will enhance the student's exposure to the architect's professional role based on case studies of real-world experiences. It expands upon previously introduced architectural business practices such as marketing, responding to client requests for services, assembling project teams, working with the appropriate consultants, and delivering a project, all within financial constraints of both project and business management. The changing role of the architect in nontraditional practice types and project delivery methods will also be explored. Throughout the course, professional written, verbal and graphic communication skills will be emphasized in relation to their importance in the business setting.

ASDC - ALFRED STU SUCCESS CENTER

ASDC - 1012 College and Life Skills*, 2.00 Credits
Level: Remedial
Remedial
This course will assist students in making the transition to college and in completing collegiate work successfully. In this course the student will learn strategies for: making use of campus resources; self-awareness and exploration; academic success; effective communication on a college and workplace level; time, health, and financial resources. Students will read and respond to articles, participate in class discussions, summarize topics verbally or in writing, and complete a short research project.

ASDC - 1092 Methods of Inquiry, 2.00 Credits
Level: Lower
This college level course introduces students to current and proven research on learning and intelligence. Students will set personal and academic goals and apply methods to reach them through minds, critical thinking, and self-management strategies. Students will also be presented with basic information literacy skills, study techniques, as well as effective strategies for critical thinking, problem solving, listening, note-taking, test taking, and communication. This course will build on the summer bridge program, incorporate information management aspects, integrate blackboard and include preliminary development of a portfolio.

ASDC - 1201 Structured Learning-Soc Scienc*, 1.00 Credit
Level: Remedial
Pass/Fail, Remedial
This course is supplemental instruction and recitation for students who need more structured study and development time, taught by faculty, professional tutor, and/or student success staff. The instructor develops additional review problems to match homework and topics of need while study skills, specific to discipline, are integrated. This course will coincide with and compliment a student’s registered course (e.g., history, psychology, criminal justice). This course will be graded Pass/Fail.

ASDC - 1301 Structured Learning-Eng Tech*, 1.00 Credit
Level: Remedial
Pass/Fail, Remedial
This course is supplemental instruction and recitation for students who need more structured study and development time, taught by faculty, professional tutor, and/or student success staff. The instructor develops additional review problems to match homework and topics of need while study skills, specific to discipline, are integrated. This course will coincide with and compliment a student’s registered course (e.g., microcomputer applications, computer programming). This course will be graded Pass/Fail.

ASDC - 1401 Structured Learning-Science*, 1.00 Credit
Level: Remedial
Pass/Fail, Remedial
This course is supplemental instruction and recitation for students who need more structured study and development time, taught by faculty, professional tutor, and/or student success staff. The instructor develops additional review problems to match homework and topics of need while study skills, specific to discipline, are integrated. This course will coincide with and compliment a student’s registered course (e.g., microcomputer applications, computer programming). This course will be graded Pass/Fail.

ASDC - 1801 Structured Learning-English*, 1.00 Credit
Level: Remedial
Pass/Fail, Remedial
This course is supplemental instruction and recitation for students who need more structured study and development time, taught by faculty, professional tutor, and/or student success staff. The instructor develops additional review problems to match homework and topics of need while study skills, specific to discipline, are integrated. This course will coincide with and compliment a student’s registered course (e.g., college algebra, calculus, statistics). This course will be graded Pass/Fail.

ASDC - 1901 Structured Learning-Math*, 1.00 Credit
Level: Remedial
Pass/Fail, Remedial
This course is supplemental instruction and recitation for students who need more structured study and development time, taught by faculty, professional tutor, and/or student success staff. The instructor develops additional review problems to match homework and topics of need while study skills, specific to discipline, are integrated. This course will coincide with and compliment a student’s registered course (e.g., college algebra, calculus, statistics). This course will be graded Pass/Fail.

ASDC - 2011 Career Exploration & Planning*, 1.00 Credit
Level: Remedial
Remedial
This course will assist students with exploring and selecting a college major and/or career goal. The students will learn a decision making model designed to make appropriate, well-informed career/life choices. The students will engage in a variety of assessments using career programs and self-directed career searches. Students will complete out of class assignments designed to integrate self-awareness with career options and will develop their own marketing materials such as resumes, cover letters, and career portfolios. This is a pass/fail course.

ASDC - 2193 Intro to Academic Literacy, 3.00 Credits
Level: Lower
Pass/Fail
This course is supplemental instruction and recitation for students who need more structured study and development time, taught by faculty, professional tutor, and/or student success staff. The instructor develops additional review problems to match homework and topics of need while study skills, specific to discipline, are integrated. This course will coincide with and compliment a student’s registered course (e.g., civil, mechanical, architecture). This course will be graded Pass/Fail.

ASDC - 2021 Academic & Career Explor II, 1.00 Credit
Level: Lower
Pass/Fail
This course will assist students in exploring and selecting a college major and/or career area. The students will engage in a variety of assessments using software programs and self-directed career searches. Students will complete out of class assignments designed to integrate self-awareness with career options and will develop their own marketing materials such as resumes, cover letters, and career portfolios. This is a pass/fail course.

ASDC - 2900 Directed Study, 1.00 To 4.00 Credits
Level: Lower
A student may contract for one to four credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and students will confer regularly regarding the process of the study. This will be a credit bearing level 300-400 level course that will fulfill the requirement for a minor or a major, as well as relevant to the student's academic major.
AUTO - AUTOMOTIVE

AUTO - 1109 Brakes, Steering & Sus Sys, 9.00 Credits
Level: Lower
Applied Learning-Practicum
This course is designed to train students in the service and diagnosis of: automotive brake systems, suspension systems, vehicle alignment, tire changing, tire balancing, and vibration diagnosis.

AUTO - 1124 Automotive Welding, 4.00 Credits
Level: Lower
Applied Learning-Practicum, Course Fee $66.00
This course covers all facets of welding as they apply to the servicing of cars and light trucks. Methods covered are: SMAW, GTAW, and GMAW. The safe use of the cutting torch and plasma cutter and "booth time" is supplemented by the use of various processes in the actual repair of vehicles and equipment. The students are required to do outside research for a written and oral report.

AUTO - 1135 Auto Bsc Eectr & Comptn Overhrl, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course includes the construction and testing of electronic circuits, alternators, and starters. The student will also use Ohm's Law to calculate voltage drop, current and resistance in electrical circuits. Air bag, power window motor and power door lock actuator testing and diagnosis will be investigated.

AUTO - 1149 Inspec, Main, AC Htg & Cng, 9.00 Credits
Level: Lower
Applied Learning-Practicum
This course includes lecture and lab instruction on the diagnosis and repair of automotive cooling, heating, and air conditioning systems. In addition automotive preventive maintenance, exhaust system service, and annual safety inspection checks are also covered.

AUTO - 1169 Auto Electric, Fuel & Emission, 9.00 Credits
Level: Lower
Applied Learning-Practicum
This course begins with instruction on basic electrical theory and progresses through the operation and diagnosis of many of the advanced electrical and electronic systems used on modern vehicles. Topics covered include: basic electrical theory, circuit design, common electrical components, fuel, ignition, emission control and electronic engine controls systems.

AUTO - 1219 Truck Brake, Steer & Sus Sys, 9.00 Credits
Level: Lower
Applied Learning-Practicum
This course is designed to train students in the service and diagnosis of: automotive brake systems, suspension systems, vehicle alignment, tire changing, tire balancing, and vibration diagnosis.

AUTO - 1224 Welding, 4.00 Credits
Level: Lower
Applied Learning-Practicum, Course Fee $67.00
This course covers all facets of welding as they apply to the servicing of cars and light trucks. Methods covered are: SMAW, GTAW, and GMAW. The safe use of the cutting torch and plasma cutter and "booth time" is supplemented by the use of various processes in the actual repair of vehicle and equipment. The students are required to do outside research for a written and oral report.

AUTO - 1239 Trk Inszp, Maint, AC, Clng/Htg, 9.00 Credits
Level: Lower
Applied Learning-Practicum
This course includes lecture and lab instruction on the diagnosis and repair of automotive cooling, heating, and air conditioning systems. In addition automotive preventive maintenance, exhaust system service, and annual safety inspection checks are also covered.

AUTO - 1245 Trk Bsc Ectms & Cmptn Overhrl, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course includes lecture and practical instruction in chassis construction and testing of electronic circuits, alternators, and starters. The student will also use Ohm's Law to calculate voltage drop, current and resistance in electrical circuits. Air bag, power window motor and power door lock actuator testing and diagnosis will be investigated.

AUTO - 1306 Rust Repair, 6.00 Credits
Level: Lower
Applied Learning-Practicum
Encompasses the causes, repair, and prevention of rust formation and develops an awareness in the student that it is his/her ethical duty to make rust repairs properly and economically.

AUTO - 1313 Wrecker Operation & Estimating, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course provides instruction and practical experience in wrecker operation including hook-ups, winching, dolly use, wheel lifts, and safety. It includes instruction and practical experience in auto body damage estimate writing and analysis.

AUTO - 1326 Body Welding, 6.00 Credits
Level: Lower
Applied Learning-Practicum, Course Fee $87.00
This course covers welding methods used for securing body sheet metal including the thinner, high-strength, low alloy steels. Some of the methods covered in depth are: oxy-acetylene, MIG, and TIG welding. Emphasis is placed on proficiency in repairing steels found in panels and vehicle frames, the use of heat as a straightening medium is investigated, and choosing welding equipment for a body shop, sheet metal fabrication and fuel tank repairs are included.

AUTO - 1343 Refinishing Basics, 3.00 Credits
Level: Lower
Applied Learning-Practicum, Course Fee $106.00
Develops in the student the basic skills of the refinishing industry and provides the technical knowledge of different types of finishes as well as the sequence of foundation coats.
AUTO - 3535 High Pfrmnce Engine Building, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course is designed to teach the student the advanced skills for reconstruction of high performance engines. Topics include modified engine building and dynamometer testing. Laboratory exercises emphasize technique and skill development in engine assembly and dynamometer testing.

AUTO - 3544 Motorsports Aerodynamics, 4.00 Credits
Level: Lower
Applied Learning-Practicum
This course is designed to teach the student the fundamental principles of aerodynamics for racing and performance cars. Major topics include principles of aerodynamic effects on braking, handling, lift and drag coefficient. Laboratory exercises emphasize technique and skill development to build race cars.

AUTO - 3535 Hgh Prfmnce Engine Building, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course is designed to teach the student the advanced skills of complete chassis, cage, and suspension fabrication. This course and its laboratory exercises evaluate the actual process of fabricating a complete racecar.

AUTO - 3609 Heavy Duty Drive Train, 9.00 Credits
Level: Lower
Applied Learning-Practicum
This course consists of the service and repair of heavy duty clutches, transmissions, drive line and rear axle, leaf, torsion bar, and air suspensions, the alignment of front and rear axle, also alignment of trailer suspension and on-vehicle tire balancing. This will include Eaton and Meritor clutches, Mack and Eaton transmissions, and Meritor, Eaton and Mack rear axles. Also covered are Road Ranger auto shift transmissions.

AUTO - 3623 Air Brake Service, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course consists of maintenance and repair of air brake systems including compressors, valves, tubing, and circuitry. This course will also include troubleshooting of foundation brakes and related components. Also covered is air ABS brake components, operation and troubleshooting.

AUTO - 3649 Diesel Engine Service, 9.00 Credits
Level: Lower
Applied Learning-Practicum
This nine credit hour course covers the procedures needed to understand, test, repair, and overhaul diesel engines and their related components. Major emphasis is placed on the mid-range and heavy duty diesels of the following makes: Cummins, Caterpillar, Detroit Diesel, Mack, John Deere, and Navistar. Covered is the use of special tools and equipment necessary to troubleshoot, maintain, and overhaul these engines and their related components.

AUTO - 3809 Inspec. Gen Alignment & AC, 9.00 Credits
Level: Lower
Applied Learning-Practicum
This three credit hour course consists of the service and troubleshooting of electrical systems as they pertain to heavy equipment, truck and diesel. This will include pumps, valves, actuators, accumulators and other related components in today's hydraulic systems.

AUTO - 4363 Heavy Duty Elec/Hydr Special, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course will provide insight into other aspects of the automotive trade. Covered in shop management is repair order writing, duties of a shop adviser, customer relations, customer communications, questioning and follow-up, estimating repair costs, checking for recalls, searching for technician service bulletins, researching new product information, motorists' bill of rights, lemon laws and understanding the nature of the automotive business and reviewing Hybrid vehicles information. The lab portion allows the student to perform as a service manager in one of our many automotive shops. Work scheduling, quality control, maintenance, and record keeping are stressed as part of this program.

AUTO - 4449 Drive Train Service, 9.00 Credits
Level: Lower
Applied Learning-Practicum
Study and actual repair of standard, automatic, and automatic transmissions and transaxes with emphasis on overdrives and electronically controlled units. Full coverage of clutches, axles, drivelines, C-V joints, and 4 x 4 transfer cases, as well as open, limited-slip, and front drive differentials. Extensive hands-on work in a busy "line shop" situation. This is a seven and one-half (7 1/2) week course.

AUTO - 4603 Heavy Duty Electrical Systems, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course covers the service and troubleshooting of electrical equipment pertaining to heavy equipment, truck, and diesel. This will include 12-48 volt electrical systems, multiplexing, GPS guidance, and traction motors.

AUTO - 4613 Heavy Duty Hydraulic Systems, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course consists of the service and troubleshooting of hydraulic systems pertaining to heavy equipment, truck and diesel. This will include operation of open center and closed center systems, pumps, valves, actuators, accumulators, and the relation of electrical multiplexing and today's hydraulic systems. This course will also include preventative maintenance of hydraulic systems.

AUTO - 4623 Heavy Duty HVAC, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course consists of the service and troubleshooting of HVAC (Heating Ventilation & Air Conditioning) as they pertain to heavy equipment, truck and refrigeration trailers for commercial usage. This will include MACS (Mobile Air Conditioning Society) certification review and testing for a national recognized Section 609 certification and basic HVAC systems used in refrigeration trailers.

AUTO - 4629 Major Refinishing, 9.00 Credits
Level: Lower
Applied Learning-Practicum
This course is designed to further the student's knowledge and practical experience in the use of painting and refinishing equipment, blending paints, metallic finishes, and hard to match colors, correcting paint failures, custom refinishing and how to solve their problems.

AUTO - 4639 Major Collision Repair, 9.00 Credits
Level: Lower
Applied Learning-Practicum
Provides instruction in the repair procedures of vehicles considered by appraisers to be totals, or near totals. Study and repair of frame and uni-body damage, suspension repairs. This includes computerized measuring systems, plastic welding, use of structural adhesives, and complete vehicle refinishing.

AUTO - 4669 Diesel Fuel System Service, 9.00 Credits
Level: Lower
Applied Learning-Practicum
This nine credit hour course is intended for heavy equipment, truck and diesel mechanic majors. Coverage will include the fundamentals of diesel fuel systems, both mechanical and computer controlled. Engine tune-up procedures, and diesel fuel system troubleshooting and computer usage will be included. Injection pumps, governors, injectors, emission control devices, automatic advance units and transfer pumps of the following systems will be covered: American Bosch, Caterpillar, Detroit Diesel, Cummins and Navistar.

BIOL - BIOLOGY

BIOL - 1013 Essentials of Exercise Physiol, 3.00 Credits
Level: Lower
Corequisite(s):
Gen Ed - Natural Sciences, Liberal Arts and Science
This is an internet-based course intended for both science and non-science majors covering the basic study of exercise physiology. Topics include the role of nutrition in energy-producing pathways and human growth and development; nutritional and common pharmacological aids used to support and enhance exercise and athletic performance; study of metabolistic production of energy and its application in the human capacity for work; study of select body systems and the principles of exercise training with resultant physiological adaptations that could be expected from such training. The course concludes with a study of the role of exercise in the maintenance of health and the prevention of disease.

BIOL - 1101 Topics in General Biology, 1.00 Credit
Level: Lower
Corequisite(s):
A one-credit hour course to supplement the General Biology (BIOL 1104) course for biology majors. The focus of this course is to expand on topics discussed during the lecture/laboratory portions of BIOL 1104 and to discuss current topics of interest to biology students. The format of the course is reading and discussion. Each participant will be responsible for being a discussion leader at least once during the semester. The discussion leader's role is to introduce the topic, provide background information about the subject, and encourage the group to offer comments and ask questions. Topics for discussion may be directly related to lecture material or may originate from current media sources, as long as that topic was already introduced in the BIOL 1104 class lecture or lab and the students have some familiarity with the subject.

BIOL - 1104 General Biology I, 4.00 Credits
Level: Lower
Applied Learning-Other, Course Fee $20.00, Gen Ed - Natural Sciences, Liberal Arts and Science
This course incorporates a survey of molecular, cellular, and hereditary principles. Topics include the chemistry and physics of cellular activities; the ultra-structure of cells, photosynthesis and cellular metabolism; the structure and function of DNA; recent developments in DNA bio-technology; and the basic aspects of genetic principles.

BIOL - 1113 Biology of Human Sexuality, 3.00 Credits
Level: Lower
Gen Ed - Natural Sciences, Liberal Arts and Science
This Internet-based course studying human sexuality, approaches the subject from the perspective of health and the discipline of biology, with attention given to the historical and contemporary perspectives concerning the topic. Reproductive anatomy is examined, along with the physiological response of sexual arousal. The events of fertilization, pregnancy and childbirth are studied along with examples of the contraceptives used to prevent it. Puberty and sexual development is considered and the role of biology is examined in the areas of gender, sexuality, attraction and love. The course concludes with an overview of common sexual difficulties, a study of sexually transmitted diseases and defines the act of rape and sexual assault.
BIOL - 1114 Human Anat & Physiology I, 4.00 Credits
Level: Lower
Gen Ed - Natural Sciences, Liberal Arts and Science
This is a lecture and lab based online course that is the first in a two-semester sequence, including laboratory components, that covers the structure and function of the human body. General study covers the organization, covering, support, and movement of the body. Topics include an orientation to the human body, chemistry of life, cells and tissues, and the integumentary, musculoskeletal, nervous, and sensory systems.

BIOL - 1133 Marine Biology, 3.00 Credits
Level: Lower
Applied Learning Int/Dom Trvl, Liberal Arts and Science
This course focuses on the biology of organisms residing in the sea, from the diversity of planktonic communities to marine megafauna, taking into consideration the ecological principles that govern marine life. The course aims to provide a solid educational background in basic and applied marine biology. Emphasis will be placed on marine environment issues and the adaptive and evolutionary mechanisms of organisms that allow them to occupy marine habitats. In particular, the Mediterranean Sea will play a central role in the course subjects, profiling from the availability of unique ecosystems and a nearby renowned marine research institute to conduct thematic field trips and practical tutorials.

BIOL - 1223 Introduction to Forestry, 3.00 Credits
Level: Lower
Applied Learning-Field Study, Course Fee $3.00, Gen Ed - Natural Sciences, Liberal Arts and Science
This course is designed to familiarize students with the sustainable management of New York hardwood forests. Students are introduced to the history of forests and forestry practices in North America and New York State, as well as basic tree biology, silvicultural systems, and forest management. Major emphases are placed on practical management strategies for maintaining and developing wood lots and forest farms for a variety of desired outcomes, including timber, fuel, assimilation control, and wildlife habitat. The financial aspects of various forestry strategies also are discussed. As part of the practical component of the course, students will be required to complete a detailed forest management plan.

BIOL - 1304 Botany, 4.00 Credits
Level: Lower
Applied Learning-Other, Course Fee $10.00, Gen Ed - Natural Sciences, Liberal Arts and Science
Each of us is intimately involved with plants. We wear them, ingest them, exchange gas molecules with them, live under them, etc. In this course students will develop knowledge of plant morphology (form) and function that later enhances their lives. Topics include the study of human food, ornamental plants, feed, forestry, and any other use of plants to sustain life on the planet Earth or provide other ecosystem services. The laboratory portion of the course includes field ecology and classification of important plant groups in addition to morphological and anatomical study of the major plant organs. Use of the college’s laboratory, the college farm, field trips, and the plant science greenhouse integrates various teaching methods for the above subjects.

BIOL - 1313 Nutrition, 3.00 Credits
Level: Lower
Gen Ed - Natural Sciences, Liberal Arts and Science
This course is intended for both the science and non-science major. Coverage will include the fundamental biochemical aspects of the essential nutrients and their effects when consumed in less than recommended or excessive amounts. These nutritional facts will help answer some of the questions brought forward concerning the relationship between food and heart disease, weight control, preservatives, cancer, athletic performance, vegetarianism, pregnancy and lactation, just to name a few. Beyond these facts will be the understanding of the non-nutrient characteristics of food as related to culture, family, and society. Most importantly, this course presents the tools necessary to properly evaluate the purchase and preparation of nutritious foods via personal assessment.

BIOL - 1404 Anatomy & Physiology I, 4.00 Credits
Level: Lower
Applied Learning-Other, Course Fee $12.00, Gen Ed - Natural Sciences, Liberal Arts and Science
This course is the study of the gross and microscopic anatomy of various human systems, emphasizing how structure facilitates function. The areas emphasized are: basic anatomical and functional terminology: fundamental concepts and principles of cell biology; histology; the integumentary system; the nervous system and special senses; the skeletal system; and the muscular system.

BIOL - 2111 Biological Sciences Seminar, 1.00 Credit
Prerequisite(s): BIOL 1101 with D or better and BIOL 2204 with D or better and CHEM 2984 with D or better
Level: Lower
Applied Learning-Creative Work
This course is intended for students typically in their fourth semester of the two-year Biological Sciences curriculum. The course is designed to prepare the student for transfer to a four-year institution and/or enter the workforce. Students are introduced to the articular and practical aspects of preparing and delivering a full-feature (40-45 minute length) presentation on a given topic within the realm of a biological discipline.

BIOL - 2204 General Biology II, 4.00 Credits
Prerequisite(s): BIOL 1104 with D or better
Level: Lower
Applied Learning-Other, Course Fee $15.00, Gen Ed - Natural Sciences, Liberal Arts and Science
A continuation of BIOL 1104 (General Biology I), with emphasis on animal and plant systematics, evolution and ecology. Laboratory topics include the study of the following mammalian organ systems: digestion, respiration, circulation, homeostasis, reproduction, chemical and nervous control, and musculoskeletal structure and function. Lecture topics include systematics, evolution, ecosystems, and biogeography, including human impacts on the environment.

BIOL - 2214 Human Anat & Physiology II, 4.00 Credits
Prerequisite(s): BIOL 1114 C or better or BIOL 1404 with C or better
Level: Lower
Liberal Arts and Science
The second in a two-semester Internet-based course sequence, including laboratory components, that covers the structure and function of the human body. General issues include the maintenance of the human body, pregnancy, human development and heredity. Topics include the endocrine, cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive body systems.

BIOL - 2301 Human Biology Laboratory, 1.00 Credit
Prerequisite(s): BIOL 2303 with D or better
Level: Lower
Applied Learning-Other, Course Fee $24.00, Liberal Arts and Science
This course is a lecture-based online course which introduces students to the basics of pharmacology, pathopharmacology, and the pharmacologic agents that are utilized in the treatment of diseases. By the end of the course, students will have been exposed to pathophysiology of the different organ systems (including key concepts of pharmacology, regulatory agencies and legislation, and review of pharmacologic agents utilized to treat specific diseases.

BIOL - 2303 Human Biology, 3.00 Credits
Level: Lower
Gen Ed - Natural Sciences, Liberal Arts and Science
An introduction study of human systems and their physiology. Included in the course are examination of how the body normally functions at the cellular, tissue, organ system levels. Topics will include basic chemistry, cell structure and biochemistry, digestion, circulation and blood, immunity, respiration, excretion, nervous integration, senses, endocrine system, and reproduction. Sexually transmitted diseases also will be discussed. Students cannot receive credit for BIOL 2303 if BIOL 1404 or BIOL 1114 is concurrently or previously taken.

BIOL - 2504 Anatomy & Physiology II, 4.00 Credits
Prerequisite(s): BIOL 1404 with D or better
Level: Lower
Applied Learning-Other, Course Fee $17.00, Gen Ed - Natural Sciences, Liberal Arts and Science
This course is a continuation of Anatomy and Physiology I (BIOL 1404). It is a study of the gross and microscopic anatomy of various human systems, emphasizing how structures facilitate function. The areas emphasized are the endocrine, cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems.

BIOL - 2633 Histotechniques, 3.00 Credits
Prerequisite(s): BIOL 1104 with D or better or BIOL 1404 with D or better or BIOL 1114 with D or better or ANSC 1214 with D or better or VETS 2014 with D or better
Level: Lower
Course Fee $129.00
An applied and theoretical technology course which provides instruction and hands-on experiences in the preparation of tissues for microscopic examination by paraffin, and frozen section and smear techniques. Normal and diseased animal and plant tissues will be used to provide the students an opportunity to use a variety of techniques involved in processing tissue for identification and classification. The classification will be used for identification and application. Care, maintenance, and use of instrumentation in tissue preparation will be stressed. One-hour lecture and two-hour laboratories per week with significant additional supervised time spent in the lab by students.

BIOL - 2801 Environmental Sciences Lab, 1.00 Credit
Prerequisite(s): BIOL 2803 with D or better
Level: Lower
Applied Learning-Field Study, Course Fee $96.00, Liberal Arts and Science
This course is a series of field-oriented laboratory experiences involving analyses of various local ecosystems. Topics to be stressed include identification of organisms, use of environmental monitoring equipment, and collection and interpretation of field data.

BIOL - 2803 Environmental Science, 3.00 Credits
Level: Lower
Gen Ed - Natural Sciences, Liberal Arts and Science
This course is an introduction to the science of ecology and the interrelationship between humans and their environment. The physical environment of the Earth’s climate, geographic and geologic systems, and the cycling of minerals and water are described. The biology of populations, species, ecosystems and biomes section deals with organisms and their interactions with one another and their environment is discussed. The world’s human populations, and their role in the ecosystems is investigated including the history of human populations, current demographic trends, and projected future population parameters. The impacts of human populations on the environment are covered as well.

BIOL - 2833 Environmental Science, 3.00 Credits
Level: Lower
Applied Learning-Other, Gen Ed - Natural Sciences, Liberal Arts and Science
This course provides an introduction to the science of ecology and the interrelationship between humans and their environment. The physical environment of the Earth’s climate, geographic and geologic systems, and the cycling of minerals and water are described. The biology of populations, species, ecosystems and biomes section deals with organisms and their interactions with one another and their environment. The world’s human populations, and their role in the ecosystems is investigated including the history of human populations, current demographic trends, and projected future population parameters. The impacts of human populations on the environment are covered as well. The course also includes a series of field-oriented laboratory experiences involving analyses of various local ecosystems. Topics stressed in the laboratory portion of the course include the identification of organisms, the use of environmental monitoring equipment and the collection and interpretation of field data.
will be required to evaluate the role of a specific “Keystone” species in an ecosystem and evolution, genetics, behavior, models of population growth, species interactions and anatomy.

skeletal models, computerized anatomy programs, surface anatomy, palpation, and gross extremities, head, neck, and trunk. Learning is aided by laboratory experiences utilizing motion, and kinesiology. Primary emphasis is placed on functional anatomy of the upper level.

BIOL - 5003 Genomics, 3.00 Credits
Prerequisite(s): BIOL 6534 with D or better
Level: Upper
Applied Learning-Practicum, Liberal Arts and Science, Upper Level
This is a project based-learning course that will introduce the students to the emerging science of genomics and its implications for human biology, medicine, social policy and individual health choices in the 21st century. Our genome is the blue print that encodes all the information we need to develop from a single cell into a hugely complicated functional organism. This course will instruct students how to use bioinformatics tools to annotate genes and their expression. The course will explore techniques used to study genomes, what information is available, and how this information is used to understand how organisms differ or match; how different organisms evolved; how the genome is constructed and how it operates. In addition the course will examine genome structure and function in terms of our future health and wellbeing. The laboratory portion of the course will enable students to use bioinformatics tools to annotate genes from the bacterium Kytococcus sedentarius and to participate in a DNA Barcoding project to catalog living organisms such as http://www.studentDNAbarcoding.org/.

BIOL - 5013 Biotechniques, 3.00 Credits
Prerequisite(s): ( CHEM 2984 with D or better or CHEM 2124 with D or better ) and BIOL 2204 with D or better
Level: Upper
Applied Learning-Practicum, Course Fee $152.00, Liberal Arts and Science, Upper Level
This course focuses on the development of advanced practical skills, competencies, and knowledge in laboratory techniques commonly used across the biological sciences in research and industry. It is based on a full “hands on” approach where all students undertake a variety of practical exercises derived principally from the areas of DNA science, cellular biology, protein analysis and tissue preparation. This course requires the student to use appropriate professional laboratory protocols that will lead to advanced study and employment.

BIOL - 5104 Kinesiology, 4.00 Credits
Prerequisite(s): BIOL 1404 with D or better and BIOL 2504 with D or better
Level: Upper
Upper Level
This course introduces and integrates musculoskeletal anatomy, biomechanics of human motion, and kinesiology. Primary emphasis is placed on functional anatomy of the extremities, head, neck, and trunk. Learning is aided by laboratory experiences utilizing skeletal models, computerized anatomy programs, surface anatomy, palpation, and gross anatomy.

BIOL - 5223 Ecology, 3.00 Credits
Prerequisite(s): ( BIOL 1104 with D or better and BIOL 2204 with D or better ) or ( BIOL 1304 with D or better and BIOL 2204 with D or better )
Level: Upper
Liberal Arts and Science, Upper Level
The course will analyze the biotic and abiotic factors that influence or limit distributions of organisms. Emphasis will be placed on population and community biology, including evolution, genetics, behavior, models of population growth, species interactions and community structure. Metabolic and energy relationships at the ecosystem level will also be explored. Examples will be drawn from all Domains and Kingdoms of organisms. Students will be required to evaluate the role of a specific “Keystone” species in an ecosystem and how the loss of that species impacts biodiversity in the ecosystem.

BIOL - 5254 Principles of Microbiology, 4.00 Credits
Prerequisite(s): ( BIOL 2204 with C or better or BIOL 2504 with C or better ) or ( VETS 2033 with C or better or VETS 2044 with C or better or VETS 1203 with C or better or VETS 1214 with D or better ) or ( BIOL 1104 with C or better or BIOL 1404 with C or better )
Level: Upper
Applied Learning-Other, Course Fee $26.00, Liberal Arts and Science, Upper Level
A survey of microorganisms, their structures, physiology, and identification, with the various medical and non-medical implications in our daily lives. Topics include prokaryotic cell structure and function, biochemical properties, physical and chemical factors that affect cell growth, classification and identification, physical and chemical methods of control. A major portion of the course deals with the pathogenic properties of microorganisms and the body’s defense mechanisms including the functions of the immune systems. Laboratory topics include bacterial culture and staining, metabolism and biochemical reactions, physiological characteristics, patient specimen collection and processing as done in a microbiology laboratory and pathogen identification and antibiotic sensitivity determination.

BIOL - 5900 Directed Study, 1.00 TO 6.00 Credits
Level: Upper
Upper Level
A student may contract for one to six credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the progress of the study.

BIOL - 6113 Diet and Disease, 3.00 Credits
Prerequisite(s): ( BIOL 1313 with D or better or HLTH 1313 with D or better ) and ( BIOL 2504 with D or better or BIOL 2214 with D or better )
Level: Upper
Liberal Arts and Science, Upper Level
This course is an in-depth exploration of the cause and effect relationship between diet and common disease processes. This course will examine nutritional epidemiology, nutritional intervention and the research that substantiates both. The relationship of nutrition to common maladies, such as: obesity, diabetes mellitus and cancer, will be compared. Additionally, specific disease processes will be evaluated from a nutritional perspective, including: neurodegenerative, cardiovascular, gastrointestinal and bone disease. The course will conclude by determining the nutritional and dietary factors necessary for proper healing and recovery.

BIOL - 6403 Advanced Pathophysiology, 3.00 Credits
Prerequisite(s): BIOL 2504 with D or better or BIOL 2214 with D or better
Level: Upper
Liberal Arts and Science, Upper Level
This is a lecture-based online course that includes the study of disruptions of normal physiology, processes that bring about these disruptions, and various ways in which the disruptions manifest themselves as symptoms, signs, physical findings, and laboratory findings. The course will explore the pathophysiology of genetic diseases, hypersensitivity and autoimmune diseases, infectious diseases, neoplasia, diseases due to physical and chemical agents, disturbances of fluid and electrolyte balance, and endocrine dysfunction.

BIOL - 6534 Genetics, 3.00 Credits
This course introduces and integrates musculoskeletal anatomy, metabolism and electron transfer in cellular biology, protein analysis and tissue preparation. This course requires the student to use bioinformatics tools to annotate genes from the bacterium Kytococcus sedentarius and to participate in a DNA Barcoding project to catalog living organisms such as http://www.studentDNAbarcoding.org/.

BIOL - 7723 Research Methods in Health Sci, 3.00 Credits
Prerequisite(s): ( BIOL 2204 with C or better and CHEM 4524 with C or better ) or ( BIOL 1304 with D or better or VETS 1214 with D or better )
Level: Upper
Liberal Arts and Science, Upper Level
A course that introduces the fundamental processes that enable cells to grow, move, and communicate as well as introduce the processes underlying tissue formation and cell death. During recitation the students will read and analyze primary journal articles, create a short oral presentation on a topic and submit a short "News and Views" article written for a general audience.

BLCT - 1002 Intro to Construction Safety, 2.00 Credits
Level: Lower
This course explores the safety hazards associated with the construction trades. Part of this course will follow the training requirements set forth by the Occupational Safety & Health Administration (OSHA) Construction Safety Outreach Program, including OSHA's Focus Four Hazards, personal protective equipment, and hear conservation. During this course students may have the opportunity to obtain an OSHA 10 card for the construction industry. Students will develop an understanding of construction safety beyond basic OSHA 10 industry training.
BLCT - 1132 Estimating I, 2.00 Credits
Level: Lower
This course develops mathematical concepts and application skills necessary for the 
carpenter and mason to estimate building quantities and associated costs. Topics include 
arithmetical operations with whole numbers, decimals, and fraction numbers. Formulas for 
area, volume, board foot quantities, and basic geometry as it pertains to construction will be 
studied. The quantities estimated are in the framing/sheathing stages of enclosing a building 
including concrete, brick, and block calculations.

BLCT - 1202 Portable Tools & Fastening Sys, 2.00 Credits
Level: Lower
This course is a survey of hand and portable power tools, as well as fasteners, adhesives, 
and power fastening systems commonly used in the construction industry. Students will learn the 
principles of tool usage, setup, maintenance, and safety associated with the subject 
matter. The course also includes the proper choice of tools, fasteners, and adhesives as well 
as critical thinking problems that challenge students' comprehension of subject matter.

BLCT - 1206 Building Construction Lab I, 6.00 Credits
Level: Lower
Applied Learning-Practicum
This course is a survey and application of practices used in residential and light commercial 
construction. Emphasis will be on basic principles and development of skills used in 
construction operations to safely perform layout, measurement, cutting, and installation 
processes. This hands-on applied learning lab will include masonry and framing work on real- 
world projects and authentic construction sites. Throughout the semester, students will be 
required to demonstrate learned competency through a series of proficiency assessments.

BLCT - 1212 Foundation Systems & Layout, 2.00 Credits
Level: Lower
Applied Learning-Practicum, Course Fee $93.00
This course is an introduction to various types of residential framing systems and introduces 
building codes relevant to these systems. The course includes terminology and identification 
of components involved with types of construction, floor and wall frames and green building 
products used with these systems. Students will learn basic print reading, proper layout, 
and calculation of material sizes, rough opening sizes and procedures for framing floor, wall 
and ceiling systems and power tool safety.

BLCT - 1232 Framing I, 2.00 Credits
Level: Lower
Prerequisite(s): BLCT 1232 with D or better
This course is an introduction to various types of residential framing systems and introduces 
building codes relevant to these systems. The course includes terminology and identification 
of components involved with types of construction, floor and wall frames and green building 
products used with these systems. Students will learn basic print reading, proper layout, 
and calculation of material sizes, rough opening sizes and procedures for framing floor, wall 
and ceiling systems and power tool safety.

BLCT - 1242 Framing II, 2.00 Credits
Level: Lower
Prerequisite(s): BLCT 1232 with D or better *
This course is a continuation of concepts taught in BLCT 1232. The course will include 
backing, blocking, and luring, and metal stud framing. Roof framing concepts will be 
introduced. Students will study roof types and terminology with a concentration on common 
rafter layout and truss installation. Truss roof design, along with common fastening 
and building codes relevant to the industry will be covered.

BLCT - 1302 Blueprint Reading & Grades I, 2.00 Credits
Level: Lower
Applied Learning-Practicum
This course is an introduction to the use of grade setting equipment and heavy equipment. 
Emphasis is placed on safety and development of job skills. This hands-on applied learning 
lab will include various heavy equipment operations, performing site layout, grade setting, 
and the use of labor skills utilized in the construction industry. Throughout the semester, 
students will be required to demonstrate learned competency through a series of proficiency 
assessments. The Equipment Practicum is divided into observation, seat time, maintenance 
and the use of labor skills utilized in the industry. Throughout the semester, students will be 
required to demonstrate learned competency through a series of proficiency assessments.

BLCT - 1306 Heavy Equipment Lab I, 6.00 Credits
Level: Lower
Applied Learning-Practicum
This course is designed to introduce students to the use of grade setting equipment and heavy 
equipment. Emphasis is placed on safety and development of job skills. This hands-on applied learning 
lab will include various heavy equipment operations, performing site layout, grade setting, 
and the use of labor skills utilized in the construction industry. Throughout the semester, 
students will be required to demonstrate learned competency through a series of proficiency 
assessments. The Equipment Practicum is divided into observation, seat time, maintenance 
and the use of labor skills utilized in the industry. Throughout the semester, students will be 
required to demonstrate learned competency through a series of proficiency assessments.

BLCT - 1312 Introduction to Earth Moving, 2.00 Credits
Level: Lower
This course provides a broad introduction to the processes of planning and executing earth 
moving activities on various types of construction projects. The uses of heavy equipment 
such as bulldozers, scrapers, excavators, and loaders will be covered.

BLCT - 1322 Preventive Maintenance Checks, 2.00 Credits
Level: Lower
This course introduces new operators to equipment systems and their preventive 
maintenance procedures. Emphasis is placed on developing daily maintenance routines 
based on manufacturer's guidelines. The course content explains the reason for daily checks 
and the use of labor skills utilized in the industry. Throughout the semester, students will be 
required to demonstrate learned competency through a series of proficiency assessments.

BLCT - 1332 Operations Part I, 2.00 Credits
Level: Lower
This course covers the use and maintenance of the most commonly used machines on a 
construction site. The course emphasizes safe operation as well as basic operating 
techniques for each machine. This will include safe setup of machines as well as excavating 
foundations, septic systems, driveways, etc.

BLCT - 2202 Insulation & Drywall, 2.00 Credits
Level: Lower
Applied Learning-Practicum
This course is an introduction to thermal and acoustical insulation, condensation and required 
ventilation in residential building. This course also includes drywall products and installation 
of drywall and concealing fasteners and joints (finishing) drywall. Students learn of various 
products and fasteners related to the industry.

BLCT - 2206 Building Construction Lab II, 6.00 Credits
Prerequisite(s): BLCT 1206 with D or better
Level: Lower
Applied Learning-Practicum, Course Fee $93.00
This hands-on applied learning lab is a continuation of skills learned in BLCT 1206. It will 
include the application of practices used in residential and light commercial construction and 
wood fabrication. Students will learn to safely set up and operate stationary power tools as 
well as construction equipment commonly used on the job site. Students will develop 
the ability to interpret construction drawings and assemble projects based on shop drawings 
and models. There will be continued advancement in the application of residential and light 
commercial building practices. This course will have an emphasis on interior and exterior 
wall systems. Subject matter will include masonry, residential wall systems, and shop 
fabrication. Much of the lab will be conducted on genuine construction job sites. Throughout 
the semester, students will be required to demonstrate learned competency through a series of 
proficiency assessments.

BLCT - 2211 Exterior Building Envelope, 2.00 Credits
Level: Lower
This course provides the student with basic knowledge of windows, doors, and weather 
resistant barriers in residential construction. Subject matter will include applicable 
terminology, comparisons, and installation methods. Attention will be given to proper 
fastening techniques, code requirements, and associated condensation issues inside conventional 
wall systems. A survey of developing technologies in wall systems will also be conducted.

BLCT - 2232 Siding and Cornices, 2.00 Credits
Level: Lower
This course provides the student with basic knowledge of siding and cornice systems in 
residential construction. Subject matter will include applicable terminology, comparisons 
of various siding and cornice systems, and installation methods. Emerging technologies in 
exterior cladding systems will also be covered.

BLCT - 2242 Wood Products & Fabrication, 2.00 Credits
Level: Lower
This course is a continuation of concepts taught in BLCT 1232. The course will include 
the processing of lumber, (including the working parts of a tree, hardwoods vs. softwoods, 
different methods of sawing and drying to produce useful building products, etc.), the manufacture of wood panel products (structural and nonstructural), and 
engineered wood products. Students will learn how these products are used in the building 
tradesthe and the installation requirements unique to these engineered wood products. Students 
will also be trained in the proper setup and safe use of stationary power tools.

BLCT - 2252 Intro to Print Reading & Estim, 2.00 Credits
Prerequisite(s): BLCT 1222 with D or better
Level: Lower
This course covers basic construction communication through residential print reading. 
Students will learn how to perform material takeoffs and apply costs based on construction 
drawings. The course will also cover common scales, symbols, line types, and abbreviations 
used in construction drawings. Basic construction drafting principles will be introduced. The 
course will familiarize students with the purpose of building codes and zoning laws and how 
they are demonstrated in a set of working drawings for a house.

BLCT - 2262 Masonary, 2.00 Credits
Prerequisite(s): BLCT 1212 with D or better
Level: Lower
This course covers basic construction communication through residential print reading. 
Students will learn how to perform material takeoffs and apply costs based on construction 
drawings. The course will also cover common scales, symbols, line types, and abbreviations 
used in construction drawings. Basic construction drafting principles will be introduced. The 
course will familiarize students with the purpose of building codes and zoning laws and how 
they are demonstrated in a set of working drawings for a house.

BLCT - 2302 Work Zone Safety, 2.00 Credits
Prerequisite(s): BLCT 1002
Level: Lower
This course covers topics for safety on the construction site. A broad range of work zones 
involving heavy equipment will be covered. Emphasis is given to residential, commercial and 
highway construction. This course covers occupational safety and health standards and The 

BLCT - 2306 Heavy Equipment Lab II, 6.00 Credits
Prerequisite(s): BLCT 1306 with D or better
Level: Lower
Applied Learning-Practicum
This course continues the use of grade setting equipment and heavy equipment. Emphasis 
is placed on work site safety and development of job skills. This hands-on applied learning 
lab will include various heavy equipment operations, performing site layout, grade settings, 
and the use of labor skills utilized in the construction industry. Throughout the semester, 
students will be required to demonstrate learned competency through a series of proficiency 
assessments.

BLCT - 2312 Blueprint Reading & Grades II, 2.00 Credits
Prerequisite(s): BLCT 1302 with D or better
Level: Lower
This course provides a broad introduction to the processes of planning and executing earth 
moving activities on various types of construction projects. The uses of heavy equipment 
such as bulldozers, scrapers, excavators, and loaders will be covered.

BLCT - 2332 Equipment Preventative Maintnnc, 2.00 Credits
Level: Lower
This course covers preventative maintenance responsibilities including specifying basic 
equipment subsystems and major mechanical systems; knowing how and when to service 
equipment; and how and when to complete routine inspections of equipment.
BLCT - 2332 Operations - Part II, 2.00 Credits
Prequisite(s): BLCT 2332 with D or better
Level: Lower
This course continues the study of tractors, dump trucks, and front-end loaders. Safe operation practices as well as preventive maintenance requirements will be covered for each piece of equipment. Common uses of each piece of equipment and their attachments will also be discussed.

BLCT - 2342 Soils, 2.00 Credits
Level: Lower
This course describes basic soil classification methods, details factors affecting classification, and presents soil density and compaction requirements for highway and building construction.

BLCT - 2352 Compaction & Stabilization, 2.00 Credits
Level: Lower
This course presents the use, safe operation, and specialized maintenance of compaction equipment to include pneumatic tire compactor, steel-wheel compactor, vibratory compactor and sheepfoot compactor. The use of compaction and stabilization equipment for cleaning and compacting soils, compaction cement and asphalt will be explained and demonstrated. A discussion of soil stabilization methods and erosion control methods will be included.

BLCT - 3302 Blueprint Reading & Grades III, 2.00 Credits
Prequisite(s): BLCT 2312 with D or better
Level: Lower
This course covers the study and installation of various types of copper pipe and tubing used in various plumbing systems and fixtures. The students are given instruction on materials marking and compacting, and primary/secondary piping. The course will also cover the applications and installations of various types of drainage piping used in drainage and venting systems. Also covered will be discussions into areas of multiple boiler controls, injection mixing controls and outdoor reset controls. The theory and application of different motors used in the HVAC industry are also presented.

BLCT - 3352 Tracked Finishing & Grading, 2.00 Credits
Prequisite(s): BLCT 3352 with D or better
Level: Lower
This course introduces students to basic thermodynamic principles. The course will include the study of tractors, dump trucks, and front-end loaders. The students will be taught the principles of compaction, water temperature, and the application of various pieces of equipment. The course will also cover the applications and installations of various types of drainage piping used in drainage and venting systems. Also covered will be discussions into areas of multiple boiler controls, injection mixing controls and outdoor reset controls. The theory and application of different motors used in the HVAC industry are also presented.

BLCT - 3353 Hydronic Piping Systems, 3.00 Credits
Prequisite(s): BLCT 3353 with D or better
Level: Lower
The objective of this course is to develop an understanding of pipe materials, fittings and various components used in hydronic heating systems. This includes knowledge about types and performance of circulating pumps. Also included are heat emitters which have been placed on temperature controls and switching. Elementary wiring diagrams are introduced.

BLCT - 3361 Electrical Fundamentals, 3.00 Credits
Prequisite(s): BLCT 3361 with D or better
Level: Lower
This course presents the use, safe operation, and special maintenance of compaction equipment to include pneumatic tire compactor, steel-wheel compactor, vibratory compactor, and sheepfoot compactor. The use of compaction and stabilization equipment for cleaning and compacting soils, compacting cement and asphalt will be explained and demonstrated. A discussion of soil stabilization methods and erosion control methods will be included.

BLCT - 3362 Advanced Operations, 2.00 Credits
Prequisite(s): BLCT 2323 with D or better
Level: Lower
This course presents the use, safe operation, and maintenance of excavators, trucks, and trailers. The course content will explain and demonstrate the use of excavators in ditching, grading, and slope-fitting operations, describing various operating techniques, and describes the types of trucks used in highway/heavy construction; these include rigid frame trucks, such as dump trucks, transit-mix trucks, and tractor-trailer trucks. The trailers discussed include bulk haulers and flatbed trailers. Truck controls and components, preventive maintenance and operation, and required licensing regulations are also covered. This course will continue to reinforce the operation of backhoes, bulldozers, and front-end loaders.

BLCT - 3363 Highway Surfaces, 2.00 Credits
Level: Lower
This course includes the processing, preparation and application of asphalt and concrete to a highway surface. Also covered is the application of asphalt pavers and all equipment required to perform paving and concrete applications.

BLCT - 3364 Construction Proj Supervision, 2.00 Credits
Level: Lower
This course will discuss the principles of project planning, scheduling, estimating, and management. The student will practice different roles and skills required for supervising personnel. Students will be required to understand and utilize computer-based applications during the course.

BLCT - 3365 Hydro Comp, Circu Pump&Ht Emit, 3.00 Credits
Prequisite(s): BLCT 3365 with D or better
Level: Lower
The objective of this course is to develop knowledge of electricity and the units used to describe and measure it. The course will also show how different types of electrical circuits function and what different electrical components do in those circuits. Special emphasis is placed on temperature controls and switching. Elementary wiring diagrams are introduced.

BLCT - 3366 Drainage Systems & Piping, 3.00 Credits
Corequisite(s): Level: Lower
This course covers the instruction in the design, joining, installation, and proper application of various types of drainage piping used in drainage and venting systems. Also covered will be instruction and study of public and private sewage systems, their make-up, various aspects of troubleshooting and maintenance.

BLCT - 3367 Water Heats-Plumb Fix Inst&Rpr, 3.00 Credits
Corequisite(s): Level: Lower
This course covers the study of safe practices and OSHA training related to the plumbing trades. All students obtain a 10-hour OSHA training card upon successful completion of the course. The history of plumbing and how plumbing systems and codes originated is covered. This course also covers the instruction in the proper care, use, and application of various hand and power tools used in the plumbing trade.

BLCT - 3368 Applied Learning-Practicum
Applied Learning-Practicum
Corequisite(s): Level: Lower
BLCT - 3606 Building Construction Lab III, 6.00 Credits
Prerequisite(s): BLCT 2206 with D or better
Level: Lower
Applied Learning Practicum
This hands-on applied learning lab is a continuation of skills learned in BLCT 2206. Specific subject matter will include advanced framing principles, interior and exterior details, and roofing systems. Students will participate in a remodeling project where they will use critical thinking skills to apply understanding that was developed in previous courses. There will be continuous advancement in estimating, construction estimating and print reading work with computer-aided drafting and design. Much of the lab will be conducted on genuine construction job sites. Throughout the semester, students will be required to demonstrate learned competency through a series of proficiency assessments.

BLCT - 3612 Roofing Systems, 2.00 Credits
Level: Lower
This course will cover the theory and application of different roofing materials and techniques for residential and commercial construction. Emphasis is placed on basic principles of step flashing and water proofing for all types of roofing systems.

BLCT - 3622 Advanced Print-reading & Estimat, 2.00 Credits
Prerequisite(s): BLCT 2252 with D or better
Level: Lower
This course gives specific information on the contractor's role in preparing quantity take-off estimates for final bid offerings. The course will build from the foundational information given in Introduction to Print Reading and Estimation (BLCT 2252). Students will learn the full extent of all contract documents, with an emphasis on drawing and reading blueprints, understanding building codes, identifying symbols, and gaining a full understanding of the specifications for a given project.

BLCT - 3632 Exterior Construction Details, 2.00 Credits
Level: Lower
This course covers the methods used in the construction and installation of residential exterior elements. The course content includes the construction of porches, decks, patios, and breezeways. Students will learn about exterior elements such as flooring/decking materials, different types of entrance doors and their installation, garage doors, pier footings, metal framing systems, roof systems and structural supports, as well as building code requirements for these systems.

BLCT - 3642 Interior Trims, 2.00 Credits
Level: Lower
This course is a survey of the skills necessary to perform quality installation and fabrication of interior trim, doors, windows, and stair components. Course work also includes the design, fabrication, and installation practices of closet shelving.

BLCT - 3652 Advanced Framing, 2.00 Credits
Prerequisite(s): BLCT 1242 with D or better
Level: Lower
This course will cover the theory and application of framing techniques in residential and light commercial construction. Emphasis will be placed on basic principles of step framing, and water proofing for all types of roofing systems. The course will also cover various stairway configurations and their calculations and layout.

BLCT - 3702 Residential Foundations, 2.00 Credits
Prerequisite(s): BLCT 2262 with D or better
Level: Lower
This course further develops concepts introduced in BLCT 2262. The student will be presented with advanced techniques to construct residential foundations using CMU (concrete masonry unit) construction. Reinforced footings, walls, piers and stoops, and foundation drainage are presented in this course.

BLCT - 3706 Masonry Construction Lab III, 6.00 Credits
Prerequisite(s): BLCT 2206 with D or better
Level: Lower
Applied Learning Practicum
This course covers the survey and application of practices and skills used in residential and light commercial masonry and concrete construction. Emphasis is on basic principles and development of skills used in construction operations to safely perform layout, measurement, cutting, and installation processes. This hands-on applied learning lab will include the masonry elements of brick, CMU, stone, pavers and concrete flatwork as related to masonry construction. The lab experience will include the proper and safe erection of scaffolding. Throughout the semester students will be required to demonstrate learned competency through a series of proficiency assessments.

BLCT - 3712 Building Stone, 2.00 Credits
Prerequisite(s): BLCT 2262 with D or better
Level: Lower
This course presents to the student the proper knowledge, techniques, and tool and equipment use to construct stonewall, facades and building elements of natural and cast stone.

BLCT - 3722 Fireplace & Hearth Oven Design, 2.00 Credits
Prerequisite(s): BLCT 2262 with D or better
Level: Lower
This course presents the proper knowledge and techniques to construct site-built fireplaces and hearth ovens. The course will also cover the installation of various refractory products.

BLCT - 3732 Masonry Restoration, 2.00 Credits
Prerequisite(s): BLCT 2262 with D or better
Level: Lower
This course covers the knowledge and techniques to analyze, prepare and restore deteriorated or damaged masonry. Cleaning, caulking and tuck-pointing are included in this course.

BLCT - 3742 Sustainability w/Masonry Const, 2.00 Credits
Prerequisite(s): BLCT 2262 with D or better
Level: Lower
This course presents to the student the proper knowledge to install sustainable masonry paving and wall systems. Sustainable masonry products can contribute to a longer life cycle of a building, as well as the sustainable occupancy and use of a building. Run-off reducing permeable paving systems are included in this course.

BLCT - 3752 All Weather Masonry, 2.00 Credits
Prerequisite(s): BLCT 2262 with D or better
Level: Lower
This course covers the proper knowledge, planning, mobilization and techniques to construct masonry in cold/freezing weather and the extremes of hot weather.

BLCT - 4002 Below Grade Construction, 2.00 Credits
Level: Lower
This course discusses the below grade construction processes that are necessary to perform highway/heavy construction. Excavation support systems, excavation safety, underground piping materials and fittings, joining methods for underground pipe, box culverts, and catch basins are covered.

BLCT - 4143 Basic House Wiring-Forecd Air, 3.00 Credits
Prerequisite(s): BLCT 3453 with D or better
Level: Lower
Course Fee $13.00
This course offers instruction and application of basic house wiring and theory. The student will also be introduced to the heating trade and to the theory of proper furnace installation. Reasons for human comfort and discomfort as it pertains to forced air heat are discussed. Troubleshooting of disturbing and disturbing noises and conditions as well as indoor air quality is also covered in this course.

BLCT - 4153 Sheet Metal Fabrication, 3.00 Credits
Prerequisite(s): BLCT 3453 with D or better
Level: Lower
Course Fee $24.00
This course covers the instruction and application of various materials of the sheet metal trade. Students are also instructed in the forming and use of different seams and edges required for various applications. Instruction and proper application of methods of joining sheet metal such as riveting, welding, brazing, and soldering is also covered.

BLCT - 4163 Mid & Hi Effy Furn-Alt Warm Ar, 3.00 Credits
Prerequisite(s): BLCT 3453 with D or better
Level: Lower
This course covers the proper evaluation and installation of mid and high efficiency furnaces. Fuel oil burner breakdown, maintenance, and installations are covered in this course. Instruction is given on the estimating and installation of natural gas and propane gas distribution pipelines. Alternate warm air heat sources, types, and installations are also taught. Proper trade practices of the HVAC technician, heat system analysis, and maintenance are also covered in this course.

BLCT - 4173 Sheet Mtl Air Dist Syst &Vent, 3.00 Credits
Prerequisite(s): BLCT 3453 with D or better
Level: Lower
This course covers instruction in the proper use and application of various hand and power tools used in the sheet metal trade. Sheet metal trade and tool safety is also covered in this unit. Students will be introduced to different sheet metal types and their proper applications as well as mechanical drawing. Students will develop and lay out patterns for sheet metal to be cut and formed.

BLCT - 4203 Air Cond Components & Install, 3.00 Credits
Level: Lower
Students will learn about air conditioning components and accessories. Students will learn how to install air conditioning including pressure testing, evacuation, and charging.

BLCT - 4213 Air Conditioning Fundamentals, 3.00 Credits
Level: Lower
This course teaches the fundamentals of air conditioning and how the components of the system work together to perform the cooling process. This includes an examination of types of systems, and detailed look at the types and performance of evaporators and compressors.

BLCT - 4223 Air Cond Perf & Trou & Ht Pmp, 3.00 Credits
Level: Lower
This course teaches electrical and mechanical troubleshooting capabilities that are usable in real life applications. Students will also study heat pumps and a variety of applications in which they are feasible.

BLCT - 4233 Heat Loss & Heat Gain, 3.00 Credits
Prerequisite(s): BLCT 3523 with D or better
Level: Lower
Students will determine the heat loss and heat gain in a residential or small commercial building, which would allow a technician to determine what size equipment and to select and size heating and cooling ductwork and diffusers.

BLCT - 4243 Refrigeration Handling Cert, 3.00 Credits
Level: Lower
This course prepares students to take the EPA Refrigerant Handling Certification test.

BLCT - 4253 Residential Duct System Design, 3.00 Credits
Prerequisite(s): BLCT 4233 with D or better
Level: Lower
This course teaches electrical and mechanical troubleshooting capabilities that are usable in real life applications. Students will also study heat pumps and a variety of applications in which they are feasible.

BLCT - 4302 Basic CAD-Residential Drawing, 2.00 Credits
Prerequisite(s): BLCT 3622 with D or better
Level: Lower
This is a computer-based course of instruction that provides the student with training on basic computer aided drafting (CAD) techniques. This course utilizes AutoCAD, incorporating the application of projects and the AutoCAD commands that allow the student to learn at their own pace. There will be an emphasis on developing preliminary CAD residential blueprints.
BLCT - 4303 Interior Surfaces, 3.00 Credits
Prerequisite(s): BLCT 3323 with D or better
Level: Lower
This course covers the installation of finished ceiling, floor, and wall materials as well as the principles of stair building. The student will install floor and wall materials as well as calculate, cut, and assemble stair parts in the laboratory.

BLCT - 4306 Building Construction Lab IV, 6.00 Credits
Prerequisite(s): BLCT 3606 with D or better
Level: Lower
Applied Learning-Practicum
This hands-on applied learning lab is a continuation of skills learned in Building Construction Lab III. Subject matter expands on an understanding of construction systems within the carpentry discipline and links other aspects of the construction industry to better prepare students for the job market. Students will produce a finish-quality cabinet, develop skills in the installation of interior finishes, and learn about mechanical systems to include electrical and plumbing. Students will also explore career paths in the construction industry which may include commercial construction, green building, small business ownership, and more. Much of the lab will be conducted on genuine construction job sites. Throughout the semester, students will be required to demonstrate learned competency through a series of proficiency assessments.

BLCT - 4332 Green Building & Bldg Science, 2.00 Credits
Level: Lower
This is a study in the concepts of green building and building sciences, which includes alternative building techniques designed to allow building practices that result in energy efficient, healthier and economically sustainable buildings. Students will learn about alternative sources of heat and cooling, electricity, water efficiency and alternative building materials. Students will employ critical thinking skills in the study of building science and learn the concepts behind moisture and thermal control and building envelope systems. Course content also includes study of energy efficiency rating systems such as LEED (Leadership in Energy and Environment Design) and its impact on the current construction industry.

BLCT - 4342 Mechanical Systems, 2.00 Credits
Level: Lower
This course is an overview of plumbing, HVAC, and electrical installation to develop job site coordination and cooperation among various trades working at a construction site. Students will develop an understanding necessary to perform fundamental tasks with regard to electrical and plumbing.

BLCT - 4352 Interior Finishes, 2.00 Credits
Level: Lower
This course is the study of interior finishes used in the building trades. Students will learn terminology and techniques and employ critical thinking skills in the study of wall and ceiling finishes, ceramic tile, wood flooring and resilient tile. Study also includes finish cabinet installation as well as countertop installation, including plastic laminate, solid surface and granite tops. Safe handling of materials, tools and equipment will be included in this course of study.

BLCT - 4362 Cabinetry, 2.00 Credits
Level: Lower
This course introduces students to cabinet construction. Course content includes cabinet designs, components needed for fabrication, kitchen layouts, and cabinet installation. This course also explores a variety of countertop and how they are manufactured and installed.

BLCT - 4372 Timber Framing, 2.00 Credits
Level: Lower
This course will focus on the progression of timber framing traditions and practices from the Far East, Europe, and America. We will begin with an in-depth look at the centuries-old techniques employed in timber framing, and then follow the progression through braced-frame and balloon frame buildings. Layout procedures covered and employed include scribe rule, centerline, and square rule. Specific engineering principles and appropriate joint design will be thoroughly covered.

BLCT - 4402 Wheeled Finishing & Grading, 2.00 Credits
Level: Lower
In this course students will learn how motor grader controls work and function at industry standards as well as the various types of controls for motor graders. Students will learn about wheeled dozers and their effects as well as various controls and types. Students will learn about wheeled excavators and how they are used in grading.

BLCT - 4406 Heavy Equipment Lab IV, 6.00 Credits
Prerequisite(s): BLCT 3306 with D or better
Level: Lower
Applied Learning-Practicum, Course Fee $136.00
This applied learning lab builds off skills acquired in HEO Lab pt. III. Students will gain understanding of underground while maintaining proper grade from a pipe laser. Students will also use dual sloping lasers to industry standards. Students will setup and utilize GPS systems while safely operating a motor grader. Job management and completion of day-to-day operations study on a construction site while following all safety standards in an organized manner will also be included.

BLCT - 4412 Finish Processes, 2.00 Credits
Level: Lower
In this course, students will learn about the work site finish processes for sub-surface and surface finishing methods and techniques. Also covered in this course: sub-surface/ surface piping and drainage systems, materials used, equipment used and interpretation of production requirements/specifications.

BLCT - 4422 Project Management & Support, 2.00 Credits
Level: Lower
This course will build on the concepts from Construction Project Supervision. Students will use Gantt charts, spreadsheets, and project management tools to track project costs and completion dates. Computer based technology will be utilized during the course. Leadership techniques will also be discussed.

BLCT - 4432 Advanced Safety, 2.00 Credits
Level: Lower
This course teaches advanced safety techniques and requirements for heavy equipment operators. Emphasis is placed on organizing and conducting safety meetings. OSHA hazardous material requirements and safe operation of equipment will be discussed. Safety reporting, inspections, and investigations will also be covered.

BLCT - 4442 Machine Control Technology, 2.00 Credits
Level: Lower
This course discusses advanced grading techniques utilizing both indicate and machine control technology. The use of the dual slope laser in conjunction with machine-mounted receivers will be reinforced. The course also describes the available technology and discusses its use in the field.

BLCT - 4482 Construction Entrepreneur, 2.00 Credits
Level: Lower
This course will explore entrepreneurial opportunities available in the construction industry. The course will include an overview of the basic requirements of ownership of a small business. Particulars for financing, law, regulation, permitting, insurance, and employee payroll will be discussed. In addition, students will study the relationships between general contractors, vendors, and sub-contractors.

BLCT - 4492 Commercial Construction, 2.00 Credits
Level: Lower
This course is a study of the methods used in commercial construction. Course study includes commercial print reading, foundations, structural practices, exterior and interior finishes, and roofing systems. Students will study different employment and career opportunities associated with the commercial construction industry. Students will engage critical thinking skills in the study of safety issues and how to correct them in relation to commercial construction.

BLCT - 4502 ACI Concrete Testing, 2.00 Credits
Prerequisite(s): BLCT 3706 with D or better
Level: Lower
This course presents the student with the proper knowledge and techniques to perform American Concrete Institute (ACI) quality control field tests on freshly mixed concrete and masonry grout. Upon completion, the student may elect to take the ACI field technician exam provided by a qualified ACI examiner.

BLCT - 4506 Masonry Construction Lab IV, 6.00 Credits
Prerequisite(s): BLCT 3706 with D or better
Level: Lower
Applied Learning-Practicum
This course builds upon the skills learned in BLCT 3706 - Masonry Construction Lab III. Emphasis will be placed on advanced principles and further development of skills used in masonry construction operations to safely perform layout, measurement, cutting, and installation processes. This hands-on applied learning lab will include masonry and forming work on real-world projects and authentic constructions sites. Throughout the semester, students will be required to demonstrate learned competency through a series of proficiency assessments.

BLCT - 4512 Masonry Stairs & Ramps, 2.00 Credits
Prerequisite(s): BLCT 3706 with D or better
Level: Lower
This course presents the student with the proper knowledge and techniques to build masonry and concrete stairs and ramps that comply with the applicable building codes.

BLCT - 4522 Hardscaping with Masonry, 2.00 Credits
Prerequisite(s): BLCT 3706 with D or better
Level: Lower
This course presents the student with the proper knowledge and techniques to build outdoor masonry patios, walls, low-rise retaining walls, and outdoor kitchens with segmental retaining wall blocks, concrete and brick pavers and natural stone.

BLCT - 4532 Print Reading for Masonry, 2.00 Credits
Prerequisite(s): BLCT 3706 with D or better
Level: Lower
This course presents the student with the proper knowledge and techniques to read, interpret, and navigate commercial building plans and shop drawings related to masonry construction.

BLCT - 4542 Masonry Sketching & Detailing, 2.00 Credits
Prerequisite(s): BLCT 3706 with D or better
Level: Lower
This course presents the student with the proper knowledge, skill and techniques to produce simple sketches and/or shop drawings of masonry details as they pertain specifically to the masonry trade.

BLCT - 4552 Business Planning Masonry/Conc, 2.00 Credits
Prerequisite(s): BLCT 3706 with D or better
Level: Lower
The project is subject to the department approval. Each student chooses or is assigned at graduation professional employment. Each student must complete a formal oral presentation. This weekly seminar also deals with various aspects of post-technology Bachelor of Science seniors. Students will design and build a technical project to be continued in BSET 8003. This weekly seminar also deals with various aspects of post-graduation professional employment. Each student must complete a formal oral presentation. The project is subject to the department approval. Each student chooses or is assigned at least a project advisor, industry or faculty advisor.

BSET - BACHELOR OF SCI ENGR TECH
BSET - 7001 Senior Seminar & Project Des, 1.00 Credit
Prerequisite(s): COMP 3703 or D or better and SPCH 1083 with D or better and MEC 5334 with D or better or MCT 5004 with D or better
Level: Upper
Applied Learning, Upper Level
First of a two-semester sequence required for all mechanical engineering technology, electrical engineering technology, computer engineering technology and mechatronics technology Bachelor of Science seniors. Students will design and build a technical project to be continued in BSET 8003. This weekly seminar also deals with various aspects of post-graduation professional employment. Each student must complete a formal oral presentation. The project is subject to the department approval. Each student chooses or is assigned at least a project advisor, industry or faculty advisor.
COURSE DESCRIPTIONS

BUAD - 4403 Business Computer Applications, 3.00 Credits
Level: Lower
Applied Learning-Practicum

This course will introduce the student to multiple aspects of business computer applications including the representation, storage, manipulation, and use of digital information. Topics include: essential applications; information collection and analysis; research methods; and using digital information to enhance presentations in the workplace. This course prepares students to work with Microsoft Office in a business setting. Students will be introduced to key ethical issues they will face in the context of using information technology. Students will develop electronic documents, spreadsheets, and databases. Students will also develop and present an electronic presentation in order to document the students' competence applying business solutions.

BUAD - 5003 Management Communications, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better or BUAD 2033 with D or better
Level: Upper
Upper Level

This course is designed to provide the student with the range of communication issues that a manager will face in the future. Enduring issues on how to write and speak effectively and devise a successful communications strategy as well as how to make the best use of telecommunications technology will be explored. Through lecture and application, the student will study such areas as handling feedback, managing meetings, communicating change, communicating with diverse populations and external audiences. Special emphasis will focus on how to use communications to achieve an organizational mission, how to adapt their communications to the specific needs of their audiences, and how to prepare for intercultural communication challenges.

BUAD - 5013 Principles of Leadership, 3.00 Credits
Prerequisite(s): BUAD 3153 with D or better or TMGT 7153 with D or better
Level: Upper
Upper Level

This course is an examination of the theory, practice, and principles of leadership within the realm of management. Major topics include the evolution of leadership theory, an examination of the major leadership theories operating in modern organizations, and the impact of each on organizational effectiveness. The development, refinement, and application of effective leadership principles and skills are also examined. Students will be expected to analyze the spectrum of leadership theories and formulate opinions as to the most effective and efficient forms of leadership given a specific situation or organizational context.

BUAD - 5023 Human Resource Management, 3.00 Credits
Prerequisite(s): BUAD 3153 with D or better or TMGT 7153 with D or better
Level: Upper
Upper Level

This course provides students with an understanding of human resource management, and how they can improve their use of human resources through management tactics. It will discuss what human resource management contributes to the organization in terms of effectiveness and competitiveness. Discussion and research will take place on some of the challenges and workforce issues being faced in this area. Some of the topics covered include equal opportunity and the legal environment, strategic human resource planning, recruiting and selection, staffing, training and development, compensation, performance appraisal, employee and labor relations, and workplace safety.

BUAD - 5033 Retirement Planning, 3.00 Credits
Prerequisite(s): BUAD 4203 with D or better
Level: Upper
Upper Level

This course provides an overview of the retirement planning process. It will describe the ongoing, systematic procedures a financial planner will utilize to assist a client in establishing meaningful retirement objectives and creating appropriate strategies. Topics will include employer-sponsored retirement plans, Social Security, Medicare, Medicaid, post retirement health and quality of life issues, as well as investment, estate, and tax planning strategies.

BUAD - 5043 Business Ethics, 3.00 Credits
Prerequisite(s): BUAD 3153 with D or better or TMGT 7153 with D or better
Level: Upper
Upper Level

This course explores the complex nature of ethical issues confronted by modern business leaders and managers. It integrates perspectives from a variety of disciplines, including, but not limited to, philosophy, law, management, economics, marketing, and public policy. Coursework is designed to illustrate the ethical principles applicable in a business setting while considering policies concerning employees, customers, and the general public. The course will focus on the business environment, risk and rates of return, capital budgeting techniques, the cost of capital and capital structure, analysis of financial statements, financial planning and control, and ethics in finance.
 ***COURSE DESCRIPTIONS***

**BUAD - 6113 Strategic & Creative Prob Solv, 3.00 Credits**

Prerequisite(s): TMGT 7153 with D or better or BUAD 3153 with D or better

Level: Upper

Upper Level

The focus of this course is the analysis of issues that managers typically address in technology-based environments and application of creative problem solving techniques. Emphasis is on fostering creative thinking as a way to approach and solve problems, and analysis of personal thinking styles. Problem, evaluation, and decision analysis techniques will be used. Preparation and presentation of written and oral reports is required. The course offers an opportunity for students to practice communication of ideas and accomplishments through informal discussion, formal presentation, team decision-making and team learning using collaborative efforts to achieve a common goal. The applied problems explored in this course are based upon real and current industry problems.

**BUAD - 6213 Business in the European Union, 3.00 Credits**

Level: Upper

Applied Learning Int/Dom Trvl. Upper Level

The course describes how economic, political and social factors interrelate, and influence business in the European Union. Students will research sustainable business practices from different European Union member state's perspective. Guest lecturers and field trips are planned for students enrolled in the study abroad program.

**BUAD - 6303 Mktg & Commng thru Socl Media, 3.00 Credits**

Prerequisite(s): ( Cisy 1103 with D or better or Cisy 1003 with D or better or Cisy 1023 with D or better ) and ( BUAD 3153 with D or better or TMGT 7153 with D or better )

Level: Upper

Upper Level

Upon completion of this course, the student will understand the key concepts of social media and their application in today's business environment. This course is designed specifically to address business needs related to the development, design, and implementation of social media projects in areas such as customer relationship management (CRM), public relations, and internal organizational communication. In addition to the presentation of key concepts via lectures, this course will use case studies to illustrate business applications of social media, and hands-on projects in which students will create their own personal or "brand" online. Students will also work on a larger team project that involves the development of a social media project for a not for profit organization that is selected and approved in coordination with the faculty.

**BUAD - 6403 Proj Mgmt for Busi Prosflns, 3.00 Credits**

Prerequisite(s): ( Cisy 1103 with D or better or Cisy 1003 with D or better or Cisy 1023 with D or better or BUAD 4403 with D or better ) and ( BUAD 3153 with D or better or TMGT 7153 with D or better )

Level: Upper

Upper Level

This course provides a comprehensive introduction to the standards, principles, guidelines, and processes for project management in business, government, and non-governmental organizations. The primary focus of this course will be the business project management processes identified in the Project Management Institute (PMI) Guide to the Project Management Body of Knowledge (PMBOK Guide). With the PMBOK Guide as the primary text, students will use a personal case study to develop the key deliverables for a Project Management Plan. Microsoft Project will be used for some aspects of the case study work, but instruction in use of the software will be limited to its basic functions (task listing, sequencing, and scheduling; resource identification and allocation; and cost estimating). Students will also become familiar with the use of GANTT charts and critical path analysis related to project management in general business settings.

**BUAD - 7004 Small Business Planning & Mgmt, 4.00 Credits**

Prerequisite(s): MKTG 2073 with D or better or BUAD 3153 with D or better or TMGT 7153 with D or better

Level: Upper

Applied Learning-Creative Work, Upper Level

This course offers the student a step-by-step approach to starting and managing a small business. The course covers the fundamental principles of marketing, law, management, and office administration as applied to beginning a new venture. Each student will prepare a comprehensive individualized business plan to include a market profile, site analysis, place, products, objectives, goals, marketing strategies, and executive summary. A major focus of this course is to explore each step necessary in structuring and launching a new venture, and discussing ways of recruiting the necessary resources to accomplish this venture.

**BUAD - 7023 Legal Environment of Business, 3.00 Credits**

Level: Upper

Upper Level

This course will expose students to the legal environment within which businesses operate. It focuses on business' relationship with government agencies (public law issues) as well as with other businesses, consumers, suppliers, etc. (private law issues). The course specifically addresses the global, political, social, environmental and regulatory legal issues confronting businesses, with a special emphasis on the law of technology. It is intended to better equip the business manager for decision making by exploring the legal issues involved in contracts, torts, business organizations, employment law, Uniform Commercial Code, intellectual property law and Constitution Law. A variety of specific problems for business found within the law will be examined and analyzed through case briefs and studies, research projects and advocacy exercises. Students will have an opportunity to explore law related topics of particular interest to themselves with oral presentations to the class.

**BUAD - 7033 Operations Management, 3.00 Credits**

Prerequisite(s): BUAD 3153 with D or better or TMGT 7153 with D or better

Level: Upper

Upper Level

Upon completion of this course, the student will understand modern (quantitative and qualitative) concepts in production management and their application to problems relevant to today's workplace, for both industrial and service organizations. This course specifically addresses the impact of operational decisions on the firm and emphasizes cross-functional decision making. The course essentially deals with the process design, delivery systems, quality management, ERP, inventory control, scheduling and management of transformation processes to create and deliver value to customers by identifying opportunities and direction for change. This course will cover the terminology, problems, concepts and tools associated with managing operations. Special topics include: supply chain management, e-operations, service blueprinting, competency-based strategy, Six Sigma, lean systems, and mass customization.

**BUAD - 7043 Quantitative Decision Making, 3.00 Credits**

Prerequisite(s): MATH 1123 with D or better or MATH 2124 with D or better or MATH 1014 with D or better or MATH 1033 with D or better or MATH 1034 with D or better

Level: Upper

Upper Level

This course is an introduction to quantitative problem solving methods used in business applications. Topics include General Linear Programming and Sensitivity Analysis; Transportation, Assignment, and Transshipment Problems; Network Flow Algorithms; Project Scheduling;PERT/CPM; Inventory Models; Waiting Line Models; and Markov Processes. Software applications will be utilized whenever possible to aid students in the problem solving process.

**BUAD - 7273 Organizational Behavior, 3.00 Credits**

Prerequisite(s): TMGT 7153 with C or better or BUAD 3153 with C or better

Level: Upper

Upper Level

This course is designed to create an understanding of the behavior of people in organizations to help students to be more productive as well as to be satisfied in organizational settings. It focuses on helping students to advanced behavioral science theories and applications in management. Topics include work motivation, work attitudes and job satisfaction, personality and values, socialization, work teams, communication, leadership, power, politics, decision making, and management of change. The course will also focus on personal growth and development. Students will integrate their learning through active participation in experiential exercises, personal experiences, case analysis, and general behavior experiments and study.

**BUAD - 8003 Management Info Systems - MIS, 3.00 Credits**

Prerequisite(s): ( Cisy 1003 with D or better or Cisy 1103 with D or better or Cisy 1023 with D or better ) and ( BUAD 3153 with D or better or TMGT 7153 with D or better )

Level: Upper

Upper Level

This course focuses on a management perspective of information systems activity from development through implementation. The goal of this course is to help business students learn how to use and manage information technologies to revitalize business processes, improve business decision making, and gain competitive advantage. This course places major emphasis on up-to-date coverage of the essential role of Internet technologies in providing a platform for business, commerce, and collaboration processes among all business stakeholders in today's networked enterprises and global markets. This course places a major emphasis on the strategic role of information technology in providing business professionals with tools and resources for managing business operations, supporting decision making, and gaining competitive advantage.

**BUAD - 8013 International Business, 3.00 Credits**

Prerequisite(s): BUAD 3153 with D or better or TMGT 7153 with D or better

Level: Upper

Upper Level

This course is an application of theoretical approaches to the globalization of business. Major concepts, tools, and processes will be explored through lecture, readings, team activities, and case study applications. Major topics include the examination of how businesses and managers focus and succeed in the global economy including an overview of the economic, political, legal, social, and cultural systems involved. Emphasis is given to the scope and theories of international business, the framework for international transactions, relations with host countries and host cultures, global business strategies, and the contrasting international management and ethical issues managers may face.

**BUAD - 8023 Strategic Management Capstone, 3.00 Credits**

Prerequisite(s): ( BUAD 3153 with D or better or TMGT 7153 with D or better ) and BUAD 5023 with D or better and BUAD 6003 with D or better and MKTG 2073 with D or better or MKTG 6003 with D or better ) and BUAD 7033 with D or better

Level: Upper

Applied Learning-Creative Work, Upper Level

This course is an application of theoretical approaches to Strategic Management. Major concepts, tools, and processes will be explored through lecture, readings, team activities, and case study applications. The course includes creating a competitive advantage, analyzing the external and internal environment of an organization, recognizing an organization's intellectual assets, developing business level, corporate level, and international level strategies, strategic controls, strategic contracts, organizational design, creating a learning organization and an ethical organization, and managing innovation and fostering corporate entrepreneurship. The completion of a business simulation will be required.

**CHEM - CHEMISTRY**

**CHEM - 1013 Introductory Chemistry, 3.00 Credits**

Level: Lower

Gen Ed - Natural Sciences, Liberal Arts and Science

This non-laboratory course is designed for students who need to understand the basic concepts of chemistry. Students will explore mathematical relationships using stoichiometry labeling (conversion factor method), atomic and molecular structures (with emphasis on the special nature of carbon), pH, essential building block molecules, water, ions and ionization, and other topics of interest to those who live in our chemical world. Students cannot receive credit for CHEM 1013 if CHEM 1114 or CHEM 1984 is concurrently or previously taken.

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CHEM - 1023 Foundations in Chemistry, 3.00 Credits
Level: Lower
Applied Learning-Other, Course Fee $8.00, Gen Ed - Natural Sciences, Liberal Arts and Science
This course is intended for physical science and engineering majors. While providing a general overview of modern chemistry, the course emphasizes the development of chemical concepts, and problem-solving techniques that are essential in science. General topics include atomic structure of matter, chemical reactions, thermochemistry, electronic structure of the atom and chemical bonding.

CHEM - 2124 General Chemistry II, 4.00 Credits
Prerequisite(s): CHEM 1114 with D or better or CHEM 1984 with D or better
Level: Lower
Applied Learning-Other, Course Fee $27.00, Gen Ed - Natural Sciences, Liberal Arts and Science
This course is a continuation of General Chemistry I and is intended for science majors. It completes the presentation of topics started in General Chemistry I by surveying the topics of: Acids & Bases, Electrochemistry and Nuclear Chemistry. After these foundations are laid, the course will then explore two broad chemical themes: 1) Organic Chemistry, where the language and chemistry of selected functional groups (alkanes, alkenes, aromatics, alcohols, aldehydes, ketones, amines, and carboxylic acids) along with an exploration of chirality can be covered and 2) Biochemistry, where the chemistry and structure of carbohydrates, lipids and proteins will be surveyed.

CHEM - 2964 Chemical Principles II, 4.00 Credits
Prerequisite(s): CHEM 1984 with D or better or CHEM 1114 with D or better
Level: Lower
Applied Learning-Other, Course Fee $10.00, Gen Ed - Natural Sciences, Liberal Arts and Science
This course is a continuation of Chemical Principles I and is intended for physical science and engineering majors. Those basic concepts from the first semester are applied to more complex aspects of chemistry which include the states of matter, solutions, thermodynamics, equilibrium, electrochemistry and nuclear chemistry. In addition, the course is designed to have more out-of-class activities related to these topical areas which are completed by a team of students.

CHEM - 3514 Organic Chemistry I, 4.00 Credits
Prerequisite(s): CHEM 2124 with D or better or CHEM 2984 with D or better
Level: Lower
Applied Learning-Other, Course Fee $33.00, Gen Ed - Natural Sciences, Liberal Arts and Science
This course is the first semester of a two semester sequence in organic chemistry and is a thorough introduction to the language, materials, concepts and principles of organic chemistry. Lecture topics include: VSEPR and valence hybrid and molecular orbital theory; the language of stereochemistry; the basic "activated complex" model of Eyring and Polanyi; free radical reactions, notably as they occur in alkanes; alkene preparation and synthesis; SN1 and SN2 substitution reaction pathways notably as they occur in alkyl halides and alcohols; E1 and E2 elimination pathways, notably as they occur for alcohols and alkyl halides; the stereochemistry and energetics of cycloalkanes, and an introduction to retrograde, multi-step synthesis. Lab skills taught include: principles and practice of simple, fractional and steam distillation; recrystallization, solvent extraction, melting point, refractive index determination, IR and GC instrumental analysis. The lab component will include classic techniques in isolation, purification and assay preparation, along with an introduction to chromatography.

CHEM - 4524 Organic Chemistry II, 4.00 Credits
Prerequisite(s): CHEM 3514 with D or better
Level: Lower
Applied Learning-Other, Course Fee $62.00, Gen Ed - Natural Sciences, Liberal Arts and Science
This course is the second semester of a two semester sequence in organic chemistry starting with Organic Chemistry I. Lecture topics include: synthetic routes to and from unsaturated alkenes and alkynes; alcohols, aldehydes, ketones, and carboxylic acids with emphasis on accompanying mechanistic pictures notably: radical and carbonation additions, concerted additions, radical substitutions; synthetic routes to and from substituted aromatic compounds with emphasis on the electronic substitution mechanism; synthetic routes to and from cycloalkyl compounds including: aldehydes, ketones, carboxylic acids and their derivatives with particular focus on the special role played by the beta hydrogen; a brief survey of reactions and properties of alkenes, alkynes, enolates, and a survey of carbohydrates structure and chemistry. A brief introduction to stereochemical language not covered in the first semester is also carried out. Lab topics include mastery of organic techniques not covered in the first semester, e.g. NMR and polarimetry, mass spectroscopy and, hands-on experience with the various reactions discussed in lecture, notably: ring substitution, cycloaddition, stereoaddition, carbonyl condensations, and esterification.

CHEM - 4900 Directed Study, 1.00 TO 6.00 Credits
Level: Lower
Applied Learning-Other, Course Fee $62.00, Upper Level
This course is designed to provide engineering students with a foundation in the important concepts and principles of chemistry needed to communicate effectively with colleagues, develop manufacturing methods, and solve industrial problems related to Chemistry. Emphasis will be placed on those areas considered most relevant in an engineering context, and practical applications in engineering and technology will be examined. Topics include: atomic theory, bonding, stoichiometry, acid-base chemistry, oxidation-reduction, gases, and chemical equilibrium.

CHEM - 5141 Analytical Principles, 4.00 Credits
Prerequisite(s): CHEM 2124 with C or better or CHEM 2984 with C or better
Level: Upper
Applied Learning-Practicum, Course Fee $62.00, Upper Level
This course is an in-depth examination of the chemistry and mathematical underpinnings connected to classical chemical calculations and wet chemical methods that form the foundation of modern quantitative chemistry. Using only a balance, buret and various classical volumetric devices, students will develop skills and understanding of gravimetric, titrimetric, complexometric, argentometric and redox methodologies. The course contains a thorough coverage of the manifold concentration systems and conversions as well as complete treatment of the details of equilibrium equations connected to precipitation, acid-base reactions, buffers, complexation and redox. Non-ideal corrections, notably Debye-Huckel theory, will also be covered.

CHEM - 5900 Directed Study, 1.00 TO 6.00 Credits
Level: Upper
Applied Learning-Practicum, Course Fee $55.00, Upper Level
A strongly lab-focused course devoted to providing students a thorough exposure to the most common instrumental methods found in modern chemistry and material science labs including: UV-VIS spectroscopy, Atomic Absorption-Spectroscopy (IR), Gas Chromatography (GC), Mass Spectroscopy (MS), High Performance Liquid Chromatography (HPLC), optical and electron microscopy, calorimetric methods including Differential Scanning Calorimetry (DSC) and X-ray Diffraction (XRD). Additionally, fundamentals of glass, glass blowing and basic electronics including passive component behavior as well as some exposure to the fundamentals of semi-conductor devices (transistors, op amps) will be explored.

CHEM - 6641 Instrumental Analysis, 4.00 Credits
Prerequisite(s): CHEM 4524 with D or better
Level: Upper
Applied Learning-Practicum, Course Fee $57.00, Upper Level
This course provides students who plan future studies in forensic science technology, chemical sciences or chemical engineering a firm grounding in the quantum mechanical description of molecules, as well as a critical set of insights into thermochemical reasoning. The quantum mechanical focus will be on key model systems, notably the 1- and 2D particle-in-a-box, the rigid rotor, the harmonic oscillator and hydrogen atom. Selected approximation methods applicable to multi-electron atomic systems and applications of infrared and visible spectroscopy will be explored, and students will be given experience in using current quantum calculation software to estimate optimal structures, predict IR spectra and estimate activated complex geometries. It is expected that students taking this course will have already taken a course of ordinary differential equations, but some of the course will also include mathematical excursions developing necessary mathematical tools, notably eigenvalue problems, series solutions of differentials and various matrix algebraic methods.

CHEM - 6854 Physical Chemistry, 4.00 Credits
Prerequisite(s): CHEM 2884 with C or better and PHYS 1064 with C or better and MATH 6114 with C or better
Level: Upper
Applied Learning-Practicum, Course Fee $57.00, Upper Level
This course covers topics such as classical thermodynamics, quantum mechanics, statistical mechanics, and practical applications in engineering and technology will be examined. Topics include: thermal properties of matter, equilibrium properties of matter, heat capacities, intermolecular interactions, equilibrium and chemical reactions, chemical potential, phase diagrams, thermodynamics and reaction rates. Emphasis will be placed on those areas considered most relevant in an engineering context, and practical applications in engineering and technology will be examined. Topics include: atomic theory, bonding, stoichiometry, acid-base chemistry, oxidation-reduction, gases, and chemical equilibrium.

CHEM - 7784 Biochemistry, 4.00 Credits
Prerequisite(s): CHEM 4524 with C or better and BIOL 2204 with C or better
Level: Upper
Applied Learning-Practicum, Course Fee $109.00, Upper Level
This course is a comprehensive course intended for science majors. Topics covered include the basic structure and reactions of biological compounds (carbohydrates, lipids, proteins, nucleic acids, and vitamin digestion and absorption of nutrients, bioenergetic principles, and catalytic and anabolic metabolism of major biochemicals in the human body. The laboratory exercises include classic techniques in isolation, purification and assay of proteins, enzymes (and kinetics), carbohydrates, lipids, and nucleic acids as well as polypeptide and polynucleotide sequencing and synthesis.

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A comprehensive exposure to the use of microcomputer spreadsheet: concepts, capabilities and applications beyond the introductory level focusing on developing expertise in using a contemporary spreadsheet software package and companion products to develop business systems.

CISY - 3193 Computer Architecture & Organi, 3.00 Credits
Prerequisite(s): CISY 1113 with D or better
Level: Lower
This course covers fundamentals of computer architecture and organization. Topics include: classical von Neumann machine, major functional units, primary memory, representation of numerical (integer and floating point) and nonnumerical data, CPU architecture, instruction encoding, fetch-decode-execute cycle, instruction formats, addressing modes, symbolic assembler, assembly language programming, handling of subprogram calls at assembly level, mapping between high level language patterns and assembly/machine language, interrupts and I/O operations, virtual memory management, and data access from a magnetic disk.

CISY - 3223 Intro to Web Page Development, 3.00 Credits
Prerequisite(s): CISY 1023 with D or better
Level: Lower
An introductory course in web page development with HTML, CSS, and JavaScript. Also included will be various software packages that automate the web page design process. These may include Dreamweaver, Sublime, Bootstrap, and others. This course is suitable for anyone who would like to create simple, but useful web pages. Topics include: the internet, tables, frames, forms, scripting language(s), and multi-media.

CISY - 3283 Internetworking I, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This is the first of two courses in a series to be offered covering the Cisco academy semesters 1 and 2. Students will develop skills and knowledge in Network media installation and testing, router and switch installation and configuration, and concepts of Local Area Networks (LANs) and Wide Area Networks (WANs). Instruction will be completed through on-line resources, lecture, and hands-on skill development. Students will be prepared for Cisco Certified Network Associate certification exams upon completion of both courses.

CISY - 4003 Comp Prgrmmng III/Data Strctu, 3.00 Credits
Prerequisite(s): CISY 2133 with D or better
Level: Lower
Applied Learning-Practicum
This course covers the fundamentals of data structures and software modeling. Topics include: modern IDE for software development and code version management systems, design and development of reusable software, software modeling (class diagram, use case, CRC card), introduction to analysis of algorithms (order notation), abstract properties, implementation and use of stacks, queues, linked lists, binary trees, binary search trees, and recursion and efficiency of recursive solutions. Additional focus will be given to range of searching (sequential, binary), selecting (min, max, median) and sorting algorithms (quicksort, merge sort, heap sort) and their time and space efficiencies. Software quality assurance (pre and post conditions, program testing), team development of software applications, and professional responsibilities and liabilities associated with software development will be discussed.

CISY - 4031 Info Tech Net+ (CompTIA) Cert., 1.00 Credit
Level: Lower
This course will prepare students to pass the Information Technology certification exam Network+(CompTIA). Students will research testing preparatory tools and certification requirements. The student will find and use study materials to take pre-tests (if available) and evaluate test taking processes.

CISY - 4033 Networking I, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This is an introductory course in networking with a survey and evaluation of network media, access methods, topologies, and terminology. Topics will include end user perspective, network cabling, hardware and software protocols, internetworking, network operating systems, and system administration. Certification exams include: Cisco Certified Network Associate certification exams. Students will develop skills and knowledge in Network media installation and testing, router and switch installation and configuration, and concepts of Local Area Networks (LANs) and Wide Area Networks (WANs). Instruction will be completed through on-line resources, lecture, and hands-on skill development. Students will be prepared for Cisco Certified Network Associate certification exams upon completion of both courses.

CISY - 4053 Linux/Unix Admin and Scripting, 3.00 Credits
Prerequisite(s): CISY 4033 with D or better
Level: Lower
Applied Learning-Practicum
This course takes an in-depth look at Linux and Unix-like system administration, including console and graphical interfaces. Major topics include file systems, text processing, installation, system configuration, software packages, network configuration, backup, and kernel management. A significant portion of the course will concentrate on script analysis and creation. Laboratory exercises will provide hands-on exercise in each of these topics.

CISY - 4063 Systems Analysis & Design, 3.00 Credits
Prerequisite(s): CISY 1113 with D or better or CISY 1123 with D or better
Level: Lower
Applied Learning-Practicum
This course covers the fundamental concepts underlying all business information systems including security. Emphasis is on a structured process in the design of computer-based information systems. Current tools and techniques are applied to a case study project.

CISY - 4103 Visual Programming & Developmt, 3.00 Credits
Prerequisite(s): CISY 1113 with D or better or CISY 1123 with D or better
Level: Lower
A visual programming environment will be used in a continuation of Computer Programming I. Emphasis will be placed on advanced algorithms, program design and development. Topics included will be sub-programs, arrays, files, and data abstraction. Debugging and proper program design and documentation will be stressed.

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CISY - 4238 Internetworking II, 3.00 Credits
Prerequisite(s): CISY 3263 with D or better
Level: Lower
Applied Learning-Practicum

Students will develop skills and knowledge in network media installation and testing, router and switch installation, and concepts of Local Area Networks (LANs) and Wide Area Networks (WANs). Instruction will be completed through on-line resources, lecture, and hands-on skill development. Students will be prepared for Cisco Certified Network Associate certification exams upon completion of CISY 3263 and this course.

CISY - 4423 Intro to Mobile Robotics & Ani, 3.00 Credits
Level: Lower
Applied Learning-Practicum

The course covers basic programming techniques of mobile and stationary robotic systems with respect to autonomous function and interaction with the environment. Topics include basic programming techniques, robot platforms, use of sensors, embedded control, preprogrammed problem solving, robot construction, and human-robot interaction. Students will complete programming and robot construction projects. Theoretical concepts presented in the lecture will be reinforced in the laboratory.

CISY - 4723 Essentials of Info Security, 3.00 Credits
Prerequisite(s): CISY 4503 with D or better
Level: Lower

This course is a comprehensive survey of all aspects of computer security. This includes local host, network web, and database security as well as other objects that are prone to attack. Special focus will be given to the identification of security threats and countermeasures that can be taken to make these systems more secure. Students will develop a security plan for a small to mid-sized organization.

CISY - 5123 Scientific Programming, 3.00 Credits
Prerequisite(s): or MATH 1033 with D or better or MATH 1034 with D or better or MATH 1054 with D or better or MATH 2043 with D or better or MATH 1063 with D or better or MATH 1084 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level

In this course students will learn structured programming techniques to solve scientific and engineering problems using conventional programming languages. Topics include data types, flow control structures, functions, I/O pointers, program design and maintenance, top-down design and programming techniques.

CISY - 5133 Sec Policies, Recov & Risk Man, 3.00 Credits
Prerequisite(s): CISY 4503 with D or better or CISY 4723 with D or better or CISY 5403 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level

Students will be introduced to security policies, the tools and techniques used in security management, and risk management procedures. They will learn how to formulate object solutions to practical problems in the business and scientific areas.

CISY - 5203 Network Administration, 3.00 Credits
Prerequisite(s): CISY 4033 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level

Students will use a variety of network management tools to manage, monitor, support and troubleshoot network operations. Topics will include performance issues, end-user accounts, data security, disaster recovery, supporting applications, and documentation.

CISY - 5233 Human Computer Interaction, 3.00 Credits
Prerequisite(s): CISY 4103 with D or better and CISY 3223 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level

This course will cover the design, prototyping, and evaluation of user interface to computers. This course will include the implementation of interactive computing systems for human use and the study of major phenomena surrounding them. In addition, the course will stress the importance of good interfaces and the relationship of user interface design to human-computer interaction within multi-disciplinary dynamics. Example systems, case studies, methodologies and models will be used to demonstrate the concepts and the importance of human computer interaction.

CISY - 5403 Database Concepts, 3.00 Credits
Prerequisite(s): CISY 2153 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level

This course is a study of the terminology, design, implementation and software associated with database systems. Topics include the need for database management systems, file organization, sequential and direct access methods and physical implementation. Other topics covered are relational database design, entity and semantic models, hierarchical and network models, SQL, database applications using the internet, and sharing enterprise data. Students will design, implement, test, and debug database management systems according to industry standards.

CISY - 5713 Unix/Linux Server Admin, 3.00 Credits
Prerequisite(s): CISY 4053 with D or better
Level: Upper
Level: Upper

This course will introduce students to the techniques and practices associated with the installation, configuration, troubleshooting, and maintenance of a Unix/Linux based network. Students will create an operational Unix/Linux server within a network domain to support DNS, DHCP, gateway, file, print, and other services. Applications will be installed and supported for network users. Operational aspects of practices including security, user and group management, backups, logging, script use, and documentation will be addressed as a final project.

CISY - 5723 Essentials of Info Security, 3.00 Credits
Prerequisite(s): CISY 4033 with D or better or ELET 2012 with D or better
Level: Upper
Level: Upper

This is a comprehensive survey of all aspects of computer security. This will include local host, network, web, database security as well as other objects that are prone to attack. The student will focus on the identification of security threats and countermeasures that can be taken to make these systems more secure. Students will develop a security plan for a small to mid-size company.

CISY - 5813 Cloud Computing Architecture I, 3.00 Credits
Prerequisite(s): CISY 2153 with D or better and CISY 3223 with D or better
Level: Upper
Level: Upper

This is an introductory course in the emerging field of cloud computing technologies. This course is the first course in a two course sequence which provides the student with a foundation and survey of the many new emerging cloud computing tools being used to recreate the Internet. Topics will include SaaS, PaaS, IaaS, & IDaaS, Data Storage, Collaboration, Security, and Disaster Recovery in the cloud. This course will use the industry leading cloud services and cloud datacenter technologies. A variety of cloud service provider's products and platforms will be explored through appropriate hands-on labs.

CISY - 5900 Directed Study, 1.00 TO 6.00 Credits
Level: Upper
Level: Upper

A capstone course which provides an integrative experience in applying the knowledge and skills of earlier course work, with particular emphasis on computer science management, information systems, and communications skills in an integrated/internship setting; requires student to present and defend, orally and in writing, solutions to experienced real-world problems encountered.

CISY - 6103 Web Server Administration, 3.00 Credits
Prerequisite(s): CISY 4053 with D or better and CISY 3223 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level

This is a comprehensive survey of all aspects of web server administration. Students will gain hands-on experience by actually installing and administering their own web servers. Topics include: server installation and configuration, site planning, supporting dynamic content, security, and maintenance.

CISY - 6123 Adv Pro with Vid Game Des & Dev, 3.00 Credits
Prerequisite(s): CISY 4003 with D or better or CISY 6503 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level

This course is an advanced study of programming using current tools to create video games. Topics covered include higher-level programming techniques, writing programs that use the windows user interface, and creating and using graphic objects. The gaming topics of data structures and algorithms, artificial intelligence, physics modeling, and mathematics will also be covered. A final project will be required incorporating AI and physics.

CISY - 6503 Object-Oriented Programming, 3.00 Credits
Prerequisite(s): CISY 2133 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level

Object-oriented analysis (OOA) and object-oriented design (OOD) concepts will be covered using an object-oriented programming (OOP) language such as Java. Topics include: objects, messages, classes, encapsulation, inheritance, polymorphism, code reuse, and method-driven and model-driven object-oriented approaches, methodologies and tools. Students will formulate object solutions to practical problems in the business and scientific areas.

CISY - 6703 Network Design Concepts, 3.00 Credits
Prerequisite(s): CISY 4033 with D or better *
Level: Upper
Applied Learning-Practicum, Upper Level

In this course students will design and implement network systems, utilizing various topologies, media, and protocols. Students will control network hardware such as switches, and routers. Design concepts will be implemented through a variety of laboratory exercises. Students will be required to analyze and present a network design plan.

CISY - 7003 Project Management, 3.00 Credits
Prerequisite(s): BUAD 3153 with D or better and ( CISY 5133 with D or better or CISY 5303 with D or better or CISY 5203 with D or better or CISY 5403 with D or better )
Level: Upper
Applied Learning-Practicum, Upper Level

A comprehensive approach to project management tools and applications in an interdisciplinary and global environment. Emphasizing concepts, techniques, and principles associated with project management, this course is vital to students entering the IT management field. The course will focus on the changes in the computing environment including hardware, software, and networking. Students will be able to plan, schedule, budget, estimate, control, and monitor projects. In addition, they will become familiar with resource allocation, resource loading, CPM, CPM, GANTTI, and PERT. The use of project management software will be a major component of the course.
**CISY - 7013 Network & Host Security, 3.00 Credits**
Prerequisite(s): CISY 4033 with D or better and CISY 4053 with D or better
Level: Upper
**Applied Learning-Practicum, Upper Level**

This course will provide a practical, hands-on approach to the security of both hosts and networks. Students will be provided with the opportunity to perform penetration testing and then apply results to updating and patching hosts to mitigate discovered vulnerabilities. It includes access control and authentication systems as well as planning and implementation for wireless network security. A variety of client and network operating systems will be used. This course assumes a prerequisite knowledge of network operating systems and introductory security concepts. A major network security project is a requirement of the course and will be presented in written and oral formats.

**CISY - 7023 Comp Forensics & Legal Issues, 3.00 Credits**
Prerequisite(s): CISY 5023 with D or better or CISY 5613 with D or better
Level: Upper
**Applied Learning-Practicum, Upper Level**

This course will provide a practical, hands-on approach to the process of scientifically retrieving, examining and analyzing data from computer storage media so that data can be used as evidence in court. This course assumes a prerequisite knowledge of network operating systems and security concepts. A final project will be required.

**CISY - 7033 Security Tools, 3.00 Credits**
Prerequisite(s): CISY 5023 with D or better or CISY 4043 with D or better or CISY 4053 with D or better
Level: Upper
**Applied Learning-Practicum, Upper Level**

This course provides a practical, hands-on approach to a myriad of security tools employed in wired and wireless networks. These security tools will include Industry Standard Firewalls, Virtual Private Networks (VPNs), wired network vulnerability scanners, wireless security probes, intrusion detection systems, wireless scanners and wireless encryption cracking utilities. Advanced firewall concepts and technologies will be covered in depth and include design considerations for enterprise networks, large company networks and medium business networks. The course will include VPN concepts, technologies, and configurations for site to site VPNs as well as configurations for client remote access VPNs. The course will cover various vulnerability scanners for networks with heterogeneous operating systems and advanced firewall configurations. Students, in a laboratory environment, will attack and defend networks and submit a project paper detailing learning and how to best defend both wired and wireless networks. The course assumes a prerequisite knowledge of network operating systems and security concepts.

**CISY - 7203 Web Programming II, 3.00 Credits**
Prerequisite(s): CISY 5303 with D or better
Level: Upper
**Applied Learning-Practicum, Upper Level**

A survey of programming languages and techniques for Web development. Topics include CGI's (Common Gateway Interface), client side programming with JavaScript, dynamic content using Java and ActiveX, server side programming using Active Server Pages and VBScript, creating dynamic database driven content, and developing web based client/server database applications.

**CISY - 8303 SIfw Intntg & Interoperability, 3.00 Credits**
Prerequisite(s): CISY 6703 with D or better and CISY 4723 with D or better
Level: Upper
**Applied Learning-Practicum, Upper Level**

In this course, students will integrate network system components to construct a working enterprise network. Topics addressed include integration of different network topologies, interoperability between network operating systems, integration of client-server applications, web based information systems, other support systems and support of end-user needs.

**CISY - 8403 Web Applications, 3.00 Credits**
Prerequisite(s): CISY 7203 with D or better
Level: Upper
**Applied Learning-Creative Work, Upper Level**

In this capstone course, students will create web based multi-media applications for companies and/or organizations. These applications will demonstrate client and server side design, programming and maintenance. Additional topics include: systems development life cycle, web site hosting and administration, e-commerce, and integrated software applications.

**CISY - 8503 Appl Database Management, 3.00 Credits**
Prerequisite(s): CISY 5403 with D or better and CISY 6503 with D or better
Level: Upper
**Applied Learning-Creative Work, Upper Level**

In this capstone course, students will create and maintain Database Applications in a commercial and/or academic setting. This course provides an integrative experience in applying the knowledge and skills of earlier coursework, focusing on multi-user database systems. A major portion of this course will be design, implementation, and documentation of an enterprise data system. Additional topics may include: systems development life cycle, web applications, and application reliability and security.

**CISY - 8603 Seminar Critical Issues in IT, 3.00 Credits**
Prerequisite(s): CISY 4103 with D or better
Level: Upper
**Applied Learning-Creative Work, Upper Level**

This is a research-oriented and performance-oriented course. The course addresses critical (both theoretical and practical) issues in information technology (IT). Issues of concern may include, but are not limited to, IT systems security, ethics of using IT systems, human-IT systems interface, and data analysis requirements at different organizational levels. Students are expected to conduct research, present their findings, accept feedback on their presentations, and document their knowledge of their topics. Students will also complete a project working with a cross-disciplinary team and prepare strategies/materials for an effective job search. Every student is expected to attend all class presentations and guest speaker sessions.

**CISY - 8703 Information Security Capstone, 3.00 Credits**
Prerequisite(s): CISY 5133 with D or better
Level: Upper
**Applied Learning-Creative Work, Upper Level**

In this course, students will design, configure and analyze network system components, security tools and procedures necessary to create enterprise class network security perimeters. Topics addressed include a combination of open source and proprietary security applications covering the fundamental components of an effective network security perimeter. These components include firewalls, intrusion detection systems (IDS), Intrusion Prevention Systems (IPS) Virtual Private Networks (VPN), authentication systems, port scanning, vulnerability scanning penetration testing, disaster recovery systems and security management systems. An in-depth analysis of the security risks associated with the TCP/IP protocol and associated sub-protocols will also be included as part of a final project.

**CISY - 8706 Info Technology Internship, 6.00 Credits**
Level: Upper
**Applied Learning-Internship, Pass/Fail, Upper Level**

Students will complete supervised field work in a selected business, industry, government or educational setting. Students carry out a planned program of educational experiences under direct supervision of an owner, manager or supervisor of information technology in an organization. Each intern will be supervised by a member of the faculty. Written and oral reports and a journal of work experience activities will be required. Evaluation will be based on the quality of experiences gained from the internship. Students will be required to complete a series of 4 brief investigative or evaluative papers while completing the internship in areas such as career development, organizational structures, organized labor, business management, security, policies, and/or industry and market trends. Two papers will be completed in each of the 6 hour internships. These courses are offered as a two-part alternative to CISY 8712, 8706 and 8716 to be taken in sequence as two 6 credit hour classes. These 12 hours will be equivalent of CISY 8712. Students may not enroll in CISY 8712 and CISY 8706 / 8716.

**CISY - 8712 Info Technology Internship, 12.00 Credits**
Level: Upper
**Applied Learning-Internship, Pass/Fail, Upper Level**

Students will complete supervised field work in a selected business, industry, government or educational setting. Students carry out a planned program of educational experiences under direct supervision of an owner, manager or supervisor of information technology in an organization. Each intern will be supervised by a member of the faculty. Written and oral reports and a journal of work experience activities will be required. Evaluation will be based on the quality of experiences gained from the internship. Students will be required to complete a series of 4 brief investigative or evaluative papers while completing the internship in areas such as career development, organizational structures, organized labor, business management, security, policies, and/or industry and market trends. Two papers will be completed in each of the 6 hour internships. These courses are offered as a two-part alternative to CISY 8712, 8706 and 8716 to be taken in sequence as 6 credit hour classes. These 12 hours will be equivalent to CISY 8712. Students may not enroll in CISY 8712 and CISY 8706 / 8716.

**CIVL - 1011 Civil AutoCAD, 1.00 Credit**
Level: Lower
**Applied Learning-Practicum, Upper Level**

This course will give the student the basic skills necessary to complete dimensioned drawings in AutoCAD. Topics include: setting up a drawing, basic lines and coordinates, geometric shapes, layering, editing commands, dimensioning, creating text, hatching and plotting to scale.

**CIVL - 1013 Portland Cement Concrete, 3.00 Credits**
Level: Lower
**Applied Learning-Field Study, Course Fee $15.00**

This course introduces asphalt and construction materials. Standard techniques of measurements and computation are presented and then applied to testing materials. The student is prepared to reach the level of Concrete Field Testing Technician Grade 1, with emphasis on the American Concrete Institute studies of Portland Cement Concrete, and on quality control in the field. Concrete masonry block is reviewed as a product of cement.

**CIVL - 1024 Civil Materials, 3.00 Credits**
Prerequisite(s): MATH 1043 with D or better * or MATH 1063 with D or better * or MATH 1084 with D or better *
Level: Lower
**Applied Learning-Practicum**

An introduction to materials engineering that covers the characteristics of materials used in the engineering fields. The students will also complete laboratory methods for the evaluation of materials. Materials covered include: steel, aluminum, concrete, masonry, asphalt, wood, metal, and composite materials is reviewed.

**CIVL - 1182 Civil Tech Graphics, 2.00 Credits**
Level: Lower
**Applied Learning-Practicum**

This is an introductory course in construction/civil/surveying graphics. The student will be taught the CADD techniques of measurements and computation are presented and then applied to testing materials.
CIVL - 1204 Surveying I, 4.00 Credits
Prerequisite(s): MATH 1045 with D or better * or MATH 1054 with D or better * or MATH 1063 with D or better * or MATH 1084 with D or better * or MATH 2043 with D or better * or MATH 2074 with D or better * or MATH 2094 with D or better *
Level: Lower
Applied Learning-Field Study
This course is a study of the fundamentals of construction surveying. Emphasis is on the use and care of various types of surveying equipment, note keeping, basic surveying calculations and adjustment of data. The course is designed to introduce measurement techniques through applications in an outdoor laboratory environment.

CIVL - 2154 Quality Control of Const Matl, 4.00 Credits
Level: Lower
Applied Learning-Field Study
This course will equip students with skills typical of a quality control technician in soils and asphaltic concrete. Students will learn about the properties of soil, including laboratory testing of soil that will lead to the classification of soils. Students will also design and test asphaltic concrete mixes using industry procedures and standards.

CIVL - 2204 Surveying II, 4.00 Credits
Prerequisite(s): CIVL 1054 with D or better
Level: Lower
Applied Learning-Field Study
This is the second course of a two-semester sequence emphasizing plane and route surveying theory and techniques. Emphasis will be on circular curves, vertical curves, profiling, cross-sectioning, realignment of circular curves, spiral curves, earthwork calculations, construction stakeout procedures and an introduction to electronic distance measurement.

CIVL - 3053 Construction Methods & Practic, 3.00 Credits
Level: Lower
This course is a study of materials and methods employed in construction. Topics include building foundation, envelope, and finishes. Throughout the course, attention will be given to sustainability of construction materials and methods.

CIVL - 3204 Legal Asp & Prac of Land Surv, 4.00 Credits
Prerequisite(s): CIVL 2004 with D or better
Level: Lower
In this course students will develop an understanding of the professional land surveyor's role in society, the professional land surveyor's legal responsibility to the public, systems used to describe real property, types of transfer of real property, techniques of record research, and locating sequential and simultaneous real property conveyances.

CIVL - 3214 Geodesy, 4.00 Credits
Prerequisite(s): MATH 1054 with D or better or MATH 2043 with D or better or MATH 1063 with D or better
Level: Lower
Course emphasizes the techniques of precise horizontal and vertical control surveying used by government or private surveyors and engineering consultants. Use of directional theodolites, precise levels and total station measurement equipment are stressed. Projects are used to present underlying theory of field work, standards, specifications, and adjustment of horizontal and vertical data.

CIVL - 3314 Civil Hydraulics, 3.00 Credits
Prerequisite(s): MATH 1054 with D or better
Level: Lower
A study of the principle physical properties of fluids with emphasis on civil engineering technology applications. Topics include closed conduit systems, open channel flow, and pumps. A weekly laboratory with an emphasis on topics taught in the classroom.

CIVL - 3553 Comm Bldg Const Methods & Pract, 3.00 Credits
Prerequisite(s): ( CIVL 1011 with D or better and CIVL 1182 with D or better ) or BLCT 3606 with D or better or BLCT 3706 with D or better or BLCT 3306 with D or better or ELTR 3306 with D or better
Level: Lower
This course is a study of materials and methods of construction employed in commercial building construction. This course will be used to extend the students' graphics skills using AutoCAD Civil 3D as well as their knowledge of the building construction process. Topics include: foundation, steel frame and reinforced concrete construction. Throughout the course, attention will be given to sustainability of construction materials and methods.

CIVL - 4012 Civil 3D Graphics, 2.00 Credits
Prerequisite(s): CIVL 1011 with D or better
Level: Lower
An introduction to Civil 3D graphics where the student will use AutoCAD Civil 3D for its various uses in the civil field including topographic, highway and utility uses. Students will learn techniques enabling you to organize project data, work with points, create and analyze surfaces, model road corridors, create parcel layouts, perform grading and volume calculation tasks, and layout pipe networks.

CIVL - 4013 Strengths of Material, 3.00 Credits
Prerequisite(s): MATH 3334 with D or better
Level: Lower
The main objective of this course is to introduce the concepts of stress and strain and their induction due to axial, torsional, bending, shear, or thermal sources on structural member. It also covers shear and moment diagrams, deformations, and combined stresses.

CIVL - 4043 Construction Management, 3.00 Credits
Level: Lower
This course is a study of the business organizations, contracts, personnel and ethics used in construction projects. Topics include the stakeholders, contracts, cost accounting, construction documentation, planning and scheduling, bonding, insurance, labor relations and ethics as specifically experienced in the construction industry.

CIVL - 4103 Structures I, 3.00 Credits
Prerequisite(s): ( MATH 1054 with D or better or MATH 1063 with D or better or MATH 1084 with D or better or MATH 2043 with D or better ) and ( PHYS 1024 with D or better or PHYS 1044 with D or better )
Level: Lower
This course provides the students with a quantitative understanding of the effect of loads on structural elements in a building. Principles of structural mechanics are covered from forces and stresses to properties of section, and finally to shear and bending moments on beams. The designs of basic timbers and steel beams and columns are also presented.

CIVL - 4133 Soil Mechanics, 3.00 Credits
Prerequisite(s): ( MATH 1054 with D or better or MATH 1063 with D or better or MATH 1084 with D or better ) and MECH 3334 with D or better
Course(s): ( MATH 1054 with D or better or MATH 1063 with D or better or MATH 1084 with D or better ) and MECH 3334 with D or better *
Level: Lower
This course introduces soil mechanics, foundation and earth structure to engineering technology students. It includes soil classification, soil properties, soil stresses, earth pressures, bearing capacity, slope stability. It also discusses principles of foundation analysis and design, and retaining walls. Laboratory experiments to test behavior of soils are included.

CIVL - 4143 Contracts, Spec, & Estimating, 3.00 Credits
Prerequisite(s): CIVL 3553 with D or better or ARCH 4014 with D or better
Level: Lower
Applied Learning-Creative Work
This course is a study of contracts and specifications governing contractors in the construction phase of a project. Students will practice the estimating of earthwork, masonry, concrete, steel, and wood. Students will progress through manual takeoffs to electronic spreadsheets. At the completion of this course, the student will be able to establish a construction estimate for a construction project.

CIVL - 4204 Subdivision Theory & Appi, 4.00 Credits
Prerequisite(s): CIVL 3204 with D or better
Level: Lower
Applied Learning-Practicum
This course is an introduction to the U.S. Public Lands Survey System, the laws of simultaneous conveyances, and subdivision of lands. Governmental regulations and environmental considerations will be addressed. Industry standard software will be utilized in the laboratory.

CIVL - 4214 Surveying Practicum, 4.00 Credits
Prerequisite(s): CIVL 3214 with D or better and CIVL 3204 with D or better
Level: Lower
Applied Learning-Practicum
This course consists of a series of field and office problems in surveying. Topics include research, field reconnaissance, data collection, deed interpretation, and mapping. Students are responsible for the execution of a comprehensive surveying project.

CIVL - 4243 Surveying Computer Appli, 3.00 Credits
Prerequisite(s): CIVL 1204 with D or better and CIVL 2204 with D or better and CIVL 3214 with D or better
Level: Lower
This course is an introduction to the concepts of field to office automation, the use of coordinate geometry (COGO) software programs and computer aided drafting (CAD) software programs. Emphasis will be placed on the use of the computer in the solution of problems and projects that stress data analysis, data adjustment, mapping calculations and the application of computer graphics.

CIVL - 4273 Photogrammetry & Image Interpr, 3.00 Credits
Level: Lower
This course will introduce the advantages of photogrammetry, LiDAR and Remote Sensing as a mapping and planning tool. The types of photography, photo scale, flight planning techniques and specifications, displacement calculations and stereoscopic measurement are covered.

CIVL - 4900 Directed Study, 1.00 TO 6.00 Credits
Level: Lower
A student may contract for one to six credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the process of the study.

CIVL - 5114 Land Surveying, 4.00 Credits
Prerequisite(s): CIVL 3204 with D or better
Level: Upper
Upper Level
A study of licensure requirements, professional liability and ethics. The legal concepts of the rules of evidence are presented and applied to written and unwritten transfers of land ownership. Riparian rights, reversionary rights, problems of appointment, procedures, both field and office, for locating written or boundaries and the writing of deed descriptions are discussed in both a theoretical and applied sense.

CIVL - 5213 Reinforced Concrete, 3.00 Credits
Prerequisite(s): CIVL 4104 with D or better or CIVL 4103 with D or better
Level: Upper
Upper Level
This course introduces students to basic design principles of reinforced concrete structural members such as beams, and slabs. Topics will include bending of single and doubly reinforced beams, T-beams, and slabs, as well as an introduction to the fundamentals of mechanics of bending. The design of tensile and compressive reinforcing bars in the members will be included as well. Students will learn methods and materials used in concrete work with attention given to the materials and methods of formwork construction. In addition, students will learn building code requirements for structural concrete of the American Concrete Institute (ACI).

CIVL - 5215 Erosion Control, 3.00 Credits
Prerequisite(s): CIVL 4104 with D or better or CIVL 4103 with D or better
Level: Upper
Upper Level
This course covers the theory and practice of erosion control techniques and materials. Topics include the methods of erosion control, the design and installation of erosion control systems, and the selection of appropriate materials and techniques. The course also includes field work with attention to the installation of erosion control systems on actual projects.

CIVL - 5216 Transportation Engineering, 3.00 Credits
Prerequisite(s): CIVL 4104 with D or better or CIVL 4103 with D or better
Level: Upper
Upper Level
This course covers the principles and practices of transportation engineering, including the design and construction of highways, bridges, and transportation systems. Topics include traffic analysis, transportation planning, and the economic evaluation of transportation projects.

CIVL - 5217 Urban Design, 3.00 Credits
Prerequisite(s): CIVL 4104 with D or better or CIVL 4103 with D or better
Level: Upper
Upper Level
This course covers the principles and practices of urban design, including the design and planning of urban spaces and public places. Topics include urban design, urban planning, and the economic evaluation of urban design projects.
CIVL - 5900 Directed Study, 1.00 TO 6.00 Credits
Level: Upper
Upper Level
A student may contract for one to six credits of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the process of the study.

CIVL - 6103 Structural Analysis, 3.00 Credits
Prerequisite(s): ( MATH 1063 with D or better * or MATH 2074 with D or better ) * and MECH 3334 with D or better *
Corequisite(s): ( MATH 1063 with D or better * or MATH 2074 with D or better *) * and MECH 3334 with D or better
Level: Upper
Upper Level
The course analyzes statically determinate and indeterminate structures. Additional topics of influence lines, moving loads, member forces and stresses, deflections, flexibility and stiffness analyses are explored using computer applications.

CIVL - 6104 Anly & Adjmnts of Surv Mnrnts, 4.00 Credits
Prerequisite(s): MATH 2074 with D or better or MATH 2094 with D or better
Level: Upper
Upper Level
This course is an introduction to the adjustment of survey data, incorporating the use of the computer and matrix algebra. Error propagation, least-squares adjustment methods and the analysis of survey measurements will be covered.

CIVL - 6113 Environmental Tech Concepts, 3.00 Credits
Prerequisite(s): MATH 1023 with D or better or MATH 1034 with D or better or MATH 2043 with D or better or MATH 1063 with D or better
Level: Upper
Upper Level
This course focuses on environmental technology systems. Topics covered will include: basic environmental concepts, water quality, water pollution, drinking water, storm water management, wastewater treatment, municipal solid waste, hazardous waste, air pollution, noise pollution, erosion control and environmental assessment. During the course, the student will analyze a site plan to determine the “best practice” solutions to storm water management challenges using industry standards. At the end of the course the student will be able to make decisions with regards to various environmental issues that will come before them in the workplace and in their personal life. Leadership in Energy and Environmental Design, (LEED) criteria and sustainable building issues will also be addressed.

CIVL - 6123 Mechanical Systems, 3.00 Credits
Prerequisite(s): CIVL 3553 with D or better or CIVL 3554 with D or better
Level: Upper
Upper Level
An introduction to building equipment for single and multi-story projects including domestic water, sewer, heating and ventilating systems, and electrical systems. Students will design these systems for a residence or small office building. Students will review blueprints and analyze systems for a large commercial building.

CIVL - 6143 Transport & Highway Design, 3.00 Credits
Prerequisite(s): ( CIVL 1024 with D or better and CIVL 1204 with D or better and CIVL 2013 with D or better ) *
Level: Upper
Upper Level
This course focuses on the principles of highway design. Students should understand the basic concepts and engineering principles of transportation engineering and pavement design. Topics covered include; road and vehicle performance, geometric design of highways, pavement design, traffic flow and control, highway capacity and traffic forecasting.

CIVL - 6154 Supervisory Estimating, 4.00 Credits
Prerequisite(s): CIVL 3553 with D or better or CIVL 3503 with D or better
Level: Upper
Upper Level
This course provides in depth study of construction estimating as used in winning bids and the change order process during construction. The course teaches the student to use a quantity takeoff software package and to incorporate advanced estimating techniques into a final project cost estimate. During the course, the students will complete estimates in several disciplines of construction.

CIVL - 6212 Construction Safety, 2.00 Credits
Prerequisite(s): CIVL 3553 with D or better or ARCH 4014 with D or better or CIVL 3053 with D or better
Level: Upper
Upper Level
This course is a comprehensive study of the requirements of an effective safety program that focuses on worker safety, improved productivity and accident risk management. The course will also provide students with an understanding of the Occupational Safety and Health Administration (OSHA) standards and their application to the construction industry.

CIVL - 6214 Advanced Estimating, 4.00 Credits
Prerequisite(s): CIVL 4143 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level
This course is an extension of topics learned in the basic estimating course. The course teaches students to use a database estimating software package to incorporate advanced estimating techniques into a final project cost estimate. During the course, the students will create estimates on several types of construction including commercial building and heavy civil projects. The student will also learn the concepts of database estimating including how to create and edit a database.

CIVL - 7001 Sr Seminar & Project Design 1, 1.00 Credit
Level: Upper
Applied Learning-Practicum, Upper Level
This course is the first of a two-semester sequence required for all ETAC/ABET accredited Civil Engineering Technology Bachelor seniors. Students design and implement a technical project for completion in CIVL 8003. Project proposals and oral reports are presented for initial approval by department faculty. The weekly seminar encompasses professional licensure examination preparation, aspects of post graduation professional employment, review of initial project proposal and consultation on project progress.

CIVL - 7003 Land Development & Design, 3.00 Credits
Prerequisite(s): CIVL 1204 with D or better and ( MATH 1054 with D or better or MATH 1063 with D or better or MATH 1064 with D or better or MATH 2043 with D or better or MATH 2074 with D or better or MATH 2094 with D or better )
Level: Upper
Upper Level
This course is intended to give the Civil Engineering Technology student an understanding of the issues related to site development and drainage issues for land development. Students will study and create land development plans including drainage calculation, street and road design, water distribution, and sewer design. Issues related to sustainable development will be integrated into the topics to provide the student with an appreciation of concerns related to energy, as well as material and land conservation.

CIVL - 7114 Geographic Information Systems, 4.00 Credits
Prerequisite(s): CIVL 3214 with D or better
Level: Upper
Upper Level
A broad-based introduction to GIS; especially the application of spatial analysis and modeling. Applications will cover hardware and software considerations, map overlays, automation in thematic and topographic mapping, raster/vector devices, data acquisition, and related database storage and algorithms. Advanced topics will include error modeling, data uncertainty, and new directions and impacts of GIS.

CIVL - 7203 Ground & Storm Water Hydrology, 3.00 Credits
Prerequisite(s): CIVL 3314 with D or better
Level: Upper
Upper Level
This course deals with the occurrence, circulation, storage, and distribution of surface and groundwater on earth. Topics include water supply, floods, droughts and their management, Urban drainage, storm water issues, floodplain management and water quality impacts will be studied. Appropriate software will be introduced.

CIVL - 7213 Construction Systems, 3.00 Credits
Prerequisite(s): CIVL 4143 with D or better
Level: Upper
Upper Level
This course examines how people and machines interact to build efficient systems that improve productivity in the construction industry. This course will document existing and emerging construction systems and will delve extensively into production capacity and uses of construction equipment. This course culminates with a project to design equipment spreads for an earthwork project.

CIVL - 7223 Construction Project Planning, 3.00 Credits
Prerequisite(s): CIVL 3554 with D or better or CIVL 3553 with D or better
Level: Upper
Applied Learning-Creative Work, Upper Level
Students will develop a construction project management logic diagram for large multi-phased projects. The students will use software for scheduling, monitoring, and "crashing" projects to evaluate alternatives to reduce time to completion and to ensure cost effectiveness and safety considerations.

CIVL - 7303 Water & Waste Water Design, 3.00 Credits
Prerequisite(s): CIVL 3314 with D or better and CHEM 5013 with D or better
Level: Upper
The objective of the course is to introduce the students to water and wastewater treatment. The various methods and processes used in the treatment of potable water before human use and treatment of wastewater before disposing into natural water bodies will be discussed. Design of water and wastewater treatment plant will be covered.

CIVL - 7503 Construction Supervision, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better *
Level: Upper
Upper Level
This course is an exploration of construction contract types and language. Managing resources such as time, labor, equipment, materials and budget are introduced. Additionally students will be introduced to the business of construction through construction job site accounting. Effective oral and written construction supervision communication will be addressed.

CIVL - 7523 Construction Scheduling, 3.00 Credits
Prerequisite(s): CIVL 7503 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level
In this course, students will study job site construction scheduling. Software will be employed to produce Critical Path Method analysis. Topics include bar charts, basic scheduling networks, critical path method, resource allocation and leveling, scheduling update and project control, schedule compression techniques, and an introduction to Last Planner System. Students will be required to complete a scheduling project using appropriate industry documents and processes.

CIVL - 8003 Sr Seminar & Project Design 2, 3.00 Credits
Prerequisite(s): CIVL 7001 with D or better
Level: Upper
Applied Learning-Creative Work, Upper Level
In this course, students implement a capstone technical project proposed and designed in CIVL 7001. Each student must do research, prepare a plat/map, conduct a formal oral presentation and submit a comprehensive written report.

CIVL - 8023 Construction Jobsite Admin., 3.00 Credits
Prerequisite(s): CIVL 4043 with D or better or CIVL 7503 with D or better
Level: Upper
Upper Level
This course is an introduction to the adjustment of survey data, incorporating the use of the computer and matrix algebra. Error propagation, least-squares adjustment methods and the analysis of survey measurements will be covered.

CIVL - 8103 Senior Capstone Design Project, 3.00 Credits
Prerequisite(s): CIVL 6143 with D or better and CIVL 7001 with D or better
Level: Upper
In this course students implement a capstone technical project. Each student must do research, prepare construction documents, conduct formal oral presentation and submit a comprehensive written report.
CIVL - 8123 Construction Project Admin, 3.00 Credits
Prerequisite(s): CIVL 4043 with D or better or CIVL 7503 with D or better
Level: Upper
Applied Learning-Creative Work
This course is a work experience designed to assist the student in making the transition from classroom to the construction industry. Students will complete an approved supervised work experience under the direct supervision of an owner, manager or supervisor in a construction related industry. Each student will have a planned work program of educational objectives approved by the student, site supervisor, and Internship Coordinator. Written and oral reports, along with a journal of work activities and experience, will be required.

CIVL - 8104 Global Positioning Systems, 4.00 Credits
Prerequisite(s): MATH 1054 with D or better *
Level: Upper
Applied Learning-Creative Work
A study of the principle physical properties or fluids with emphasis on civil engineering technology applications. Topics include conduit systems, open channel flow, and pumps. A weekly laboratory will provide hands on examples of topics taught in the classroom.

CJUS - 5303 Glob Persp in Crim Justice, 3.00 Credits
Prerequisite(s): CJUS 1003 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level
This course is a comprehensive examination of the U.S. Constitution and the impacts of resulting case law on public policy relative to criminal and social systems, governmental authority and civil liberties. In this course students will research and analyze social and political policy resulting from these impacts in areas such as pornography, abortion, women's rights, voting rights, sentencing inequality, immigration, terrorism, juvenile death penalty, and the Patriot Act to name a few. This is a discussion-based course requiring students to participate in in-depth peer discussions. Students are required to analyze the impacts of case law at state and local levels and how those decisions can be divided into groups to conduct research on multiple international criminal justice systems.

CJUS - 5113 Contemp Public Safety Leadersh, 3.00 Credits
Prerequisite(s): BUAD 3153 with D or better or CJUS 4103 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level
This course provides the evolution of leadership theorists and theories including behavioral, situational and contingency schools of thought. Students evaluate the various leadership styles and attributes of effective and ineffective leaders. Students must analyze the relationship between effective leadership and teamwork, organizational culture, diversity, ethics, interpersonal communications, organizational performance, futures planning, technology, conflict resolution, and problem solving. This course culminates with a synthesizing of leadership models for transformational change in a written practical exercise.

CJUS - 5301 Glob Persp in Crim Justice, 3.00 Credits
Prerequisite(s): CJUS 1003 with C or better or SOCI 1163 with C or better
Level: Upper
Applied Learning-Practicum, Upper Level
This course explains the concept of social justice within the United States criminal justice system. Students develop an understanding of equity, diversity, and inclusion issues that plague communities in our society and the negative effects that lead to disparate treatment within the criminal justice system. The concepts of social justice and equity related to employment, education, housing, and economic opportunities are examined. The impact of these concepts within the criminal justice system are evaluated.

CJUS - 5003 Constitutional Issues in Crim, 3.00 Credits
Prerequisite(s): CJUS 1003 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level
This course examines ethical issues in the criminal justice (CJ) field, including an analysis of diversity and situational events of persons employed in the criminal justice field. Students will evaluate leadership theory and the emerging issues and challenges confronting leaders in public safety/criminal justice. Students will also synthesize ethical philosophies and the responsibilities of CJ practitioners at the local, state, and federal levels. Research will be conducted on contemporary CJ topics such as immigration, terrorism, and police conduct in conjunction with the U.S. Constitution culminating with a written practical framework for successful and ethical leadership in a CJ setting.

CJUS - 4100 Policing in a Free Society, 3.00 Credits
Prerequisite(s): CJUS 1003 with C or better
Level: Lower
Applied Learning-Creative Work
This course is an introduction to the responsibilities of police and police agencies at the local, state and federal levels. Police operations are examined relative to their effectiveness in crime control, delivery of services and maintenance of order with particular emphasis on patrol operations and preserving the freedom of citizens. Principles of management as they relate to organizational structures and activities of public and private police and corrections agencies in America are introduced. Also examined are the development of policy, personnel administration, inspection procedures, performance evaluations, and planning and research in police agencies. The students will complete a final capstone project synthesizing supervisory and leadership aspects of the course.

CJUS - 4003 Corrections Process in the U.S, 3.00 Credits
Prerequisite(s): CJUS 3214 with D or better
Level: Upper
Applied Learning-Creative Work
This course is designed to provide an introduction to the following topics: The U.S. Global Positioning System; other satellite-based navigation systems; GPS terminology; sources of error; GPS accuracy in forested conditions; post-process differential correction; WAAS, DGPS; and mission planning.

CIVL - 4043 Construction Mgmt Internship, 12.00 Credits
Prerequisite(s): CJUS 7503 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level
This course is an in-depth study of the documents and processes for construction project administration, including submittals, subcontracting, expediting, pay procedures, closeout and reporting. This course culminates in a simulated construction project where students assume various stakeholder roles.

CIVL - 3214 Construction Management, 4.00 Credits
Prerequisite(s): MATH 1054 with D or better *
Level: Upper
Applied Learning-Practicum, Upper Level
This course provides an overview of topics related to cybercrime. The theories and legal issues, with special emphasis on technology will be used to address cybercrime issues and to apply critical thinking skills to modern criminal justice practices, procedures, and policies related to cybercrime. Topics include legalistic, enforcement, behavioral, social, and technological issues that are related to the cybercrime problems.

CIVL - 3003 Cybercrimecybercrime, 3.00 Credits
Level: Lower
As emerging technologies continue to redefine the very nature of crime, the legal apparatus in the United States and around world must adapt accordingly. This course is designed to provide an overview of topics related to cybercrime. The theories and legal issues, with special emphasis on technology will be used to address cybercrime issues and to apply critical thinking skills to modern criminal justice practices, procedures, and policies related to cybercrime. Topics include legalistic, enforcement, behavioral, social, and technological issues that are related to the cybercrime problems.

CIVL - 2003 Introduction to Law, 3.00 Credits
Level: Lower
This course introduces students to civil and criminal law. It examines the historical development of laws in the United States, distinguishing between civil and criminal laws. It also examines the essential elements of substantive law, procedural law and civil processes, and how they interact, as well as the evolution of legal realism and legal interpretation. The roles of those involved with civil and criminal law to include types of courts, plaintiffs, defendants, police, prosecutors, judges and other court-related personnel are discussed. Special emphasis is placed on the basic principles to manage complex situations during the administration of justice.

CIVL - 1003 Intro to Criminal Justice, 3.00 Credits
Level: Lower
This course examines the three segments of the criminal justice system in the U.S. - law enforcement, the courts and corrections. Included is study of their evolution, philosophy, structure, responsibilities, agencies, and ethical obligations. Also examined are the role of the U.S. Constitution and of state and federal laws, the role of the criminal justice system in a democratic society and current issues facing those who work in the criminal justice field.

CIVL - 1003ad Civil Civil and Criminal Law, 3.00 Credits
Prerequisite(s): MATH 1054 with D or better *
Level: Lower
Applied Learning-Creative Work
This course explains the concept of social justice within the United States criminal justice system. Students develop an understanding of equity, diversity, and inclusion issues that plague communities in our society and the negative effects that lead to disparate treatment within the criminal justice system. The concepts of social justice and equity related to employment, education, housing, and economic opportunities are examined. The impact of these concepts within the criminal justice system are evaluated.

CIVL - 7503 Construction Mgmt Internship, 12.00 Credits
Prerequisite(s): CJUS 7503 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level
This course is a comprehensive examination of contemporary techniques, principles, problems, and theories and management of the criminal investigation process. This course provides interactive experience between classroom and crime scene evolution. Emphasizing initial response to a scene through the questioning of witnesses and suspects; collection and preservation of evidence; preparation of case evidence for courtroom testimony and the management of this discipline. This course requires a lab course in conjunction with classroom presentation and is an applied course.
CJUS - 8003 Criminal Investigation Capston, 3.00 Credits
Prerequisite(s): CJJS 7003 with C or better and CJUS 6203 with C or better
Level: Upper
Applied Learning-Internship, Upper Level
This course examines contemporary management theories and concepts applied to private security. The student will be required to produce a comprehensive final report and daily diary.

CJUS - 6103 Criminal Justice Internship, 3.00 Credits
Prerequisite(s): CJJS 1003 with C or better and CJJS 6203 with C or better
Level: Upper
Applied Learning-Internship, Upper Level
This course is intended to enable students to express themselves in essays. They will study the rules of grammar, punctuation, sentence structure, and paragraph organization. This course will provide an opportunity for students to develop research skills and to present their findings in a comprehensive final report, with an emphasis on written communication.

COMP - 2000 Directed Study, 1.00 TO 4.00 Credits
Level: Lower
Liberal Arts and Science
The student may contract for one to four credit hours of independent study through an arrangement with the instructor. The student must submit a plan acceptable for the instructor and the department chairperson. To be submitted for the listed humanities requirements, a directed study course must be so designated by the department chair. Writing is continued in assignments related to readings, class discussions, and lectures.

COMP - 2900 English in a Global Context, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better and LITR 2603 with D or better or LITR 2033 with D or better or LITR 2343 with D or better or LITR 2703 with D or better or LITR 2813 with D or better or LITR 2903 with D or better or LITR 2913 with D or better or LITR 3333 with D or better or LITR 4333 with D or better or LITR 6003 with D or better or LITR 7003 with D or better or LITR 7023 with D or better
Level: Lower
Gen Ed - Humanities, Liberal Arts and Science
This course is an introduction to the history, evolution, and global context of the English language. The course will present a primer on the major methods and scope of linguistics and language change. Students will explore the history of English through texts of major linguistic periods. Major emphasis will be placed on a consideration of "Englishes," or English as a world language. The course will situate the evolution of English in context of material culture, focusing specifically on the development of technologies for the inscription, storage, and transmission of written and spoken language.

COMP - 3500 Advanced Composition, 3.00 Credits
Prerequisite(s): COMP 1503 with C or better and LITR 2603 with C or better or LITR 2033 with C or better or LITR 2343 with C or better or LITR 2503 with C or better or LITR 2903 with C or better or LITR 2933 with C or better or LITR 3333 with C or better or LITR 4333 with C or better or LITR 7003 with C or better
Level: Lower
Gen Ed - English Composition, Liberal Arts and Science
This course is intended to enable students to express themselves in essays. They will study the rules of grammar, punctuation, sentence structure, and paragraph organization. This course will provide an opportunity for students to develop research skills and to present their findings in a comprehensive final report, with an emphasis on written communication.

COMP - 4500 Technical Writing II, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better and LITR 2603 with D or better or LITR 2033 with D or better or LITR 2343 with D or better or LITR 2503 with D or better or LITR 2903 with D or better or LITR 2913 with D or better or LITR 3333 with C or better or LITR 4333 with C or better or LITR 7003 with D or better
Level: Lower
Liberal Arts and Science
This course will prepare students to handle typical workplace assignments in a competent and professional manner. It will also prepare students to communicate their ideas effectively in writing to persons in and out of their particular professional disciplines. The course centers on the knowledge and practice of format and style in technical writing when producing upper-level documents; this includes an emphasis on audience analysis and document design as well as research and editing decisions in the composition of long formats. A required component of this course is a Service-Learning Project. An emphasis will be placed on oral presentations.

COMP - 5700 Technical Writing, II, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better and LITR 2603 with D or better or LITR 2033 with D or better or LITR 2343 with D or better or LITR 2503 with D or better or LITR 2903 with D or better or LITR 2913 with D or better or LITR 3333 with D or better or LITR 4333 with D or better or LITR 6003 with D or better or LITR 7003 with D or better or LITR 7023 with D or better
Level: Lower
Liberal Arts and Science
This course is intended to enable students to express themselves in essays. They will study the rules of grammar, punctuation, sentence structure, and paragraph organization. This course will provide an opportunity for students to develop research skills and to present their findings in a comprehensive final report, with an emphasis on written communication.
researching medical information, as well as knowledge of civil law, criminal law, the judicial body systems and functions, psychological and physical diseases, drugs, and methods of realtime translation of the terminology learned. The goal of the course is to give the student knowledge of anatomy and medical terminologies, including root words, prefixes, suffixes, body systems and functions, psychological and physical diseases, drugs, and methods of researching medical information, as well as knowledge of civil law, criminal law, the judicial system (e.g. discovery, trial, and appellate processes), and legal terms.

**CTRP - 1162 Realtime Writing Theory Ia, 2.00 Credits**

**Level:** Lower

**Applied Learning-Practicum**

Realtime Writing Theory I teaches students how to write the spoken word with punctuation by means of a conflict-free, realtime-ready shorthand theory and provide instantaneous translation. It includes the use of online computer-aided technology and teacher interaction; live practice dictation for speed and accuracy; readback and analysis of shorthand notes. NCRA requirements include the following: students must sign a sworn statement verifying that the material has been deleted from their computers and no backup has been made. Students shall have access to the minimum grading criteria as set forth by the NCRA requirements. Successful completion of the course requires a grade of "C" or better. The course includes online computer-aided technology for realtime translation.

**CTRP - 1162 Realtime Writing Theory Ib, 2.00 Credits**

**Level:** Lower

**Applied Learning-Practicum**

Realtime Writing Theory II teaches students how to write the spoken word with punctuation by means of a conflict-free, realtime-ready shorthand theory and provide instantaneous translation. It includes the use of online computer-aided technology and teacher interaction; live practice dictation for speed and accuracy; readback and analysis of shorthand notes. NCRA requirements include the following: students must sign a sworn statement verifying that the material has been deleted from their computers and no backup has been made. Students shall have access to the minimum grading criteria as set forth by the NCRA requirements. Successful completion of the course requires a grade of "C" or better. The course includes online computer-aided technology for realtime translation.
This course is a continuation of basic realtime writing theory. The student will continue to learn to write, read, and transcribe the spoken word by means of a conflict-free, realtime-ready shorthand theory and provide instantaneous translation. Students are required to transcribe steno notes and speeds taken under timed institutional supervision or, if internet students, sign a sworn verification form stating that the work was completed without the aid of anyone present and without cheating. Speed takes shall be monitored and timed in the same way. Students are required to transcribe at least once a week. All speed takes and test recordings shall be deleted from the student’s computer immediately following tests. Internet students must sign a sworn statement verifying that the material has been deleted from their computers and no backup has been made. Students shall have access to the minimum grading criteria as set forth by the NCRA requirements. Successful completion of the course requires a grade of “C” or better. The course includes online computer-aided technology for realtime transcription.

COURSE DESCRIPTIONS
This course is a continuation of Speed Building II for Reporters and Captioners. The student will continue to learn to write, read, and transcribe the spoken word by means of a conflict-free, real-time-ready shorthand theory. Reporting students must be able to transcribe five minutes of unfamiliar dictation with at least 95 percent accuracy in each of the areas listed: literary at 130 wpm, jury charge at 150 wpm, and two-voice at 170 wpm. Dictation includes two-voice and multi-voice material. Reporting students shall have access to online computer-aided technology for realtime translation. This course includes online computer-aided technology for realtime translation.

This course is a continuation of Speed Building II for Reporters and Captioners. The student will continue to learn to write, read, and transcribe the spoken word by means of a conflict-free, real-time-ready shorthand theory. Reporting students must be able to transcribe five minutes of unfamiliar dictation with at least 95 percent accuracy in each of the areas listed: literary at 130 wpm, jury charge at 150 wpm, and two-voice at 170 wpm. Dictation includes two-voice and multi-voice material. Reporting students shall have access to online computer-aided technology for realtime translation. This course includes online computer-aided technology for realtime translation.

This course is a continuation of Speed Building III for Reporters and Captioners. The student will continue to learn to write, read, and transcribe the spoken word by means of a conflict-free, real-time-ready shorthand theory. In this course dictation includes two-voice and multi-voice testimony (including medical and technical material), literary, and jury charge. Students are required to perform a line-by-line edit/analysis of steno notes and perform readback and analysis of shorthand notes. Testing material used for speed takes will be given at incremental speeds on unfamiliar material. Students will be required to transcribe steno notes and speed takes under institutional supervision. NCRA requirements include the following: students are required to transcribe steno notes and speed takes under institutional supervision or, if online students, sign a sworn verification form stating that the work was completed without the aid of anyone present and without cheating. Speed takes shall be monitored and timed in the same way. All speed takes and test recordings shall be deleted immediately following tests. Internet students must sign a sworn statement verifying that the material has been deleted from their computers and no backup has been made. Students shall have access to minimum grading criteria as set forth by the NCRA requirements. Successful completion of the course requires a grade of “C” or better. Students must be able to pass three 5-minute dictations with 95% accuracy in each of the following areas: Q & A at 190 wpm, jury charge at 170 wpm, and literary at 150 wpm.

This course is a continuation of Speed Building IV for Reporters and Captioners. The student will continue to learn to write, read, and transcribe the spoken word by means of a conflict-free, real-time-ready shorthand theory. In this course dictation includes two-voice and multi-voice testimony (including medical and technical material), literary, and jury charge. Students are required to perform a line-by-line edit/analysis of steno notes and perform readback and analysis of shorthand notes. Testing material used for speed takes will be given at incremental speeds on unfamiliar material. Students will be required to transcribe steno notes and speed takes under institutional supervision. NCRA requirements include the following: students are required to transcribe steno notes and speed takes under institutional supervision or, if online students, sign a sworn verification form stating that the work was completed without the aid of anyone present and without cheating. Speed takes shall be monitored and timed in the same way. All speed takes and test recordings shall be deleted immediately following tests. Internet students must sign a sworn statement verifying that the material has been deleted from their computers and no backup has been made. Students shall have access to minimum grading criteria as set forth by the NCRA requirements. Successful completion of the course requires a grade of “C” or better. Students must be able to pass three 5-minute dictations with 95% accuracy in each of the following areas: Q & A at 225 wpm, jury charge at 200 wpm, and literary at 180 wpm.
This course is a continuation of Speed Building IV for Reporters and Captioners. The student will continue to learn to write, read, and transcribe the spoken word by means of a conflict-free, real-time-ready shorthand theory. In this course, dictation includes two-voice and multi-voice testimony (including medical and technical material), literary, and jury charge. Students are required to perform a dictation exercise using steno notes. Testing material used for speed takes will be given at incremental speeds on unfamiliar material. Students will be required to transcribe steno notes and speed takes under institutional supervision. NCRA requirements include the following: students are required to transcribe steno notes and speed takes under timed institutional supervision or, if internet, students sign a sworn verification form stating that the work was completed without the aid of anyone present and without cheating. Speed takes shall be monitored and timed in the same way. Students are required to transcribe at least once a week. All speed takes and test recordings shall be deleted from the student’s computer immediately following tests. Internet students must sign a sworn statement verifying that the material has been deleted from their computers and no backup has been made. Students shall have access to minimum grading criteria as set forth by the NCRA requirements. Successful completion of the course requires a grade of “C” or better. Students must be able to pass three 5-minute dictations with 95% accuracy in each of the following areas: Q&A at 225 wpm, jury charge at 200 wpm, and literary at 180 wpm.

CTRP - 4393 Speed Building Vb, 3.00 Credits
Prerequisite(s): CTRP 4362 with C or better or CTRP 4372 with C or better
Level: Lower
Applied Learning-Practicum
This course is a continuation of Speed Building IV for Reporters and Captioners. The student will continue to learn to write, read, and transcribe the spoken word by means of a conflict-free, real-time-ready shorthand theory. In this course, dictation includes two-voice and multi-voice testimony (including medical and technical material), literary, and jury charge. Students are required to perform a dictation exercise using steno notes. Testing material used for speed takes will be given at incremental speeds on unfamiliar material. Students will be required to transcribe steno notes and speed takes under institutional supervision. NCRA requirements include the following: students are required to transcribe steno notes and speed takes under timed institutional supervision or, if internet, students sign a sworn verification form stating that the work was completed without the aid of anyone present and without cheating. Speed takes shall be monitored and timed in the same way. Students are required to transcribe at least once a week. All speed takes and test recordings shall be deleted from the student’s computer immediately following tests. Internet students must sign a sworn statement verifying that the material has been deleted from their computers and no backup has been made. Students shall have access to minimum grading criteria as set forth by the NCRA requirements. Successful completion of the course requires a grade of “C” or better. Students must be able to pass three 5-minute dictations with 95% accuracy in each of the following areas: Q&A at 225 wpm, jury charge at 200 wpm, and literary at 180 wpm.

CTRP - 4392 Speed Building Vb, 2.00 Credits
Prerequisite(s): CTRP 4362 with C or better or CTRP 4372 with C or better
Level: Lower
Applied Learning-Practicum
This course is a continuation of Speed Building IV for Reporters and Captioners. The student will continue to learn to write, read, and transcribe the spoken word by means of a conflict-free, real-time-ready shorthand theory. In this course, dictation includes two-voice and multi-voice testimony (including medical and technical material), literary, and jury charge. Students are required to perform a dictation exercise using steno notes. Testing material used for speed takes will be given at incremental speeds on unfamiliar material. Students will be required to transcribe steno notes and speed takes under institutional supervision. NCRA requirements include the following: students are required to transcribe steno notes and speed takes under timed institutional supervision or, if internet, students sign a sworn verification form stating that the work was completed without the aid of anyone present and without cheating. Speed takes shall be monitored and timed in the same way. Students are required to transcribe at least once a week. All speed takes and test recordings shall be deleted from the student’s computer immediately following tests. Internet students must sign a sworn statement verifying that the material has been deleted from their computers and no backup has been made. Students shall have access to minimum grading criteria as set forth by the NCRA requirements. Successful completion of the course requires a grade of “C” or better. Students must be able to pass three 5-minute dictations with 95% accuracy in each of the following areas: Q&A at 225 wpm, jury charge at 200 wpm, and literary at 180 wpm.

CTRP - 4365 Procedures for Reporters & Capt., 5.00 Credits
Prerequisite(s): CTRP 3163 with C or better
Level: Lower
This course is an introduction of court and realtime reporting procedures and practices for the court reporters’ professional responsibilities of federal and state court systems; civil and criminal trials; logistics of reporting; reporting techniques; and transcription production. The course includes a description and discussion of the role of the certified and CART captioners included in this course will be a simulation of deposition where the student will act in the role of the reporter and administer the oath, mark exhibits, and perform other responsibilities germane to transcript production. Students will be required to apply professional ethics to various situations and identify and use appropriate library and reference material used in transcription preparation including software and internet search engines. Student will also be required to simulate and transcribe the National Court Reporter’s Association (NCRA) Registered Professional Reporter (RPR) test as well as the Certified Realtime Reporter (CRR) test. Students will prepare for the RPR written examination exam through simulations and review.

CTRP - 4900 Directed Study, 1.00 TO 6.00 Credits
Level: Lower
A student may contract for one to six credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and the department chairperson. The instructor and student will confer regularly regarding the process of the study.

CULN - CULINARY ARTS

CULN - 1143 Culinary Foundations, 3.00 Credits
Level: Lower
Applied Learning-Practicum
Through the use of demonstrations and lectures this course will focus on the basic methods and scientific principles of cooking, and will explore the fundamentals of industry specific cooking techniques used in contemporary gastronomy. In addition, students will be introduced to the history of the culinary industry, professional standards, and kitchen organization. The basics of product identification and introductory cooking techniques will also be explored. Palate development and development of flavor profiles accompanies the course.

CULN - 1153 Baking Foundations, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This introductory course will teach students the proper procedures, mixing methods, and equipment used in basic baked goods production. Culinary and baking history will be discussed.

CULN - 1373 Purchasing & Cost Control, 3.00 Credits
Level: Lower
This course incorporates basic math as related to the food service industry. Topics will include principles of food cost controls, daily yields and menu pricing, monthly report forms, food check preparation, recipe conversion and standardization procedures. This course will cover cashier’s reports, the use of balance sheets to determine the state of a food service operation, and costing as related to budgeting, improvements of operation efficiency and comparisons of similar operations. In addition this course will cover the principles of purchasing, receiving and storage. Students will learn the ABC’s of inventory as well as how to utilize sales history and popularity percentages to create forecasting as it pertains to budgeting and production.

CULN - 1479 Kitchen Fundamentals, 9.00 Credits
Level: Lower
Applied Learning-Practicum, Course Fee $60.00
The student will acquire experience in the preparation of and service of quantity foods with an emphasis on school, institutional, and commercial cafeterias; and an a la carte restaurant. The course covers basic equipment usage, knife skills, as well as storage and inventory procedures. Students will acquire experience in salad and stock preparation and will learn about the fabrication of chicken, pork, and beef cuts. Scientific, economic, and artistic aspects of food preparation will also be developed as the student involvement increases in each area of food production.

CULN - 1579 Baking Fundamentals, 9.00 Credits
Level: Lower
Applied Learning-Practicum, Course Fee $60.00
This lab section introduces students to the fundamental aspects of baking. Students will learn about the preparation, use and safety considerations of baking equipment, and will explore the fundamentals of industry specific cooking techniques used in contemporary gastronomy. In addition, students will be introduced to the history of the culinary industry, professional standards, and kitchen organization. The basics of product identification and introductory cooking techniques will also be explored. Palate development and development of flavor profiles accompanies the course.

CULN - 2043 Fundamentals of Nutrition, 3.00 Credits
Level: Lower
This course will cover the function and importance of nutrients and vitamins in the body, daily nutritional requirements, important food sources and the effects of nutrient deficiencies. Nutritional guidelines and standards will be discussed. Students will learn the importance of proper food storage, and be taught the techniques of calculating portion sizes as well as how to use physical activity and weight. Students will also learn about the importance of protein, carbohydrate, fat, and fiber. A laboratory component of 40 hours, 25 hours of which must be actual writing time and 15 hours of research and Q & A material, complete a minimum of 50 hours, 40 hours of which must be in-court; and

CULN - 1083 Food Safety & Service Training, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course is an introduction to the basics of culinary arts sanitation with an emphasis on various types of food service operation, correct sanitation procedures, rules and regulations pertaining to the safe use and maintenance of small tools and heavy equipment, correct methods of customer service, and personal hygiene as related to foods and service. The importance of employee training will be stressed. Students will be required to sit for the Education Foundation of the National Restaurant Association exam at the completion of this course.

COURSE DESCRIPTIONS
CULN - 2183 Menu Planning, 3.00 Credits  
Level: Lower  
This course will focus on the basic principles of menu planning with an emphasis on classical menu patterns, menu formats, and the relationship of the menu to the complete operation of a food service establishment. The pricing and profitability of menu items, menu design, as well food merchandising and styling will be covered.

CULN - 2263 Cooking Techniques & Preps, 3.00 Credits  
Prerequisite(s): CULN 1143 with D or better or FDSR 1373 with D or better  
Level: Lower  
Applied Learning-Practicum  
This course is a continuation of Culinary Foundations (CULN 1143). This course aims to provide understanding of cooking theory and mastery of a set of manual skills. These are applied to a wide range of cooking styles and products.

CULN - 2273 Baking Techniques & Prep, 3.00 Credits  
Prerequisite(s): CULN 1153 with D or better  
Level: Lower  
Applied Learning-Practicum  
This course will cover the proper procedures for mixing methods, and equipment used in intermediate baked goods production. Topics include laminated doughs, frozen desserts, intermediate yeast raised items such as baguettes and brioches, as well as intermediate baked goods, cakes, icings, and specialty desserts. The course will also introduce students to basic chocolate work, including tempering and piping.

CULN - 2479 Culinary Preparations, 9.00 Credits  
Prerequisite(s): CULN 1479 with D or better or FDSR 1478 with D or better  
Level: Lower  
Applied Learning-Practicum, Course Fee $60.00  
This lab is a study and practice of the principles, standards and procedures involved in quantity and quality food preparation. Students will rotate the duties involved in all areas of preparation, service, and sanitation within the a la carte restaurant and the cafeteria. The course emphasizes improvement of basic knife, fabricating, and bakery skills needed for the preparation of breakfast items, meat, fish and poultry, soups and vegetables.

CULN - 2489 Baking Preparations, 9.00 Credits  
Prerequisite(s): CULN 1579 with D or better or FDSR 1578 with D or better  
Level: Lower  
Applied Learning-Practicum, Course Fee $60.00  
This lab section develops intermediate level skills in baking and production. Students will build on skills learned in CULN 1579 and will rotate bi-weekly through experiences with yeast dough, pastries, specialty cookies, finishing and decorating.

CULN - 3162 Hospitality Accounting, 2.00 Credits  
Prerequisite(s): CULN 1373 with D or better or FDSR 2183 with D or better and FDSR 2153 with D or better  
Level: Lower  
This course focuses on introductory accounting principles and practices specific to the hospitality industry. Activities in this class are directed toward developing and refining a professional fluency in budget and forecast preparation. This class will also explore operational performance analysis based upon income statements and balance sheets. Students will study basic accounting principles, rules and standards, as well as inventory control, ordering, and pricing, as well as promotion and merchandising of bakery products.

CULN - 3173 Inttl Cook, Garde Manger & Baki, 3.00 Credits  
Prerequisite(s): CULN 2263 with D or better  
Level: Lower  
Applied Learning-Practicum  
This course introduces baking products, techniques, advanced food preparation and regional cuisines. It is broken down into three separate modules; each one dealing with those three areas. The course will establish a strong foundation in basic baking, advance ability in higher level food preparations, and develop an understanding and appreciation for global cuisine.

CULN - 3251 Beverages, 1.00 Credit  
Level: Lower  
Applied Learning-Practicum  
Students will learn about the history, classification, methods of production, and the characteristics of wine, spirits and beers. Mixology, lounge service, systems of beverage controls, laws controlling beverage sales, nonalcoholic beverages, and profitability will also be covered in this course.

CULN - 3253 Beverage & Fermentation, 3.00 Credits  
Level: Lower  
Students will learn about the history and production of beer, wine and cheese through hands-on experience. They will develop an understanding of styles and characteristics of different types of beer, wine, and cheese. The course covers systems of beverage controls, laws controlling beverage sales, and nonalcoholic beverages.

CULN - 3293 Inttl Baking & Cooking Fundamen, 3.00 Credits  
Prerequisite(s): CULN 2273 with D or better  
Level: Lower  
Applied Learning-Practicum  
This course will teach students the proper baking procedures and mixing methods used to produce advanced baked goods. The course will cover specialty items such as mousses, puddings, and cream desserts, as well as meringues, advanced gateaux and tortes. Students will learn about advanced bakery techniques using gingerbread, marzipan, and specialty sauces. Ethnic desserts and baked goods will be a focus of the course. Baking students will also become familiar with fundamental culinary skills.

CULN - 3353 Hospitality Supervision, 3.00 Credits  
Level: Lower  
The emphasis of this course is on kitchen management techniques, cost control, employee hiring and supervision. A major focus will be budgets, including labor and product cost controls and analysis. The importance of internal and external communications, conflict management, and creative problem solving will be stressed. The hiring, training, and rating of employees, as well as the role of unions in the hospitality industry, will be covered. Each student will be prepared for job procurement through resume writing, cover letter creation and insights on interviewing.

CULN - 3479 Advanced Culinary Preparation, 9.00 Credits  
Prerequisite(s): CULN 2479 with D or better or FDSR 2479 with D or better  
Level: Lower  
Applied Learning-Practicum, Course Fee $60.00  
Students will practice menu planning and the preparation of restaurant items in the working labs of the program. This lab provides hands-on experience in order to develop supervisory and management skills in the kitchens and dining room. In addition, the student is expected to develop a mastery of skills for a la carte and volume preparation of basic sauces, appetizers, vegetables, grains and pastas, salads, sandwiches, and a variety of entrees, with an emphasis on accepted culinary techniques and presentation.

CULN - 3489 Advanced Pastry Preparation, 9.00 Credits  
Prerequisite(s): CULN 2489 with D or better or FDSR 2489 with D or better  
Level: Lower  
Applied Learning-Practicum, Course Fee $60.00  
This lab section will develop advanced techniques and disciplines for fine dining and high volume baking operations. Weekly rotations in the labs will gain students hands-on experience producing wedding cakes, specialized pastries and cookies, layer and ethnic cakes, tortes, seasonal baked goods, and specialty doughs. Management of a bakery operation will also be addressed.

CULN - 4033 Intro to Food Science & Techno, 3.00 Credits  
Level: Lower  
Applied Learning-Practicum  
This course is an introduction to food science - the biology, chemistry, and physics of foods and food production. The role of formulation, heating, and cooling on foods, as well as the way taste, texture and appearance affect food production will be covered. The physical interactions of key food ingredients are a major focus of the course. There will be an emphasis on the scientific method as it pertains to food science and technology, ingredient substitution, and the development and testing of food products. Students will gain experience creating new or improved food products using formulation variables.

CULN - 4043 Advanced Pastry, 3.00 Credits  
Prerequisite(s): CULN 3253 with D or better  
Level: Lower  
Applied Learning-Practicum  
This course will introduce the student to specialized techniques in baking and pastry. Skill development covering petit fours, candy making, decorative sugar, wedding cakes, various ethnic ingredients, desserts, and baked goods will be the focus. Bakery packaging and merchandising will also be covered.

CULN - 4163 Advanced Cuisine, 3.00 Credits  
Prerequisite(s): CULN 3173 with D or better  
Level: Lower  
Applied Learning-Practicum  
This course deals with advanced cooking techniques and cuisine issues. Much of the activity is directed toward developing and refining a personal culinary philosophy by the students. Students will study cooking techniques in depth. They will develop a perspective on their use, and will study basic methods of product development in the foodservice industry. The course will introduce topics, begin discussion, and raise awareness of sustainable food production and will establish a firm connection between cooking and culture.

CULN - 4253 Hospitality Management, 3.00 Credits  
Prerequisite(s): CULN 3353 with D or better  
Level: Lower  
This course builds on the supervisory elements covered in Hospitality Supervision. The fundamentals of personnel management relating to motivation, performance, employee rights and labor relations will be covered. In addition, the course will emphasize basic planning, organizing, staff development, and interfacing with government and the public. Students will be exposed to management and motivation theory, allowing them to begin developing philosophies in both areas.

CULN - 4479 Culinary Capstone, 9.00 Credits  
Prerequisite(s): CULN 3479 with D or better  
Level: Lower  
Applied Learning-Practicum, Course Fee $60.00  
Using the knowledge and experience gained through previous lecture and lab experiences, this capstone course provides students with hands-on managerial experience in the planning, organizing and direction of kitchen production. Students will rotate through experiences as chef, station cook and dining room manager. These experiences will help students develop a personal/professional cooking style through creativity, innovation and synthesis based on previous lab exposures. The lab will emphasize refined sauce making, braising, smoking, cooking proteins to order and sophisticated plate presentation.

CULN - 4489 Pastry Capstone, 9.00 Credits  
Prerequisite(s): CULN 3489 with D or better  
Level: Lower  
Applied Learning-Practicum  
In this capstone course students will incorporate earlier lab and lecture experiences, and will demonstrate managerial level skills in the planning, organizing, and direction of bake-shop production. Students will be encouraged to develop a personal/professional baking style through creativity, innovation, and synthesis. In weekly rotations in the lab, students will gain hands-on experience with a wide variety of pastry items including but not limited to plated desserts, cakes and tortes, chocolate sculpting, sugar artistry, and candy production. Inventory control, ordering, and pricing, as well as promotion and merchandising of bakery products will also be covered.

DGM - DIGITAL MEDIA & ANIMATION  

DGM - 1333 Survey of Animation & Visual Eff, 3.00 Credits  
Level: Lower  
This course will take students through a comprehensive history of animated films beginning with their conception in the early 1900’s through the present. Students will learn how the medium reflects social issues, political views as well as human creativity. The various types of animation and how they are found in different countries and cultures will be the major focus. The screenings and discussions will span various genres and styles of animation including anime, experimental, commercial, computer, and independent film as well as gaming.
DGMA - 1401 Freshman Seminar, 1.00 Credit
Level: Lower
This introductory course prepares students with basic skills that will help them succeed in the Graphic & Media Design or Digital Media & Animation programs. These skills include but are not limited to: file management, time management, research practices, effective critique strategies, and online portfolio management.

DGMA - 1403 Digital Foundations I, 3.00 Credits
Level: Lower
This is an introductory digital media course that focuses on the manipulation of both raster and vector-based imagery. Students will learn the basics of Photoshop as well as digital imaging and use the software to develop their skills in the visualization of motion and time. The course will have a strong emphasis on principles of lighting, layout and composition.

DGMA - 1413 Foundations/Form/Space Rtnshp, 3.00 Credits
Level: Lower
This is a visual rendering course in the Digital Media and Animation major. Broad experience is emphasized with diverse graphic tools and techniques to develop observation and analyze visual information. This course is designed to deconstruct preconceived ideas of form/space relationships and replace them with objective understandings.

DGMA - 1423 Intro to Visual Communication, 3.00 Credits
Level: Lower
This is a course that focuses on creative, technical, and environmental/collaborative issues involved in visual communication. Building on the elements and principles of design/communication the students work through increasingly difficult projects to their final cumulative piece. An investigation of color theory as it applies to traditional and computer generated images is also pursued.

DGMA - 2403 Introduction to 3D Animation, 3.00 Credits
Prerequisite(s): DGMA 1403 with C or better
Level: Lower
Applied Learning-Practicum
This course provides an introduction to 3D modeling, texturing, lighting, and animating. Students will use a variety of tools and techniques to create various hard and soft surface models that address specific design problems.

DGMA - 2403 Digital Foundations II, 3.00 Credits
Prerequisite(s): DGMA 1403 with C or better
Level: Lower
Applied Learning-Practicum
This course expands upon the fundamental concepts behind visual communications introduced in previous courses. Emphasis will be placed on the creative process and design thinking using multiple models of visual communication. Students will explore technical and conceptual ideas associated with digital media communications through the production of time based and interactive projects.

DGMA - 2603 Media Forge I, 3.00 Credits
Prerequisite(s): DGMA 1403 with C or better
Level: Lower
Applied Learning-Practicum
This course provides an introduction to media design studio practice. Students work within design teams on real-world media design problems, with emphasis on video production, motion graphics and project management.

DGMA - 3111 Japanese Media, 1.00 Credit
Level: Lower
This course is an overview of Japanese art, cinema, animation and digital media. Students will examine the prevalent Japanese media in native and transnational contexts through a series of lectures and research projects. Special emphasis is given on communication strategies for art and digital media collaboration across cultures, with the goal of participation in a short-term study abroad program.

DGMA - 3113 Studio Tokyo, 3.00 Credits
Prerequisite(s): DGMA 3111 with D or better and JAPN 1203 with D or better
Level: Lower
Applied Learning-Practicum
Students will explore Japanese art, cinema, animation and digital media through a study-abroad program based in Tokyo. Students will create animation and digital media projects in collaboration with local artists, and expand upon their research from Japanese Media (DGMA 3111) through screenings and site visits.

DGMA - 3203 Interactive Authoring, 3.00 Credits
Prerequisite(s): CIAT 2403 with C or better or DGMA 2403 with C or better
Level: Lower
This is a course that introduces the student to the art of creating cartoon-style animation applicable to industry needs in graphic design, interactive media, the internet, film, and television using Macromedia Flash. The course emphasizes student acquisition production with both cameraless and computer-based techniques.

DGMA - 3303 Digital Photography, 3.00 Credits
Level: Lower
In this course, students will be introduced to digital photography covering basic to advanced techniques necessary for the production of art work, as well as learning about the visual arts, how to look at and critique photography, photographic vocabulary, and be introduced to works by well known photographers. Students will also gain a better understanding of the use of external hardware such as lenses, flashes, lights, and other equipment and their impact on photography.

DGMA - 3403 Intermediate 3D Animation, 3.00 Credits
Prerequisite(s): DGMA 2403 with C or better
Level: Lower
This course delves deeper into 3D computer animation while reinforcing the modeling, texturing, and lighting techniques learned in DGMA 2403. Various animation techniques will be explored and applied through object and character animation, as well as rigging that addresses specific animation problems. There will be a strong focus on the study of human and animal anatomy and how they influence motion.

DGMA - 3503 Typography, 3.00 Credits
Level: Lower
This course introduces students to the fundamentals of typography. Students combine research and design principles to move projects from concept to execution. Emphasis is given to new technologies and modes of delivery.

DGMA - 3603 Production I, 3.00 Credits
Level: Lower
Applied Learning-Creative Work
This course will introduce the student to the use of current non-linear editing technology. Class projects will develop an understanding of the methods used for creating, sampling and storing digital video and audio and the constraints placed on these media assets when used for media based products. Emphasis is placed upon the technology of digital video and audio, including: formats, data rates and compression algorithms.

DGMA - 3703 2D Game Design, 3.00 Credits
Prerequisite(s): DGMA 1403 with C or better and CISY 1113 with C or better
Level: Lower
This course will introduce students to fundamental game design in a hands-on studio setting. Through a series of experiments and projects, students will explore character design, level design, behaviors, game mechanics, risk/reward balancing and testing processes. Additional focus will be given to asset design and animation in 2D environments, including the principles of animation and game-engine animation tools.

DGMA - 4003 2D Animation, 3.00 Credits
Prerequisite(s): DGMA 1333 with C or better or FNAT 2433 with C or better
Level: Lower
Applied Learning-Creative Work
This course covers techniques for 2D animation production. Topics include character design, pre-production techniques, physical forces, the principles of animation, soundtrack synchronization, and performance for animation. Students will use industry-standard software to complete exercises and projects of their own design.

DGMA - 4103 Interactive Design, 3.00 Credits
Prerequisite(s): DGMA 1403 with C or better
Level: Lower
This course is an exploration of visual communication through interactive media and interface design. Students will explore the fundamental concepts of interactivity and user perception concerning computer interfaces, focusing on design for websites, online media, and digital games. Students will complete interactive titles of their own design with intuitive interfaces that incorporate concepts covered in class.

DGMA - 4203 Color Theory, 3.00 Credits
Level: Lower
Students will explore the history and theories associated with the use of color in graphic design, and develop design practices that utilize concept driven color solutions for projects. Students will gain experience in the techniques and color management practices necessary for the production of effective screen-based and print-based design.

DGMA - 4303 3D Game Design, 3.00 Credits
Prerequisite(s): DGMA 2403 with C or better and DGMA 3703 with C or better
Level: Lower
Applied Learning-Creative Work
This course will expand students understanding of game design and 3D interactive environments. Topics will include 3D character and level design, procedural generation in level design, development of game mechanics, complex behaviors, engine-based physics and development for virtual reality systems. Students will be required to create a game utilizing a 3D game engine and principles covered in class.

DGMA - 4443 Advanced 3D Animation, 3.00 Credits
Prerequisite(s): DGMA 3403 with C or better
Level: Lower
Applied Learning-Practicum
This course focuses on rigging and animation for 3D. Students will continue their work with modeling, texturing, lighting, rigging, and animation from previous courses, and apply it towards creating an animated short.

DGMA - 4900 Directed Study, 1.00 TO 4.00 Credits
Level: Lower
A student may contract for one to four credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the process of the study.

DGMA - 5103 Production I, 3.00 Credits
Prerequisite(s): ( CIAT 4103 with C or better or DGMA 4103 with C or better ) or ( CIAT 4423 with C or better or DGMA 4423 with C or better )
Level: Upper
Applied Learning-Creative Work, Upper Level
This course will introduce the student to the use of current non-linear editing technology. Class projects will develop an understanding of the methods used for creating, sampling and storing digital video and audio and the constraints placed on these media assets when used for media based products. Emphasis is placed upon the technology of digital video and audio, including: formats, data rates and compression algorithms.

DGMA - 5113 Studio Tokyo II, 3.00 Credits
Prerequisite(s): DGMA 3113 with D or better and JAPN 1203 with D or better and ( DGMA 3113 with D or better or DGMA 6203 with D or better )
Level: Upper
Applied Learning-Int/Dom Trvl, Upper Level
In this course, students will explore Japanese art, animation and digital media through a study-abroad program based in Tokyo. Students will schedule and lead teams in the creation of animation and digital media projects. Students will also conduct and present research into topics introduced in Japanese Media (DGMA 3111). Special emphasis will be given to linguistic, cultural and industrial differences in media production in Japan.
DGMA - 5603 Interactive Media, 3.00 Credits
Prerequisite(s): DGMA 1403 with C or better
Level: Upper
This course in students expand their skills in interactive design as they are introduced to new control systems and developing interactive technologies. Students will create applications that communicate with viewers through text, image and sound, utilizing skills developed in previous courses. Particular emphasis will be given to incorporating video and animation in interactive environments. Students will explore communication possibilities through interactive media in studio experiments and complete interactive titles of their design that incorporate concepts covered in class.

DGMA - 5900 Directed Study, 1.00 TO 4.00 Credits
Prerequisite(s): DGMA 1403 with D or better
Level: Upper
A student may contract for one to four credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the process of the study.

DGMA - 6103 Production II, 3.00 Credits
Prerequisite(s): DGMA 3603 with C or better
Level: Upper
Applied Learning-Creative Work, Upper Level
This is an advanced course that expands upon the fundamental concepts involved in time based visual communications. Emphasis will be placed on the creative process of making images that can convey ideas and information to others. Students will learn advanced cinematography, editing and collaborative workflow techniques while incorporating expanded theoretical concepts from the history of narrative and non-narrative media to their projects.

DGMA - 6203 Motion Graphics, 3.00 Credits
Prerequisite(s): DGMA 5103 with C or better or DGMA 3603 with C or better
Level: Upper
Applied Learning-Practicum, Upper Level
From experimental video and film title sequences to revolutionary TV commercials, broadcast design and motion graphics are used to inspire and influence. Through a series of exercises and projects, students will develop skills in motion design and composing, utilizing techniques developed in previous courses.

DGMA - 6303 Special Topics Media Design I, 3.00 Credits
Prerequisite(s): DGMA 4103 with C or better
Level: Upper
Upper Level
This course focuses on current issues in media design and explores the latest techniques and processes. Students will evaluate emerging technologies and the changing role of media design. Students will utilize research-based practices as a catalyst in the generation of project(s) aligned with a special topic. Topics may vary each time the course is offered.

DGMA - 6413 Advanced Animation, 3.00 Credits
Prerequisite(s): DGMA 3403 with C or better
Level: Upper
Applied Learning-Creative Work, Upper Level
This course is a continuation of the sequence of animation, focusing on more in depth and complex character animation as well as the animation of organic and non-organic shapes and object. Areas covered in this class include: pre-visualization, advanced character set-up and animation, facial animation, soundtrack synchronization, and advanced animation principles and techniques.

DGMA - 6503 Interface Design, 3.00 Credits
Prerequisite(s): DGMA 4103 with C or better
Level: Upper
Upper Level
This course will examine the theory, design and evaluation of digital game User Interface/ User Experience (UI/UX). Students will explore game feel and UI/UX best practices through a series of case studies and studio experiments. Students will analyze existing professional interfaces and construct UI/UX of their own design focused on game feel and player immersion. Emphasis will be put on design for digital games using various input methods in addition to historical and current research in player experience.

DGMA - 6503 Special Topics in Art & Design, 3.00 Credits
Prerequisite(s): DGMA 1403 with C or better
Level: Upper
This is an upper-level course, which focuses on a topic of special interest to the instructor and relevance to Digital Media & Animation and/or Graphic & Media Design students. Students will utilize the study of a special topic as a catalyst in the generation of aligned project(s). Faculty and topic may vary each time the course is offered.

DGMA - 6403 Advanced Modeling, 3.00 Credits
Prerequisite(s): DGMA 2403 with C or better
Level: Upper
Applied Learning-Creative Work, Upper Level
This course develops a refinement of skills from the preceding semesters work with modeling and a focus on photo-realistic models. The student will build upon their knowledge of 3D and provide an in depth study of modeling coupled with lighting and texturing. The course shows students how to visualize an object and effectively build it in the 3D world using various surface types and communicate scenarios and moods through the use of textures and light to surface interactions.

DGMA - 5453 Asset Production, 3.00 Credits
Prerequisite(s): DGMA 2403 with C or better
Level: Upper
Upper Level
In this course, students will create video game assets for both 2D and 3D interfaces. Students will expand on their use of the principles of animation, character design, 3D modeling, texturing and rigging, and will be introduced to sound recording and production techniques. Emphasis will be given to cohesive design strategies across group production.

DGMA - 5603 Interactive Media, 3.00 Credits
Prerequisite(s): DGMA 1403 with C or better
Level: Upper
Upper Level
In this course, students expand their skills in interactive design as they are introduced to new control systems and developing interactive technologies. Students will create applications that communicate with viewers through text, image and sound, utilizing skills developed in previous courses. Particular emphasis will be given to incorporating video and animation in interactive environments. Students will explore communication possibilities through interactive media in studio experiments and complete interactive titles of their design that incorporate concepts covered in class.

DGMA - 7203 Senior Seminar, 3.00 Credits
Prerequisite(s): CIAT 7403 with C or better or DGMA 7403 with C or better
Level: Upper
Applied Learning-Creative Work, Upper Level
This seminar will serve two purposes. The first is to enhance students' understanding of opportunities in the field of animation and digital media through presentations, workshops and discussions. The second is to generate new techniques for problem solving in digital media projects. The course will include in-class exercises, discussions and responses to visiting artist presentations.

DGMA - 7403 Senior Studio I, 1.00 Credits
Prerequisite(s): DGMA 6103 with C or better and DGMA 6413 with C or better
Level: Upper
Applied Learning-Creative Work, Upper Level
This course will prepare students for the task of finding the next opportunity to advance their careers. The student will be responsible for all aspects of the project, including conceptualization, design, pre-production, animation, cinematography, sound design, post production and final delivery.

DGMA - 7403 Advanced Motion Graphics, 3.00 Credits
Prerequisite(s): DGMA 6203 with C or better
Level: Upper
Applied Learning-Creative Work, Upper Level
This course provides the students with practical application of skills in the Digital Media and Animation major. The internship provides valuable real-life experience while extending the skills of the student towards various businesses, organizations, and professional. The student will be responsible for all aspects of this project, including conceptualization, design, pre-production, animation, cinematography, sound design, post production and final delivery.

DGMA - 7603 Media Forge II, 3.00 Credits
Prerequisite(s): DGMA 2603 with C or better or DGMA 5103 with C or better
Level: Upper
Applied Learning-Creative Work, Upper Level
In this course, students will integrate aspects of their studies from the previous three years in a semester-long production. Students will use this semester to create a short animation, video or interactive piece from start to completion. Students will be responsible for all aspects of this project, including conceptualization, design, pre-production, animation, cinematography, sound design, post production and final delivery.

DGMA - 7603 Digital Media & Animtn Internsh, 3.00 Credits
Prerequisite(s): DGMA 6203 with C or better
Level: Upper
Applied Learning-Internship, Pass/Fail, Upper Level
This course prepares the student for the task of finding the next opportunity to advance their careers. The student will be responsible for all aspects of the project, including conceptualization, design, pre-production, animation, cinematography, sound design, post production and final delivery.

DGMA - 7703 Adv Topics Interactive Design, 3.00 Credits
Prerequisite(s): DGMA 5603 with C or better
Level: Upper
Upper Level
This course expands on skills developed in Interactive Media, and apply them in interactive design projects that work across platforms. Students will build interactive projects both individually and in groups that visualize complex data sets and respond to active and passive user input. Special emphasis will be given to development of media for emerging technologies.

DGMA - 7803 Professional Practices, 3.00 Credits
Prerequisite(s): DGMA 6103 with C or better
Level: Upper
Upper Level
In this course there will be exploration of the importance of integrity in professional relationships, which lies in all aspects of the design process. Students will examine multiple communication paths and how to maintain coherent communication that follows the design process from conception to completion. Forms, documents and ethical issues of the business relationship shall be covered.

DGMA - 8003 Senior Studio Project II, 3.00 Credits
Prerequisite(s): DGMA 6103 with C or better or DGMA 6403 with C or better or DGMA 6203 with C or better
Level: Upper
Applied Learning-Creative Work, Upper Level
In this course, students will integrate aspects of their studies in a semester-long production. Students will use this semester to create a work from start to completion. Students will be responsible for all aspects of this project, including conceptualization, design, pre-production, post-production and final delivery.

DGMA - 8103 Portfolio, 3.00 Credits
Prerequisite(s): CIAT 7403 with C or better or DGMA 7403 with C or better
Level: Upper
Upper Level
This course will prepare students for the task of finding the next opportunity to advance their professional career be it graduate school, employment in industry, exhibition and/or freelance work. The students will develop a strategy to promote skills in an ever-changing field. Instruction will be given to develop a professional identity that is conveyed in the design of their portfolio. Current print and web design software will be utilized to produce an electronic portfolio detailing their work.
COURSE DESCRIPTIONS

DGMA - 8106 Senior Studio Project II, 6.00 Credits
Prerequisite(s): CIAT 7403 with C or better or DGMA 7403 with C or better
Level: Upper
Applied Learning-Creative Work, Upper Level
This is a cumulative two-part course where students will integrate aspects from their studies of the previous three years. Students will use this semester to create one of the following: a 3D animated film; a 2D animated film; and Experimental Animation film (Stop Motion, Mixture of 3D and 2D animation or a fully Interactive/Interactive Media project). Students will produce all pre-production work including proposal, storyboards and animatics. Students will also generate all post-production work including editing, sound mixing and final delivery format (using current technology) prior to a film screening.

DGMA - 8203 Media Design Seminar, 3.00 Credits
Prerequisite(s): DGMA 8106 with C or better
Level: Upper
Upper Level
This seminar will prepare Graphic Media and Design seniors to transition into the professional world by focusing on critical self-evaluation. Students will examine their own body of work as well as the work of professionals in the field. Special focus will be given to a designer's responsibilities in social, cultural, and environmental contexts. This course will include field trips and lectures from visiting artists.

DGMA - 8303 Game Design Studio 2, 3.00 Credits
Prerequisite(s): DGMA 6533 with C or better
Level: Upper
Applied Learning-Creative Work, Upper Level
In this course students will develop and lead a team in the production of an innovative computer game. Students will expand on their use of Agile software development methodology, focusing on management. Students will be responsible for organizing and overseeing all aspects of game design, including programming, visual development and user testing. Special emphasis will be placed on narrative design, original mechanic design and art direction.

DGMA - 8403 Sr Studio Proj - Media Design, 3.00 Credits
Prerequisite(s): DGMA 8106 with C or better
Level: Upper
Applied Learning-Creative Work, Upper Level
In this course, students will identify an existing design problem and complete the design process towards a successful solution.

DGMA - 8503 Special Topics Media Design II, 3.00 Credits
Prerequisite(s): DGMA 8103 with C or better
Level: Upper
Upper Level
This course focuses on current issues in media design and explores the latest techniques and processes. Students will evaluate emerging technologies and the changing role of media design. Students will utilize research-based practices as a catalyst in the generation of large scale project(s) aligned with a special topic. Topics may vary each time the course is offered.

DGSM - INTERIOR DESIGN

DGSM - 1433 Furniture & Finishes, 3.00 Credits
Prerequisite(s): ARCH 1184 with C or better or CIAT 1184 with C or better
Level: Lower
Lower Level
This course examines the selection, specification, composition, manufacture, and application of finishes and materials in interior design and presents an overview of furniture construction, types, planning and selection.

DGSM - 1443 Color, Lighting and Acoustics, 3.00 Credits
Level: Lower
Lower Level
This course is a fundamental course that investigates the properties and principles of basic color theory and its interrelationship with lighting. The focus is on the psychological and physiological effects of color and lighting as it applies to the form, texture, and finish of interior spaces. Course content provides a basic understanding of lighting calculations, types of lamps, appropriate use and application. General acoustic principles with an exploration of material application are introduced.

DGSM - 2204 Interior Design I, 4.00 Credits
Prerequisite(s): CIAT 2394 with C or better or ARCH 2394 with C or better
Level: Lower
Applied Learning-Civic Engage, Course Fee $106.00
This course emphasizes evidence based design and design process for commercial projects. Anthropometrics, ergonomics, universal design, sustainable and green design, biophilia, wayfinding and commercial design trends will be studied. Students will refine programming skills to include functional, spatial and technical requirements for their projects. All projects will incorporate pertinent building codes, green design, and accessibility standards. Advanced material board techniques and professional presentation practices will be reinforced.

ECON - ECONOMICS

ECON - 1013 Principles of Macroeconomics, 3.00 Credits
Level: Lower
Gen Ed - Social Sciences, Liberal Arts and Science
This is an introductory course, which views the behavior of the economy as a whole and the problems of economic organization. Students will explore the fluctuations of output and prices. Problems and measurement of economic growth, inflation, unemployment, and income will be discussed. Money, credit and financial institutions will be analyzed, as well as their impact on fiscal policies and international trade.

ECON - 2023 Principles of Microeconomics, 3.00 Credits
Level: Lower
Gen Ed - Social Sciences, Liberal Arts and Science
This course provides an analysis of the basic market forces of supply and demand, and economic outcomes under different market structures such as competitive, imperfectly competitive and monopolistic markets. The labor and capital markets are analyzed. In addition, the economics of the public sector emphasizes tax policy, externalities, monopoly power, and the provision of public goods. The course examines contemporary social issues such as income distribution, poverty, and the welfare system as well as global issues such as international trade and protectionism.

ECON - 4900 Directed Study, 1.00 TO 6.00 Credits
Level: Lower
Applied Learning-Creative Work
A student may contract for one to six credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the process of the study.

EDUC - EDUCATION

EDUC - 2163 Foundations of Education, 3.00 Credits
Level: Lower
Applied Learning-Creative Work
The course examines the social, historical, ethical and philosophical foundations of the U.S. educational system. Attention also will be paid to contemporary educational opportunities and challenges including the evolving teaching role, school equity and funding, educational standards and assessment, classroom diversity and multicultural education, social justice, and reform initiatives. Students will complete a portfolio as the culmination of their work within the program.

ELET - ELECTRICAL ENGI TECH

ELET - 1001 Seminar, 1.00 Credit
Level: Lower
Applied Learning-Creative Work
This course is an examination of strategies for success, including organizational and study skills, and electrically related careers opportunities for engineering technology students. The class entails textbook and research readings followed by written assignments. Topics include the variety of engineering technology and engineering careers, diversity in society and the technical workplace, sustainability, and ethics. Students make personal assessments of goals, values, strengths and weaknesses as related to college and technical career success. Employment application techniques addressed in assignments include resume writing, and letters of application. Research assignments use library and internet resources.

ELET - 1103 Circuit Theory I, 3.00 Credits
Prerequisite(s): MATH 1033 with D or better or MATH 1034 with D or better or MATH 1054 with D or better or MATH 1063 with D or better or MATH 1084 with D or better or MATH 2043 with D or better
Level: Lower
Applied Learning-Creative Work
In circuit theory, a student will analyze electrical circuits according to the fundamental definitions and laws as they apply to direct current circuits. The physical parameters defined include charge, voltage, current, resistance, capacitance and inductance. The laws applied include Ohm’s Law, Joule’s Law, Kirchhoff’s Voltage Law, and Kirchhoff’s Current Law. The analysis relies on algebra and trigonometry. The student will design basic circuits using Ohm’s Law and Kirchhoff’s Laws, and will expand these circuits using transistor-transistor logic (TTL) and other logic families.

ELET - 1111 Digital Logic Laboratory, 1.00 Credit
Corequisite(s): Applied Learning-Other
This laboratory implements the theoretical principles of ELET 1133, Digital Logic. Students learn to build working circuits based upon design goals. Applications include examples of combinational and sequential logic such as adders, multipliers, counters and 7-segment displays. Logic solutions utilize programmable logic devices and external interfaces as well as transistor-transistor logic integrated circuits, and simulation software. Written laboratory reports are required.

ELET - 1133 Digital Logic, 3.00 Credits
Level: Lower
Applied Learning-Creative Work
Digital Logic introduces a student to two-state logic. Logic analysis will use the binary number system and Boolean algebra. Logic combinational (AND-OR) and sequential (flip-flop) logic are studied. Typical logic designs include 7-segment displays, adders, multipliers, and counters. Logic designs are implemented using simulation, programmable logic devices and transistor-transistor logic.
ELET - 1142 Electronic Fabrication, 2.00 Credits  
Level: Lower  
Applied Learning-Practicum  
This course covers the fundamentals of prototype design, fabrication, and documentation. Major topics include: safety, sheet metal fabrication, printed circuit board design & fabrication, schematic & wiring diagram drafting & analysis, computer applications for schematic drawing & printed circuit board layout, circuit construction, troubleshooting fundamentals, soldering techniques, project parts procurement & cost analysis, and the ability to work in teams. Personal laptop computers are required.

ELET - 1151 Circuit Theory Laboratory, 1.00 Credit  
Prerequisite(s): ELET 1104 with D or better * or ELET 1103 with D or better *  
Level: Lower  
Applied Learning-Other  
Laboratory experiments parallel material presented in Circuit Theory. The theories and laws governing dc circuits are applied and verified. Hands-on building of electrical circuits reinforces the interpretation of schematic diagrams. Verification includes detailed analysis of the circuit under test by calculation, measurement, and simulation. Outside preparation and laboratory report writing are required.

ELET - 1202 Intro to Electrical Eng Tech, 2.00 Credits  
Level: Lower  
Applied Learning-Practicum  
This is an introductory course related to the field of electrical engineering technology. Laboratory topics introduce the students to the fundamental electrical principles and practices. The student will be introduced to various electrical components such as resistors, capacitors, inductors, diodes, LEDs, transistors, and integrated circuits. Analog and digital meters will be used for measuring electrical quantities, such as resistance, voltage, and current, in electrical circuits. Circuit construction and operation, reading schematic diagrams, computer applications for schematic drawing and simulation, familiarization with electrical tools and fabrication, and soldering techniques will also be introduced.

ELET - 2103 Electronics Theory I, 3.00 Credits  
Prerequisite(s): ( ELET 1104 with D or better and ELET 1151 with D or better ) or ( ELET 1103 with D or better and ELET 1152 with D or better ) or ( ELET 1103 with D or better and ELET 1151 with D or better ) or ( MCT 2423 with D or better and MCT 2461 with D or better )  
Corequisite(s): ( ELET 1104 with D or better and ELET 1151 with D or better ) or ( ELET 1103 with D or better and ELET 1152 with D or better ) or ( ELET 1103 with D or better and ELET 1151 with D or better ) or ( MCT 2423 with D or better and MCT 2461 with D or better )  
Level: Lower  
This course examines solid state electronic devices. Devices covered include diodes, bipolar transistors, and field effect transistors. The theory of operation, biasing, stabilization, frequency response, distortion, and gain are analyzed using mathematical analysis, equivalent circuits, and computer models.

ELET - 2124 Electrical Power Circuits, 4.00 Credits  
Prerequisite(s): ELET 1103 with D or better and ( MATH 2043 with D or better or MATH 1054 with D or better or MATH 1063 with D or better or MATH 2074 with D or better )  
Level: Lower  
Applied Learning-Practicum  
Students will build upon dc circuit theory concepts as they apply to alternating current using phasor analysis. Complicated networks are analyzed using mesh and nodal matrix methods. MATLAB is introduced as a computational tool. The course emphasis is upon ac power analysis, including transformers and three-phase systems. Electrical signal conditioning is addressed with filters and Bode Plots. Laboratory sessions will back up the analysis with hands-on exercises utilizing oscilloscopes, digital multimeters, wattmeters, and waveform generators. Measurements are made using single and three-phase power sources.

ELET - 2143 Embedded Controller Fundmts, 3.00 Credits  
Prerequisite(s): ELET 1111 with D or better and ELET 1153 with D or better and ( ELET 1142 with D or better or ELET 1143 with D or better )  
Level: Lower  
Applied Learning-Practicum  
Fundamentals of both the hardware and software aspects of the microcontroller. A RISC (reduced instruction set computer) microcontroller is used with an in-system programmer to create an engineering development system. Structured programming code is written in assembly language, assembled and downloaded to the controller. Switches, light emitting diodes, seven segment displays, pneumatic solenoids and motors are among the devices that will be connected to the controller.

ELET - 2151 Electronics Laboratory I, 1.00 Credit  
Prerequisite(s): ( ELET 1103 with D or better and ELET 1151 with D or better ) or ( MCT 2423 with D or better and MCT 2461 with D or better )  
Corequisite(s): ( ELET 1104 with D or better and ELET 1151 with D or better ) or ( MCT 2423 with D or better and MCT 2461 with D or better )  
Level: Lower  
Applied Learning-Other  
The material in this course parallels and supplements the subject matter in ELET 2103. The use of appropriate electronic test equipment is emphasized, along with computer simulation, and computer-aided test equipment.

ELET - 3103 Electronics Theory II, 3.00 Credits  
Prerequisite(s): ELET 2103 with D or better  
Corequisite(s): ELET 2103 with D or better  
Level: Lower  
This course involves the study and application of operational amplifiers. Inverting, non-inverting and follower amplifiers are presented in detail with consideration of gain, bandwidth, and impedance. Different feedback circuits are studied to realize basic mathematical operations. Op-amps topologies are then used to make filters, oscillators, and regulated power supplies.

ELET - 3151 Electronics Laboratory II, 1.00 Credit  
Prerequisite(s): ELET 2103 with D or better  
Corequisite(s): ELET 2103 with D or better  
Level: Lower  
Applied Learning-Other  
This laboratory is an experimental study of operational amplifiers and linear integrated circuits as applied to comparators, amplifiers, waveform generators, signal conditioning, and regulated power supplies. Emphasis is placed on design, proper measuring techniques and documentation of results. Device characteristics and limitations will be studied. The use of manufacturer's data sheets is required. Computers are used to design, analyze and test circuits along with manual measuring techniques.

ELET - 4154 Microelectronics, 4.00 Credits  
Prerequisite(s): ELET 1103 with D or better  
Level: Lower  
Applied Learning-Practicum, Course Fee $98.00  
This course provides students with a realistic experience in semiconductor manufacturing processes. Oxidation, diffusion, photolithography (spin/bake/ expose/ develop), etch, and vapor deposition equipment allows students the opportunity to design, build, and test simple solid-state devices in a cleanroom environment. Properties and characteristics of semiconductor material will be studied. Introduction to fabrication processes, design rules, and semiconductor device models will be applied to the design and fabrication of resistors, capacitors, diodes, and transistors.

ELET - 4224 Alternative Energy Generation, 4.00 Credits  
Level: Lower  
Applied Learning-Practicum  
The purpose of this course is to provide students with a realistic look at the potential and the limitations of electrical generation through energy conversion. The energy sources include solar, wind and water. The course will include semiconductor properties of photovoltaic cells and the electronic circuitry necessary for energy conversion. Using trigonometry, students will be able to calculate the position of the sun at any time or place. They will calculate the energy available at different panel orientations. Students will have the beginning tools to design off-grid and on-grid photovoltaic energy systems. MATLAB and LabVIEW software will be used to analyze and measure the solar resource. Some background knowledge of trigonometry and basic electrical circuits is expected.

ELET - 4900 Directed Study, 1.00 TO 6.00 Credits  
Level: Lower  
Applied Learning-Practicum  
A student may contract for one to six credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the progress of the study.

ELET - 5113 Electronic Communications, 3.00 Credits  
Prerequisite(s): ELET 2103 with D or better  
Level: Upper  
Applied Learning-Other, Upper Level  
This course is the study of analog and digital communication concepts and systems. Students begin by learning the terminology and measurements used in the communication industry. The course includes analysis of AM and FM transmission, and reception. Single-Sideband communications, Digital Wired and Wireless Communications, Network Communications, and Multiplexing and De-multiplexing techniques. Emphasis is on the system approach with block diagrams, with the presentation of theoretical fundamentals and study of the concepts within each diagram. The associated laboratory and projects augment the lecture theory. Students investigate further by completing an individual project.

ELET - 5900 Directed Study, 1.00 TO 6.00 Credits  
Level: Upper  
Applied Learning-Practicum  
A student may contract for one to six credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the progress of the study.

ELET - 6004 Advanced Power Systems, 4.00 Credits  
Prerequisite(s): ( ELET 2124 with D or better or ELET 2123 with D or better ) and ELET 2103 with D or better  
Level: Upper  
Applied Learning-Practicum, Upper Level  
This course is the study of electrical power transmission and conversion. A project involves the design of a dc-dc converter from theory through a completed printed circuit board. Circuit topologies studied include linear, buck, boost and buck-boost converters. On the utility scale, ac circuit theory is applied to grid power flow and transmission line models. Synchronous generators and transmission lines are modeled in theory and examined in the laboratory. Power electronics are analyzed for their role in conversion and transmission.

ELET - 6143 Electrical Machine and Control, 3.00 Credits  
Prerequisite(s): ELET 1103 with D or better or ELET 1104 with D or better or MCT 2423 with D or better  
Level: Upper  
Applied Learning-Practicum, Upper Level  
Students will study electromagnetic machines through circuit models, mathematical analysis, and experimental measurements. Mechanical, electrical, and electromagnetic fundamentals are studied as it is applied to motors and generators. Machine topologies studied include three-phase synchronous, generators and motors, three-phase induction motors, single-phase motors, and dc motors and generators. To control these machines, students will implement relay logic and programmable logic circuits. Variable frequency drives and SCR drives are analyzed and tested. Sustainable engineering is promoted in this course through the selection of the most efficient and appropriate machine and control system for the application.

ELET - 7104 Integrated Circuit Technology, 4.00 Credits  
Prerequisite(s): MATH 1063 with D or better or MATH 1084 with D or better  
Level: Upper  
Applied Learning-Practicum, Course Fee $98.00, Upper Level  
This course is an introduction to electronics, chemistry and materials of integrated circuit fabrication. Topics include the basic process steps of crystal growth, oxidation, photolithography, diffusion, ion implantation, chemical vapor deposition (CVD) and metallization used to build integrated circuits. The laboratory processes a 4-level metal gate PMOS process to fabricate a working integrated circuit test-chip and provide experience in device design, process design, materials evaluation, in-process characterization and device testing.
**ELTR - 7404 Embedded & Real Time Systems, 4.00 Credits**

Prerequisite(s): ELTR 2143 with D or better and CISY 5123 with D or better

Level: Upper

Applied Learning-Practicum, Upper Level

This course prepares the students for the design and implementation of a real-time operating system (RTOS) on an embedded microcontroller. The course is constructed around a project where each student is required to design and prototype a real-time traffic light using MicroC/OS-II operating system, and its implementation on a PIC18F452 microcontroller. The lecture portion of the course is comprised of lectures and quizzes that support the course project. Lecture topics include basic characteristics of the real-time applications and real-time operating systems, hardware interfacing techniques, fixed and dynamic priority scheduling algorithms, concurrent writing, theory, intercommunication, synchronization, response-time analysis, Petri-net modeling, fixed-point computations, and optimization. The lab portion of the course consists of labs that provide the building blocks of the course project. Upon completion of the course project students will compare MicroC/OS-II with other similar operating systems such as FreeRTOS and Salvo.

**ELTR - 2156 Electrical Power Systems, 6.00 Credits**

Prerequisite(s): ELTR 1156 with D or better and ELTR 1166 with D or better and ELTR 1176 with D or better and ELTR 2156 with D or better and ELTR 2166 with D or better and ELTR 2176 with D or better

Level: Lower

Applied Learning-Practicum, Course Fee $17.00

This course will provide instruction in the applied mathematics, circuit analysis, design, installation, distribution methods, protection, and trouble of single phase and three phase electrical power systems.

**ELTR - 3306 Alarms and Special Systems, 6.00 Credits**

Prerequisite(s): ELTR 1156 with D or better and ELTR 1166 with D or better and ELTR 1176 with D or better and ELTR 2156 with D or better and ELTR 2166 with D or better and ELTR 2176 with D or better

Level: Lower

Applied Learning-Practicum, Course Fee $17.00

This course will provide instruction in the applied mathematics, operation, design methodology, installation requirements, and National Electrical Code requirements for alarms and special systems.

**ELTR - 3326 Magnetic Motor Controls, 6.00 Credits**

Prerequisite(s): ELTR 1156 with D or better and ELTR 1166 with D or better and ELTR 1176 with D or better and ELTR 2156 with D or better and ELTR 2166 with D or better and ELTR 2176 with D or better

Level: Lower

Applied Learning-Practicum, Course Fee $17.00

This course is designed to teach students the fundamentals of motors and motor control. Safe work practices and code compliant procedures will be reinforced. The student will be scheduled to the basic circuits, devices and components used in their control; advanced circuits of alternating, sequencing, latching, and time delay operations of motor control will be presented. The lab will progressively lead the student to a basic understanding of individual control devices. The student will apply the basic knowledge and safety protocol towards integration into a totally automated system using magnetic and solid state controls. Throughout all projects, from basic to fully automated systems, the student will be taught troubleshooting techniques of industrial motor controls. Students will be evaluated to assess their troubleshooting skills and techniques within the lab practicums.

**ELTR - 3353 Photovic & Wind Turb System In, 6.00 Credits**

Prerequisite(s): ELTR 1156 with D or better and ELTR 1166 with D or better and ELTR 1176 with D or better and ELTR 2156 with D or better and ELTR 2166 with D or better and ELTR 2176 with D or better

Level: Lower

Applied Learning-Practicum, Course Fee $17.00

This course will provide instruction in the applied mathematics, operation, design installation and maintenance practices. The course content will include the components used in stand-alone systems, grid interconnect systems, and grid connected systems with battery back-up. Areas of focus will be: safe work practices and PPE, site evaluation, system sizing, zoning restrictions, funding resources, and installation practices in accordance with National Electrical Code, Building Code and NABCEP training objectives and requirements.

**ELTR - 3356 Prgmblble Ctrls for Ind Automt, 6.00 Credits**

Prerequisite(s): ELTR 1156 with D or better and ELTR 1166 with D or better and ELTR 1176 with D or better and ELTR 2156 with D or better and ELTR 2166 with D or better and ELTR 2176 with D or better

Level: Lower

Applied Learning-Practicum, Course Fee $17.00

This course presents the origin and evolution of programmable logic controllers. Special emphasis is placed on the fundamentals of Relay Ladder Logic (RLL) programming methods and the analysis of circuit operations as well as various applications of Programmable Logic Controllers (PLC's) used in modern industrial applications. Students will receive the necessary hands-on experience in lab to be able to design, program, construct, troubleshoot, and perform preventive maintenance of all components of a PLC controlled process. Students will be evaluated on troubleshooting techniques, terminations of input and output devices, and the proper maintenance of at least two different types of PLC manufactures.

**ELTR - 3366 Ind Automt & Process Controls, 6.00 Credits**

Prerequisite(s): ELTR 1156 with D or better and ELTR 1166 with D or better and ELTR 1176 with D or better and ELTR 2156 with D or better and ELTR 2166 with D or better and ELTR 2176 with D or better

Level: Lower

Applied Learning-Practicum, Course Fee $17.00

This course involves the study of effective process control theory. A systems approach is used in an effort to understand each instrument's function within the system. The course will also examine how pneumatics, hydraulics, Servo motors, and system automation are used in industry today for the manufacturing of products. This course also involves the practice of hands-on effective process control theory. A systems approach is used in an effort to understand each instrument's function within the system.
EMRT - ELECTROMECH ENGR TECH

EMRT - 5004 Instrumentation, 4.00 Credits
Prerequisite(s): ( PHYS 2023 with D or better or PHYS 2044 with D or better ) and ( MATH 1063 with D or better or MATH 1084 with D or better )
Level: Upper

This course introduces the student to general characteristics of electromechanical sensors and transducers, electrical measurement systems, electronic signal conditioning, data acquisition systems, and response characteristics of instruments. The lectures focus on the selection, calibration techniques and applications of electromechanical transducers. The laboratory has industrial equipment, such as a punch press, drill press, and metal lathe, which are equipped with sensors that are configured to measure physical quantities such as force, strain, displacement, velocity, and acceleration. Data acquisition and real-time software applications are applied in a laboratory environment.

EMRT - 6004 Feedback Control Systems, 4.00 Credits
Prerequisite(s): MATH 6114 with D or better
Level: Upper

Feedback control systems with topics in time response, stability, criteria, system representation, root locus diagrams, and compensation. The systems include electrical, mechanical, and electromechanical networks. The laboratory features simulation of electrical and mechanical systems using MATLAB and SIMULINK as well as a variety of physical controllers.

ENGR - ENGINEERING SCIENCE

ENGR - 1201 Engineering Sci Orientation, 1.00 Credit
Level: Lower

An examination of strategies for success, including organizational and study skills, and transfer and career opportunities for engineering students in industry. There will be at least a dozen textbook and research readings followed by written assignments on topics to include the various engineering transfer institutions and engineering majors, diversity in society, and the technical workplace, personal assessments of goals, values, strengths and weaknesses as related to student and technical career success, employment application techniques as resume writing, letters of application, interviewing, follow-up communications, and an introduction to MS word and Excel.

ENGR - 2001 Engineering Computing Applicnts, 1.00 Credit
Prerequisite(s): MATH 1084 with D or better
Level: Lower

This is an introductory, software-oriented, engineering computing course using an interactive, high-performance, scientific and engineering software package which integrates computation and visualization in a programming environment to solve engineering application problems. Topics will include embedded mathematical functions, complex numbers, matrix manipulation, plotting, user defined script and function files, matrix algebra, numerical techniques and graphical user interfaces.

ENGR - 2201 Engineering Science Seminar, 1.00 Credit
Prerequisite(s): ENGR 1201 with D or better
Level: Lower

The purpose of this course is to assist sophomore engineering science students in choosing and transferring to the college or university of their choice in order to complete a baccalaureate degree in engineering. Transfer admissions visitors are invited to classes and there may be class trips to potential transfer institutions depending on the interest of the students. This is a required course for the Engineering Science associate degree.

ENGR - 3004 Circuit Analysis I, 4.00 Credits
Prerequisite(s): MATH 2044 with D or better
Corequisite(s): MATH 2044 with D or better
Level: Lower

This Calculus-based course covers dc circuit analysis including voltage, current, resistance, power, and energy. Circuit analysis techniques and Kirchhoff's laws applied to series, parallel and combined circuits. Threshen's, Norton's and Superposition theorems are applied to dc circuits. Operational amplifiers are introduced. Inductance and capacitance are introduced and the transient response of RL, RC and RLC circuits is step-inputs studied using differential equations. The laboratory incorporates use of manual and computer controlled equipment and simulation software to reinforce lecture concepts. Computational software is required for circuit calculations.

ENGR - 3213 Analytical Mechanics I, 3.00 Credits
Prerequisite(s): MATH 2044 with D or better and PHYS 1064 with D or better
Level: Lower

This course covers statics at the intermediate level. Equilibrium of particles and rigid bodies in two and three dimensions, centroids, centers of gravity, analysis of structures, friction, area and mass moments of inertia. Calculus and vector mathematics are employed throughout.

ENGR - 3254 Systems Dynamics I, 4.00 Credits
Prerequisite(s): MATH 6114 with D or better and PHYS 1064 with D or better
Level: Lower

Applied Learning Practicum

This course covers analysis, modeling and design of dynamic and feedback control systems using a common methodology regardless of physical discipline. Mathematical modeling, block diagrams, transfer functions, system excitation, response and stability of linear mechanical and electrical systems in both time and frequency domains will be studied using classical techniques, state space representation, matrix notation and Laplace transforms. The laboratory will include programming and simulation of independent and coupled, first and second order electrical and mechanical systems using MATLAB and SIMULINK. An experimental project or simulation will be required.

ENGR - 4004 Circuit Analysis II, 4.00 Credits
Prerequisite(s): ENGR 3004 with D or better and MATH 6114 with D or better
Level: Lower

This course covers AC circuit analysis beginning with the study of sinusoidal steady-state solutions for circuits in the time domain. Nodal, loop and mesh methods of AC circuit analyses and the Threessen, Norton and Superposition theorems are applied to the complex plane. AC power, transformers, mutual induction, three-phase circuits and two-port networks are introduced and used for analysis. Laplace and Fourier Transforms and the Fourier Series are applied to circuit analyses. Complex frequency analysis is introduced to enable discussion of transfer functions, frequency dependent behavior, resonance phenomenon and simple filter circuits. The laboratory incorporates use of manual and computer controlled equipment and simulation software to reinforce lecture concepts. Computational software use is required for circuit calculations.

ENGR - 4213 Analytical Mechanics II, 3.00 Credits
Prerequisite(s): ENGR 3213 with D or better
Level: Lower

This course covers dynamics at the intermediate level. Topics in kinematics and kinetics include particles, systems of particles and rigid bodies, mechanical vibrations, force, mass, acceleration, work and energy, impulse and momentum. Calculus and vector mathematics are employed throughout.

ENGR - 4264 Eng Engrc Materials of, 4.00 Credits
Prerequisite(s): ENGR 3213 with D or better and ( MATH 2044 with D or better )
Level: Lower

Course Fee $46.00

This course is a calculus-based study of advanced concepts in Mechanics of Materials. It addresses the behavior of deformable mechanical components when subjected to tension, compression, torsion, flexure-bending or a combination of these loads. Extensive use is made of free body diagrams as well as Mohr's Circle for stress and strain. Experience is gained in the analysis of beam deflection, shafts in torsion, power, column buckling and thin walled pressure vessels. Analysis includes examination of stress concentrations, elastic and inelastic response, residual stresses, indeterminate structures and thermal effects. Superposition, singularity functions and theories of failure are studied. Laboratory experiences include traditional mechanical material testing and computer software applications.

ENGR - 4900 Directed Study, 1.00 TO 6.00 Credits
Level: Lower

A student may contract for one to six credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the process of the study.

ENVR - ENVIRONMENTAL TECHNOLOGY

ENVR - 4411 Environmental Capstone Seminar, 1.00 Credit
Prerequisite(s): ENVR 4424 with D or better *
Level: Lower

This course is intended for students in the last semester of the Environmental Technology program. Current environmental issues are considered by utilizing guest speakers, an alumni panel, and audiovisual resources. Field trips are made to regional sites of environmental interest. A job search is organized and resumes are prepared with cover letters.

ENVR - 4413 Environmental Law, 3.00 Credits
Prerequisite(s): BIOL 2801 with D or better and BIOL 2803 with D or better
Level: Lower

This course is a non-technical overview of environmental law and public policy. Included in the course are laws, regulations and policies governing water pollution, air pollution, waste, hazardous waste, global commons, land use, pesticides, energy, and public lands. The social concerns of environmental regulation such as environmental economics, risk assessment and environmental impact statements are also explored. The conflict/concerns of economic development with environmental protection is particularly stressed. In addition, environmental problems, public policy, administration, politics and philosophy are studied.

ENVR - 4424 Envirnmntl Chem & Microbiology, 4.00 Credits
Prerequisite(s): BIOL 2801 with D or better and BIOL 2803 with D or better and ( CHEM 2984 with D or better or CHEM 2124 with D or better )
Level: Lower

Applied Learning-Field Study, Course Fee $118.00

This is the "capstone" course for students in the Environmental Technology curriculum. The course includes a survey of the techniques used for sampling and laboratory analysis of soil, water, and microbiological samples. Chemistry topics include a review of inorganic and organic chemicals of environmental concern. Microbiology topics include the biology of microorganisms in soil, water, and waste treatment.

ENVR - 4900 Directed Study, 1.00 TO 6.00 Credits
Level: Lower

A student may contract for one to six credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the progress of the study.

FDSR - FOOD SERVICE

FDSR - 1143 Menu Planning, 3.00 Credits
Level: Lower

This is an introductory course that will teach professional service protocol, dining room etiquette, ordering and use of point of sales systems. As the semester progresses, other topics will include basic principles of menu planning with emphasis on classical menu patterns; menu formats and relationship of the menu to the complete operation of a food service establishment, and pricing of basic menu items.
FNAT - 1303 Architectural History I, 3.00 Credits
Level: Lower
A student who has successfully completed three semesters of Food Service courses may arrange for three, five, or nine credit hours of directed study to provide an opportunity to continue study in a subject area of special interest. Directed study may be conducted by a student only through an arrangement with the Food Service Instructional Staff who are to direct such a study. The student will submit a plan acceptable to the instructional staff and will confer regularly regarding his or her progress.

FILM - FILM STUDIES

FILM - 3113 History of Italian Cinema, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better
Level: Lower
Gen Ed - Arts, Liberal Arts and Science
This course provides an in-depth study of the history of Italian Cinema from its beginnings in the first decade of the 20th Century until the present. Students will study the various social, political, technological, and artistic influences on Italian Cinema throughout its history.

FNAT - FINE ARTS

FNAT - 1013 Art Appreciation, 3.00 Credits
Level: Lower
Gen Ed - Arts, Liberal Arts and Science
Art Appreciation will introduce the student to the meaning of what Art is and is about. Special emphasis is placed on open discussion to create an awareness of why men and women have valued the arts which have become a driving force as they developed and became civilized. Students will see how the arts are really part of their daily lives by reading, viewing slides and works of art, and by creating. Writing is continued in assignments related to readings, class discussions, and lectures.

FNAT - 1023 Introduction to Theatre, 3.00 Credits
Level: Lower
Gen Ed - Arts, Liberal Arts and Science
The primary objective of this course is to develop knowledge and appreciation of theatre arts. This will be done through a study of theatrical traditions and dramatic literature from classical theatre to the contemporary. Writing is continued in assignments related to readings, class discussions, and lectures.

FNAT - 1133 Surv of Art Hist:Ancnt Grk Art, 3.00 Credits
Level: Lower
Gen Ed - Arts, Liberal Arts and Science
Art is the highest expression of a culture. Political, historical and social changes are the “heart of art”. Works of art are a reflection of the ages in which they are produced and are often used as a “tool” to carry messages. This course will consider the development of art through the centuries and how it affected today’s arts, with a focus on the main artistic movements starting with Ancient Greece through the Renaissance period in Italy. Guided tours will help students to experience first-hand the main artistic expressions in Campania and Rome.

FNAT - 1303 Architectural History I, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better
Level: Lower
Gen Ed - Arts, Liberal Arts and Science
This is a survey course of the origin and development of historically notable architecture throughout the world from 9000 BCE to 1900. From the settlement of Jericho in the Neolithic Era through Edicticism, the era of stylistic revivals in the late 19th century, the students will be exposed to a wide variety of buildings, as well as introduced to the corresponding cultures and religions.

FNAT - 1313 Art History, 3.00 Credits
Level: Lower
Gen Ed - Arts, Liberal Arts and Science
Art History is a comprehensive survey course which views the visual arts as a humanistic discipline. Students will see the condition of our western tradition as encountered from the magic of caveman to the complexities of the twentieth century. Emphasis will be placed on the variety of purposes for which art has been produced. Writing is continued in assignments related to readings, class discussions, and lectures.

FNAT - 1403 Survey of Interactive Media, 3.00 Credits
Level: Lower
Liberal Arts and Science
This course presents students with the history of interactive media and entertainment. Topics include board games, the video game industry, interface design on the world wide web, and the development of the graphic user interface. Students will explore how developments in technology, as well as changes in other fields (cinema, graphic design, music) have driven change in interactive media. Students will examine works of interactive entertainment both inside and outside of class, and they will discuss theory and criticism relevant to the field. Additional focus will be given to intersections of Interactive Media with social issues, including issues of race, gender, economics and politics.

FNAT - 2333 Survey of Design, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better
Level: Lower
Gen Ed - Arts, Liberal Arts and Science
Students will be introduced to basic design principles, theories, historical periods, disciplines, practices, and technologies. The areas of conceptual development, styles, materials, patterns, structures, and relationships in design will be examined. Major disciplines and fields in design will be considered, compared, and evaluated. The course will focus on how design influences architecture, industry, graphic and visual communication, digital media, print media, and culture. Students will evaluate design by reading, writing, researching, speaking about, and analyzing concepts related to the discipline.

FILM - FILM STUDIES

FILM - 2423 3D Design/Color, 3.00 Credits
Level: Lower
Gen Ed - Arts, Liberal Arts and Science
In this course, the student examines relationships between form, structure (response to gravity), process, skill, and intention in regard to three-dimensional visual art making. This inter-relationships dictates that every project incorporate some element of each of these concerns. Emphasis is placed on providing a wide range of experiences through projects which gradually increase in complexity as the student gains skills and awareness.

FILM - 2433 Figure and Motion, 3.00 Credits
Level: Lower
Gen Ed - Arts, Liberal Arts and Science
This course builds upon the fundamental skills learned in the Foundations: Form/Space Relationship (DGMA 1413) course through the use of the human model. Proportion, perspectives, plus structural and locomotion dynamics will be studied. Students will focus on the mechanics of motion.

FILM - 2443 Intro to Digital Photography, 3.00 Credits
Level: Lower
Gen Ed - Arts, Liberal Arts and Science
Introduction to Digital Photography gives students fundamental skills for effectively recording travel, home, and work experiences. Using digital photography as a tool, students are encouraged to become more careful observers of the people, the landscape, the art, the architecture, and the culture that they encounter in their daily lives. The course concentrates on technical lectures and lab/studio time regarding the basic operation of a digital camera and the processing of images. Students develop an understanding of the elements that combine to create powerful visual images: subject matter, composition, color, and light. Through selected readings, assignments, lab/studio time, and critiques, students produce a written and visual final project for the course. Students are responsible for providing their own cameras, supplies, and image editing software.

FILM - 2453 Drawing on Location: Art of Tr, 3.00 Credits
Level: Lower
Applied Learning-Int'l/Own Trvl, Liberal Arts and Science
This course is offered to students enrolled at Sant’Anna Institute as part of the study abroad program in Sorrento, Italy. Lectures and field sketching sessions are centered on drawing on location as the best way that a student can have to increase his or her capacity to observe and record reality. Whether it is an object, a tree, a person, or cities and landscapes, sketching from real life is a profound and lasting experience. This form of artistic expression can happen during everyday life while traveling or writing in journals. While drawing, students will learn to select information and highlight details better than they could with a camera. Students will discover Sorrento, Italy, and its region of Campania, visit Naples and surrounding archaeological sites, and record their observations through images and words in a travel sketchbook. Freehand drawing and location drawing as basic and complementary skills are recommended not only among architects, visual artists, animators, and graphic designers, but they are also recommended for disciplines such as archaeology, history, zoology, botany, and geology. Classic drawing exercises, as suggested by authors such as Kimon Nicolaides or Betty Edwards, will help beginners to break the ice with drawing from real life and on location.

FILM - 2900 Directed Study, 1.00 TO 4.00 Credits
Level: Lower
Gen Ed - Arts, Liberal Arts and Science
The student may contract for one to four hours of independent study through an arrangement with the instructor. The student must submit a plan acceptable to the instructor, and the department chairperson. To be substituted for the listed humanities requirements, a directed study course must be so designated by the department chair. Writing is continued in assignments related to readings, class discussions, and lectures.

FILM - 3413 Music of Western Cultures I, 3.00 Credits
Level: Lower
Gen Ed - Arts, Liberal Arts and Science
This course is designed to introduce and familiarize the student with the ethnic musical traditions and diversity in western cultures. The course will emphasize the Latin American, Caribbean, and Polynesian styles of root (hybrid), folk, and traditional forms and will include fundamental concepts of musical theory and form.

FILM - 3513 Art History II, 3.00 Credits
Level: Lower
Gen Ed - Arts, Liberal Arts and Science
This course is an introduction to understanding art. You will become aware of the relationship of media, artistic expression and the context of the cultural period which formed the art object. For most students the art of our own times is difficult to understand; for this reason, the main emphasis of the course will be contemporary culture and its interpretation of traditional imagery. Through written critical analysis of visual art issues students will gain confidence discussing how and why it matters.

FILM - 4413 Music of Westn Cultures II NA, 3.00 Credits
Level: Lower
Gen Ed - Arts, Liberal Arts and Science
This course is designed to introduce and familiarize the student with the ethnic diversity within North American music. The course will explore the folk, traditional, jazz, and popular idioms that are found in the United States and Canada. Students will become aware of the inter-cultural effects within North American music and the influence of music from other global cultures. Students will also be introduced to the modern twentieth century forms, new age (alternative), and global fusion.
The primary purpose of this course is to bring together all the academic and professional knowledge you have learned so that you will be able to launch successfully into the professional world. This course focuses on the application of the knowledge base acquired in the prerequisite courses as part of the financial planning process. Emphasis will be on the analysis of data, critical thinking, and the client's financial circumstances, the presentation of information and the subsequent recommendations to a client. The interrelationship of all planning areas in the construction of a comprehensive plan will be highlighted. Assignments, presentations, quizzes, and exams will be used to hone the student's analytical, presentation, and financial planning skills.

FSMA - 8112 Financial Planning Internship, 12.00 Credits
Level: Upper
Applied Learning-Internship, Pass/Fail, Upper Level
This course is an internship for students in financial planning. Students will gain hands-on experience in a financial planning setting. The student must be engaged in bona fide financial planning work in at least one of the six core areas of investment planning, tax planning, estate planning, retirement planning, employee benefit planning, or insurance/risk management. Students carry out a planned program of educational experiences under direct supervision of an owner, manager or supervisor of financial services and/or financial planning in an organization.

GEOL - GEOLOGY
GEOL - 1133 Introduction to Geology, 3.00 Credits
Level: Lower
Applied Learning-Internship, Pass/Fail, Liberal Arts and Science
The course is an introduction to the science of geology. In particular, the main types of rocks are analyzed with an emphasis on genetic processes and in relationship to plate tectonics theory. This basic knowledge will provide a background to understand and study the main geological risks, such as volcanoes, earthquakes, floods and landslides. Specific examples from the Apeninnes mountain chain and Campanarian plain will be examined to contextualize these topics in the Italian environment. In addition, a significant aim of this course is for students to gain a conscious relationship with the environment. The Campania region is an ideal place for experiential learning via site visits, with the opportunity for students to witness a wide range of geological features. The evaluation for the course will include mid-term and final written exams, a presentation and graphical exercises.

GLST - GLOBAL STUDIES
GLST - 2113 Global Perspectives:Spcl Topic, 3.00 Credits
Level: Lower
Gen Ed - Other World Civilized, Liberal Arts and Science
This course will introduce the students to the important role of general education and the interaction with their lives. Students will investigate their own values and ethical decision making. Students will consider the extent to which values shape behavior and ethical decisions. The student will recognize potentially different perspectives on a variety of topics as they evaluate other non-Western cultures. Through the exploration of various non-Western cultures, the course will assist students in developing a greater awareness of, and sensitivity toward, the social and cultural issues on both a local and global level. Through a collection of readings, discussions, personal reflection, writing, and research, students will learn skills to think critically about their social world and broaden their awareness and understanding of cultural and social diversity.

HIST - HISTORY
HIST - 1113 Hist of West Civil Since 1648, 3.00 Credits
Level: Lower
Gen Ed - Western Civilization, Liberal Arts and Science
This course provides an introduction to the political, military, intellectual, cultural, technological, religious, and economic history of the Western world from early modern times to the present. It studies the development of states, empires, and civilizations in Western Europe, the Americas, and the Mediterranean, and analyzes the impact of European expansion on non-Western societies. It examines the rise of democracy, industrialization, and nationalism, and the role of science and technology in shaping modern societies. It also considers the relationship between European states and other world regions, particularly Asia, Africa, and the Middle East. The course is designed to provide a broad understanding of the historical development of the Western world and its impact on the modern world.

HIST - 1123 History of the Mafia, 3.00 Credits
Level: Lower
Liberal Arts and Science
The course examines the role of the Mafia in the 20th century and its origins. The course explores the history of the Mafia from its origins to the present day. It examines the formation of the Mafia in Sicily in the 19th century, its expansion into other parts of Italy, and its influence throughout Europe. The course also considers the impact of the Mafia on Italian society and the role of the Mafia in Italian American politics. The course is designed to provide a broad understanding of the historical development of the Mafia and its impact on the modern world.

HIST - 1143 Surv of American History I, 3.00 Credits
Level: Lower
Gen Ed - American History, Liberal Arts and Science
This course is an introduction to American history. It covers the major events and developments in US history from pre-colonial times to the present. The course is designed to provide a broad understanding of the historical development of the United States and its impact on the modern world. It covers the political, economic, social, and cultural changes that have shaped the United States, and how these changes have affected the rest of the world.
HLSC - 8703 Senior Research Project, 3.00 Credits
Prerequisite(s): BIOL 7723 with C or better or BIOL 8823 with C or better
Level: Upper
Applied Learning-Research, Upper Level
This course is intended for students in the final year of the Bachelor of Science in Health Science. A student completes a 3-credit hour (120 hour total) internship at an approved off-campus site. The student works under the guidance of a qualified professional, the on-site Internship Site Supervisor, while receiving college consultation from a Faculty Internship Coordinator. The internship is designed for a student to obtain health science-related research or work experience in theoretical and application-based procedures previously studied. The student submits required reports and evaluations. In addition, the student presents oral and written explanations and defense of the information acquired and applied during the internship. This course is graded as a Pass/Fail option only.

HLTH - HEALTH TECHNOLOGY
HLTH - 5113 Complementary & Alt Medicine, 3.00 Credits
Prerequisite(s): BIOL 2504 with D or better or BIOL 2214 with D or better
Level: Upper
Liberal Arts and Science, Upper Level
This internet based course involves the study of complementary and alternative medicine most frequently encountered in contemporary western healthcare. The course will investigate specific disciplines of complementary and alternative medicine, their origins, histories, principles, current scientific evidence for or against them, indications and contraindications for their use, and typical clinical outcomes; along with an understanding of how they are integrated in modern healthcare systems.

HLTH - 5203 End of Life Dilemmas, 3.00 Credits
Level: Upper
Liberal Arts and Science, Upper Level
This course is designed to provide the student with thought provoking, informed decision making for end of life care. All people have choices and options about how they will spend their time on earth. It is imperative that these options are thoroughly considered so that individual wishes and desires are planned for and carried out. Complex medical, ethical and legal matters at end of life will be explored. Interventions and therapies such as artificial hydration and nutrition, acute treatment modalities, cardiopulmonary resuscitation, and life support will be examined. Healthcare and end of life care will be investigated, judging cost and quantity of life versus quality of life. Assisted suicide and euthanasia will also be scrutinized and debated.

HLTH - 5223 Info Systems in Healthcare, 3.00 Credits
Level: Upper
Liberal Arts and Science, Upper Level
This course implements a two pronged approach to healthcare as an interface between the technology of healthcare delivery in all settings. This course explores a historical perspective of information technology through current day and beyond. What are the advantages, challenges, laws and regulations related to information systems? How do information systems impact healthcare? Emerging technologies such as electronic health record (EHR), telehealth and mobile applications are explored. The current healthcare landscape will be investigated to determine how healthcare informatics impacts quality outcome measures and private and governmental reimbursement methodology.

HLTH - 5233 The Culture of Healthcare, 3.00 Credits
Level: Upper
Liberal Arts and Science, Upper Level
This course introduces the student to a sample of the broad array of health professions and allied healthcare careers required for the field of study of healthcare sciences. In addition to an awareness of the career possibilities for the health science major, the course will focus on the typical education requirements, career paths and credentialing requirements of various health professionals. Licensure and scope of practice laws will be considered for select professions, along with the regulatory laws that govern health care and other health service agencies. Contemporary topics in health science will be explored including healthcare systems, economics, insurance, research, ethical considerations and other current issues in healthcare. The course will conclude with the student conducting personal career exploration and related educational planning.

HLTH - 5333 Healthcare Law and Ethics, 3.00 Credits
Prerequisite(s): BIJAD 3153 with D or better or TMGT 7153 with D or better
Level: Upper
Applied Learning-Other, Upper Level
This course is designed to provide a fundamental knowledge of the principles of marketing and their particular application in healthcare. The healthcare system poses a variety of marketing challenges due to new laws and policies, fresh innovations, and an increasingly educated health consumer. This course covers the fundamentals of marketing as they are applied across a broad spectrum of healthcare organizations to address these challenges. This course is divided into three major concepts: marketing process, understanding the consumer, and marketing mix. The goal of this course is to provide students with a strong foundation of marketing principals and tools and techniques to develop a marketing plan for any healthcare organization.

HLTH - 5433 Healthcare Marketing, 3.00 Credits
Level: Upper
Applied Learning-Other, Upper Level
This course is designed to provide a fundamental knowledge of the principles of marketing and their particular application in healthcare. The healthcare system poses a variety of marketing challenges due to new laws and policies, fresh innovations, and an increasingly educated health consumer. This course covers the fundamentals of marketing as they are applied across a broad spectrum of healthcare organizations to address these challenges. This course is divided into three major concepts: marketing process, understanding the consumer, and marketing mix. The goal of this course is to provide students with a strong foundation of marketing principals and tools and techniques to develop a marketing plan for any healthcare organization.
HUSR - HUMAN SERVICES

HUSR - 1074 Practicum in Human Services, 4.00 Credits
Prerequisite(s): PSYC 1063 with C or better and ( HUSR 2083 with C or better or HUSR 4033 with C or better )
Level: Lower
Applied Learning-Practicum
This senior project course is designed to provide students with supervised work experience in human services agencies. In addition, students participate in a weekly class that combines the principle of small group dynamics with the acquired skills, knowledge and experience that students have obtained from their field experience. Students produce a final project and a portfolio to document learning. Students should consult the Practicum Pre-requisites listed in the Human Services program description section in the college catalog. Civic Engagement Intensive (CEI) sections exist.

HUSR - 1303 Intro Alcohol & Substc Abuse, 3.00 Credits
Level: Lower
This course is intended to provide students with a yet comprehensive understanding of substance abuse and dependence. Attention will be given to understanding the effects of alcohol and other drugs on the mind and body, the components of addiction, the concept of alcoholism as a progressive disease, the recovery process, and the effects on society.

HUSR - 2083 Introduction to Human Services, 3.00 Credits
Level: Lower
This course is designed to give students an understanding and working knowledge of the human services professions goals and objectives, structure and organization, legal and ethical standards and client populations. An emphasis will be placed on the generalist approach to human services.

HUSR - 4033 Issues in Human Services, 3.00 Credits
Level: Lower
Major issues related to the field of human services are discussed in this course. Emphasis is placed on the ethical standards within the field of Human Services. Students are expected to develop the necessary skills, values and knowledge to enhance their ability to gain employment and advancement within the human service profession.

HUSR - 5003 Community Organizations, 3.00 Credits
Prerequisite(s): HUSR 1074 with B or better
Level: Upper
Upper Level
This course is an upper level human services methods course focusing on major theories and methods of community organizing with applications in urban, suburban, transitional and rural communities. It provides a framework for assessment, and intervention with regard to the structures and processes of neighborhoods, communities, and organizations as they influence and are influenced by the many stakeholders in the human services arena. It explores the potential for the use of technology in organizing communities.

HUSR - 5103 Social Policy & Human Services, 3.00 Credits
Prerequisite(s): HUSR 1074 with B or better
Level: Upper
Upper Level
This course is designed to give students an understanding and working knowledge of the human services professions goals and objectives, structure and organization, legal and ethical standards and client populations. An emphasis will be placed on the generalist approach to human services.

HUSR - 5203 Grants Contracts Organ Adv HS, 3.00 Credits
Prerequisite(s): HUSR 1074 with B or better
Level: Upper
Applied Learning-Practicum, Upper Level
This course will provide students with the tools needed to be successful with proposal writing, program and strategic planning, fund raising and institutional advancement. Specific areas to be addressed will include how to identify appropriate funding sources, how to market and organize charitable fundraising events and campaigns, how to complete applications for funding assistance, and how to respond to requests for proposals from public and private resources. Civic Engagement Intensive (CEI) sections exist.

HUSR - 5213 Case Management Systems, 3.00 Credits
Prerequisite(s): HUSR 1074 with B or better
Level: Upper
Upper Level
This course in case management will familiarize students with various approaches used by human services professionals to meet the service needs of the client. The use of case management with children and families, elderly, chronically mentally ill, developmentally and physically disabled, and those in health care settings will be investigated. Approaches used in crisis management will be compared with those used in chronic conditions. Skills in case management will be demonstrated including networking, goal setting, recording, case monitoring, advocacy, and outcome evaluation. Use of automated data systems and electronic records in case management will be explored.

HUMN - HUMANITIES

HUMN - 2114 Culture of Italy in Context, 4.00 Credits
Prerequisite(s): COMP 1503 with C or better and ( LITR 2033 with D or better or LITR 2343 with D or better or LITR 2503 with D or better or LITR 2503 with D or better or LITR 2503 with D or better or LITR 2503 with D or better or LITR 2503 with D or better or LITR 2813 with D or better or LITR 3280 with D or better or LITR 2803 with D or better or LITR 2913 with D or better or LITR 3233 with D or better or LITR 4333 with D or better or LITR 7003 with D or better )
Level: Lower
Gen Ed - Humanities, Liberal Arts and Science
While there are many definitions of "culture", most have in common the characteristic behaviors, values, and beliefs of a group and those influences by those values, beliefs, and behaviors. This course will examine the culture of Italy from the point of view of Americans who are alert to their own country's culture. Through academic and first-hand field experiences, students will search out the values and characteristics perhaps unique to the Italians, make comparisons and contrasts with their own culture, and thereby increase their own intercultural competency. Learning will involve class discussions, lectures, introspective and public writing, workshops, oral presentations, and field trips.
IDST - 7001 Interdisc Studies Capstone Prj, 1.00 Credit  
Prerequisite(s): ( HUSR 5003 with C or better and HUSR 5103 with C or better and HUSR 5203 with C or better ) or ( HUSR 5003 with C or better and HUSR 5103 with C or better and HUSR 5213 with C or better ) or ( HUSR 5003 with C or better and HUSR 5203 with C or better and HUSR 5213 with C or better ) or ( HUSR 5103 with C or better and HUSR 5203 with C or better and HUSR 5213 with C or better ) or ( HUSR 5103 with C or better and HUSR 5213 with C or better )  
Level: Upper  
This undergraduate capstone course is taken by students who have completed upper level coursework with their upper level area(s) of concentration for completion in IDST and IDST Applied Learning-Civic Engage, Upper Level  
This capstone course includes both proof of purpose and goals of a student's chosen course-work and the integration of their core area with their areas of concentration. Projects may take a range of forms appropriate to the student's concentration and future goals, e.g., a research essay, demonstration, marketing study, computer program or curriculum design. Projects must be approved by the student's advisor and project supervisors. Students will present their projects to their faculty supervisors and peers at the end of the course.

IDST - 8006 Interdisc Studies Internship, 6.00 Credits  
Prerequisite(s): IDST 5002 with D or better  
Level: Upper  
Applied Learning-Civic Engage, Upper Level  
This internship will assist the student in making the transition from the classroom to the professional work environment. The intent of the internship is to provide students with the experiential learning opportunity to experience an interdisciplinary situation within their field(s) of study. This internship course will provide both proof of purpose and goals of a student's chosen area of concentration. Students will complete supervised fieldwork in a selected business, industry, government agency or other educational or professional setting related to their two concentration areas. Students carry out a planned program of educational experiences under direct supervision of an owner, manager or supervisor in their technical field or professional area. Written and oral reports along with a journal of work experience activities will be required. Evaluation will be based on the quality of experiences gained from the internship, student work performance, and on-time completion of hours.

COURSE DESCRIPTIONS

IDST - 1103 College and Career Success, 3.00 Credits  
Level: Lower  
This course has been designed for students to explore various components of life planning specific to college and career readiness. In this course the student will learn strategies for learning; use of resources; self-awareness and exploration; academic success; effective communication; and management of time, health, and financial resources. Further, this course teaches a decision-making model designed to help students make career/life choices. Students will read and respond to articles, participate in class discussions, and engage in a variety of career assessment exercises. Much of the work required to accomplish these components is experiential in nature and emphasizes application in both student's personal and professional development.

IDST - 4102 Individual Studies Capstone, 2.00 Credits  
Prerequisite(s): COMP 1503 with D or better  
Level: Lower  
Applied Learning-Civic Engage  
In this course, students will investigate their concentration including current field entrance requirements, necessary skills and job opportunities. Students will create a capstone project demonstrating their skills and knowledge in their chosen concentration. Students will demonstrate their technology proficiency by creating an online portfolio. Students will identify their educational and career goals considering assessments related to their career interests, values, personality and personal strengths. Students will identify and investigate potential four-year transfer programs that will meet their educational and career pathway goals, utilizing information literacy skills. Students will explore the concept of citizenship through critical thinking and analyzing current challenges in their target work environment. Students will design and implement a proposal and plan that demonstrates critical thinking strategies and will promote positive civic outcomes.

IDST - 5002 Interdisc Studies Capstone Des, 2.00 Credits  
Prerequisite(s): COMP 1503 with D or better  
Level: Upper  
Applied Learning-Civic Engage  
In this semester students investigate the nature of interdisciplinary studies, complete personal assessments and reflect on their strengths and goals. A course-taking plan, based on extensive research and written justification, will be created. A portfolio will be designed to include a projection of their chosen concentration(s) along with a 4-semester registration plan, course justification and a collection of supporting documentation. Students will design an individual project demonstrating a plan for integrating their individual lower level core coursework with their upper level area(s) of concentration choices for completion in IDST 7011. Students will present these designs to the student's project supervisor/advisor.

IDST - 5900 Directed Study, 1.00 TO 4.00 Credits  
Level: Upper  
Applied Learning-Civic Engage  
A student may contract for one to four credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the process of the study.

IDST - 6103 Research Methods Interdisc Std, 3.00 Credits  
Prerequisite(s): COMP 1503 with D or better and IDST 5002 with D or better  
Level: Upper  
Applied Learning-Civic Engage  
In this course students expand their research knowledge via survey of research language, research methods and ethical challenges in research. Students will apply an interdisciplinary approach by integrating at least two disciplines as they create an introduction to the problem, a substantial review of the literature and a research proposal. Students will apply the BROAD method of interdisciplinary research as they gather, organize, synthesize and analyze current literature and create an interdisciplinary research prospectus.

IDST - 7001 Interdisc Studies Capstone Prj, 1.00 Credit  
Prerequisite(s): COMP 5703 with C or better and IDST 5002 with D or better  
Level: Upper  
This undergraduate capstone course includes both proof of purpose and goals of a student's chosen coursework and an individual project demonstrating the integration of their core area with their areas of concentration. Projects may take a range of forms appropriate to the student's concentration and future goals, e.g., a research essay, demonstration, marketing study, computer program or curriculum design. Projects must be approved by the student's advisor and project supervisors. Students will present their projects to their faculty supervisors and peers at the end of the course.

IMSC - IMAGING SCIENCE

IMSC - 5004 Cross Sect. Anat. in Med. Imag, 4.00 Credits  
Level: Upper  
The content of this course is designed to study sectional anatomy of computed tomography images, diagrams, textbook, and anatomical aides (sketches). Knowledge of sectional anatomy is essential to the technologist in the practice of computed tomography in identifying areas of interest, what is normal imaging, and what is abnormal. Cross-Sectional Anatomy is the study of sectional Anatomy for Imaging Professionals. The course is designed to provide the student with an overview of human anatomy, viewed in body sections, as it relates to the imaging professional.

IMSC - 6103 CT Clinical I, 3.00 Credits  
Prerequisite(s): IMSC 5004 with D or better  
Level: Upper  
This course provides students with a hands-on application necessary to become a registered computed tomography technologist in a hospital and/or a radiology imaging environment. Recommendations are based on those requirements from the ARRT.

IMSC - 6303 MRI Clinical Experience I, 3.00 Credits  
Prerequisite(s): IMSC 5004 with D or better  
Level: Upper  
Applies principles learned about Magnetic Resonance Imaging procedures. Clinical hours will be under the supervision of a qualified registered American Registry of Radiologic Technologists (ARRT) (MRI) certified technologist. Recommendation for clinical assignment will be approved by program coordinator. MRI exam competencies will be obtained and exam proficiency will be expected.

ITAL - ITALIAN

ITAL - 1303 Italian I, 3.00 Credits  
Level: Lower  
Gen Ed - Foreign Language, Liberal Arts and Science  
This course focuses on developing the student's ability to speak, to write, and to read Italian. Additional emphasis is given to learning about Italian culture. Instruction centers on oral communication, written communication, reading comprehension, and cultural awareness. Writing and speaking are emphasized in assignments related to readings, class discussions, and lectures.

ITAL - 2303 Italian II, 3.00 Credits  
Prerequisite(s): ITAL 1303 with D or better  
Level: Lower  
Gen Ed - Foreign Language, Liberal Arts and Science  
This course focuses on developing the student's ability to understand Italian sentences and frequently used expressions that relate to personal and family information, shopping, local geography, and employment. Oral communication is emphasized in simple tasks that require a direct exchange of information on familiar and routine matters. Writing is emphasized in assignments related to readings, class discussions, and lectures. The course focuses on an intermediate level of reading, speaking, and writing in Italian.

ITAL - 3303 Italian III, 3.00 Credits  
Prerequisite(s): ITAL 2303 with D or better  
Level: Lower  
Liberal Arts and Science  
This course will focus on developing the student's ability to understand Italian sentences and frequently used expressions that relate to personal and family information, shopping, local geography, and employment. Oral communication will be emphasized in simple tasks that require a direct exchange of information on familiar and routine matters or conversation about personal interests or employment. Writing will be emphasized in assignments related to readings, class discussions, and lectures. The course will focus on an intermediate level of reading, speaking, and writing in Italian.

ITAL - 4303 Italian IV, 3.00 Credits  
Prerequisite(s): ITAL 3303 with D or better  
Level: Lower  
Liberal Arts and Science  
This intermediate course will focus on developing the student's ability to understand the main ideas found in complex texts in Italian on both concrete and abstract topics; this focus will include technical discussions in the student's field of specialization. The course will also focus on the student's ability to speak with fluency and spontaneity. The student will be able to engage in regular interaction with native speakers and produce clear, detailed text on a wide range of subjects.
ITAL - 5113 Contemporary Italian Literature, 3.00 Credits
Prerequisite(s): ITAL 4303 with D or better
Level: Upper
Liberal Arts and Science, Upper Level
This course is designed as a continuation of ITAL 1202; this course further develops the student's ability to speak, to write, and to read Japanese. Additional emphasis is given to learning about Japanese culture. Instruction centers on oral communication, written communication, reading for comprehension, and cultural awareness. Writing and speaking are emphasized in assignments related to readings, class discussions, and lectures. This course also provides students with the ability to communicate in Japanese in their pursuit of travel, business, academic endeavors, and personal pleasure.

ITAL - 5223 Modern Italian Literature, 3.00 Credits
Prerequisite(s): ITAL 4303 with D or better
Level: Upper
Liberal Arts and Science, Upper Level
This course is an introduction to the spoken and written Japanese language and focuses on oral communication, reading for comprehension, and cultural awareness. Writing and speaking are emphasized in assignments related to readings, class discussions, and lectures. This course also provides students with the ability to communicate in Japanese in their pursuit of travel, business, academic endeavors, and personal pleasure.

ITAL - 5303 Italian V, 3.00 Credits
Prerequisite(s): ITAL 4303 with D or better
Level: Upper
Liberal Arts and Science, Upper Level
This course is designed as a continuation of ITAL 1202; this course further develops the student's ability to speak, to write, and to read Japanese. Additional emphasis is given to learning about Japanese culture. Instruction centers on oral communication, written communication, reading for comprehension, and cultural awareness. Writing and speaking are emphasized in assignments related to readings, class discussions, and lectures. This course also provides students with the ability to communicate in Japanese in their pursuit of travel, business, academic endeavors, and personal pleasure.

ITAL - 5333 Medieval Italian Literature I, 3.00 Credits
Prerequisite(s): ITAL 4303 with D or better
Level: Upper
Liberal Arts and Science, Upper Level
This course is designed as a continuation of ITAL 1202; this course further develops the student's ability to speak, to write, and to read Japanese. Additional emphasis is given to learning about Japanese culture. Instruction centers on oral communication, written communication, reading for comprehension, and cultural awareness. Writing and speaking are emphasized in assignments related to readings, class discussions, and lectures. This course also provides students with the ability to communicate in Japanese in their pursuit of travel, business, academic endeavors, and personal pleasure.

ITAL - 5443 Medieval Italian Literature II, 3.00 Credits
Prerequisite(s): ITAL 4303 with D or better
Level: Upper
Liberal Arts and Science, Upper Level
This course is designed as a continuation of ITAL 1202; this course further develops the student's ability to speak, to write, and to read Japanese. Additional emphasis is given to learning about Japanese culture. Instruction centers on oral communication, written communication, reading for comprehension, and cultural awareness. Writing and speaking are emphasized in assignments related to readings, class discussions, and lectures. This course also provides students with the ability to communicate in Japanese in their pursuit of travel, business, academic endeavors, and personal pleasure.

JAPN - 2203 Japanese II, 3.00 Credits
Prerequisite(s): JAPN 1203 with C or better
Level: Lower
Gen Ed - Foreign Language, Liberal Arts and Science
This course is designed as a continuation of JAPN 1202; this course further develops the student's ability to speak, to write, and to read Japanese. Additional emphasis is given to learning about Japanese culture. Instruction centers on oral communication, written communication, reading for comprehension, and cultural awareness. Writing and speaking are emphasized in assignments related to readings, class discussions, and lectures. This course also provides students with the ability to communicate in Japanese in their pursuit of travel, business, academic endeavors, and personal pleasure.

JAPN - 1203 Japanese I, 3.00 Credits
Level: Lower
Gen Ed - Foreign Language, Liberal Arts and Science
This course is an introduction to the spoken and written Japanese language and focuses on oral communication, reading for comprehension, and cultural awareness. Writing and speaking are emphasized in assignments related to readings, class discussions, and lectures. This course also provides students with the ability to communicate in Japanese in their pursuit of travel, business, academic endeavors, and personal pleasure.
LITR - 3233 Survey of American Lit I, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better
Level: Lower
Gen Ed - Humanities, Liberal Arts and Science
This is the first of two courses surveying American literature from the time of the Puritans to the present; it stresses the development of the American voice in literature through the critical study of such authors as Edwards, Franklin, Poe, Whitman, Emerson, Thoreau, Hawthorne, and Melville.

LITR - 3333 Survey of British Literature I, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better
Level: Lower
Gen Ed - Humanities, Liberal Arts and Science
Survey of British Literature I is the first of two courses surveying British literature from the Middle Ages to the present; this course examines literature in the Middle Ages, the Early Modern Period, and the Restoration and eighteenth century. Emphasis is placed on the critical study of works such as Beowulf and authors such as Malory, Chaucer, Julian of Norwich, Spenser, Marlowe, Shakespeare, Milton, Dryden, Defoe, Swift, Pope, Johnson, and Boswell. Writing is emphasized in assignments related to readings, class discussions, and lectures.

LITR - 4333 Survey of American Lit II, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better and LITR 2603 with D or better
Level: Lower
Gen Ed - Humanities, Liberal Arts and Science
This course is a continuation of Survey of American Literature I with special attention to the works of T'wan, Howells, Dickinson, James, Crane, Dreiser, Robinson, Frost, O'Neill, Eliot, Hemingway, Faulkner, Bellow, and Updike. Writing is continued in assignments related to readings, class discussions, and lectures.

LITR - 4900 Directed Study, 1.00 TO 4.00 Credits
Level: Lower
A student may contract for an independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the progress of the study.

LITR - 5133 Special Topics in Literature, 3.00 Credits
Prerequisite(s): COMP 1503 with C or better and LITR 2603 with C or better or LITR 2033 with C or better or LITR 2343 with C or better or LITR 2503 with C or better or LITR 2603 with C or better or LITR 2813 with C or better or LITR 2900 with C or better or LITR 2913 with C or better or LITR 3233 with C or better or LITR 4333 with C or better or LITR 7003 with C or better
Level: Upper
Liberal Arts and Science, Upper Level
Students will study selected literature of the past five centuries through the lens of a particular special topic, such as the African-American experience, or Life During Wartime, or Global and to the department chairperson. The instructor and student will confer regularly regarding the process of the study.

LITR - 5133 Special Topics in Literature, 3.00 Credits
Prerequisite(s): COMP 1503 with C or better and LITR 2603 with C or better or LITR 2033 with C or better or LITR 2343 with C or better or LITR 2503 with C or better or LITR 2813 with C or better or LITR 2900 with C or better or LITR 2913 with C or better or LITR 3233 with C or better or LITR 4333 with C or better or LITR 7000 with C or better
Level: Upper
Liberal Arts and Science, Upper Level
Students will study selected literature of the past five centuries through the lens of a particular special topic, such as the African-American experience, or Life During Wartime, or Global and to the department chairperson. The instructor and student will confer regularly regarding the process of the study.

LITR - 5133 Special Topics in Literature, 3.00 Credits
Prerequisite(s): COMP 1503 with C or better and LITR 2603 with C or better or LITR 2033 with C or better or LITR 2343 with C or better or LITR 2503 with C or better or LITR 2813 with C or better or LITR 2900 with C or better or LITR 2913 with C or better or LITR 3233 with C or better or LITR 4333 with C or better or LITR 7000 with C or better
Level: Upper
Liberal Arts and Science, Upper Level
Students will study selected literature of the past five centuries through the lens of a particular special topic, such as the African-American experience, or Life During Wartime, or Global and to the department chairperson. The instructor and student will confer regularly regarding the process of the study.

LITR - 7003 Literature and Nature, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better
Level: Upper
Gen Ed - Humanities, Liberal Arts and Science, Upper Level
This course explores the relationship between humans and the natural world expressed in the literary form of nature writing. The thematic movement from discovery and description to environment, ecology, ecoreticism, and sustainability will be emphasized. Readings will be concentrated in American Literature, but works from other countries and cultures will be included. A variety of literary genres, including poems, journals, nonfiction essays, short stories, travel narratives, and excerpts from novels and nonfiction books will be examined. The purpose of this course is to introduce students to the canon of nature writing and to track this literary movement into emerging texts that examine the political, environmental, and technological themes of ecology and sustainability in contemporary culture. Students will be required to write a substantial research paper that analyzes an issue directly related to the major, and they will be expected to participate in class discussions, and write exercises and exams will also be required. Class sessions will center on student participation and debate, and discussions and writing strategies will employ principles of sound reasoning, critical thinking, and Information Literacy skills.

LSCM - 7003 Log, Warehousing, Invrt, Distro, 3.00 Credits
Prerequisite(s): (BUAD 3153 with D or better or TMGT 7153 with D or better) and BUAD 7003 with D or better
Level: Upper
Course descriptions
This is an introduction to logistics as part of the supply chain process. The course will focus on the inbound and outbound logistics activities, operations and warehouses, packaging, transportation management - that ensure the customer receives the desired product at the right time and place with the right quality and price. Students will apply learning to case studies focusing on organizational and managerial issues in logistics.

LSCM - 7113 Enterprise Resource Planning, 3.00 Credits
Prerequisite(s): (BUAD 3153 with D or better or TMGT 7153 with D or better) and BUAD 7003 with D or better and LSCM 7003 with D or better
Level: Upper
This course will gain the increasingly important process-centric perspective of the modern business environment. Reflecting on real-world business processes, students will study how the integration of business operations and enterprise systems, on a global scale, are managed and implemented. Students will gain a deep appreciation for the role of enterprise systems in efficiently managing processes from multiple functional perspectives.

LSCM - 8503 Global Supply Chain Mgmt., 3.00 Credits
Prerequisite(s): (BUAD 3153 with D or better or TMGT 7153 with D or better) and BUAD 7003 with D or better
Level: Upper
Supply chain management (SCM) is a system approach to managing the entire flow of information, materials, and services from raw materials suppliers through operations facilities and warehouses to the end-customer. This course is an introduction to, and application of, theoretical approaches and practices to managing a global supply chain. Course focus will be on managing material and information outside of the factory walls including aspects of product design collaboration, supply chain performance and logistics, and design and deployment, understanding and designing distribution channels, procurement in global economy, general logistics, and career opportunities. This course stresses the need to identify and maintain customer value throughout the entire process. Students will learn how supply chain strategies support corporate strategies.
COURSE DESCRIPTIONS

MATH - MATHEMATICS

MATH - 1004 Mathematical Concepts*, 4.00 Credits
Level: Remedial
Quantway 1 Comparison, Remedial
This course will introduce the students to the following topics: order of operations, operations on real numbers, simplifying algebraic expressions, integer exponents, solving linear equations in one variable, graphing linear equations in two variables, and applications such as geometry and modeling. Emphasis is placed on reviewing basic arithmetic skills and elementary algebra topics. Development of arithmetic skills throughout the semester is essential, therefore students will not be allowed to use calculators. Students will work on the development of thinking skills through creative problem solving, writing to explain methods and solutions to problems, and collaborative learning. NOTE: This is a remedial course; it will not satisfy any graduation requirements. A grade of C or better is required to register for any subsequent math course.

MATH - 1014 Algebra Concepts, 4.00 Credits
Prerequisite(s): MATH 1004 with C* or better
Level: Lower
Gen Ed - Mathematics, Liberal Arts and Science
This course is intended for students who need more preparation to be successful in College Algebra or other courses of that level. Topics covered include: review of first degree equations, systems of equations and inequalities, graphing, polynomials, factoring, radicals and rational exponents, quadratic equations, rational expressions, relations and functions and an introduction to triangle trigonometry. This course is also designed for students who did not complete Algebra II/trig in high school. Students cannot receive credit for MATH 1014 if they have credit for MATH 1033, MATH 1054, or any course for which MATH 1033 or MATH 1054 are prerequisites. NOTE: A grade of C or better is required in MATH 1014 to register for subsequent courses. (i.e., MATH 1033, 1034, 2123, 1323, 1423, 2163). THIS COURSE DOES NOT FULFILL THE GENERAL-EDUCATION MATHEMATICS REQUIREMENT.

MATH - 1033 College Algebra, 3.00 Credits
Prerequisite(s): MATH 1014 with C or better
Level: Lower
Gen Ed - Mathematics, Liberal Arts and Science
This course includes topics such as polynomials, radicals, exponents, coordinate geometry, rational expressions and equations, and solutions to linear and quadratic equations. Students are introduced to the concept of functions and their graphs. Additional topics may include conic sections, matrices, variation, and nonlinear inequalities. Emphasis will be placed on problem solving. A graphing calculator is required. Students cannot receive credit for MATH 1033 if they have credit for MATH 1034, MATH 1054, MATH 1063, MATH 1084, or any course for which MATH 1063 or MATH 1084 are prerequisites. A grade of C or better is required to take MATH 2043, College Trigonometry.

MATH - 1034 College Algebra of Functions, 4.00 Credits
Prerequisite(s): MATH 1014 with C or better
Level: Lower
Gen Ed - Mathematics, Liberal Arts and Science
This course includes topics such as polynomials, radicals, exponents, coordinate geometry, rational expressions and equations, and solutions to linear and quadratic equations. Students are introduced to the concept of functions and their graphs. Additional topics may include conic sections, matrices, variation, and nonlinear inequalities. Emphasis will be placed on problem solving. A graphing calculator is required. The course is designed to give students additional time above that allotted in MATH 1033 working on mastery of concepts and skills in the student learning outcomes. Students cannot receive credit for MATH 1034 if they have credit for MATH 1033, MATH 1054, MATH 1063, MATH 1084, or any course for which MATH 1063 or MATH 1084 are prerequisites. A grade of C or better is required to take MATH 2043, College Trigonometry.

MATH - 1043 Pathways Fundamentals*, 3.00 Credits
Level: Remedial
Quantway 1 Comparison, Remedial
Pathways Fundamentals is a remedial mathematics course paired as a corequisite with either MATH 1103: Quantway Core or MATH 1203: Statway Core. The course is designed to allow for just-in-time remediation of topics essential to the successful completion of the corequisite course. The lessons within the course follow the pedagogy of the Pathways courses with the primary focus on discovery-based and collaborative learning. The course will include content-based material (either quantitative reasoning or statistics).

MATH - 1054 Precalculus, 4.00 Credits
Level: Lower
Gen Ed - Mathematics, Liberal Arts and Science
This course is designed primarily for the student who needs a foundation in algebra and trigonometry for the study of calculus. The concept of function and graphical representation of functions is stressed. Topics covered include: real numbers; algebra of real numbers including equations and inequalities; functions and their graphs including polynomials, rational functions, logarithmic functions, exponential functions, trigonometric functions including identities, equations, polar coordinates, complex numbers, systems of equations. Students may not earn credit for this course and for MATH 1033 or MATH 1054 or for MATH 1123. Students cannot receive credit for MATH 1054 if they have credit for MATH 1063, MATH 1084, or any course for which MATH 1063 or MATH 1084 are prerequisites.

MATH - 1063 Technical Calculus I, 3.00 Credits
Prerequisite(s): ( MATH 1033 with C or better and MATH 2043 with D or better ) or ( MATH 1034 with C or better and MATH 2043 with D or better ) or MATH 1054 with D or better
Level: Lower
Gen Ed - Mathematics, Liberal Arts and Science
This course includes a review of functions, an introduction to the concept of limits, and a study of the techniques of differentiation and integration of algebraic functions with applications to the various technologies. A graphing calculator is required. Credit for MATH 1063, Technical Calculus I will not be allowed if student receives credit for MATH 1084, Calculus I.

MATH - 1084 Calculus I, 4.00 Credits
Prerequisite(s): MATH 2043 with D or better or MATH 1054 with D or better
Level: Lower
Gen Ed - Mathematics, Liberal Arts and Science
This course is designed for the student intending to continue his/her education in mathematics, science or engineering. The course includes a thorough treatment of limits leading to the Limit Definition of the derivative and definite integral. Properties and rules to differentiate and integrate algebraic and transcendental functions and numerous applications of the derivative and integrals will be studied. A graphing calculator is required. Students cannot receive credit for both MATH 1063 and MATH 1084.

MATH - 1103 Quantway Core, 3.00 Credits
Corequisite(s): Level: Lower
Gen Ed - Mathematics, Initial College-level Math, Liberal Arts and Science
Quantway Core focuses on math for everyday life. It integrates fluency with numbers, proportional reasoning, data interpretation, algebraic reasoning, models, and communicating quantitative information. Mathematical concepts are investigated through group problems and class discussions based on real-life contexts of citizenship, personal finance, and model literacy. A grade of C or better is required to register for any subsequent math course. The course prepares students to take college level non-STEM courses in mathematics, such as MATH 1014, MATH 1113, MATH 1114, MATH 1123 or MATH 1232.

MATH - 1113 Statistical Concepts, 3.00 Credits
Prerequisite(s): MATH 1004 with C* or better
Level: Lower
Gen Ed - Mathematics, Liberal Arts and Science
This is a 3 credit, one-semester course which provides an introduction to and understanding of the basic concepts of statistics. Actual computation will be minimal; computers will be used whenever calculations are necessary. Emphasis will be placed on the meaning of statistical results. Content will include sampling, experiments, measurement, measurement, organizing data, and statistical indices. Optional topics include probability, time trends, survey design and basic inference concepts.

MATH - 1114 Quantway II, 4.00 Credits
Prerequisite(s): MATH 1104 with C* or better or MATH 1143 with C or better or MATH 104 with C or better
Level: Lower
Gen Ed - Mathematics, Liberal Arts and Science, Quantway 2
This course uses mathematical and statistical reasoning in everyday life decision-making. The course integrates percentages, probability, mathematical modeling, and statistical thinking within quantitative literacy. This is achieved through hands-on, collaborative learning with a focus on medical, financial and citizenship real-world examples. A student may not receive credit for MATH 1114 if they have already received credit for MATH 1232.

MATH - 1123 Statistics I, 3.00 Credits
Prerequisite(s): MATH 1003 with C* or better or MATH 1004 with C* or better or MATH 1104 with C* or better
Level: Lower
Gen Ed - Mathematics, Liberal Arts and Science
This course is the first of a two-semester sequence in statistics. It covers mainly descriptive techniques such as data collection, organization techniques, measures of center, spread, and position. Other topics covered include: probability, probability distributions (such as normal and binomial distributions), correlation and regression. Students cannot earn credit for MATH 1123 if they have credit for MATH 2124. A grade of C or better is required to take MATH 2123, Statistics II.

MATH - 1143 Liberal Arts Math I, 3.00 Credits
Prerequisite(s): MATH 1004 with C* or better
Level: Lower
Gen Ed - Mathematics, Liberal Arts and Science
This is a one semester course whose basic objective is to develop an interest and appreciation for mathematics in students with little background in the subject. Included are topics from the following areas: Problem Solving, Inductive Reasoning, Estimation, Sets, Consumer Math, Metric System, Algebra, and Geometry. It may also include topics from the following areas: Linear Equations and Inequalities, additional topics in Consumer Mathematics, Probability, Statistics, Number Systems, Number Theory, and Voting Methods.

MATH - 1203 Statway Core, 3.00 Credits
Corequisite(s): Level: Lower
Gen Ed - Mathematics, Initial College-level Math, Liberal Arts and Science
Statway Core is the first course in the two-semester Statway course sequence. The Statway course sequence is recommended for students enrolled in degree programs that require no math beyond college level statistics. Students will use mathematical and statistical tools to explore real-life data in a partner learning environment. Statway Core topics include an introduction an introduction to data analysis, statistical studies, sampling, experimental design, descriptive statistics techniques, scatterplots, correlation and regression, modeling data with functions, linear and exponential functions, and probability. This course requires the use of statistical technology. A grade of C or better is required to register for any subsequent math course. After completing this course, students will be able to take MATH 1143, Math 1214 or Math 2133.

MATH - 1214 Statway II, 4.00 Credits
Prerequisite(s): MATH 1204 with C* or better
Level: Lower
Gen Ed - Mathematics, Liberal Arts and Science, Statway
Statway II is the second course in the two-semester Statway course sequence. The Statway course sequence is recommended for students enrolled in degree programs that require no math beyond college level statistics. Students cannot receive credit for the following courses in the sequence, Statway I and Statway II, must be taken to receive credit for college level statistics. Students will use mathematical and statistical tools to explore real-life data in a participatory learning environment. Statway II topics include sampling distributions and the Central Limit Theorem, confidence intervals, hypothesis testing, ANOVA and Chi-Square tests, and statistical models. This course requires the use of statistical technology.
MATH - 1323 Quantitative Reasoning, 3.00 Credits
Prerequisite(s): MATH 1014 with D or better
Level: Lower
Gen Ed - Mathematics, Liberal Arts and Science
This course is designed for technical curricula where quantitative reasoning is required. The course content includes critical thinking skills, arithmetic and algebra concepts, statistical concepts, financial concepts, as well as numerical systems and applications. A scientific calculator is required.

MATH - 2123 Discrete Mathematics, 3.00 Credits
Prerequisite(s): MATH 1033 with C or better or MATH 1034 with C or better
Level: Lower
Gen Ed - Mathematics, Liberal Arts and Science
This course is designed for Information Technology and Mathematics and Science students. The course will introduce and discuss the following topics: functions, relations, sets, logic, counting methods, methods of proof, network graphs and trees, algorithmic analysis, complexity and computability, and matrices. A graphing calculator is required.

MATH - 2094 Calculus II, 4.00 Credits
Prerequisite(s): MATH 1084 with D or better
Level: Lower
Gen Ed - Mathematics, Liberal Arts and Science
This is a one-semester, non-calculus based course, which covers descriptive as well as inferential statistics. Included are topics on collecting, organizing, and summarizing data. Other topics include correlation and regression, probability, normal and binomial probability distributions, the normal approximation to the binomial, central limit theorem, confidence intervals, hypothesis testing, and nonparametric statistics. Students cannot receive credit for both MATH 2123 and any of the following: MATH 1113, MATH 1123, MATH 2133, and MATH 7123.

MATH - 2124 Statistical Methods & Analysis, 4.00 Credits
Prerequisite(s): MATH 1034 with C or better or MATH 1084 with C or better
Level: Lower
Gen Ed - Mathematics, Liberal Arts and Science
This course is an introduction to linear algebra. Topics covered include solutions to systems of linear equations, linear independence, matrix algebra, vector spaces, eigenvalues and eigenvectors. Students will learn how to use technology (e.g., calculators, MAPLE, MATLAB, or Mathematica) to perform related tasks.

MATH - 2504 Industrial Machining I, 4.00 Credits
Prerequisite(s): MATT 1004 with D or better
Level: Applied Learning-Practicum
Course Fee $119.00
Students will be instructed in the proper operation of the power saw, drill press and other hand tools. This introductory course is designed to instill safe shop methods and procedures along with the proper and safe use of all equipment associated with Machinist Technology. Also incorporated in this introductory course is the proper use of basic measuring tools and hand tools. Students will be instructed in the proper operation of the power saw, drill press and pedestal grinder.

MATH - 3003 Linear Algebra, 3.00 Credits
Prerequisite(s): MATH 1084 with C or better or MATH 1063 with C or better
Level: Lower
Gen Ed - Mathematics, Liberal Arts and Science
This course is designed to develop the mathematical skills that a student would need in order to analyze and implement historical and modern day cryptography. Historical cryptography will include discussion of the following ciphers: shift, affine, block, substitution, Vigenere, Playfair, ADFGX, binary and ASCII. Modern day cryptography will include discussion of: DES, AES, RSA and ElGamal public key encryption. Applications of modern day cryptography will include digital signatures and e-commerce. Maple software will be used to perform encryption and decryption. Prerequisite: MATH 1064 or permission from instructor.

MATH - 7113 Economic Analy for Engr Tech, 3.00 Credits
Prerequisite(s): MATH 1063 with D or better or MATH 1084 with D or better
Level: Upper
Gen Ed - Mathematics, Liberal Arts and Science
This course covers basic pricing formulas, cost estimation techniques, present economic studies, time-value of money, evaluating a single alternative, comparison and selection among multiple alternatives, and depreciation.

MATT - 1004 Basic Industrial Machining, 4.00 Credits
Level: Lower
Course Fee $119.00
This introductory course is designed to instill safe shop methods and procedures along the proper and safe use of all equipment associated with Machine Tool Technology. Also incorporated in this introductory course is the proper use of basic measuring tools and hand tools. Students will be instructed in the proper operation of the power saw, drill press and pedestal grinder.

MATT - 1041 Industrial Machining I, 4.00 Credits
Level: Lower
Applied Learning-Practicum
Students will be instructed in the proper operation of power Basic lathe operations will be presented. The student will demonstrate their proficiencies on this equipment by producing specifically assigned projects.

MATT - 1234 Industrial Machining III, 4.00 Credits
Level: Lower
Applied Learning-Practicum
This course is designed to develop basic skills on the vertical milling machine. Projects will be assigned to allow the student to demonstrate the various skill levels required.

MATT - 2094 Calculus II, 4.00 Credits
Prerequisite(s): MATH 1084 with D or better or MATH 2074 with D or better and MATH 6114 with D or better
Level: Upper
Gen Ed - Mathematics, Liberal Arts and Science
This course offers the theoretical basis for probability and statistics related to engineering applications. Topics include data analysis techniques, correlation and regression, probability, probability distributions, confidence intervals, and hypothesis tests concerning means and standard deviations. Graphing calculators are required. Computer applications may be included.

MATT - MACHINE TOOL TECHNOLOGY

MATT - 1204 Directied Study, 1.00 TO 4.00 Credits
Level: Lower
Applied Learning-Practicum
This course is designed to develop basic skills on the vertical milling machine. Projects will be assigned to allow the student to demonstrate the various skill levels required.

MATT - 1204 Industrial Machining II, 4.00 Credits
Level: Lower
Applied Learning-Practicum
This course is designed to develop basic skills on the vertical milling machine. Projects will be assigned to allow the student to demonstrate the various skill levels required.

MATT - 1234 Industrial Machining III, 4.00 Credits
Level: Lower
Applied Learning-Practicum
This course is designed to develop basic skills on the vertical milling machine. Projects will be assigned to allow the student to demonstrate the various skill levels required.

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COURSE DESCRIPTIONS

MATT - 1244 Industrial Machining IV, 4.00 Credits
Level: Lower
Applied Learning-Practicum
The student will be instructed in advanced vertical milling operations and procedures. These will include advanced vertical milling machine set-up (i.e. sine plates and indexing heads) and operations (i.e. dove tail and slot cutting). The student will demonstrate the various skills required by producing assigned advanced level projects.

MATT - 1254 Industrial Machining V, 4.00 Credits
Level: Lower
Applied Learning-Practicum
The student will be instructed in the safe operation of the horizontal milling machine and the surface grinder. The student will demonstrate the various skills required by producing assigned projects.

MATT - 1713 Reading Engineering Drawings, 3.00 Credits
Level: Lower
The transfer of ideas from the Engineering Department to the manufacturing area is accomplished through the use of engineering drawings. This course will explain how information is conveyed through the use of ANSI standard drafting procedures and the correct interpretation of that information by the machinist.

MATT - 1723 Reading Engineering Drawings II, 3.00 Credits
Level: Lower
The transfer of ideas from the Engineering Department to the manufacturing area is accomplished through the use of engineering drawings. This course will be a continuation of MATT 1713 and will explain how advanced information is conveyed through the use of ANSI standard drafting procedures. The correct interpretation of this advanced information will be used by the machinist to produce mechanical parts on the various machine tools in the shop. Many topics will be included: auxiliary views, assembly drawings, weldment drawings, and threads and fasteners.

MATT - 1913 Machinist Calculations I, 3.00 Credits
Level: Lower
Basic mathematical functions used by the machinist in the performance of their duties will be the subject of this course. Mathematical operations such as manipulation of fractions, decimals and unilaterally converting between the two and into the metric measurement system along with calculating speeds and feeds. Tapers and the thread of cut will be taught in this course. Successful completion of this course requires a grade of "C" or better.

MATT - 1923 Machinist Calculations II, 3.00 Credits
Level: Lower
This course is a combination of both basic geometry (both plane and solid) and trigonometry. Both of these branches of mathematics will be trade related and will focus on the math needed by the machinist, CAD drafter, and welder to perform their required tasks. Successful completion of this course requires a grade of "C" or better.

MATT - 3003 Geometric Dimensioning & Toler, 3.00 Credits
Level: Lower
Geometric Dimensioning and Tolerancing is dimensioning associated with the tolerancing of individual characteristics of a part where permissible variations relate to form, profile, radial relationship to an axis, orientation of one feature to another, and location of features. Applications of all symbols and proper interpretation will be stressed. Application of various principles referenced in the current specification will be presented.

MATT - 3005 Intro to CNC Machine Program, 5.00 Credits
Level: Lower
Course Fee $119.00
As the most fundamental part of the CNC lathe and its operation, the coordinate grid is covered in detail in this module. Three levels of program preparation are discussed: EIA, APT, and Conversational. Since APT and Conversational languages are normally translated into EIA codes before execution on the machine, a more detailed look at the elements of the EIA coding system is then provided.

MATT - 3015 CNC Industrial Machining I, 5.00 Credits
Level: Lower
Applied Learning-Practicum
The student will use the horizontal and vertical mill in a safe manner, and will perform various external and internal operations including drilling, power tapping, milling of slots, keyways, boring, laying out bolt circles using x and y coordinates. Students will write step-by-step procedures and will use math formulas to calculate machine time and will draw basic prints for machining purposes.

MATT - 3025 CNC Industrial Machining II, 5.00 Credits
Level: Lower
Applied Learning-Practicum
The mechanical components of the lathe are explained in this module. The terminology established here is used throughout the balance of the instruction. Because of the variety of turning styles and automatic tool handling mechanisms found on CNC lathes, several configurations are shown along with an explanation of how each operates.

MATT - 4003 Senior Project, 3.00 Credits
Level: Lower
Applied Learning-Creative Work
This course is designed as a capstone project to verify a student's ability in all aspects of machining. The student will be required to identify a need for a new product or improvement on an existing product. After identification, the concept of the project will be minimal instructor guidance, which will allow the student to demonstrate their ability to perform independently. Upon completion, the student will demonstrate the functionality of their project in the form of a formal presentation.

MATT - 4005 CNC Industrial Machining III, 5.00 Credits
Level: Lower
Applied Learning-Practicum, Course Fee $119.00
An industry accepted CAD/CAM system to generate CNC programs will be used throughout this module. The student will be able to produce full programs and download these in the CNC lathe and mill producing a part. Trouble shooting and correction of program errors will be stressed. Program changes in the setup of rough material will be presented.

MATT - 4015 CNC Industrial Machining IV, 5.00 Credits
Level: Lower
Applied Learning-Practicum
CNC programs may be refined regardless of mode of generation. Through this module the student will learn to correct errors that will be produced within the tolerance of the print and be geometrically correct. The concepts of fixtureing and manufacturing will be related using geometric dimensioning and tolerancing.

MATT - 4025 CNC Industrial Machining V, 5.00 Credits
Level: Lower
Applied Learning-Practicum
The student will be required to set up many various complex parts. Students will use all of their recently acquired knowledge for previous courses to complete set-ups in conjunction with programming using canned cycles on the turning and machining centers. The student will be expected to develop the programming for the desired part, download to the proper machine, and produce the desired part. All of these tasks will be performed with minimum supervision.

MCET - MECHATRONICS TECH

MCET - 3403 Circuits Fundamentals, 3.00 Credits
Prerequisite(s): MATH 1033 with D or better or MATH 1034 with D or better or MATH 2043 with D or better or MATH 1054 with D or better or MATH 1063 with D or better or MATH 1084 with D or better or MATH 2074 with D or better or MATH 2094 with D or better or MATH 6114 with D or better
Course(s): MATH 1033 with D or better or MATH 1034 with D or better or MATH 2043 with D or better or MATH 1054 with D or better or MATH 1063 with D or better or MATH 1084 with D or better or MATH 2074 with D or better or MATH 2094 with D or better or MATH 6114 with D or better
Level: Lower
Corequisite(s): MATH 1063 with D or better or MATH 1084 with D or better
Course(s): MATH 1063 with D or better or MATH 1084 with D or better
Level: Upper
Upper Level
This is the companion laboratory to MCET 2423, Circuits Fundamentals. The laboratory's goal is to reinforce the theory presented in class. Students will build, simulate, and analyze electrical circuits involving series and parallel connections of resistors, capacitors and inductors. Circuit power sources will be both dc and ac. Students will learn the use of digital multimeters, electronic power supplies, oscilloscopes and waveform generators.

MCET - 5004 Instrumentation, 4.00 Credits
Prerequisite(s): PHYS 2023 with D or better or PHYS 2044 with D or better and ( MATH 1063 with D or better or MATH 1084 with D or better )
Level: Upper
Upper Level
This course introduces the student to general characteristics of electromechanical sensors and transducers, electrical measurement systems, electrical signal conditioning, data acquisition systems, and response characteristics of instruments. The lectures focus on the selection, calibration techniques and applications of electromechanical transducers. The laboratory has industrial equipment, such as a punch press, drill press, and metal lathe, which are equipped with sensors that are configured to measure physical quantities such as force, strain, displacement, velocity, and acceleration. Data acquisition and real-time software applications using LabVIEW are applied in a laboratory environment.

MCET - 7143 Process Controls, 3.00 Credits
Prerequisite(s): ELET 6143 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level
In this course, students will learn about a manufacturing process line. Students will study the details of sensors and actuators. Hands-on connections and assemblies are required. Programmable logic controllers will be programmed for the task. Electromechanical and pneumatic actuators will be used. Students will learn about the programming and networking of controllers to create sequential operations. The course is predominantly laboratory time. Study materials will come from manufacturer's specifications and laboratory training manuals.

MECH - MECHANICAL ENGR TECH

MECH - 1003 Intro to Mechanical Eng Tech, 3.00 Credits
Level: Lower
This course prepares students who are new to the mechanical engineering technology field for success at the college level. Topics covered include mechanical engineering technology as a career, problem solving techniques, trigonometry, dimensional analysis, significant figures, unit conversion, and data collection and analysis. Career options and opportunities and diversity and inclusion will be presented using guest speakers from industry. Students will produce professional process documentation, organized solutions to basic engineering problems, engineering diagrams, and engineering presentations. Students will also explore campus tools for academic success.

MECH - 1203 Materials Science, 3.00 Credits
Level: Lower
Applied Learning-Practicum, Course Fee $37.00
This course is a first semester, freshman level course. It is a broad introductory study of the basic characteristics of engineering materials. The course will emphasize the selection of metals, plastics, ceramics, and composites for mechanical design purposes. The relationships of structure, material properties, and material selection to the design/ manufacturing process will be emphasized. The study will be enhanced by laboratory experience where the student will study mechanical testing equipment as well as chemical, mechanical and heat treatment effects on important material properties. The course will include the study of such areas as corrosion, stress, rigidity, wear resistance, thermal expansion, elasticity and plasticity principles of the common engineering materials. The course includes the use of equipment such as mechanical testing, light microscopes, electron microscopes, metallograph, furnaces and controllers. Data interpretation is also an important emphasis. The students also have substantial preparation work for the weekly labs.
MECH - 1603 Graphics/CAD, 3.00 Credits
Level: Lower
Applied Learning-Practicum
Graphics/CAD involves the visualization, sketching, and geometric construction of mechanical components. Students will layout and create 2D working industrial drawings that adhere to industry standards. This course will illustrate CAD drawing construction techniques that implement graphical communication through the use of the alphabet of lines, orthogonal projection, section views, auxiliary views and the creation of assembly detail mechanical components. This course will also use the ASME Standard Y14.5M-1994 for Geometric Dimensioning & Tolerancing to facilitate the communication of geometry requirements for associated features on detail components and assemblies.

MECH - 1663 Manufacturing Processes, 3.00 Credits
Level: Lower
Applied Learning-Practicum
The basic equipment, processes and services required to produce a product are studied. This course is designed to give the student the knowledge and vocabulary to generally comprehend the complex and inter-related design and manufacturing functions that must be accomplished to produce the end product. The processes covered include the making of iron and steel, casting, plastics production, hot and cold forming, machining, fastening, non-traditional machining, grinding, etc. Equipment covered in the lab include: lathes, grinders, milling machines, band saws, drill presses, precision measurement devices etc. As time or student experience permit, the topic of basic C.N.C. machine operations and programs may be introduced. Safety and proper manufacturing procedures will be emphasized.

MECH - 2543 Advanced CAD Applications, 3.00 Credits
Prerequisite(s): MECH 1603 with D or better
Level: Lower
Advanced CAD is a continuation of the basic drafting standards and techniques facilitated through the course pre-requisite, MECH 1603. Delving into other mechanical drafting disciplines, this course will help students develop additional skill sets required in a variety of other mechanical fields. This course will cover, but not be limited to, machine design, weldments, structural steel, process piping, and pressure vessels. The major emphasis of this course will be the creative working of industrial components for fabrication and successful integration into a mechanical assembly. The following standards will be used: ASME Sec. VIII, Div. 2, Pressure Vessel Code, ASME Y14.5M-Geometric Dimensioning & Tolerancing, ASME B31: Standards of Pressure Piping, ANSI B4.1: Limits and Fits, AISI: Standard Structural Steel Construction.

MECH - 3124 HVAC Systems, 4.00 Credits
Level: Lower
Applied Learning-Other
This course introduces the student to the fundamental principles of heating, ventilation and air conditioning systems. Topics include psychrometric principles and processes, equipment selection, heating and cooling load calculations and heating system principles including forced warm air, hot water, electric and steam systems, and geothermal heating and cooling systems. Weekly laboratory experiences address topics with organized experiments and applied projects.

MECH - 3203 Computer Aided Manufacturing, 3.00 Credits
Prerequisite(s): MECH 1603 with D or better
Level: Lower
Applied Learning-Other
This course is a study of Computer Aided Manufacturing (CAM) using software, programming languages and methods to produce Computer Numerical Control (CNC) machining programs. CAD software is used to develop detailed drawings of student projects. Laboratory exercises include programming, machine tool setup and machine operation. Communication between the student laptops and the machine tools using current communication protocol is also studied.

MECH - 3223 Mechanical Design Principles, 3.00 Credits
Prerequisite(s): MECH 4003 with D or better
Level: Lower
Applied Learning-Other
This course will emphasize the application of mechanical design for industrial machinery. The lecture material for this course will be enhanced through a laboratory experience using design techniques that include the creation of working industrial drawings, parametrically driven spreadsheet solutions of design problems, and component sizing and dimension determinations. The course will include the study of mechanical power systems such as gear trains, belt and chain drives, linkages, clutch-coupling brake components, torque transmission devices, shaft and component design calculations. The techniques of component design will also include the extensive use of online database information, standards and manufactures specifications. At all times in this class, the design and development for manufacturability will be paramount.

MECH - 3334 Statics, 4.00 Credits
Prerequisite(s): ( MATH 1054 with D or better or MATH 2043 with D or better or MATH 1063 with D or better or MATH 1084 with D or better ) and ( PHYS 1024 with D or better or PHYS 1044 with D or better or PHYS 1064 with D or better )
Level: Lower
Applied Learning-Other
This course is a study of introductory mechanics through the application of the principles of statics. Students will focus on the equilibrium of particles and rigid bodies in two and three dimensions. Additional topics will include centroids, centers of gravity, and analysis of structures, friction, area and mass moments of inertia. The course will also emphasize the practical use of equations in statics by using algebraic and trigonometric computations.

MECH - 3643 Manufacturing Management, 3.00 Credits
Level: Lower
This course supplements the study of manufacturing processes with emphasis on technical aspects, processes and factors that contribute to manufacturing management decision making. Previous manufacturing process exposure is desirable but not essential. Selected topics to be discussed include: motion and time study, engineering economics, project planning and scheduling, Computer Integrated Manufacturing/Management (CIM), Just in Time manufacturing strategy, design for manufacturability, Statistical Process Control (SPC), Statistical Quality Control (SQC), and other management policies and strategies.

MECH - 4003 Solid Modeling, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course is an introduction to 3D solid modeling techniques utilizing feature-based, constraint-based parametric design. This course encourages the student to visualize parts in three dimensions and have a design intent plan for each part in which they will design. The use of design intent will help in the arrangement of assemblies, parts, features, and dimensions to meet design requirements.

MECH - 4024 Dynamics, 4.00 Credits
Prerequisite(s): ( MATH 1063 with D or better or MATH 1084 with D or better ) and ( MECH 2603 with D or better or MECH 3113 with D or better or MECH 3334 with D or better or ENGR 3213 with D or better )
Level: Lower
The course will emphasize applications of material involving the two basic concepts of dynamics, i.e., kinematics and kinetics and will introduce the students to vibrations. The course will include the study of levers, links, slide mechanisms, scotch yoke and the principles of force, torque, velocity, acceleration, inertia and friction. The course will use the principles of Equilibrium, Work-Energy and Impulse-Momentum along with Newton's Second Law to examine a variety of problems.

MECH - 4121 Geom. Dimensioning and Tolerancing, 1.00 Credit
Prerequisite(s): MECH 1663 with D or better and MECH 2223 with D or better and MECH 4003 with D or better
Level: Lower
Geometric Dimensioning and Tolerancing (GD&T) is a language of symbols used to describe a part's nominal geometry and the allowable tolerance for variation. Permissible variations in manufactured components are communicated between the design engineer and the manufacturer using standard GD&T symbols. These variations may relate to form, profile, radial relationship to an axis, orientation of one feature to another, or location of features. Application of all symbology and principles will be emphasized.

MECH - 4124 Geom. Dimensioning & Tolerancing, 4.00 Credits
Prerequisite(s): ( MATH 1603 with D or better or MECH 4003 with D or better ) and MECH 2223 with D or better and MECH 1663 with D or better
Level: Lower
This course covers Geometric Dimensioning and Tolerancing (GD&T) which is a language of symbols used to describe a part's nominal geometry and the allowable tolerance for variation. Students will examine permissible variations in manufactured components which are communicated between the design engineer and the manufacturer using standard GD&T symbols. These variations may relate to form, profile, radial relationship to an axis, orientation of one feature to another, or location of features. Application of all symbology and proper interpretation will be emphasized.

MECH - 4134 Intro. to Renewable Energy, 4.00 Credits
Prerequisite(s): MATH 2043 with D or better
Level: Lower
Applied Learning-Practicum
This course is a survey of current and future energy generation with a semester-long applied learning lab project. After a review of energy and power and the current state of energy generation, students will learn the fundamental renewable energy options available for power generation. The course is organized by renewable energy technology, and the basic engineering design and implementation considerations for each technology will be discussed. In the laboratory component of this course, students will produce and test a simulated, energy efficient smart home. Students will identify and specify system input and output components that are compatible with renewable energy systems. They will then install and wire the components. Finally, students will optimize the simulated smart home for energy efficiency with a programmable microcontroller.

MECH - 4204 Industrial Automation, 4.00 Credits
Prerequisite(s): MECH 4223 with D or better and ( MATH 2043 with D or better or MATH 1054 with D or better or MATH 1063 with D or better or MATH 1084 with D or better )
Level: Lower
Applied Learning-Practicum
In this course, students will learn about a manufacturing process line, understanding of the basic elements underlying mechatronics systems. Students will study the details of sensors and actuators. Hands-on connections and assemblies are required. Programmable logic controllers will be programmed for the task. Electromechanical and pneumatic actuators will be used. Students will learn about the programming and networking of controllers to create sequential operations and measurement instrumentation. The course is predominantly laboratory time. Study materials will come from manufacturer's specifications and laboratory training manuals.

MECH - 4224 Mechanical Systems Design, 4.00 Credits
Prerequisite(s): MECH 3224 with D or better or MECH 3223 with D or better
Level: Lower
Applied Learning-Other
This course will emphasize the application of mechanical design for industrial machinery. The lecture material for this course will be enhanced through a laboratory experience using design techniques that include the creation of working industrial drawings, parametrically driven spreadsheet solutions of design problems, and component sizing and dimension determinations. This course will include the study of rigid coupling design and flywheels. Also covered in this class are spring design and selection, bolted and welded joint design, electronics and actuators. Hands-on connections and assemblies are required. Programmable logic controllers will be programmed for the task. Electromechanical and pneumatic actuators will be used. Students will learn about the programming and networking of controllers to create sequential operations and measurement instrumentation. The course is predominantly laboratory time. Study materials will come from manufacturer's specifications and laboratory training manuals.

MECH - 4333 CAM II, 3.00 Credits
Prerequisite(s): MECH 3203 with D or better
Level: Lower
Advanced CAM is a follow-up course to MECH 3204 and MECH 3203 CAM (Computer Aided Manufacturing) and MECH 4003 (Solid Modeling). The course will introduce advanced Computer Aided Manufacturing topics such as APT (Automatically Programmed Tooling) programming, advanced CAD/CAM programming, solid modeling with reverse Engineering Projects using a Coordinate Measurement Machine/System (CMM).
MECH - 4523 Control System Fundamentals, 3.00 Credits
Prerequisite(s): MECH 1023 with D or better OR MECH 1034 with D or better OR MATH 1054 with D or better OR MATH 1063 with D or better OR MATH 1084 with D or better OR MECH 2003 with D or better OR MECH 2074 with D or better OR MATH 2094 with D or better OR MATH 6114 with D or better
Level: Lower
Applied Learning-Practicum
This course introduces students to the electronic components commonly used to monitor and control mechanical systems. Topics include principles of measurement, instrumentation, data acquisition, and control systems with an emphasis on mechanical engineering technology applications. Students build simulated control systems using switches and both traditional and solid-state relays common on modern industrial machines. Safety interlock systems, delay circuits, and motor circuits are designed and wired. Lab projects allow students to experience a variety of design solutions and trouble-shoot electronic control systems.

MECH - 4545 Computer Aided Mfg Fundamentals, 4.00 Credits
Level: Lower
This course applies the skills from manufacturing processes and solid modeling to a modern production manufacturing environment. It introduces basic skills in word processor programming as well as advanced computer aided manufacturing topics such as automatically programmed tool (APT) programming, computer numeric control machine programming, solid modeling, and the use of computer aided design and manufacturing software. Reverse engineering projects using a coordinate measurement machine will also be performed. The course includes a final project where students design and produce a component using modern manufacturing techniques.

MECH - 4900 Directed Study, 1.00 TO 6.00 Credits
Level: Lower
A student may contract for one to six credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the progress of the study.

MECH - 5334 Mechanics of Materials, 4.00 Credits
Prerequisite(s): ( MATH 2074 with D or better OR MATH 2094 with D or better ) and MECH 3334 with D or better
Level: Upper
Applied Learning-Practicum, Course Fee $15.00, Upper Level
This course is a calculus-based study of advanced concepts in Mechanics of Materials. It addresses the behavior of deformable mechanical components when subjected to tension, compression, torsion, flexure/bending or a combination of these loads. Extensive use is made of free body diagrams as well as Mohr's Circle for stress and strain. Experience is gained in the analysis of beam deflection, shafts in torsion, power, column buckling and thin walled pressure vessels. Analysis includes examination of stress concentrations, elastic and inelastic response, residual stresses, indeterminate structures and thermal effects. Superposition, singularity functions and theories of failure are studied. Laboratory experiences include traditional mechanical material testing and computer software applications.

MECH - 5900 Directed Study, 1.00 TO 6.00 Credits
Level: Upper
Upper Level
A student may contract for one to six credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the progress of the study.

MECH - 6334 Fluid Mechanics, 4.00 Credits
Prerequisite(s): MATH 2074 with D or better OR MATH 2094 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level
This course is an introduction to the theory and application of continuum fluid mechanics. Fluid properties and state relations are studied. Incompressible laminar and turbulent flows are investigated using control volume and momentum and energy equations. Navier-Stokes Equations are developed. Flow rate, pipe sizing and minor losses in pipe systems are addressed. Compressible flow and gas dynamics are introduced and include topics in boundary layer theory, Mach number, stagnation properties and shock waves. Turbomachinery, pumps and turbines are included. Weekly laboratory experiences address most of the above topics with applied projects and organized experiments.

MECH - 6643 Process Engineering & Manufact, 3.00 Credits
Prerequisite(s): MECH 1663 with D or better OR ELET 1114 with D or better Corequisite(s): MECH 1663 with D or better OR ELET 1112 with D or better
Level: Upper
Applied Learning-Practicum, Upper Level
This course emphasizes techniques, processes, and factors that contribute to manufacturing processes and operations decision making. Selected topics to be discussed include: 6 sigma DMAIC, CAI/IE, SS, work flow and project planning and scheduling. Computer Integrated Manufacturing (CIM), Design for Manufacturing (DFM), Just In Time (JIT) manufacturing strategies, Statistical Process Control (SPC), Statistical Quality Control (SQC), and other potential management policies and strategies. Students will complete a department designated professional project.

MECH - 7114 Applied Thermodynamics, 4.00 Credits
Prerequisite(s): MECH 2074 with D or better OR MATH 2094 with D or better
Level: Upper
Upper Level
This course covers the basic concepts of thermodynamics including property evaluation of ideal gases and compressible substances. Theory and application of the first and second laws of thermodynamics referring to pumps, compressors, turbines, heat exchangers, power cycles-Carnot, Rankine; refrigeration cycles-vapor compression, heat pump are covered. Problem-solving skills are applied to ideal as well as actual cycles. Basic principles of energy conversion, energy conservation, efficiencies and environmental impacts are explored.

MECH - 7153 Fluid Power Systems Design, 3.00 Credits
Prerequisite(s): ( MECH 4523 with D or better OR ELET 4143 with D or better OR ELET 6143 with D or better ) and ( MECH 2603 with D or better OR MECH 3113 with D or better OR MECH 3334 with D or better )
Level: Upper
Applied Learning-Practicum, Upper Level
This is an upper level design course for all aspects of fluid power systems. Both hydraulic and pneumatic systems are covered. Covered topics include pneumatic circuits, hydraulic power systems, hydrostatic transmissions, and electro-hydraulic control systems. Emphasis will be placed on system design and hydraulic and pneumatic component specification. The course prepares students for the Hydraulic Specialty industry certification exam hosted by the National Fluid Power Society.

MECH - 7223 Energy Systems, 3.00 Credits
Prerequisite(s): MATH 2074 with D or better OR MATH 2094 with D or better Corequisite(s): MATH 2074 with D or better OR MATH 2094 with D or better
Level: Upper
Upper Level
This course evaluates the concepts of energy and identifies how it relates to current and future technology. Topics include the data analysis of various types of energy systems, conversion among the several forms of energy, environmental impacts, and cost analyses. Lecture is supported by laboratory activities that may include: experiments, data collection and analysis, field trips to energy production facilities, design activities, and a final group project emphasizing principles discussed and experienced throughout the lecture and laboratory portions of the course.

MECH - 7403 Microfabrication Technology, 3.00 Credits
Prerequisite(s): ( PHYS 1024 with D or better OR PHYS 1044 with D or better ) and ( CHEM 5013 with D or better OR ELET 1202 with D or better )
Level: Upper
Applied Learning-Practicum, Course Fee $76.00, Upper Level
This course is designed to provide a valuable experience in the areas of microfabrication and MEMS (microelectromechanical systems) technology and respond to calls from industry to provide undergraduate students with more multidisciplinary experiences. The course provides a comprehensive introduction to technology of miniaturization and its application. Methods and tools to create miniature electromechanical architectures are discussed. Students will gain hands-on experience and achieve standard microfabrication industry and learn final group project emphasizing principles discussed and experienced throughout the lecture and laboratory portions of the course.

MEDR - HEALTH INFO TECH

MEDR - 1114 Intro to Health Info Management, 4.00 Credits
Prerequisite(s): ( BIOL 1114 with C or better * or BIOL 1063 with C or better * or MATH 1063 with C or better * or MATH 1084 with C or better *)
Level: Lower
This is a lecture- and lab-based online course that covers the study of health record content, documentation, compliance with regulations and standards; the role of HIM professionals; data retention, storage and retrieval, and destruction; release of information, privacy, confidentiality, and HIPAA; legal and ethical issues related to healthcare documentation; the principles to the practice of HIM in primary and secondary use of data; and healthcare organizations and delivery systems.

MEDR - 1132 Essentials of Pharmacology, 2.00 Credits
Prerequisite(s): MEDR 1133 with C or better *
Level: Lower
This is a lecture-based online course for those entering a health care profession, and it covers the study of basic concepts and terminology associated with medication structure, function, interaction, and administration. Core concepts in pharmacology are introduced, including terminology, consumer safety and drug regulations, sources and bodily effects of drugs, medication preparation, abbreviations and systems of measurements, responsibilities, and principles of drug administration. Students also identify diseases associated with certain medications as well as medications that would be prescribed for certain diseases. Commonly used drugs are organized according to classification, and each classification is described along with characteristics of typical drugs, purpose, side effects, cautions and interactions. Patient education for each category is included.

MEDR - 1133 Medical Terminology, 3.00 Credits
Level: Lower
This is a lecture-based course offered in both traditional on-campus and on-line formats that includes the study of body systems and functions, including the structure, meaning and use of medical terms related to diseases and operations of the human body. Body systems studied include integumentary, musculoskeletal, nervous, sensory organs, endocrine, cardiovascular, respiratory, urinary, gastrointestinal, and digestive. Units on psychiatry, psychology and pharmacology (drugs) are also covered. Students also learn how to use research medical information (e.g., such as reputable electronic medical references).

MEDR - 1223 Hlth Data Mgmt & Hlthcare Stat, 3.00 Credits
Prerequisite(s): MEDR 1114 with C or better
Level: Lower
This is a lecture and lab-based online course. Topics of study include health data management (data collection and accuracy), data governance and information governance, analytics and decision support, secondary data sources, clinical indices, databases, and registries. Reporting of data, healthcare report generation, presentation of data, graphical representation, healthcare descriptive statistics (census, percent of occupancy, length of stay, healthcare rates), measures of central tendency (frequency distribution), vital statistics data and rates, research methods, productivity, staffing levels, and budgeting will be covered.
This is a lecture- and lab-based online course that includes a study of clinical classification systems, reimbursement methodologies, and financial management. The course includes completion of CMS-1450 (UB-04) and CMS-1500 claims for inpatient, outpatient, emergency department, and physician office encounters as well as a review of inpatient and outpatient cases to identify issues of fraud and abuse.

MEDR - 4312 HIM Operational PPE

Prerequisite(s): MEDR 1114 with C or better and MEDR 1223 with C or better and (MEDR 5114 with C or better or MEDR 3114 with C or better) and MEDR 1224 with C or better and MEDR 4214 with D or better* and MEDR 4514 with D or better* and BIOL 1114 with C or better and BIOL 2214 with C or better and BIOL 4403 with C or better and MEDR 3414 with C or better

Level: Lower

Applied Learning-Practicum, Clinical Liability Insurance

This course will provide students with varied opportunities in HIM through a professional practice experience (PPE) that includes supervised practical application at a healthcare facility. Students will be under the supervision of a qualified Registered Health Information Administrator (RHIA), Registered Health Information Technician (RHIT), or other qualified personnel to whom they are assigned. The PPE is designed to enable students to obtain actual practical experience in theoretical and application-based procedures previously studied. Students will complete a minimum of 80 unpaid hours on site. Students will be required to complete weekly logs, discussion board postings of their experience, and submit a completed student handbook along with a final project at the end of their PPE. If a student is not able to be placed at a healthcare facility, remote projects/assignments may be substituted and are supervised by the accepting professional practice site. Additional internet-based laboratory projects/assignments to meet course objectives are assigned and evaluated by college faculty to simulate professional practice experience as needed.

MEDR - 4322 Coding PPE, 2.00 Credits

Prerequisite(s): MEDR 1114 with C or better and (MEDR 3114 with C or better or MEDR 5114 with C or better or MEDR 3114 with C or better) and MEDR 1224 with C or better and MEDR 4214 with D or better* and BIOL 1114 with C or better and BIOL 2214 with C or better and BIOL 4403 with C or better

Level: Lower

Applied Learning-Practicum, Clinical Liability Insurance

This course is designed to provide students with a professional practice experience (PPE) that includes supervised practical application at a healthcare facility health information management department to provide coding opportunities utilizing ICD-10-CM/PCS, CPT and HCPCS level II codes. On site the student will be under the supervision of a qualified Registered Health Information Administrator (RHIA), Registered Health Information Technician (RHIT), or other qualified personnel to whom they are assigned. The PPE is designed to enable students to obtain actual practical experience in theoretical and application-based procedures previously studied. Students will complete a maximum of unpaid 80 hours on site. Students will be required to complete weekly logs, discussion board postings of their experience, and submit a completed student handbook along with a final project at the end of their PPE. If a student is not able to be placed at a healthcare facility, remote projects/assignments may be substituted and are supervised by the accepting professional practice site. Additional internet-based laboratory projects/assignments to meet course objectives are assigned and evaluated by college faculty to simulate professional practice experience as needed.

MEDR - 4514 Alternate Care Hlth Info Mgmt, 4.00 Credits

Prerequisite(s): MEDR 1114 with C or better and MEDR 1223 with C or better and (MEDR 5114 with C or better or MEDR 3114 with C or better)

Level: Lower

This is a lecture- and lab-based online course that includes a study of health information management (HIM) consulting, cancer registry management, healthcare information requirements and standards in alternate healthcare settings (e.g., behavioral healthcare facilities, correctional facilities, long-term healthcare facilities, etc.), clinical classification systems for alternate health care (e.g., DSM-5, ICD-O-3, SNOMED-CT), alternate healthcare delivery systems, HIM human resources, and HIM financial and resource management.

MEDR - 4900 Directed Study, 1.00 TO 6.00 Credits

Level: Lower

An internet-based elective course for students interested in advanced work in health information management in an area of special interest. Enrollment is limited in order to allow each student the opportunity to pursue his/her area of special interest.

MKTG - MARKETING

MKTG - 1033 Advertising Principles, 3.00 Credits

Prerequisite(s): MKTG 2073 with D or better

Level: Lower

Students will learn the uses and power of advertising and how to apply these concepts to daily business. Students will get a basic understanding of advertising concepts and how to apply them to a variety of media. Utilizing good design and marketing techniques, students will analyze and create advertisements for business use.

MKTG - 1063 Principles of Sales, 3.00 Credits

Prerequisite(s): MKTG 2073 with D or better

Level: Lower

This course examines the principles and methods of sales with respect to the salesperson, their company, products, and customers. Emphasis is placed on the selling process: preparing, preapproach, approach, presentation, trial close, meeting objections, and closing. Students will design and implement an industrial sales presentation.
MKTG - 2073 Principles of Marketing, 3.00 Credits
Level: Lower
Applied Learning-Practicum
Principles of Marketing introduces students to the field of marketing. The course emphasizes marketing functions and institutions as they pertain to the product, price, place, and promotion aspects of bringing goods and services to the consumer. Students learn how to evaluate marketplace potential and risk of delivering marketing offerings with meaningful customer value. Students will participate in classroom presentations, discussions, team problem solving and analysis of real-life marketing situations. The creation of a comprehensive marketing plan will be required.

MKTG - 3153 Web Design & Marketing, 3.00 Credits
Prerequisite(s): MKTG 2073 with D or better
Level: Lower
The course will examine the uses and power of the Internet, web pages, and e-commerce and how to apply these concepts to daily business. Integration of marketing and web design techniques will be utilized in the creation of effective web pages.

MKTG - 6003 Strategic Marketing, 3.00 Credits
Level: Upper
Upper Level
Strategic marketing provides students with an overview of the marketing discipline and a framework that presents marketing as a value creation process. Participants learn how to evaluate marketplace potential and risk from the perspective of the entity's unique ability to develop and deliver goods and services of meaningful customer value. Students participate in classroom presentations, discussions, team problem solving, and in-depth analysis of a series of real-life marketing situations with a diverse range of entities and industries. The course explores the principal concepts and tools of contemporary marketing management, from market segmentation and product positioning to the design of distribution channels and communications strategy, in order to maximize the value delivered to customers. A Strategic Marketing Plan will be required. Civic Engagement Intensive (CEI) sections exist.

MOTO - MOTORCYCLE/POWER SPORTS

MOTO - 1003 Intro to Shop Service Basics, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course will familiarize the student with the general operation of a motorcycle and powersports repair facility. Topics will include: typical business operating procedures, safety, tools, equipment, and hazardous materials.

MOTO - 1005 Basic Electrical Systems, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course will introduce the students to electrical fundamentals including circuit designs and circuit calculations. Common electrical components, operation, and testing will also be included.

MOTO - 1015 Welding & Fabrication, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course will familiarize the student with all common welding and fabrication techniques, using a variety of equipment including oxy-acetylene torches, arc welders, M.I.G. welders, T.I.G. welders, plasma cutters, metal breakers, and metal sheers.

MOTO - 1025 Brake Systems, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course will cover brake systems used on all types of motorcycles and powersport vehicles. Topics covered include: component identification, hydraulic principles and component operation including anti-lock brakes; diagnosis and service of brake systems.

MOTO - 2005 Starting & Charging Systems, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course will cover starting and charging systems used on all types of motorcycles and powersport vehicles. Topics covered include: starter types, alternator/generator types, system wiring, testing and diagnosis.

MOTO - 2013 Inspection & Preventative Mntn, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course focuses on NYS vehicle inspection and vehicle maintenance related to the motorcycle and powersports industry.

MOTO - 2015 Suspension & Steering Systems, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course will cover suspension and steering systems used on all types of motorcycles and powersport vehicles. Topics covered include: component identification, operation of suspension and steering systems, wheel alignment principles, measurement, and adjustments; diagnosis of steering and suspension concerns; steering and suspension component removal and replacement.

MOTO - 2035 Fuel & Ignition Systems, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course will cover ignition and fuel systems used on all types of motorcycles and powersport vehicles. Topics covered include: carburetion, fuel injection, points type ignitions, and electronic ignition.

MOTO - 3003 Diesel Engines, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course will cover diesel engines used on all types of power sports vehicles. Topics covered include: engine operation, fuel systems, diagnosis, and service procedures.

MOTO - 3005 Two & Four Stroke Engines, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course will cover the air and water cooled two and four stroke engine used on all types of motorcycles and power sports vehicles. Topics covered include: engine operation, diagnosis, and service procedures.

MOTO - 3010 Adv Engines & Transmissions ,.00 TO 10.00 Credits
Level: Lower
Applied Learning-Practicum
This course will cover the air and liquid cooled engines and transmissions used on all types of motorcycles and power sports vehicles. Topics covered include engine operation, transmission and clutch operation, diagnosis, and service procedures.

MOTO - 3023 Final Drive Systems, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course will cover all types of motorcycle and powersport vehicle drive systems. Topics covered include drive system types, operation, diagnosis, and service procedures.

MOTO - 3035 Drive Systems, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course will cover fuel and exhaust systems used on all types of motorcycles and powersport vehicles. Topics covered include intake, fuel and exhaust systems, forced induction, diagnosis, and service.

MOTO - 4005 Advanced Drivability, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course will cover the use of technologies and procedures to diagnose and repair drivability concerns. Instruction will focus on the use of various types of test equipment available to assist in the diagnosis of problems found on motorcycles and powersport vehicles.

MOTO - 4015 Advanced Electrical, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course will cover the use of advanced technologies and procedures to diagnose and repair electrical components. Instruction will focus on the use of various types of test equipment and tools used to diagnosis all electrical systems used on modern motorcycles and powersport vehicles.

MOTO - 4023 Exhaust & Induction Systems, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course will cover exhaust and induction systems used on all types of motorcycles and power sports vehicles. Topics covered include: exhaust, intake, and forced induction; diagnosis and service.

MOTO - 4025 Advanced Applications, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course focuses on repair facility management practices. Paperwork processing, employee and customer relations are included.

MOTO - 4043 Advanced Applications, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course focuses on repair facility management practices. Paperwork processing, employee and customer relations are included.

MOTO - 4055 Adv Chassis and Suspension, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course will cover all types of motorcycles and powersport vehicle chassis and suspension systems. Topics covered include chassis design, front and rear suspension types, operation, diagnosis, and service procedures. Wheels and tire replacement and repair will also be included.

NASC - NATURAL SCIENCE

NASC - 1001 Astronomy Laboratory, 1.00 Credit
Level: Lower
Liberal Arts and Science
This laboratory course is designed to accompany NASC 1003 for the student who wishes a laboratory component to astronomy. It will cover many of the same topics as the astronomy course but using a laboratory setting including the use of a telescope, computers, graphing, and various measuring instruments, and astronomical charts.

NASC - 1003 Astronomy I, 3.00 Credits
Level: Lower
Gen Ed - Natural Sciences, Liberal Arts and Science
This course is an introduction to planetary science and positional astronomy. Topics covered are positional astronomy; synodic and sidereal periods; phases; planetary motion; the nature of science and its application to astronomy; gravity and Kepler's Laws of Planetary Motion; light and telescopes, the physical properties of the planets and other Solar System bodies; the evolution of planets; the evolution of the Solar System; extra-solar planets and life elsewhere in the Universe.
NASC - 1043 Physical Science Survey, 3.00 Credits
Level: Lower
Gen Ed - Natural Sciences, Liberal Arts and Science
This course is a survey of the principles and applications of the physical and earth science. The course covers basic principles, astronomy, geology, meteorology, environmental science and earth science. The nature and practice of science will also be discussed.

NASC - 2003 Astronomy II, 3.00 Credits
Level: Lower
Gen Ed - Natural Sciences, Liberal Arts and Science
This course is designed as a continuation of NASC 1003, Astronomy, or as a separate introduction to stellar evolution and cosmology. It will introduce advanced topics from the fields of astronomy and cosmology. Emphasis will be placed on scientific process and critical thinking. This course is suitable for science majors or as a science elective. Topics to be covered are: star cycles, galactic evolution and cosmology. An optional laboratory course will be offered.

NASC - 6003 Topics in Sustainability, 3.00 Credits
Prerequisite(s): MATH 1033 with C or better and ( BIOL 1104 with D or better or BIOL 1304 with D or better or BIOL 2803 with D or better or BIOL 1404 with D or better or CHEM 1114 with D or better or CHEM 1864 with D or better or NASC 1003 with D or better or PHYS 1024 with D or better or PHYS 1044 with D or better or PHYS 1064 with D or better )
Level: Upper
Upper Level
In this course, students will apply quantitative reasoning and qualitative reasoning to a variety of areas as they relate to sustainability; the goal of meeting the needs of the present while maintaining the ability of the future to meet its needs. Students will establish ways in which these areas relate to the three pillars of sustainability: environmental, social, and economic with the goal of recognizing and coping with potential conflicts and issues involved with efforts to achieve sustainable goals.

NURS - NURSING

NURS - 1011 NURS Living Learning Comm I, 1.00 Credit
Level: Lower
Pass/Fail
Nursing Seminar-Conceptual Skill Building is the beginning foundation of concept based learning in nursing. The course content includes the concepts of critical thinking, observation, communication skills, caring, and recognizing self-development. Emphasis is placed on individual skill building and enhancing self-confidence. The student is also introduced to the development of an individual portfolio to assist in meeting personal goals and to reflect on accomplishments. Engagement in the college culture will be explored through a designated living area in a residence hall, planned tours of college resources, and increased faculty contact during engaging concept-based learning activities. Conceptual skill building and self-development skills will facilitate student transition into a healthy life style and reduce stress while participating in the Associate Degree Nursing program.

NURS - 1055 Nursing I, 1.50 Credits
Prerequisite(s): BIOL 1404 with C+ or better *
Corequisite(s): BIOL 1404 with C+ or better *
Level: Lower
Nursing 1 is the foundation course in the nursing curriculum. Its content represents commonalities of knowledge and skills considered fundamental to subsequent nursing courses. Emphasis is placed on basic needs of an individual and how these vary, depending on their physical and emotional state and level of development. The student is introduced to the nursing process with an emphasis on assessment and planning. The student uses a variety of methods to acquire competence in learning objectives and demonstrates proficiency in their responsibility for learning at a novice level.

NURS - 1108 Nursing I, 8.00 Credits
Level: Lower
Applied Learning-Clinical Plcm, Clinical Liability Insurance
Nursing I is the foundation course in the nursing curriculum. Its content represents commonalities of knowledge and skills considered fundamental to subsequent nursing courses. Emphasis is placed on basic needs of an individual and how these vary, depending on their physical and emotional state and level of development. The student is introduced to the nursing process with an emphasis on assessment and planning. The student develops beginning skills in assisting patients with major health concerns to meet their basic needs. Areas of concentration include but are not limited to: legal/ethical responsibilities of the nurse, concepts of mental health, therapeutic communication and apses principles are incorporated throughout the course. The development of basic nursing skills begins in a structured campus lab setting and continues in the clinical lab.

NURS - 1133 Nursing I Lab, 3.00 Credits
Prerequisite(s): BIOL 1404 with C+ or better *
Corequisite(s): BIOL 1404 with C+ or better *
Level: Lower
Applied Learning-Clinical Plcm, Clinical Liability Insurance, Course Fee $17.00
The development of basic basic skills begins in a structured campus laboratory setting and continues in the clinical setting. The campus laboratory and clinical settings will afford practical experience in application of the principles and skills taught in the theory portion of the class. Students will be expected to demonstrate beginning competency and application of the nursing process. The student will develop beginning skills in assisting clients with major health concerns to meet their basic needs.

NURS - 2001 Seminar in Nursing II, 1.00 Credit
Level: Lower
Clinical Liability Insurance
This course is designed to familiarize students with the expectations of the nursing program. It is an elective course to be taken by interested students the semester before their first nursing course. The objectives focus on an overview of the philosophy of nursing, theoretical and practical applications of nursing process concepts, and roles of the nurse. Classroom discussions, observations of actual nursing care in clinic and field trips are planned to enhance the student's awareness of the expectations of the nursing program.

NURS - 2011 NURS Living Learning Com II, 1.00 Credit
Level: Lower
Pass/Fail
This course is the expansion of Nursing Seminar-Conceptual Skill Building I, which enhances concept based learning in nursing. Its content represents concepts of critical thinking.

NURS - 2055 Nursing II, 5.00 Credits
Prerequisite(s): BIOL 1404 with C+ or better and ( NURS 1055 with C or better and NURS 1133 with C or better ) or NURS 1110 with C or better and BIOL 2504 with C+ or better *
Corequisite(s): BIOL 1404 with C+ or better and ( NURS 1055 with C or better and NURS 1133 with C or better ) or NURS 1110 with C or better and NURS 1109 with C or better and BIOL 2504 with C+ or better *
Level: Lower
Nursing II, the student uses the nursing process to assess, plan, implement, and evaluate nursing care of clients with major health concerns. The course prepares students to provide nursing care to clients with acute and chronic medical conditions. Emphasis is placed on individual needs and how these vary, depending on their physical and emotional state and level of development. The student uses a variety of methods to acquire competence in learning objectives and demonstrates proficiency in their responsibility for learning.

NURS - 2133 Nursing II Lab, 3.00 Credits
Prerequisite(s): ( NURS 1055 with C or better and NURS 1133 with C or better ) or NURS 1108 with C or better and NURS 1109 with C or better and BIOL 1404 with C+ or better and BIOL 2504 with C+ or better *
Corequisite(s): ( NURS 1055 with C or better and NURS 1133 with C or better ) or NURS 1108 with C or better and NURS 1109 with C or better and BIOL 1404 with C+ or better and BIOL 2504 with C+ or better *
Level: Lower
Applied Learning-Clinical Plcm, Clinical Liability Insurance, Course Fee $23.00
In Nursing II, the student uses the nursing process to assess, plan, implement, and evaluate nursing care of clients with major health concerns. The course prepares students to provide nursing care to clients with acute and chronic medical conditions. Emphasis is placed on individual needs and how these vary, depending on their physical and emotional state and level of development. The student uses a variety of methods to acquire competence in learning objectives and demonstrates proficiency in their responsibility for learning.

NURS - 2208 Nursing II, 8.00 Credits
Prerequisite(s): NURS 1018 with C or better or NURS 1109 with C or better or Lower
Applied Learning-Clinical Plcm, Clinical Liability Insurance
In Nursing II, the student uses the nursing process to assess, plan, implement, and evaluate nursing care to meet basic needs of clients with major health concerns. Health problems are studied in depth with emphasis on client education, and disease prevention. Areas of concentration include: crisis, maternal-child health, the surgical experience, diabetes, and caring for individuals with respiratory, cardiovascular and gastrointestinal problems. The campus lab continues to be used for the acquisition, practice, and evaluation of technical skills. In the clinical area, the student cares for clients whose conditions are relatively stable and predictable. Observational experiences include rotations to obstetrics, operating and recovery rooms. The student uses a variety of methods to acquire competence in learning objectives and demonstrates increased responsibility for learning.

NURS - 3055 Nursing III, 5.00 Credits
Prerequisite(s): BIOL 4254 with C+ or better * or BIOL 5254 with C or better * and BIOL 1404 with C+ or better and BIOL 2504 with C+ or better and ( NURS 2055 with C or better and NURS 2133 with C or better ) or NURS 2208 with C+ or better or NURS 2209 with C+ or better and Corequisite(s): BIOL 4254 with C+ or better * or BIOL 5254 with C+ or better * and BIOL 1404 with C+ or better and BIOL 2504 with C+ or better and ( NURS 2055 with C or better and NURS 2133 with C or better ) or NURS 2208 with C+ or better or NURS 2209 with C+ or better *
Level: Lower
Applied Learning-Clinical Plcm, Clinical Liability Insurance, Course Fee $22.00
In Nursing III, the student applies the nursing process to access, plan, implement, and evaluate nursing care to clients with major health concerns that are studied to include but are not limited to: psychiatric, pediatrics and other medical/surgical conditions. The student uses a variety of methods to acquire competence in learning objectives and demonstrates increased responsibility for learning by building on past knowledge.

NURS - 3155 Nursing III Lab, 5.00 Credits
Prerequisite(s): BIOL 4254 with C+ or better * or BIOL 5254 with C or better * and BIOL 1404 with C+ or better and BIOL 2504 with C+ or better and ( NURS 2055 with C or better and NURS 2133 with C or better ) or NURS 2208 with C+ or better or NURS 2209 with C+ or better and Corequisite(s): BIOL 4254 with C+ or better * or BIOL 5254 with C+ or better * and BIOL 1404 with C+ or better and BIOL 2504 with C+ or better and ( NURS 2055 with C or better and NURS 2133 with C or better ) or NURS 2208 with C or better or NURS 2209 with C or better *
Level: Lower
Applied Learning-Clinical Plcm, Course Fee $23.00
In Nursing III, the student applies the nursing process to assess/analyze, plan, implement, and document nursing care for clients with more critical health concerns. The student further develops his/her role as a teacher by formulating and implementing teaching based upon a client’s individual needs. Integrates critical thinking in clinical setting incorporating therapeutic verbal and nonverbal communication skills. Experiences include rotations to intensive care unit, and emergency department. To develop the role as a professional, the student participates in a group leader rotation.
The students will learn about the history of Ireland's healthcare system and the variety of continuing education in nursing. This course also focuses on principles related to critical reasoning. Selected issues and concepts will also be analyzed in depth to determine the impact on broad professional perspectives for the expanded role of the baccalaureate prepared nurse.

Level: Upper

In Nursing IV, the student synthesizes the nursing process to assess, plan, implement, and evaluate nursing care to clients with major health concerns that are studied to include critical care topics building on prior knowledge. The student uses a variety of methods to acquire competence in learning objectives and demonstrates proficiency in their responsibility for learning.

NURS - 4155 Nursing IV Lab, 5.00 Credits
Prerequisite(s): BIOL 4254 with C+ or better or BIOL 5254 with C or better and (NURS 3055 with C+ or better and NURS 3155 with C+ or better) or NURS 3100 with C+ or better or NURS 3111 with C+ or better
Corerequisite(s): BIOL 4254 with C+ or better or BIOL 5254 with C or better and (NURS 3055 with C+ or better and NURS 3155 with C+ or better) or NURS 3100 with C+ or better or NURS 3111 with C+ or better
Level: Lower

In Nursing IV, the student learns the process for assessing, planning, implementing, and evaluating care in the clinical setting. The student begins to care for clients in more complex situations in the clinical setting incorporating therapeutic verbal and nonverbal communication skills.

NURS - 4053 Nursing Leadership/Managmen, 3.00 Credits
Prerequisite(s): NURS 5003 with D or better * and NURS 8003 with D or better *
Level: Upper

This nursing course focuses on the development of decision-making knowledge and skills for the nurse leader. The principles of management and leadership are addressed in the course. Course content includes role concepts, change theory, financial management, organizational structure, conflict resolution, impact of unionization, quality control, and performance appraisal. In addition, evidence-based leadership and decision-making for public policy are explored in the course. Lastly, applied learning will be implemented with an in-person immersion with a nursing leader to explore the nurse leadership role.

NURS - 4063 Adv Phrmcgy, Herbal Ther, Nut, 3.00 Credits
Prerequisite(s): NURS 3310 with C+ or better or (NURS 3055 with C+ or better and NURS 3155 with C+ or better) and NURS 5003 with C or better * and NURS 8003 with C or better *
Level: Upper

This advanced course involves the study of drug preparations relative to their mechanism of action, physiological effects, methods of administration, therapeutic dosages, healthcare practitioner responsibilities, interactions, untoward effects, and legal implications. The course also explores the use of common herbal therapies, over the counter medications, and nutritional supplements. In addition, the course addresses off-label use of drugs and herbal preparations and their therapeutic use. Students will present a teaching plan.

NURS - 6413 Health Asmt & Promotion Across, 3.00 Credits
Prerequisite(s): NURS 3310 with C+ or better or (NURS 3055 with C+ or better and NURS 3155 with C+ or better) and NURS 5003 with C or better *
Level: Upper

This course focuses on a holistic approach to health assessment and promotion across the life span. The course builds on previously acquired knowledge and skills to allow a student to complete a comprehensive health assessment. Technological aspects for health assessment and promotion are addressed with the use of simulation where appropriate. Sociocultural influences, growth, and development, and gender are concepts integrated in the course. Students will be required to produce and present a health promotion plan.

NURS - 7003 Nursing Research, 3.00 Credits
Prerequisite(s): MATH 1123 with C or better or MATH 2124 with D or better or MATH 1113 with C or better and BIOL 4254 with C+ or better or BIOL 5254 with C or better
Level: Upper

This course provides the student with the opportunity to examine the role of the nurse in the generation and application of research in the healthcare domain. The course focuses on the study and analysis of research in nursing practice to optimize client outcomes. Course content includes discussion of problem formulation; identification of variables; research design and methodology; data collection and analysis; and interpretation of findings. In addition, the course will focus on how theory and research relate to evidence-based practice. The student will design an independent research project that will be developed and presented at the end of the course. This course also explores the use of common herbal therapies, over the counter medications, and nutritional supplements. In addition, the course addresses off-label use of drugs and herbal preparations and their therapeutic use. Students will present a teaching plan.

NURS - 7004 Population Focused Care in Com, 4.00 Credits
Prerequisite(s): NURS 5003 with C or better and NURS 3055 with C+ or better and NURS 6003 with C or better and NURS 6413 with C or better and NURS 7003 with C or better and NURS 8003 with C or better and NURS 8013 with D or better *
Level: Upper

This course focuses on the role of the nurse in the evaluation of current public health issues and population-focused health care delivery. Key public health concepts and frameworks will be examined from an evidenced-based perspective. Principles of social justice and public health policy will be discussed as they are discussed with a variety of populations, with an emphasis on specific needs of rural communities. A forty-five hour preceptor guided community health immersion experience will provide an opportunity for the student to bolster public health practice models to participate in community assessment, identity resources, plan, execute, and evaluate a primary health prevention/promotion project.

NURS - 7023 The History,Imge & Culture Nsg, 3.00 Credits
Prerequisite(s): NURS 5003 with D or better * and NURS 8003 with D or better *
Level: Upper

This course is designed to provide an overview of the history of nursing and nursing images as they relate to nursing culture and the American health care system and society. Using historical research methods, students will explore fundamental principles for critiquing historical studies or narratives. The course will address issues of class, race, gender, and societal values as possible influences on the development of the nursing profession and nursing culture. By the end of the course, students will be able to describe the impact of historical, societal, and cultural influences on modern nursing.
NURS - 7033 Healthy Aging in Rural Areas, 3.00 Credits
Prerequisite(s): NURS 5050 with C or better * and NURS 6003 with C or better * and NURS 3310 with C+ or better or (NURS 3155 with C+ or better and NURS 3055 with C+ or better )
Level: Upper
Upper Level
This course focuses on the healthcare of elders including the unique aspects of aging across the adult lifespan. Elders and their needs are framed from a physical, psychological, social, cultural and spiritual perspective and within a family and community environment. Emphasis in the course is on health promotion, health maintenance, prevention, and promotion as well as maintaining function and preventing disability in the elderly. The student will offer a presentation addressing contemporary nursing and healthcare issues affecting elders in rural areas.

PHIL - 1073 Problems of Philosophy, 3.00 Credits
Level: Lower
Gen Ed - Humanities, Liberal Arts and Science
Proponents of the view that the natural sciences are the most important disciplines in the curriculum will assert that the humanities are not a useful part of the curriculum. In this course, the student will be taught how to apply critical thinking to the question of whether or not the humanities are necessary for a well-rounded education. The student will be taught how to analyze and evaluate arguments and how to construct arguments of their own. The course will also provide an opportunity for the student to explore the relationship between the humanities and other disciplines such as the natural sciences and social sciences.

PHIL - 2013 Critical Thinking, 3.00 Credits
Level: Lower
Gen Ed - Humanities, Liberal Arts and Science
This course has a three part structure: 1. Logic. At root, critical thinking is the ability to reason properly. Students will learn to construct and evaluate arguments and to recognize fallacies. 2. Argument Construction. Students will learn how to construct and evaluate arguments and to recognize fallacies. 3. Logical Reasoning. Students will be taught how to evaluate arguments and to identify and construct arguments of their own. The course will also provide an opportunity for the student to explore the relationship between critical thinking and other disciplines such as the natural sciences and social sciences.

PHYS - 1014 Introductory Physics, 4.00 Credits
Level: Lower
Gen Ed - Natural Sciences, Liberal Arts and Science
This course is the second course in introductory physics for engineering students. The topics covered include: vector analysis, linear and rotational kinematics, Newton's Laws of Motion, and the application of these laws to problems, equilibrium, friction, work and energy, power, momentum, circular motion and the dynamics of rotational motion. The course includes laboratory work covering some of these topics.

PHYS - 2033 General Physics II, 3.00 Credits
Prerequisite(s): PHYS 1024 with D or better
Level: Lower
Gen Ed - Natural Sciences, Liberal Arts and Science
This course is a continuation of PHYS 1044. It is appropriate for a Liberal Arts or technical student who plans to complete a four-year degree in engineering, mathematics, or one of the natural sciences. The topics covered include: wave motion, sound, electrostatics, current, electricity, electric circuits, magnetic effects, light and illumination, reflection, refraction, mirrors, thin lenses, dispersion, interference, and diffraction. Laboratory work is also included covering many of these topics.

PHYS - 2044 College Physics II, 4.00 Credits
Prerequisite(s): PHYS 1044 with D or better
Level: Lower
Applied Learning-Other, Gen Ed - Natural Sciences, Liberal Arts and Science
This course is the second course of a two-semester physics sequence, which is appropriate for Liberal Arts students or technical students who plan to pursue a four year degree in the biological sciences. In this course, students will learn how to explain natural phenomena both qualitatively and quantitatively. Problem solving skills are emphasized. Topics include: motion, force, energy, collisions, rotation, and fluids. Students will do some open-ended labs where they will create a model of the experiment, design and run the experiment.
COURSE DESCRIPTIONS

PSYC - 2064 Physics for Engr & Sci II, 4.00 Credits
Prerequisite(s): PHYS 1064 with D or better and MATH 1084 with D or better
Level: Lower
Applied Learning-Other, Gen Ed - Natural Sciences, Liberal Arts and Science
This course is a continuation of PHYS 1064. Topics include: wave motion, simple harmonic motion, electricity, circuit analysis, magnetism and ray optics. In addition, structured physics labs will require: hands-on collection of data, analysis of data (including error analysis) with a spreadsheet, a formal written report and an evaluation of the lab report. A comprehensive final exam will be given.

PSYC - 2900 Directed Study, 1.00 TO 5.00 Credits
Level: Lower
A student may contract for one to five credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the process of the study.

PSYC - 6103 Family & Intimate Rel Violence, 3.00 Credits
Prerequisite(s): PSYC 1013 with D or better
Level: Lower
Gen Ed - Social Sciences, Liberal Arts and Science
This course will examine theory, research, and interventions in family and intimate relationship violence. The course will also examine intervention and prevention programs that are available to the victims, perpetrators and others affected by it. While the course focuses mainly on the violence in heterosexual relationships, it will cover violence in same sex relationships. The course will also examine current literature on child abuse and elder abuse.

PSYC - 5013 Counseling Theory, 3.00 Credits
Prerequisite(s): PSYC 1013 with D or better
Level: Upper
Gen Ed - Social Sciences, Liberal Arts and Science
This course provides students with an overview of historical and contemporary psychological approaches to helping. Topics will include theories of counseling, cultural issues, professional concerns and ethical standards of the field. The course will also address issues related to the historical and theoretical bases of crisis intervention.

PSYC - 5053 Social Psychology, 3.00 Credits
Prerequisite(s): PSYC 1013 with D or better
Level: Upper
Gen Ed - Social Sciences, Liberal Arts and Science
This course examines social psychology - the scientific discipline which studies the psychology of the individual in society. It focuses on the individual during social interaction and societal influences. Among topics considered are attitude change, person perception, attribution theory, verbal and nonverbal communication, conformity and nonconformity, aggression and affiliation, stereotypes and prejudice, social justice, and interpersonal attraction.

PSYC - 2023 Adolescent Development, 3.00 Credits
Prerequisite(s): PSYC 1013 with D or better
Level: Lower
Liberal Arts and Science
Adolescent Development is an introduction to the physical, cognitive, and social changes which occur between puberty and young adulthood. Contemporary issues of gender, sexuality, morality, and education are discussed. Psychological theories and developmental stages of life will be explored by the student and applied to adolescent behavior.

PSYC - 2093 Abnormal Psychology, 3.00 Credits
Prerequisite(s): PSYC 1013 with D or better
Level: Lower
Gen Ed - Social Sciences, Liberal Arts and Science
Major emphasis of this course is on understanding the symptoms, etiology, diagnostic classification, and theories pertaining to psychopathology. Special attention is paid to the medical model, the psychological model, and the behaviorist model as they apply to the causes and treatment of psychological disorders. Newer developments in therapy are analyzed which treat mental disorders as problems of living rather than specific diseases.
that affect and influence the radiographic image and the technique compensation necessary with C or better *

This course provides an overview of the principles or the psychological evolution of a killer might that person be considered "criminally insane?" Using a case study approach, this course will explore the "dark side" of human psychology in order to understand why these killers kill.

RADT - 3014 Radiographic Procedures II, 4.00 Credits
Prerequisite(s): RADT 1003 with C or better
Corequisite(s): Level: Lower
This course provides the theoretical basis for performing radiographic procedures with specific patient positioning instruction in the laboratory. The examination protocols and imaging evaluation for the thoracic cavity, abdominal cavity, upper extremities and lower extremities will be introduced. The laboratory setting will reinforce the theoretical foundation of the lecture through demonstration, role playing and skill practice in the laboratory. Image analysis will be included and require problem solving and critical thinking skills to evaluate diagnostic quality of the images obtained in the laboratory.

RADT - 2041 Radiology Clinical I, 1.00 Credit
Prerequisite(s): Level: Lower
Applying Learning-Practicum, Critical Liability Insurance

This course is designed to provide an introduction to the radiology department and patient care routines. The students will observe the basic practices within the radiologic imaging department and the necessary skills needed to manipulate the radiography equipment. Students will also observe patient/technologist interactions for obtaining history, consent, and giving instructions. The students will develop the basic skills necessary for a professional healthcare worker and will achieve competency in required diagnostic procedures. This clinical observation experience will consist of 8 hours per week for 15 weeks.

RADT - 2044 Radiology Clinical II, 4.00 Credits
Prerequisite(s): RADT 2023 with C or better and RADT 2021 with D or better and RADT 2021 with C or better
Corequisite(s): Level: Lower
Applying Learning-Practicum, Critical Liability Insurance

This course provides the theoretical basis for performing radiographic procedures with specific patient positioning instruction in the laboratory. The examination protocols and imaging evaluation for the cranium, fluoroscopy procedures, special procedures, and urological procedures will be introduced. The procedural considerations for contrast studies and patient education and instruction will be discussed. Image analysis will be included and require problem solving and critical thinking skills to evaluate diagnostic quality of the images obtained in the laboratory.

RADT - 3011 Radiographic Procedures II Lab, 1.00 Credit
Prerequisite(s): RADT 2023 with D or better and RADT 2021 with D or better Corequisite(s): RADT 2023 with D or better and RADT 2021 with D or better
Corequisite(s): Level: Lower
Applying Learning-Practicum, Critical Liability Insurance

This course will provide the theoretical basis for performing radiographic procedures with specific patient positioning instruction in the laboratory. The examination protocols and imaging evaluation for the cranium, fluoroscopy procedures, special procedures, and urological procedures will be introduced. The procedural considerations for contrast studies and patient education and instruction will be discussed. Image analysis will be included and require problem solving and critical thinking skills to evaluate diagnostic quality of the images obtained in the laboratory. This clinical experience consists of at 480 hours, which will be completed 40 hours per week for 12 weeks.

RADT - 3013 Radiographic Procedures II, 4.00 Credits
Prerequisite(s): RADT 2023 with D or better and RADT 2021 with D or better Corequisite(s): RADT 2023 with D or better and RADT 2021 with D or better
Corequisite(s): Level: Lower
Applying Learning-Practicum, Critical Liability Insurance

This course will provide the theoretical basis for performing radiographic procedures with specific patient positioning instruction in the laboratory. The examination protocols and imaging evaluation for the thoracic cavity, abdominal cavity, upper extremities and lower extremities will be introduced. The laboratory setting will reinforce the theoretical foundation of the lecture through demonstration, role playing and skill practice in the laboratory. Image analysis will be included and require problem solving and critical thinking skills to evaluate diagnostic quality of the images obtained in the laboratory.

RADT - 3014 Radiographic Procedures II, 4.00 Credits
Prerequisite(s): RADT 2024 with C or better and RADT 2023 with C or better Level: Lower
Applying Learning-Practicum

This course provides the theoretical basis for performing radiographic procedures with specific patient positioning instruction in the laboratory. The examination protocols and imaging evaluation for fluoroscopy, the skull, special views of the upper extremities and lower extremities, special views of the spine, bone surveys, arthrograms, pediatric and geriatric procedures, and trauma radiography will be introduced. The laboratory setting will reinforce the theoretical foundation of the lecture through demonstration, role playing and skill practice. Image analysis will be included and require problem solving and critical thinking skills to evaluate diagnostic quality of the images obtained in the laboratory.
COURSE DESCRIPTIONS

RADT - 3023 Diagnostic Imaging I, 3.00 Credits
Prerequisite(s): RADT 2044 with C or better and RADT 3043 with C or better *
Level: Lower
This course provides a comprehensive understanding of the current image analysis and digital imaging guidelines for radiographic imaging and related positioning. Included are the importance of optimal imaging standards, discussion of a problem-solving technique for image evaluation and the factors that can affect image quality. Actual images will be critiqued for analysis. Additionally, this course will discuss and observe pathologic conditions as they relate to radiology with an emphasis on radiographic appearance of disease and impact on exposure factor selection.

RADT - 3024 Diagnostic Imaging II, 3.00 Credits
Level: Lower
This course provides a foundation in ethics and law related to the practice of medical imaging. In addition, accreditation, regulatory agencies, professional credentialing, professional organizations and professional development and advancement will be discussed. Students will examine a variety of ethical dilemmas and issues for the radiographer. The practice will also revisit the professional responsibilities of the radiographer.

RADT - 3043 Radiology Clinical III, 3.00 Credits
Prerequisite(s): RADT 2044 with C or better
Corequisite(s): RADT 3044 with C or better
Level: Lower
Applied Learning-Practicum, Clinical Liability Insurance
This course provides ongoing experience in the radiology department clinical setting allowing implementation of advanced learning objectives and skills. This course allows for the continued progression of skills in the clinical setting. Procedural competence and the acquisition of additional proficiencies in radiography is the focus. Continued assessment of learning and proficiency is conducted using summative competencies and advanced level learning objectives. This clinical experience consists of 360 hours, which will be completed 24 hours per week for 15 weeks.

RADT - 4003 Intro to Adv Diagnostic Imaging, 3.00 Credits
Prerequisite(s): RADT 3023 with C or better and RADT 4023 with C or better *
Level: Lower
This course introduces the many advanced imaging modalities that are included in the radiology department. Computer tomography (CT) and its operation is discussed along with department archival systems and digital medical image storage. The course then introduces basic mechanisms of image acquisition, basic operating principles and applications for the advanced imaging modalities of magnetic resonance imaging (MRI), nuclear medicine, positron emission tomography (PET) and single-photon emission computed tomography (SPECT) imaging, ultrasound, radiation therapy and interventional radiography including arteriograms, cardiac angiography and venograms.

RADT - 4013 Prof Development in Imaging Sc, 3.00 Credits
Level: Lower
This course is an overview of the radiographer’s continued professional development. The course is designed to encourage active participation in professional organizations and a development of lifelong learning. The course will culminate in a senior research project and presentation on a topic within the field of radiologic science and imaging.

RADT - 4023 Diagnostic Imaging II, 3.00 Credits
Prerequisite(s): RADT 3023 with C or better and RADT 3043 with C or better
Level: Lower
This course provides a foundation in ethics and law related to the practice of medical imaging. Accreditation, regulatory agencies, professional credentialing, professional organizations and professional development and advancement are discussed. Students examine a variety of ethical and legal issues found in clinical practice. This course also revisits the professional responsibilities of the radiographer.

RADT - 4043 Radiology Clinical IV, 3.00 Credits
Prerequisite(s): RADT 3043 with C or better
Level: Lower
Applied Learning-Practicum, Clinical Liability Insurance
This course is designed to allow for expanded experience in radiology by implementing advanced proficiency in clinical setting. Various imaging modalities will be introduced and experienced including computed tomography (CT) scanning, special procedures, magnetic resonance imaging (MRI), nuclear medicine and ultrasound. Procedural competencies and characteristics of an entry-level radiographer will be demonstrated at the conclusion of this final clinical experience as documented by the terminal competencies and mastery level objectives. This clinical experience will consist of 360 hours, which will be completed 24 hours per week for 15 weeks.

RADT - 4900 Directed Study, 1.00 Credit
Prerequisite(s): RADT 3043 with D or better
Level: Lower
This course is an elective course designed to allow students to pursue advanced work in radiology technology with extended clinical opportunities. A student may contract for one credit hour of independent study through an arrangement with the clinical coordinator, who agrees to direct such a study. Enrollment is limited by clinical site participation.

RELG - RELIGION

RELG - 7003 Faith and Compassion:Expl Wrld, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better
Level: Upper
Gen Ed - Humanities, Liberal Arts and Science, Upper Level
Students will explore diverse religious perspectives with a focus on the concepts of faith and compassion. Through the study of primary religious scripture, practice and film, the student will develop a broad understanding of the diversity of religions that have shaped and continue to influence and direct the course of human civilization. Class sessions emphasize student discussion, and assignments encourage student reflection about the meaning and role of religion and religious diversity in their lives and those of others. Research and substantial writing assignments will further develop the student’s writing, interpretation, critical thinking, and information literacy skills. This course is particularly useful for individuals preparing for helping professions.

SOCI - SOCIOLOGY

SOCI - 1163 General Sociology, 3.00 Credits
Prerequisite(s): SOCI 1163 with D or better
Level: Lower
Gen Ed - Social Sciences, Liberal Arts and Science
Sociology is the scientific study of society and social groups. This introductory course discusses the research methods, basic concepts, theories and perspectives used by sociologists. Among the topics covered are culture, socialization, social structure, deviance, social stratification, diversity, globalization, minority groups, gender, and selected social institutions.

SOCI - 1183 Contemporary Social Problems, 3.00 Credits
Prerequisite(s): SOCI 1163 with D or better
Level: Lower
Gen Ed - Social Sciences, Liberal Arts and Science
The purpose of this course is to acquaint the student with a broad spectrum of social problems within contemporary United States. The factors causing social and cultural problems will be emphasized. Students are required to conduct research and analyze a specific social problem and create new policy to deal with the social problem. Students will discuss and critically analyze social policies that address social topics discussed in class.

SOCI - 1193 Marriage & Family Acrs Wrld Clt, 3.00 Credits
Level: Lower
Gen Ed - Other World Civilizat, Gen Ed - Social Sciences, Liberal Arts and Science
This course provides a cross-cultural perspective on marriage and family while giving students the opportunity to explore similarities and differences in marriage and family practices. Specific cultures will be examined to enhance student understanding of cultural and environmental influences on beliefs, values and practices relating to kinship patterns.

SOCI - 1223 Power, Privilege, & Difference, 3.00 Credits
Prerequisite(s): SOCI 1163 with D or better
Level: Lower
Gen Ed - Social Sciences, Liberal Arts and Science
This course examines the social forces at work directing the distribution of power and privilege in American society. Using a sociological perspective, students learn about the way class, race, ethnicity, gender, and sexuality shape one's life chances and the consequences of one's location in them. Students will learn intersectionality theory and its application to the study of inequality; that "difference" is socially constructed in systems of privilege to create "otherness," and in turn, prejudice and discrimination.

SOCI - 1243 Criminology, 3.00 Credits
Prerequisite(s): SOCI 1163 with D or better
Level: Lower
Gen Ed - Social Sciences, Liberal Arts and Science
This course introduces the study of crime, criminal behavior, and the justice system. Included in this study is the process of making laws, breaking laws, and society's reaction to the breakers of laws. Students will be introduced to theories of crime as demonstrated in the current policies of crime and punishment. In addition, there will be an overview of the criminal justice system: law enforcement, the courts, and corrections.

SOCI - 5023 Research Methods, 3.00 Credits
Prerequisite(s): MATH 1123 with D or better or MATH 1113 with D or better or MATH 2124 with D or better
Level: Upper
Liberal Arts and Science, Upper Level
This upper-level course focuses on the how and why of doing research in the social and behavioral sciences, including evaluation research. The research techniques used by human services practitioners and social and behavioral scientists are emphasized including correlational and experimental methods. Ethical ways to conduct research and to build knowledge through research are examined. Writing in professional formatting style is stressed, as is understanding the parts of a journal article, the methods utilized within those professional journal articles, and how research is disseminated at professional conferences.

SOCI - 5033 Soc. Life & Vsn. of the Futr, 3.00 Credits
Prerequisite(s): SOCI 1163 with D or better
Level: Upper
Liberal Arts and Science, Upper Level
This course teaches sociological thinking by examining our world and visions of future social life. Concepts and themes from the social sciences will be mapped to representations of future social life as students develop their sociological understanding. Students will think critically about modernization, social change, the relationship between self and society as well as the intersection of class, race gender and sexuality in our contemporary social life. Dystopian and utopian visions of the future will provide fruitful ‘counterfactuals’ to compare with current and historical lived experiences.

SOCI - 5213 Science, Technology & Society, 3.00 Credits
Prerequisite(s): HIST 1113 with D or better or HIST 1143 with D or better or HIST 2153 with D or better or PLSC 1043 with D or better or SOCI 1163 with D or better
Level: Upper
Gen Ed - Social Sciences, Liberal Arts and Science, Upper Level
This course is a survey of the growth of science and technology and their impact upon industry, government, education, agriculture, ecology and other areas. Leading to and resulting from scientific and technological changes and the influence of these developments upon society as a whole with primary emphasis upon the United States. Major concentration is on the period since the mid-nineteenth century emphasizing the intellectual climate of society as a whole.

SOCI - 5233 Gerontology-Sociology of Aging, 3.00 Credits
Level: Upper
Gen Ed - Social Sciences, Liberal Arts and Science, Upper Level
This course provides an overview of the sociological, psychological, physical and cultural aspects of the aging process. It will review demographic trends, theories and contemporary issues for this student population. The course will also provide students with the opportunity to explore their views and attitudes on aging. Students will complete a research paper that examines the implications of the aging population on the student’s intended major.
This terrorism course provides a critical analysis of leadership styles required to alleviate fears of civil liberties erosion and public safety. The course will culminate with a research project.

SONO - SONOGRAPHY

SONO - 1003 Fundamentals Sonography/Pt Care, 3.00 Credits
Level: Lower
This course is designed to provide a general overview of the study of diagnostic medical sonography, the role it serves in the health care delivery system. Several key topics in imaging including introductory principles of sonography, discipline terminology, sonography specialties and careers in the profession will be explored. The course will also include a dialogue on medical legal ethics and the sonographer's role in making ethical decisions. Patient care topics including transfer techniques, patient history and vital signs, infection control, sterile techniques, medical emergencies and basic pharmacology will be presented. Finally, cultural awareness and the sonographer's role in a multicultural health care setting will be discussed.

SONO - 2003 Sectional Anatomy, 3.00 Credits
Level: Lower
This course is designed to provide the tools necessary to understand and critical section of the human body. Emphasis is placed on imaging correlation to human cadaver cross-sections. Sectional anatomy of the abdomen, male and female pelvis, neck, thorax, head and fetal anatomy will be reviewed. In addition, vascular anatomy will also be discussed.

SONO - 2013 US Physics and Instrument I, 3.00 Credits
Level: Lower
This course is designed to provide a practical understanding of the principles of ultrasound physics and the sonographer as an instrument in the use of the clinical setting. Topics include the properties of sound waves, interactions of sound waves, ultrasound instrumentation and functions of the components of processing, scan converter displays, image and display techniques, film and methods of permanent image recording, ultrasound transducers, operating standards, equipment calibration, resolution, gray scale photography and film critique. In addition, Doppler physics and applications along with sonographic artifacts will be analyzed.

SONO - 2021 Sonographic Procedures I Lab, 1.00 Credit
Corequisite(s): Level: Lower
This course provides the theoretical basis for performing sonographic procedures with specific patient scanning instruction in the laboratory. The examination protocols and imaging evaluation for the abdominal organs, pelvic cavity and organs, and superficial small parts such as thyroid will be introduced. The laboratory setting will reinforce the theoretical foundation of the lecture through demonstration, role playing, and skill practice in the laboratory. Sonographic image analysis will be included and require problem solving and critical thinking skills to evaluate diagnostic quality of the images obtained in the laboratory.

SONO - 2023 Sonographic Procedures I, 3.00 Credits
Corequisite(s): Level: Lower
This course provides the theoretical basis for performing sonographic procedures. The imaging evaluation for the abdominal organs, male pelvic cavity and organs, and superficial small parts such as thyroid and scrotum will be introduced. This includes the disease process for each organ/system with application to the sonographic and Doppler patterns. Sonographic image analysis will be included and require problem solving and critical thinking skills to evaluate diagnostic quality.

SONO - 2024 Sonographic Procedures I, 4.00 Credits
Level: Lower
Applied Learning-Practicum
This course provides the theoretical basis for performing sonographic procedures with specific patient scanning instruction in the laboratory. The examination protocols and imaging evaluation for the abdominal organs, pelvic cavity and organs, and superficial small parts such as thyroid will be introduced. The laboratory setting will reinforce the theoretical foundation of the lecture through demonstration, role playing, and skill practice in the laboratory. Sonographic image analysis will be included and require problem solving and critical thinking skills to evaluate diagnostic quality of the images obtained in the laboratory.

SONO - 3013 US Physics & Instrument II, 3.00 Credits
Prerequisite(s): SONO 2013 with D or better Level: Lower
This course is a continuation of SONO 2013 and is designed to provide a practical understanding of the principles of ultrasound physics and sonographic instrumentation as it pertains to diagnostic medical sonography and its use in the clinical setting. Topics include the properties of sound waves, interactions of sounds waves, ultrasound instrumentation and functions of the components of processing, scan converter displays, image and display techniques, film and methods of permanent image recording, ultrasound transducers, operating standards, equipment calibration, resolution, gray scale photography and film critique. Additionally, Doppler physics and applications along with sonographic artifacts will be discussed and practiced.

SONO - 3016 Sonography Clinical I, 6.00 Credits
Prerequisite(s): SONO 2024 with C+ or better Level: Lower
Applied Learning-Clinical Plcm, Clinical Liability Insurance
This course allows for the continued progression of skills in the clinical setting. Procedural competence and the acquisition of additional proficiencies in diagnostic medical sonography are the focus of this clinical experience. Continued assessment of learning and proficiency is conducted using summative competencies and initial and intermediate level learning objectives during the clinical rotation. This clinical experience consists of 480 hours, which will be completed 40 hours per week for 12 weeks.

SONO - 3033 Sonographic Procedures II Lab, 1.00 Credit
Prerequisite(s): SONO 2023 with D or better or SONO 2042 with D or better Level: Lower
This course provides the theoretical basis for performing sonographic procedures with specific patient scanning instruction in the laboratory. The examination protocols and imaging evaluation for the female pelvic organs, obstetrical (first, second and third trimester), carotid, peripheral arterial and venous vascular scanning will be introduced. The laboratory setting reinforces the theoretical foundation of the lecture through demonstration, role playing, and skills practice in the laboratory. Sonographic image analysis is included and requires problem solving and critical thinking skills to evaluate diagnostic quality of the images obtained in the laboratory.

SONO - 3034 Sonographic Procedures II, 4.00 Credits
Level: Lower
Applied Learning-Practicum
This course provides the theoretical basis for performing sonographic procedures with specific patient scanning instruction in the laboratory. The examination protocols and imaging evaluation for the female pelvic organs; first, second, and third trimester Obstetrical; Carotid, Peripheral Arterial and Venous Vascular scanning will be introduced. Sonographic image analysis will be included and require problem solving and critical thinking skills to evaluate diagnostic quality.

SONO - 4033 Professional Dev in Sonography, 3.00 Credits
Level: Lower
This course is an overview of the radiographer’s continued professional development. The course is designed to encourage active participation in professional organizations and a development of lifelong learning. The course will culminate in a senior research project and presentation on a topic within the field of radiologic science and imaging. Students will be expected to prepare for the Registry Exam(s).

SONO - 4013 Advanced Physics and Prob Solv, 3.00 Credits
Prerequisite(s): SONO 2013 with D or better and SONO 3013 with D or better Level: Lower
This course is designed to educate the student on how new technology, equipment, and sonographic procedures impact the use of ultrasound physics and instrumentation in the clinical setting. This course continues to build upon the content and theory previously learned in Ultrasound Physics and Instrumentation I and II. Various case studies and course materials will be utilized to help students enhance critical thinking skills towards application in the clinical setting.

SONO - 4024 Sonography Clinical III, 4.00 Credits
Prerequisite(s): SONO 3004 with C+ or better Level: Lower
Applied Learning-Clinical Plcm, Clinical Liability Insurance
This course allows for the continued progression of skills in the clinical setting. Procedural competence and the acquisition of additional proficiencies in diagnostic medical sonography are the focus of this clinical experience. Continued assessment of learning and proficiency is conducted using summative competencies and initial and intermediate level learning objectives during the clinical rotation. This clinical experience consists of 40 hours per week for the duration of the course offering (minimum of 180 hours required). Clinical schedule will be appointed based on availability of affiliated clinical site.
SONO - 4034 Sonographic Procedures III, 4.00 Credits
Prerequisite(s): SONO 3033 with D or better and SONO 3031 with D or better
Corequisite(s): SONO 3033 with D or better and SONO 3031 with D or better
Level: Lower
This course provides students with specific patient scanning instruction in the laboratory. The examination protocols and imaging evaluation for the breast, superficial tissues, musculoskeletal, GI tract, interventional, and pediatric scanning will be introduced. The laboratory setting will reinforce the theoretical foundation of the lecture through demonstration, role playing, and skill practice. The laboratory will reinforce the theoretical foundation of the lecture through demonstration, role playing, and skill practice in the laboratory. Sonographic image analysis will be included and require problem solving and critical thinking skills to evaluate diagnostic quality of the images obtained in the laboratory.

SPAN - SPANISH
SPAN - 1203 Spanish I, 3.00 Credits
Level: Lower
Gen Ed - Foreign Language, Liberal Arts and Science
This course focuses on developing the student's ability to speak, to write, and to read Spanish. Additional emphasis is given to learning about the diverse cultures of the Spanish-speaking world. Instruction centers on oral communication, grammar (especially formation of verbs), and cultural awareness. Writing is continued in assignments related to readings, class discussions, and lectures.

SPAN - 2203 Spanish II, 3.00 Credits
Prerequisite(s): SPAN 1203 with D or better
Level: Lower
Gen Ed - Foreign Language, Liberal Arts and Science
This second semester course is designed to suit the needs of persons who wish to learn to communicate orally in the Spanish language for purposes of travel, business, personal pleasure, and academia environment. The student's listening, speaking, reading and writing skills in Spanish will be further developed.

SPAN - 4900 Directed Study, 1.00 TO 6.00 Credits
Level: Lower
A student may contract for an independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the process of the study.

SPCH - SPEECH
SPCH - 1083 Effective Speaking, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better
Level: Lower
Gen Ed - BC-COMP503/SPCH1083, Gen Ed - BC-COMP503/SPCH1083, Liberal Arts and Science
This course deals with preparing, presenting, and critiquing the basic speech types: reporting, demonstration, and argumentation. Special attention is given to collecting, selecting, and arranging of material; to presenting and delivering; and to active listening and critical evaluating. The course stresses principles of interpersonal and personal communication and provides a basis for the understanding of speech through utilizing various media. The course is designed to help students obtain the speaking skills with which to respond to various oral communication situations encountered throughout college and in professional, civic and social areas before and after graduation. Students will be required to deliver presentations to a live audience of mature adults in both traditional and online classes.

SPCH - 4003 Intercultural Communication, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better and SPCH 1083 with D or better
Level: Lower
Gen Ed - Humanities, Liberal Arts and Science
This is a course in the theories and applications of Intercultural Communication. Students will investigate how culture shapes communication norms and analyze the verbal and nonverbal communication styles of various cultures. The course will also focus on the causes of and effective responses to intercultural conflict. Emphasis will be placed on applying intercultural competency to practical contexts.

SPCH - 5003 Mediated Argu. in Pub. Spheres, 3.00 Credits
Prerequisite(s): SPCH 1083 with D or better
Level: Upper
Gen Ed - Humanities, Liberal Arts and Science
This course is a study in argumentation in public spheres with a focus on emergent media. Students will develop skills in advanced argument creation, engage in critique of media artifacts, and understand the history of mediated argumentation in public spheres. Readings will be drawn from academic, professional, and popular criticism of the evolving landscape of public sphere argumentation. Emphasis will be placed on crafting and critiquing effective and sound oral, visual, and procedural arguments. The course culminates in a final project asking students to evaluate established schools of media criticism, rhetorical criticism, and public sphere theory by debating their efficacy in informing public argumentation in emergent and new media environments.

SPCH - 5083 Communication in the Workplace, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better and SPCH 1083 with D or better
Level: Upper
Gen Ed - BC-COMP503/SPCH5083, Gen Ed - BC-COMP503/SPCH5083, Liberal Arts and Science, Upper Level
The class is designed to give students the opportunity to obtain the communications skills encountered throughout college and his or her personal and professional life. Special attention is given to the theory of organizational communication, basic communication skills, interpersonal communication, employer-employee relations, group communication, and presentation speaking.

SPCH - 6083 Interpersonal Communication, 3.00 Credits
Prerequisite(s): SPCH 1083 with D or better
Level: Upper
Liberal Arts and Science, Upper Level
This course will cover the study and application of the techniques involved in effective interpersonal communication. Text, lecture, and outside reading will cover the theories and concepts of verbal, vocal, nonverbal, and listening as they relate to communicating in interpersonal contexts. Specifically, the course will address such topics as validation, listening, self-disclosure, conflict resolution, problem solving strategies, and electronic communication. Class participation, group participation, public speaking, and scholarly writing are required of all students.

SPMG - SPORT MANAGEMENT
SPMG - 1123 Intro to Sport Management, 3.00 Credits
Level: Lower
This course is an introduction to the scope of the sport industry, which is a growing major business enterprise in the United States and in much of the world. The course is designed to provide an overview of the sport industry, which is a growing major business enterprise in the United States and in much of the world. The course is designed to provide an overview of the sport industry and the various functions of effective management, and the skills, attributes and roles required of the sport manager are discussed. Attention will be focused on how the managerial process relates to sport organizations and the products they provide. Students will become acquainted with career opportunities in the sport management field.

SPMG - 2003 Sport in Society, 3.00 Credits
Prerequisite(s): SPMG 1123 with D or better
Level: Lower
This course provides an in-depth examination of sport in society, particularly in the United States. A review of the role of sport participants, spectators, and the media on society is included. Various organizational levels of sport opportunity and sport behavior, including sport ethics, resulting from the influence of society will be covered.

SPMG - 2013 Sport in Europe Soc Study Abrod, 3.00 Credits
Level: Lower
This course provides an in-depth examination of sport in society, globalization of sport culture, and an understanding of the European model of sport. A review of the role of sport participants, spectators, and the media on society is included. Various organizational levels of sport opportunity and sport behavior, including sport ethics, resulting from the influence of society will be covered. Within this course, students may partake in a study abroad opportunity in Europe.

SPMG - 3001 Field Experience I, 1.00 Credit
Prerequisite(s): SPMG 1123 with C or better
Level: Lower
Applied Learning-Internship, Pass/Fail
This course encompasses a semester of supervised, hands-on experience working in the field of sport management. A minimum of 45 hours of work throughout the semester is required.

SPMG - 4001 Field Experience II, 1.00 Credit
Prerequisite(s): SPMG 1123 with C or better and SPMG 3001 with D or better
Level: Lower
Applied Learning-Internship, Pass/Fail
This course encompasses a semester of supervised, hands-on experience working in the field of sport management. A minimum of 45 hours of work throughout the semester is required.

SPMG - 4123 Sport Facility Management, 3.00 Credits
Prerequisite(s): SPMG 1123 with C or better
Level: Lower
This course investigates the elements, issues, and problems that shape the planning and management of sport facilities and events. Similarities and differences of facility types, reasons for development, terminology, types of events held, service contracts, financial operations, marketing, and economic impacts are some of the issues covered. Building revenues from the sport facility, even services, and financing sources are all critical to the successful management of the multi-million dollar facilities that house today's major sport events. Course content will include lectures, guest speakers, and group discussions. In order to pass this course, students must complete an end-of-program exam hosted by an external vendor.

SPMG - 5003 Sport Business and Finance, 3.00 Credits
Prerequisite(s): SPMG 1123 with D or better and ACCT 1124 with D or better
Level: Upper
Upper Level
This course is a focus on business topics as they relate to the fiscal and budgetary control of public and private sport organizations, leagues, and facilities. Topics include sources of funding and revenue, the implementation and use of an economic impact analysis, and a review of budgeting and financial statements.
SPMG - 6033 Sponsorship, 3.00 Credits  
Prerequisite(s): SPMG 1123 with D or better and COMP 1503 with D or better and BUAD 2033 with D or better  
Level: Upper  
This course focuses on the policies and procedures utilized in dealing with communication issues occurring within the sports industry, including print and electronic media, the internal and external obstacles to be served, and the development of specific forms of communication approaches. Heavy emphasis will be placed on the practical as opposed to the theoretical, as well as a thorough understanding of the unique aspects of communication in sport.

SPMG - 5023 Principles of Coaching, 3.00 Credits  
Prerequisite(s): SPMG 1123 with D or better  
Level: Upper  
This course exposes students to the study of administrative and strategic behaviors of coaches and athletes in various athletic and competitive environments that sets the tone for successful organizations, its impact on athletic performance, and how to facilitate solutions to problems that may not be limited to, the study of different theoretical and applied topics such as planning, organizing, coaching principles, and practices.

SPMG - 5033 Ethics and Leadership in Coach, 3.00 Credits  
Prerequisite(s): SPMG 1123 with D or better  
Level: Upper  
This course helps students learn and practice the disciplines needed to advance their ethical and leadership abilities as a sport coach. It explores the nuances needed to assist athletes to understand the ethical values of sport and help them to become leaders. Topics include but are not limited to sport ethics, ethical values, gambling, performance enhancing substances, race and gender issues, and leadership development techniques specific to sport applications.

SPMG - 5900 Directed Study, .00 TO 3.00 Credits  
Level: Upper  
A student may contract for one to six credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the process of the study.

SPMG - 6003 Sport Marketing, 3.00 Credits  
Prerequisite(s): MKTG 2073 with D or better  
Level: Upper  
This course is designed to be an examination of the unique nature of Sport Marketing. This course will examine the elements of the marketing mix form that perspective. Major topics include an overview of the sport market, the critical nature of market research and market segmentation, developing an understanding of the special nature of the sport product, pricing within sport marketing, the role of promotion in the sport market, and the theory of “place” in sport. Students will be responsible for designing, implementing and evaluating a sport marketing research plan.

SPMG - 6013 Licensing and Endorsements, 3.00 Credits  
Prerequisite(s): SPMG 1123 with D or better and SPMG 6003 with D or better  
Level: Upper  
This course covers the details involved in the development of a corporate licensing program, as well as the licensing of intellectual property from corporations. The student will be exposed to the necessary details of becoming a licensee or licensor. Product value, agreements, endorsements, royalties, enforcement, and legal issues will all be included.

SPMG - 6023 Event Promotion and Sales, 3.00 Credits  
Prerequisite(s): SPMG 1123 with D or better and SPMG 4123 with D or better  
Level: Upper  
This course is a comprehensive review of the skills and tasks required to successfully sell a sporting event to the consumer. Creating an effective sales culture, examining incentives for sport consumers, sales management and servicing, and the role of technology in sport promotion and sales are included. Additionally, this course explores sales training, the art of ticket sales, customer retention, branding, and sales risk management.

SPMG - 6033 Sponsorship, 3.00 Credits  
Prerequisite(s): SPMG 1123 with D or better and SPMG 6003 with D or better  
Level: Upper  
This course is a study of corporate sponsorships. Topics will include acquisition, service, sponsorship, and property objectives, rights, negotiations, sponsorship evaluations, contracts, proposals, and presentations.

SPMG - 6043 Sport Law, 3.00 Credits  
Prerequisite(s): SPMG 1123 with D or better and ( BUAD 3043 with D or better or BUAD 7053 with D or better )  
Level: Upper  
This course is designed to expose students to the legal environment within which sport management professionals function. It focuses on sport’s relationship with government agencies (public law issues) as well as with other businesses, consumers, suppliers, etc. (private law issues). It is intended to better equip the sport business manager for decision making by exploring the legal issues involved in contracts, torts, business organizations, employment law, risk management, intellectual property law and Constitutional Law. Legislation specifically related to sport will be highlighted. A variety of specific problems for the business of sport, found within the law will be examined and analyzed through case briefs and studies, research projects and advocacy exercises. Students will have an opportunity to explore law related topics of particular interest to themselves with oral presentations to the class.

SPMG - 7001 Pre-Internship Seminar, 1.00 Credit  
Prerequisite(s): SPMG 1123 with D or better  
Level: Upper  
This course is focused on the development, analysis, and pursuit of internship and career goals. Emphasis is placed on the development of a professional portfolio, including cover letters, resumes, and basic interviewing techniques. Related issues, professional ethics, and etiquette will be explored.

SPMG - 7023 Strategic Mgmt in Sport Organizn, 3.00 Credits  
Prerequisite(s): SPMG 1123 with D or better and BUAD 3153 with D or better  
Level: Upper  
This course is designed to expand knowledge and understanding of large-scale events and sport organizations through concentrated research that culminates in a senior research project. This course is designed with a two-part focus. The first half of the course will emphasize Sport Management scholarly research through a review of literature. The second half of the course is focused on a hands-on learning approach and application of scholarly research. This culminates in a capstone project, providing unique and innovative solutions to a sport organization.

SPMG - 7023 Strategic Mgmt in Sport Organizn, 3.00 Credits  
Prerequisite(s): SPMG 1123 with D or better  
Level: Upper  
This course is designed with a two-part focus. The first half of the course will emphasize Sport Management scholarly research through a review of literature. The second half of the course is focused on a hands-on learning approach and application of scholarly research. This culminates in a capstone project, providing unique and innovative solutions to a sport organization.

TMGT - 8006 Technology Management Internsh, 6.00 Credits  
Prerequisite(s): TMGT 7153 with D or better or BUAD 3153 with D or better  
Level: Upper  
This internship is designed to assist the student in making the transition from the classroom to a segment of the sport management field. The internship permits a degree of independence and an element of learning that is not possible in a conventional classroom. The intent of the internship is to provide each student with an experiential learning opportunity as a pre-professional in sport management. Students will complete supervised field work in a sport management segment, that segment to be determined mutually by the Internship Coordinator and the student. Each student will have a planned program of educational objectives approved by the student, Site Supervisor, and Internship Coordinator. A written paper, and a public, oral presentation, along with a journal of work activities and experiences, will be required. The final grade will be determined by the Internship Coordinator and the Site Supervisor.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Level</th>
<th>Description</th>
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<tbody>
<tr>
<td>VETS - 1203</td>
<td>Intro to Veterinary Technology, 3.00 Credits</td>
<td>Lower</td>
<td></td>
<td>This course introduces Veterinary Technology students to the animal and procedural terminology they will need to understand during their studies. The students will be expected to learn the acronyms and abbreviations commonly used in the field of Veterinary Medicine. Basic animal anatomy terminology and veterinary equipment identification will be taught, as well as the basic calculations that will be required in veterinary technology course work. Students will also be given an overview of the expectations of the profession, college experience and will be given an introduction to the services available at the Student Success Center.</td>
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<tr>
<td>VETS - 1214</td>
<td>Anatomy &amp; Physiology of Animals I, 4.00 Credits</td>
<td>Lower</td>
<td></td>
<td>This course is an organ systems approach to the study of anatomy and physiology using Domestic and Exotic Animal species as the primary model. The course provides a functional integration of basic science and clinical information as it relates to the normal healthy animal and in an integrated lecture and laboratory approach. Protected animal specimen both fresh and preserved, as well as skeletons and models will be utilized in the laboratory to allow applied reinforcement of concepts presented in the lecture. Histologic slides, kodachromes and radiographs will be utilized to enhance organ recognition through multiple formats and give the student a better understanding of organ function. The students will explore in greater depth and detail the course materials through questions and discussions fostered by the development of group Power Point presentations on topics that are related to the organ systems studied.</td>
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<tr>
<td>VETS - 2104</td>
<td>Anatomy &amp; Physiology of Animals II, 4.00 Credits</td>
<td>Lower</td>
<td></td>
<td>This internship is designed to assist the student in making the transition from the classroom to industry. This integration of work allows a degree of independence and an element of learning that is not possible in a conventional classroom. The intent of the internship is to provide each student with an experiential learning opportunity in a management situation as a pre-professional supervisor or manager. Students will complete supervised field work in a selected business, industry, government or educational setting. Students carry out a planned program of educational experiences under the direct supervision of an owner, manager, supervisor in their technical field or professional area. The intern will also be supervised by a faculty member who serves as the Internship Coordinator. Written reports, weekly journals of work activities and experiences, and self and supervisor evaluations are required. Evaluation will be based on the quality of experiences gained from the internship and student work performance.</td>
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<tr>
<td>VETS - 2105</td>
<td>Technology Management Internship, 12.00 Credits</td>
<td>Lower</td>
<td></td>
<td>This internship is designed to assist the student in making the transition from the classroom to industry. This integration of work allows a degree of independence and an element of learning that is not possible in a conventional classroom. The intent of the internship is to provide each student with an experiential learning opportunity in a management situation as a pre-professional supervisor or manager. Students will complete supervised field work in a selected business, industry, government or educational setting. Students carry out a planned program of educational experiences under the direct supervision of an owner, manager, supervisor in their technical field or professional area. The intern will also be supervised by a faculty member who serves as the Internship Coordinator. Written reports, weekly journals of work activities and experiences, and self and supervisor evaluations are required. Evaluation will be based on the quality of experiences gained from the internship and student work performance.</td>
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<tr>
<td>VETS - 2106</td>
<td>Technology Management Internship, 6.00 Credits</td>
<td>Lower</td>
<td></td>
<td>This internship is designed to assist the student in making the transition from the classroom to industry. This integration of work allows a degree of independence and an element of learning that is not possible in a conventional classroom. The intent of the internship is to provide each student with an experiential learning opportunity in a management situation as a pre-professional supervisor or manager. Students will complete supervised field work in a selected business, industry, government or educational setting. Students carry out a planned program of educational experiences under the direct supervision of an owner, manager, supervisor in their technical field or professional area. The intern will also be supervised by a faculty member who serves as the Internship Coordinator. Written reports, weekly journals of work activities and experiences, and self and supervisor evaluations are required. Evaluation will be based on the quality of experiences gained from the internship and student work performance.</td>
</tr>
<tr>
<td>VETS - 2107</td>
<td>Technology Management Internship, 9.00 Credits</td>
<td>Lower</td>
<td></td>
<td>This internship is designed to assist the student in making the transition from the classroom to industry. This integration of work allows a degree of independence and an element of learning that is not possible in a conventional classroom. The intent of the internship is to provide each student with an experiential learning opportunity in a management situation as a pre-professional supervisor or manager. Students will complete supervised field work in a selected business, industry, government or educational setting. Students carry out a planned program of educational experiences under the direct supervision of an owner, manager, supervisor in their technical field or professional area. The intern will also be supervised by a faculty member who serves as the Internship Coordinator. Written reports, weekly journals of work activities and experiences, and self and supervisor evaluations are required. Evaluation will be based on the quality of experiences gained from the internship and student work performance.</td>
</tr>
<tr>
<td>VETS - 2108</td>
<td>Tech Management Internship, 12.00 Credits</td>
<td>Lower</td>
<td></td>
<td>This internship is designed to assist the student in making the transition from the classroom to industry. This integration of work allows a degree of independence and an element of learning that is not possible in a conventional classroom. The intent of the internship is to provide each student with an experiential learning opportunity in a management situation as a pre-professional supervisor or manager. Students will complete supervised field work in a selected business, industry, government or educational setting. Students carry out a planned program of educational experiences under the direct supervision of an owner, manager, supervisor in their technical field or professional area. The intern will also be supervised by a faculty member who serves as the Internship Coordinator. Written reports, weekly journals of work activities and experiences, and self and supervisor evaluations are required. Evaluation will be based on the quality of experiences gained from the internship and student work performance.</td>
</tr>
<tr>
<td>VETS - 3003</td>
<td>Animal Health Care, 3.00 Credits</td>
<td>Lower</td>
<td></td>
<td>This internship is designed to assist the student in making the transition from the classroom to industry. This integration of work allows a degree of independence and an element of learning that is not possible in a conventional classroom. The intent of the internship is to provide each student with an experiential learning opportunity in a management situation as a pre-professional supervisor or manager. Students will complete supervised field work in a selected business, industry, government or educational setting. Students carry out a planned program of educational experiences under the direct supervision of an owner, manager, supervisor in their technical field or professional area. The intern will also be supervised by a faculty member who serves as the Internship Coordinator. Written reports, weekly journals of work activities and experiences, and self and supervisor evaluations are required. Evaluation will be based on the quality of experiences gained from the internship and student work performance.</td>
</tr>
<tr>
<td>VETS - 3004</td>
<td>Anesthesia &amp; Surgical Nursing, 4.00 Credits</td>
<td>Lower</td>
<td></td>
<td>This internship is designed to assist the student in making the transition from the classroom to industry. This integration of work allows a degree of independence and an element of learning that is not possible in a conventional classroom. The intent of the internship is to provide each student with an experiential learning opportunity in a management situation as a pre-professional supervisor or manager. Students will complete supervised field work in a selected business, industry, government or educational setting. Students carry out a planned program of educational experiences under the direct supervision of an owner, manager, supervisor in their technical field or professional area. The intern will also be supervised by a faculty member who serves as the Internship Coordinator. Written reports, weekly journals of work activities and experiences, and self and supervisor evaluations are required. Evaluation will be based on the quality of experiences gained from the internship and student work performance.</td>
</tr>
<tr>
<td>VETS - 3013</td>
<td>Animal Parasitology, 3.00 Credits</td>
<td>Lower</td>
<td></td>
<td>This internship is designed to assist the student in making the transition from the classroom to industry. This integration of work allows a degree of independence and an element of learning that is not possible in a conventional classroom. The intent of the internship is to provide each student with an experiential learning opportunity in a management situation as a pre-professional supervisor or manager. Students will complete supervised field work in a selected business, industry, government or educational setting. Students carry out a planned program of educational experiences under the direct supervision of an owner, manager, supervisor in their technical field or professional area. The intern will also be supervised by a faculty member who serves as the Internship Coordinator. Written reports, weekly journals of work activities and experiences, and self and supervisor evaluations are required. Evaluation will be based on the quality of experiences gained from the internship and student work performance.</td>
</tr>
<tr>
<td>VETS - 3022</td>
<td>Anesthesia &amp; Surgical Nurs I, 2.00 Credits</td>
<td>Lower</td>
<td></td>
<td>This internship is designed to assist the student in making the transition from the classroom to industry. This integration of work allows a degree of independence and an element of learning that is not possible in a conventional classroom. The intent of the internship is to provide each student with an experiential learning opportunity in a management situation as a pre-professional supervisor or manager. Students will complete supervised field work in a selected business, industry, government or educational setting. Students carry out a planned program of educational experiences under the direct supervision of an owner, manager, supervisor in their technical field or professional area. The intern will also be supervised by a faculty member who serves as the Internship Coordinator. Written reports, weekly journals of work activities and experiences, and self and supervisor evaluations are required. Evaluation will be based on the quality of experiences gained from the internship and student work performance.</td>
</tr>
<tr>
<td>VETS - 3030</td>
<td>Domestic Animal Behavior, 3.00 Credits</td>
<td>Lower</td>
<td></td>
<td>This internship is designed to assist the student in making the transition from the classroom to industry. This integration of work allows a degree of independence and an element of learning that is not possible in a conventional classroom. The intent of the internship is to provide each student with an experiential learning opportunity in a management situation as a pre-professional supervisor or manager. Students will complete supervised field work in a selected business, industry, government or educational setting. Students carry out a planned program of educational experiences under the direct supervision of an owner, manager, supervisor in their technical field or professional area. The intern will also be supervised by a faculty member who serves as the Internship Coordinator. Written reports, weekly journals of work activities and experiences, and self and supervisor evaluations are required. Evaluation will be based on the quality of experiences gained from the internship and student work performance.</td>
</tr>
</tbody>
</table>
VETS - 3024 Clinical Laboratory Techniques, 4.00 Credits
Prerequisite(s): VETS 2014 with C or better and BIOL 2524 with C or better or VETS 3012 with D or better
Level: Lower
Applied Learning-Field Study, Course Fee $108.00
This course introduces laboratory techniques performed in veterinary offices and clinics. Examination and testing of blood, feces, urine, and exudates are performed for diagnostic and prognostic purposes. Lectures deal with testing theories and relevance to animal health and disease. Laboratories develop skills necessary to maintain a safe laboratory working environment, institute quality control programs, collect, process, store, and transport clinical biological specimens. Students will develop skills necessary to operate and maintain clinical analyzers, accurately perform laboratory tests, interpret, and report laboratory results on clinical specimens.

VETS - 3103 Patho & Pharm of An. Disease I, 3.00 Credits
Prerequisite(s): VETS 1214 with D or better and VETS 3014 with C or better
Level: Lower
This course will combine pathophysiology and pharmacology in a comprehensive method of presenting information on animal disease and treatment. This course is the first of a series of two courses that cover this expansive topic. This first course will begin with a background presentation of pharmacologic science and then progress to pathophysiology of disease and pharmacologic treatment of that disease. Pathophysiology will be presented by a combination of systems and species approaches and include coverage of all the small and large animal species that are typically treated by the veterinarian / veterinary technician team. Emphasis will be given to diseases that are more likely to be encountered in routine veterinary practice.

VETS - 3204 Farm Animal Management, 4.00 Credits
Level: Lower
Applied Learning-Practicum, Course Fee $33.00
This course is designed to provide the student insight into the behavior, care and management of farm animals. Dairy cattle, horses, sheep, swine, goats and other animals will be discussed. Emphasis will be placed on the practical aspects of veterinary nursing such as proper handling, restraint, evaluation, medication, treatment, and examination procedures that apply to farm animal species. Characteristics of the major breeds, terminology, disease control measures, housing, and basic management practices will also be covered. Additional farm experiences outside of regularly scheduled classes will be required for successful completion of this course.

VETS - 3301 Veterinary Technology Precept., 1.00 Credit
Prerequisite(s): VETS 2014 with C or better and VETS 3023 with C or better and VETS 3031 with C or better and ( VETS 3204 with C or better or ANSC 1204 with C or better ) and VETS 1214 with D or better
Level: Lower
Applied Learning-Practicum, Clinical Liability Insurance, Pass/Fail The American Veterinary Medical Association and the Committee on Veterinary Technician Education require that every student in Veterinary Technology complete a 240-hour preceptorship under the direct supervision of a licensed veterinary technician or a veterinarian. These preceptorships are completed off campus in private veterinary practices or other venues where the supervisory requirements can be met. Students will gain exposure to real clinical settings in veterinary medicine and develop an appreciation for the role of a veterinary technician in clinical practice or other venues.

VETS - 4103 Laboratory Animal and Exotics, 3.00 Credits
Prerequisite(s): VETS 1203 with C or better and VETS 2014 with C or better and VETS 3003 with C or better and VETS 3013 with C or better
Level: Lower
Applied Learning-Practicum
This course is designed to provide the student with basic knowledge and understanding of research facilities and their function. Students will be instructed in the care and handling of small animals used in the research laboratory. Emphasis will be placed on species differences, housing requirements, nutrition, reproduction, health, sanitation, and laboratory techniques applied in animal research and pharmaceutical facilities. Animal handling, observation and management time will be provided in the laboratory time as well as during assigned vivarium duty.

VETS - 4202 Small Animal Nutrition, 2.00 Credits
Prerequisite(s): VETS 1203 with C or better
Level: Lower
This is an introductory course for students accepted in the veterinary technology program, providing identification and function of nutrients, understanding pet food labels, and applications for wellness, life stage, and therapeutic nutrition (prescription food) for dogs and cats. The course will utilize an interactive Internet connection in the classroom.

VETS - 4203 Patho & Pharm of An. Disease 2, 3.00 Credits
Prerequisite(s): VETS 1214 with D or better and ( VETS 2014 with C or better and VETS 3103 with C or better )
Level: Lower
This course will combine pathophysiology and pharmacology in a comprehensive method of presenting information about animal disease and treatment. This course is the second of a series of two courses that cover this expansive topic. This second course will continue with the presentation of the pathophysiology of disease and the pharmacologic treatment of that disease. Pathophysiology will be presented by a combination of systems and species approaches and include coverage of all the small and large animal species that are typically treated by the veterinarian / veterinary technician team. Emphasis will be given to disease that is more likely to be encountered in routine veterinary practice.

WELD - 1104 Intro Shielded Metal Arc Weldg, 4.00 Credits
Level: Lower
Applied Learning-Practicum
This course provides the student with an introduction to shielded metal arc welding, welding safety and power sources. Through hands-on technical training, the student will develop the skills necessary to make quality fillet welds on mild steel using the shielded metal arc welding process in all positions and on varying plate thickness.

WELD - 1105 Int Shlded Metl Arc Weld (SMAW, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course provides the student with a thorough technical understanding of shielded metal arc welding (SMAW), carbon arc cutting, welding and cutting safety power sources and electrodes. Through hands-on technical training, the student will develop skills necessary to make quality groove welds on mild steel, in all positions and on varying plate thickness. Carbon arc skills will include cutting and gouging of mild steel.

WELD - 1204 SMAW ;Carbon Arc Cutting &Goug, 4.00 Credits
Level: Lower
Applied Learning-Practicum
This course provides the student with a thorough technical understanding of shielded metal arc welding (SMAW), carbon arc cutting, welding and cutting safety power sources and electrodes. Through hands-on technical training, the student will develop skills necessary to make quality groove welds on mild steel in all positions, and on varying plate thickness.
COURSE DESCRIPTIONS

WELD - 1724 Gas Welding/Cutting & Plasma Cutting, 4.00 Credits
Level: Lower
Applied Learning-Practicum, Course Fee $118.00
This course is designed to teach the student the fundamental skills of oxy-fuel and plasma processes used in industry. Major topics include principles of operation, components, identification, equipment setup, minor repairs, process variables, and manual and automatic performance exercises. Laboratory exercises emphasize technique and skill development.

WELD - 1728 Arc Welding, Crn Arc Clng Gauging, 8.00 Credits
Level: Lower
Applied Learning-Practicum
This course provides the student with a thorough technical understanding of shielded metal arc welding, cutting, and clamping safety, power sources, and electrodes. Hands-on technical training will develop skills necessary to make quality welds and clamps in the shop or in the field. The course will also cover the various methods of welding and clamping, including visual examinations and welding procedure development.

WELD - 2715 Shielded Arc Arc Welding, 5.00 Credits
Level: Lower
Applied Learning-Practicum, Course Fee $118.00
This course provides a thorough technical understanding of blueprint reading for welders; and welding symbol interpretation and application. The study of joint design and weldment inspection will be performed by testing, and evaluation of completed weld specimens using various metal and welding techniques; both destructive and non-destructive.

WELD - 2725 Gas Metal Arc Welding I, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course presents some of the most popular welding processes used in industry today. Gas metal arc principles are emphasized with students learning applications and operating techniques pertaining to semi-automatic wire feed welding. Special attention will be placed on penetration, metal transfer, gas shielding and equipment setup for gas metal arc welding.

WELD - 2733 Tolerancing & Working Drawings, 3.00 Credits
Level: Lower
This course is designed for the welding student to understand the typical working drawing and any tolerances that may apply. These tolerances include unilateral, bilateral, and geometric tolerances. The importance of accuracy and proper orientation of weldments will be stressed. This application will address all possible tolerancing and drawing applications the student will need to be effective as an industrial welder.

WELD - 2735 Gas Tungsten Arc Welding I, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course provides the student with a thorough technical understanding of gas tungsten arc welding, shielding safety and arc characteristics. Hands on technical training will develop the skills necessary to make quality gas tungsten arc welds on mild steel, stainless steel and aluminum using both direct and alternating current. Certification documentation for the student will be performed for all welding processes with special attention placed on code conformance and welding procedure development.

WELD - 3005 Shielded Metal Arc Welding II, 5.00 Credits
Prerequisite(s): WELD 2715 with D or better
Level: Lower
Applied Learning-Practicum, Course Fee $118.00
This course covers safety standards and performance of shielded metal arc welding (SMAW II). Students will learn and apply OSHA standards. SMAW II theory will also be covered. Students will be performing groove welds in preparation for the required 6G qualification test.

WELD - 3015 GMAW II, FCAW II, 5.00 Credits
Prerequisite(s): WELD 2715 with D or better and WELD 2725 with D or better
Level: Lower
Applied Learning-Practicum
This course will cover the safety inspections of the GMA and GTA welding equipment and accessories. Student will be able to make minor repairs to the equipment and accessories, which will include the changing of wire electrodes and cable liners. Students will learn to troubleshoot welding equipment problems, how to recognize them, and the correct procedures in the use of the equipment. Set up and safe operations will be taught for the pulsed transfer method of welding. Students will perform welds on aluminum pipe.

WELD - 4425 GMAW III & GTAW IV, 5.00 Credits
Prerequisite(s): WELD 3015 with D or better and WELD 3025 with D or better
Level: Lower
Applied Learning-Practicum
This course will cover the safety inspections of the GMA and GTA welding equipment and accessories. Student will be able to make minor repairs to the equipment and accessories, which will include the changing of wire electrodes and cable liners. Students will learn to troubleshoot welding equipment problems, how to recognize them, and the correct procedures in the use of the equipment. Set up and safe operations will be taught for the pulsed transfer method of welding. Students will perform welds on aluminum pipe.

WELD - 4435 Gas Tungsten Arc Welding III, 5.00 Credits
Prerequisite(s): WELD 3025 with D or better
Level: Lower
Applied Learning-Practicum
This course covers the safety inspections of welding equipment and accessories. Student will be able to make minor repairs to the equipment and accessories, which will include the changing of wire electrodes and cable liners. Students will learn to troubleshoot welding equipment problems, how to recognize them, and the correct procedures in the use of the equipment. Set up and safe operations will be taught for the pulsed transfer method of welding. Students will perform welds on aluminum pipe.

WELD - 4445 Welding Fabrication, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course will be conducted as though the student were employed in an actual work environment. The student will perform all necessary work in the fabrication of various parts. Safe and proper set up and use of appropriate equipment for various applications will be expected. Along with the setup and use of equipment, the student will be required to generate and apply weld process sheets, and inspect each weld using industrially accepted inspection processes. The student will perform various duties common in industry today, as well as apply any certifications, codes, and standards that must be met for qualifications. They will perform visual examinations and complete inspection records and reports.

WELD - 4900 Directed Study, 1.00 TO 5.00 Credits
Level: Lower
A student may contract for one to five credit hours of independent study through an arrangement with an instructor who agrees to direct such a study. The student will submit a plan acceptable to the instructor and to the department chairperson. The instructor and student will confer regularly regarding the process of the study.

WGST - WOMEN AND GENDER STUDIES

WGST - 1003 Intro to Women/Gender Studies, 3.00 Credits
Level: Lower
Liberal Arts and Science
This course explores critical questions about the meaning and role of gender in society. The course will expose the students to diverse values, perspectives and backgrounds relating to gender sexuality. Cultural and societal constructs and influences will be examined as they relate to gender. The course will focus on how gender, sex, race, sexual orientation, class and age influence individual attitudes and society's views.
ANIKO V. CONSTANTINE (1974) - SUNY Distinguished Teaching Professor, English and Humanities
BA - Hartwick College
MA, PhD - University of Illinois
SUNY Chancellor's Award for Excellence in Teaching, 1979-80
## Faculty and Staff

<table>
<thead>
<tr>
<th>Name</th>
<th>Position and Department</th>
<th>Years of Tenure</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>JULIE ABBEY</td>
<td>Instructional Support Associate, Agriculture &amp; Veterinary</td>
<td>2021</td>
<td>AAS - SUNY College of Technology at Alfred</td>
</tr>
<tr>
<td>DANIEL ACOMB</td>
<td>Instructor, Building Trades</td>
<td>2018</td>
<td>AOS - SUNY College of Technology at Alfred</td>
</tr>
<tr>
<td>BRIAN ADAMS</td>
<td>Instructor, Building Trades</td>
<td>2020</td>
<td>BS - Houghton College</td>
</tr>
<tr>
<td>DANIEL AFTUCK</td>
<td>Instructor, Building Trades</td>
<td>2021</td>
<td></td>
</tr>
<tr>
<td>DR. JILL AMATI</td>
<td>Associate Professor and Department Chair, Social and Behavioral Sciences</td>
<td>2012</td>
<td>BA - University of Washington, MA - Oregon State University, MPA, PhD - Syracuse University</td>
</tr>
<tr>
<td>MOLLY E. ANDRUS</td>
<td>Staff Associate, Marketing Communications</td>
<td>2008</td>
<td>BA - Plattsburgh State University</td>
</tr>
<tr>
<td>ANTHONY AQUILINA</td>
<td>Assistant Professor, Business</td>
<td>2022</td>
<td>BS - SUNY Cortland, MS - Ithaca College</td>
</tr>
<tr>
<td>SHELBY AQUILINA</td>
<td>EOP Academic Counselor, Student Success Center</td>
<td>2020</td>
<td>BA - Alfred University, MA - Sam Houston State University</td>
</tr>
<tr>
<td>TRAVIS ARMISON</td>
<td>Instructional Support Assistant, Agriculture and Veterinary Technology</td>
<td>2011</td>
<td>BT - SUNY Cobleskill</td>
</tr>
<tr>
<td>MICHAEL ARMSTRONG</td>
<td>Head Baseball Coach, Athletics</td>
<td>2017</td>
<td>BA - Ithaca College</td>
</tr>
<tr>
<td>RUTHANNE ASHWORTH</td>
<td>Associate Professor, Nursing</td>
<td>2017</td>
<td>AS - SUNY College of Technology at Alfred, BS - SUNY College at Brockport, MS - SUNY College at Binghamton</td>
</tr>
<tr>
<td>AMY BABCOCK</td>
<td>Academic Advisement Assistant, Student Success Center</td>
<td>2021</td>
<td>BS - SUNY College at Brockport, MA - SUNY At Stony Brook</td>
</tr>
<tr>
<td>DR. KARLA M. BACK</td>
<td>Professor, Business</td>
<td>2004</td>
<td>BA - University of Houston-University Park, MA - University of Houston-Clear Lake, PhD - Texas A&amp;M University, SUNY Chancellor's Award for Excellence in Teaching, 2012-13</td>
</tr>
<tr>
<td>ALEXANDER BAILEY</td>
<td>Assistant Professor, Mechanical and Electrical Engineering Technology</td>
<td>2021</td>
<td>BS - SUNY College Of Technology At Alfred</td>
</tr>
<tr>
<td>NICOLLE BARSCH</td>
<td>Admissions Counselor, Admissions</td>
<td>2020</td>
<td>BA - SUNY at Buffalo, MS - Canisius College</td>
</tr>
<tr>
<td>DR. STEPHEN M. BAUER</td>
<td>Assistant Professor, Physical and Life Sciences</td>
<td>2019</td>
<td>BA - Saint John Fisher College, MS - University of Rochester, PhD - University of Rochester</td>
</tr>
<tr>
<td>CODY BECKWITH</td>
<td>Staff Assistant, Technology Services</td>
<td>2021</td>
<td>BS - SUNY at Fredonia</td>
</tr>
<tr>
<td>JOSUAH BENITEZ</td>
<td>Residence Hall Director, Residential Services</td>
<td>2021</td>
<td>AOS - SUNY College of Technology at Alfred, BT - SUNY College of Technology at Alfred</td>
</tr>
<tr>
<td>CORY BENNETT</td>
<td>Associate Director of Student Accounts, Student Records and Financial Services</td>
<td>2020</td>
<td>BA - SUNY College at Geneseo</td>
</tr>
<tr>
<td>WAYNE BENSLEY</td>
<td>Associate Professor and Chair, Physical and Life Sciences</td>
<td>2007</td>
<td>BA - Syracuse University, MSFS - University of Alabama at Birmingham</td>
</tr>
<tr>
<td>CURTIS BERLUE</td>
<td>Network Services Manager, Technology Services</td>
<td>2015</td>
<td>AAS, BT - SUNY College of Technology at Alfred</td>
</tr>
<tr>
<td>DR. LUKE BERNFELD</td>
<td>Assistant Professor, DGMA Game and Interactive Design</td>
<td>2021</td>
<td>BS - Utah Valley University, MA - University of Texas at Dallas, PhD - University of Texas at Dallas</td>
</tr>
<tr>
<td>KRISTOFER BIANCHI</td>
<td>University Police Officer II, University Police</td>
<td>2012</td>
<td>BS - SUNY College at Oneonta</td>
</tr>
</tbody>
</table>
TYLER BILLINGS (2022) - Senior Staff Assistant - Technology Services
AS, AAS - Corning Community College

SCOTT BINGHAM (2006) - University Police Officer II, University Police
AAS - Finger Lakes Community College
SUNY Chancellor's Award for Excellence in Classified Service, 2015-16

DR. ALEX BITTERMAN (2014) - Professor, Architecture and Design
BS - SUNY Buffalo State
MArch, PhD - University at Buffalo

MELISSA BLAKE (2005) - Associate Professor, Business
AAS, BBA - SUNY College of Technology at Alfred
MBA - SUNY Institute of Technology at Utica-Rome

DR. JODY BLANKENSHIP (2021) - Assistant Professor and Department Chair, Nursing
ASN - University of Pittsburgh
BSN - Clarion University
PhD - University of Missouri

KATHLEEN BLISS (2001) - Assistant Professor, Agriculture and Veterinary Technology
AAS - SUNY College of Technology at Alfred
AS, LVT, NYS - Medaille College
BS - Purdue University
MALS - Excelsior College
SUNY Chancellor’s Award for Excellence in Teaching, 2014-15

JOANN BLOXSOM (2019) - Assistant Registrar, Student Records and Financial Services
BA - Ashford University
MA - San Diego State University

MARK BLOXSOM (2015) - Associate Professor and Department Chair, Business
BS - University of Maryland
BS - University of North Carolina at Charlotte
MA - University of California-Irvine
PhD - University of California

AFUA BOAHENE (2020) - EOP Academic Advisor, Student Success Center
BA - Wells College
MSeD - Syracuse University

DR. TIMOTHY BOCCHI (2005) - Assistant Professor, Mathematics and Physics
BS - Purchase College
PhD - CUNY Graduate Center

SCOTT BODENSCHATZ (2018) - Instructional Support Assistant, Allied Health
BS - University of Wisconsin

DR. MELISSA BONNEY (2021) - Assistant Professor, Agriculture and Veterinary Technology
BS - Rensselaer Polytechnic Institute
MS - University of Minnesota
DVM - Cornell University

JEREMY BOORMAN (2016) - University Police Officer I, University Police
AS - SUNY College of Technology at Alfred
AS - Genesee Community College

MARIA BORDEAUX (2005) - Director of Human Resources, Human Resources
AS - SUNY College of Technology at Alfred

DANIEL BOWEN (2016) - Assistant Professor, Electrical, Machine Tool and Welding Technology
AOS - SUNY College of Technology at Alfred

LISA BOYLE (2013) - Instructor, Physical and Life Sciences
AAS - SUNY College of Technology at Alfred
BS - SUNY Polytechnic Institute

TAMMY BRACKETT (2008) - Assistant Professor and Department Chair, Digital Media and Animation
BA, MFA - Alfred University

DUANE BRUBAKER (2015) - Instructional Support Associate, College Farm

ARIC BRYANT (2016) - Associate Professor and Department Chair, Mechanical and Electrical Engineering Technology
AOS, BS - SUNY College of Technology at Alfred
MS - SUNY at Binghamton

RICHARD BRYSON (2022) - Assistant Professor, Mechanical and Electrical Engineering Technology
AA - Jamestown Community College
BS, MS - SUNY Empire State College Management Information Systems

LESLIE BUCKLEY (2015) - Director of Special Student Programs, Student Success Center
BS - Houghton College
MSEd - Alfred University

DR. JAMES BUELL (2004) - Professor, Mathematics and Physics
MS, PhD - University of Oklahoma
DR. ELIZABETH P. BULOCK (2018) - Assistant Professor, Social and Behavioral Sciences
BA - The Evergreen State College
MA - The University of Chicago
PhD - The Graduate Center, CUNY

CALEY BUMP (2020) - Admissions Advisor, Admissions
BS - Saint Bonaventure University

DEBRA BURCH (1998) - Associate Professor and Department Chair, Culinary Arts
AOS - SUNY College of Technology at Alfred
SUNY Chancellor’s Award for Excellence in Faculty Service, 2018-19

SANDRA BURDICK (2009) - Student Union Assistant Director, Student Engagement

DALE BURNS (2000) - Network Engineer, Technology Services
AAS, BS - SUNY College of Technology at Alfred

DR. YVONNE BUSTAMANTE (2016) - Associate Professor, Social and Behavioral Sciences
BA - Keuka College
MS - Nova Southeastern University

TAYLOR BUTTON (2021) - Head Womens Basketball Coach, Athletics
BS - Houghton College

STEPHEN CADI (2018) - Instructor, Building Trades
AAS - Corning Community College

ANN CAMPBELL (2023) - Academic Advisor, Admissions
AAS - Tompkins-Cortland Community College
BS - Alfred University

DIEDRA CARDAMONE (2018) - Academic Success Coach, Student Success Center
BS - United States Merchant Marine Academy
MEd - Harvard University

DAVID CARLI (2007) - Associate Professor, Architecture and Design
AAS - Genesee Community College
BS, MFA, MArch - University at Buffalo

JOY M. CARLSON (1988) - Professor, Architecture and Design
BArch, MSArch - The Pennsylvania State University
Registered Architect - New York, Pennsylvania
SUNY Chancellor’s Award for Excellence in Teaching, 2004-05

RICHARD CARLSON (2022) - Assistant Professor, Civil Engineering
BS, MS - New Jersey Institute of Technology
MS - Purdue University

MICHAE CARUSO (2017) - Instructor, Automotive Trades
BS - Ferris State University

MAUREEN CASCHERA (2017) - Instructional Designer, Center for Online Learning
BS - SUNY College at Brockport
MBA - Saint John Fisher College

MICHAEL CASE (2002) - Director, Technology Services
AAS - SUNY College of Technology at Alfred
BS - Rochester Institute of Technology

MARY CHAMBERLAIN (2018) - Area Coordinator, Residential Services
BA - Blackburn College
MA - Eastern Illinois University

VIRGINIA CHAMBERLAIN (2013) - Farm Manager, College Farm
BS - University of New Hampshire

MICHAEL CHAPMAN (2022) - Admissions Assistant, Admissions
BA - Kingswood University

HOLLY CHASE (2019) - Assistant Professor, Business
BS - Alfred University
ALM - SUNY College at Oswego

CASEY CHATLEY (2021) - University Police Officer 1, University Police
AAS - Genesee Community College

DEBORAH CLAIRE (1989) - Senior Programmer/Analyst, Technology Services
BS - SUNY Geneseo
SUNY Chancellor’s Award for Excellence in Professional Service, 2009-10

MEGAN CLARK (2017) - Assistant Professor, Nursing
BSN - SUNY College at Buffalo
MSN - Capella University

SARAH CLAUD (2016) - Clinical Coordinator for Diagnostic Sonography, Allied Health
AS - Jefferson Community College
AAS - Upstate Medical University
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<tr>
<td>BRENTH COBIN</td>
<td>Senior Staff Assistant, Print and Mail Services</td>
<td>MS - University of Wisconsin - Madison</td>
<td></td>
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<tr>
<td>TIMOTHY J. COCHRAN</td>
<td>Professor, Mechanical and Electrical Engineering Technology</td>
<td>BT - SUNY College of Technology at Alfred</td>
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<tr>
<td>ADRIAN COGSWELL</td>
<td>Lead Programmer/Analyst, Technology Services</td>
<td>BT - SUNY College of Technology at Alfred</td>
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<tr>
<td>MICHAEL A. COLOMAIO</td>
<td>Assistant Professor, Social and Behavioral Sciences</td>
<td>BA - SUNY Geneseo</td>
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<td>REBECCA COMER</td>
<td>Information Technology Specialist 1, Print and Mail Services</td>
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<tr>
<td>JULIE CONKLIN</td>
<td>Academic Success Specialist/Adviser, Student Success Center</td>
<td>BS - Daemen College</td>
<td>MSW - Nazareth College of Rochester</td>
</tr>
<tr>
<td>DR. ANIKO CONSTANTINE</td>
<td>Distinguished Teaching Professor, English &amp; Humanities</td>
<td>BA - Hartwick College</td>
<td>MA, PhD - University Of Illinois At Urbana-Champaign</td>
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<tr>
<td>GORDON COOK</td>
<td>Instructional Support Assistant, School of Applied Technology</td>
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<tr>
<td>GREG COOK</td>
<td>Assistant Professor, Electrical, Machine Tool &amp; Welding Technology</td>
<td>AOS - SUNY College of Technology at Alfred</td>
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<tr>
<td>JUSTIN CORNELIUS</td>
<td>Coordinator of Student Affairs, Student Engagement</td>
<td>BA - SUNY College at Buffalo</td>
<td>MSE - Alfred University</td>
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<tr>
<td>CYAN CORWINE</td>
<td>Coordinator of Opportunity Programs, Student Success Center</td>
<td>BA - SUNY College at New Paltz</td>
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<tr>
<td>NICHOLAS COUSINO</td>
<td>Assistant Librarian, Library Services</td>
<td>BA - University of Idaho</td>
<td>MLS - University of Oklahoma</td>
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<td>CASEY COWBURN</td>
<td>Coordinator of Tutoring/Academic Success Coach, Student Success Center</td>
<td>BA, MED - University of Massachusetts-Lowell</td>
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<tr>
<td>MARK CRAGG</td>
<td>Instructional Support Assistant, College Farm</td>
<td>AAS - SUNY College of Technology at Alfred</td>
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<tr>
<td>JILL CRANDALL</td>
<td>Academic Advisor, Student Success Center</td>
<td>BS - SUNY College At Brockport Business</td>
<td>MS - SUNY College At Buffalo</td>
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<td>RAWLE CRAWFORD</td>
<td>Senior Staff Assistant/Help Desk Coordinator, Technology Services</td>
<td>AAS, BT - SUNY College of Technology at Alfred</td>
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<tr>
<td>CHARLES CUTLER</td>
<td>Telecom Technician, Technology Services</td>
<td>AAS - Rochester Institute of Technology</td>
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<tr>
<td>VALERIE DACIW</td>
<td>Senior Career Planning and Development Associate, Career Development</td>
<td>AS, BS - SUNY College Of Technology At Alfred</td>
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<tr>
<td>NATASHA DANIELS</td>
<td>Academic Adviser, Student Success Center</td>
<td>BS - Ohio State University</td>
<td>MSED - Bloomsburg University of Pennsylvania</td>
</tr>
<tr>
<td>CONNIE D’ARCY</td>
<td>Accounting and Controls Officer, Business Affairs</td>
<td>AA, AAS - SUNY College of Technology at Alfred</td>
<td>BA - Alfred University</td>
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<tr>
<td>MARK D’ARCY</td>
<td>Assistant Professor, Mathematics and Physics</td>
<td>BA, MSEd - Alfred University</td>
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<tr>
<td>ASHTON DAVIS</td>
<td>Instructor, Automotive Trade</td>
<td>AOS - SUNY College of Technology at Alfred</td>
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<tr>
<td>NICOLE DAVIS</td>
<td>Assistant Professor, Math &amp; Physics</td>
<td>AS - Delaware County Community College</td>
<td>BS, MEd - SUNY Empire State College</td>
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<td>SHANE DAVIS</td>
<td>Computer Technician, Technology Services</td>
<td>BA, BTech - SUNY College of Technology at Alfred</td>
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<td>DANIEL DAVISON</td>
<td>Instructional Support Associate, Automotive Trades</td>
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<td>GREGORY DAY</td>
<td>Instructor, Electrical, Machine Tool, and Welding Technology</td>
<td>AAS - Itt Technical Institute Electrician</td>
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<tr>
<td>WILLIAM DEAN</td>
<td>Professor, Architecture and Design</td>
<td>AAS - SUNY College of Technology at Alfred</td>
<td>BPS, MArch - University at Buffalo</td>
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<tr>
<td>Registered Architect - New York</td>
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<td>SUNY Chancellor’s Award for Excellence in Teaching, 2018-19</td>
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</table>
COLLEGE FACULTY AND STAFF

PATRICK DEFOE (2021) - Residence Hall Director, Residential Services
BBA - SUNY College of Technology at Alfred
MA - Regis College

BENNY DESANTIAGO (2022) - Director of Opportunity Programs, Student Success Center
BS, MEd - Northern Arizona University

TIMOTHY DICKERSON (2014) - Assistant Professor, Electrical, Machine Tool, and Welding Technology
AOS - SUNY College of Technology at Alfred

KRISTEN DICKSON (2022) - Academic Advisor, Student Success Center
BA - Pennsylvania State University
MA - Indiana University Of Pennsylvania

NICOLE DIGERLANDO (2020) - Assistant Professor, English and Humanities
BA, MA - Lehigh University

JACK DIGNAN (2022) - Head Coach, Athletics
BS - SUNY College At Oneonta
MBA - Clarkson University Business

MATTHEW DIRADO (2018) - Assistant Professor, Architecture and Design
BS - SUNY College of Technology at Alfred
MA - Syracuse University

NICOLE DIRADO (2017) - Assistant Professor, Physical and Life Sciences
AS, BS - SUNY College of Technology at Alfred
MS - Syracuse University

EUGENIE DOORLEY (2003) - Staff Associate, Fitness Center Manager/Volleyball Coach, Athletics
AS - SUNY College of Technology at Alfred
BS - SUNY Cortland
NYS Teaching Certificate - St. Bonaventure University

JASON DOVIAK (2017) - Director, Athletics
BS - SUNY Cortland
MBA - The College of St. Rose

NANCY DRISCOLL (2000) - Staff Assistant, School of Applied Technology
BA, MS - Buffalo State College
SUNY Chancellor's Award for Excellence in Professional Service, 2014-15

DENNIS DUENO (2016) - Director of Student Union, Student Engagement
AAS, BS - SUNY College of Technology at Alfred
MA - SUNY at Stony Brook

SCOTT DUMOND (2016) - Assistant Professor, Business
MS - American College
BA - SUNY College at Geneseo

JILL DUNN (2022) - Major Gifts Officer, Institutional Advancement
AS - Jamestown Community College
BA, MBA - Saint Bonaventure University

PHILIP EBERT (2018) - Instructor, Electrical, Machine Tool, and Welding Technology
AOS - Erie Community College

KERI EDSALL (2016) - Financial Aid Assistant, Student Records and Financial Services
BS - Mansfield University of Pennsylvania
MBA - SUNY Empire State College

TAMMY EDWARDS (2003) - Senior Staff Assistant, Continuing Education, Recruitment and Training Coordinator
AA - SUNY College of Technology at Alfred
BA - Alfred University

MOHAMED ELESHAKY (2021) - Lecturer, Mechanical Engineering
BS, MS - Alexandria University
PhD - Old Dominion University

EVAN ENKE (1998) - Assistant Professor and Chair, Computer and Information Technology
BS, MPS - Alfred University
SUNY Chancellor's Award for Excellence in Teaching, 2002-03

JENNIFER ENKE (2013) - Associate Director of Athletics, Athletics
BS - Canisius College
MS - Alfred University

DANIEL EVANS (2022) - Assistant Professor, Computer & Information Technology
BS, MS - New Mexico State University
PhD - Pace University-New York

JANEL FARRELL (2022) - Residence Hall Director, Residential Services

ADAM FITZPATRICK (2020) - Instructor, Building Trades
AOS - SUNY College of Technology at Alfred

TRACY FLETCHER (2023) - Academic Advisor, Student Success Center
BA, MS - Alfred University
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<tr>
<th>Name</th>
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<th>Institution</th>
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<tr>
<td>NICHOLAS FORD</td>
<td>Instructor, Civil Engineering Technology</td>
<td>2018</td>
<td>BS - SUNY College of Technology at Alfred</td>
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<tr>
<td>RONALD FOSTER</td>
<td>Associate Librarian, Library Services</td>
<td>2020</td>
<td>BA - Utica College</td>
<td>MLS - SUNY at Albany</td>
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<tr>
<td>RYAN FRANCE</td>
<td>Computer Technician, Technology Services</td>
<td>2022</td>
<td>AAS - SUNY College of Technology at Alfred</td>
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<tr>
<td>MICHELLE FRANCISCO</td>
<td>Controller, Business Affairs</td>
<td>1998</td>
<td>AAS - SUNY College of Technology at Alfred</td>
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<tr>
<td>JOHN M. GARIPPA</td>
<td>Associate Professor, Automotive Trades</td>
<td>1994</td>
<td>AOS - SUNY College of Technology at Alfred</td>
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<td>ASE Master Certification, Auto</td>
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<tr>
<td>RYAN FRANCE</td>
<td>Computer Technician, Technology Services</td>
<td>2022</td>
<td>AAS - SUNY College of Technology at Alfred</td>
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<td>ASE Advance Level Certification</td>
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<td>RYAN FRANCE</td>
<td>Computer Technician, Technology Services</td>
<td>2022</td>
<td>AAS - SUNY College of Technology at Alfred</td>
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<td>ASE Alternative Fuels Certification</td>
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<tr>
<td>BRIAN GAVIN</td>
<td>Instructor, Electrical, Machine Tool, and Welding Technology</td>
<td>2022</td>
<td>BS - SUNY College at Alfred</td>
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<tr>
<td>KANDI GEIBEL</td>
<td>Director of Admissions and Enrollment, Admissions</td>
<td>1995</td>
<td>AA - SUNY College of Technology at Alfred</td>
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<tr>
<td>RYAN FRANCE</td>
<td>Computer Technician, Technology Services</td>
<td>2022</td>
<td>AAS - SUNY College of Technology at Alfred</td>
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<tr>
<td>TIMOTHY GIAGIOS</td>
<td>Head Cross Country and Track &amp; Field Coach, Athletics</td>
<td>2021</td>
<td>BS - SUNY College at Alfred</td>
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<tr>
<td>DILAN GILLULY</td>
<td>Senior Staff Assistant, Help Desk/Client Services, Technology Services</td>
<td>2014</td>
<td>AOS - SUNY College of Technology at Alfred</td>
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<tr>
<td>BENJAMIN GLASS</td>
<td>Programmer, Technology Services</td>
<td>2021</td>
<td>AS - SUNY College of Technology at Alfred</td>
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<tr>
<td>DENNY GLASS</td>
<td>Fire and Life Safety Coordinator, Facilities Services</td>
<td>2015</td>
<td>AAS - SUNY College of Technology at Alfred</td>
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<tr>
<td>RAY GLEASON</td>
<td>Instructional Support Technician, School of Architecture, Management and Engineering Technology</td>
<td>2003</td>
<td>AAS - SUNY College of Technology at Alfred</td>
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<tr>
<td>KEITH GLOVER</td>
<td>Associate Professor, Culinary Arts</td>
<td>2015</td>
<td>AOS - SUNY College of Technology at Alfred</td>
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<tr>
<td>RONALD GOOD</td>
<td>Software Trainer, Center for Online Learning</td>
<td>2021</td>
<td>BS - University of Pittsburgh-Bradford</td>
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<tr>
<td>JAMES GOODWIN</td>
<td>Assistant Professor, Physical &amp; Life Sciences</td>
<td>2022</td>
<td>BS - Griffith University</td>
<td>MSc, PhD - Queensland University of Technology</td>
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<tr>
<td>SUSAN GORMAN</td>
<td>Assistant Professor, Business</td>
<td>2019</td>
<td>BS - Mansfield University</td>
<td>MBA - Florida Institute of Technology</td>
<td>College Council Civic Engagement Award 2018-2019</td>
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<tr>
<td>ANGELA GRAVES</td>
<td>Assistant Professor, Social &amp; Behavioral</td>
<td>2020</td>
<td>BA - Universitatea Babes-Bolyai</td>
<td>MA - Central European University</td>
<td>PhD - Syracuse University</td>
</tr>
<tr>
<td>CLINTON J. GRAY</td>
<td>Instructor and Department Chair, Building Trades</td>
<td>2017</td>
<td>AS - Pennsylvania College of Technology</td>
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<tr>
<td>DANIELLE GREEN</td>
<td>Associate Professor, Business</td>
<td>2011</td>
<td>AAS, BBA - SUNY College of Technology at Alfred</td>
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<tr>
<td>ANTOINETTE GRESS</td>
<td>Area Coordinator, Residence Hall Director</td>
<td>2021</td>
<td>BS - SUNY College of Technology at Alfred</td>
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<tr>
<td>CASEY GROSS</td>
<td>Associate Dean, Judicial Affairs</td>
<td>2000</td>
<td>BA - SUNY Fredonia</td>
<td></td>
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<tr>
<td>JENNIFER GUTHRIE</td>
<td>Instructional Support Technician, Nursing</td>
<td>2016</td>
<td>AA - Jamestown Community College</td>
<td></td>
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<tr>
<td>ABIGAIL GWISE</td>
<td>Assistant Professor, Nursing</td>
<td>2022</td>
<td>BSN, DNP - SUNY College At Buffalo</td>
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<td><strong>CHAD HAFER</strong></td>
<td>(2022) - Senior Staff Assistant, Business Affairs</td>
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<tr>
<td><strong>ROBERT HALEY</strong></td>
<td>(2004) - Staff Associate, Facilities Services</td>
<td></td>
<td>AAS - SUNY College of Technology at Alfred</td>
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<tr>
<td><strong>ROBERT HARRMS</strong></td>
<td>(2022) - Instructor, Building Trades</td>
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<tr>
<td><strong>ROBIN HARRINGTON</strong></td>
<td>(1990) - Senior Financial Aid Adviser, Student Records and Financial Services</td>
<td></td>
<td>BA - St. Bonaventure University</td>
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<tr>
<td><strong>BRANDON G. HARRISON</strong></td>
<td>(2019) - Assistant Professor, Business</td>
<td></td>
<td>BS - St. John Fisher College</td>
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<tr>
<td><strong>ROBERT HARMS</strong></td>
<td>(2022) - Instructor, Building Trades</td>
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<tr>
<td><strong>ANTHONY HARVEY</strong></td>
<td>(2021) - Senior Staff Assistant, Business Affairs</td>
<td></td>
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<tr>
<td><strong>ROBIN HARRINGTON</strong></td>
<td>(2013) - Coordinator of Opportunity Programs, Student Success Center</td>
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<tr>
<td><strong>TIMOTHY HAUBER</strong></td>
<td>(2011) - Network Technician, Technology Services</td>
<td></td>
<td>AAS - Corning Community College</td>
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<tr>
<td><strong>LYNN HAYES</strong></td>
<td>(2021) - Mathematics Support Specialist, Student Success Center</td>
<td></td>
<td>BA, MEd - SUNY College at Geneseo</td>
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<tr>
<td><strong>JEFFREY B. HELLWIG</strong></td>
<td>(1998) - Associate Professor, Electrical, Machine Tool, and Welding Technology</td>
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<td>Diploma in Machine Tool Technology - Rochester Institute of Technology</td>
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<tr>
<td><strong>DANIEL HELVESTON</strong></td>
<td>(2022) - Instructor, Building Trades</td>
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<tr>
<td><strong>JOSEPH R. HISTED</strong></td>
<td>(2017) - University Police Officer I</td>
<td></td>
<td>BS - SUNY College at Brockport</td>
<td></td>
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</tr>
<tr>
<td><strong>TARA HISTED, RN, MSN</strong></td>
<td>(2017) - Assistant Professor, Nursing</td>
<td></td>
<td>BS - SUNY College at Brockport</td>
<td></td>
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<tr>
<td><strong>ALEXANDRA C. HOFFMAN</strong></td>
<td>(2017) - Senior Assistant Librarian, Hinkle Library</td>
<td></td>
<td>BA - California State University</td>
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<tr>
<td><strong>KEVIN HOFFMAN</strong></td>
<td>(2022) - Assistant Professor, Architecture and Design</td>
<td></td>
<td>BA/Arch - New Jersey Institute Of Technology Architecture</td>
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<tr>
<td><strong>MATTHEW HOLLIS</strong></td>
<td>(2022) - Senior Academic Advisor, Student Success Center</td>
<td></td>
<td>BA - Washington College</td>
<td></td>
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<tr>
<td><strong>C. DAVID HOLMES</strong></td>
<td>(2005) - Senior Staff Assistant, Technology Services</td>
<td></td>
<td>AOS - SUNY College of Technology at Alfred</td>
<td></td>
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<tr>
<td><strong>ANNE HOLMOK</strong></td>
<td>(2007) - Head Coach, Athletics</td>
<td></td>
<td>BA - Alfred University</td>
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<tr>
<td><strong>KIMBERLY HOWARD</strong></td>
<td>(2020) - Assistant Professor, Nursing</td>
<td></td>
<td>BS - Alfred University</td>
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<tr>
<td><strong>GUY HUGHSON</strong></td>
<td>(2018) - Assistant Professor, Electrical, Machine Tool, and Welding Technology</td>
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<td>AAS - Monroe Community College</td>
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<tr>
<td><strong>DAVID HUNT</strong></td>
<td>(1997) - Associate Professor, Mechanical and Electrical Engineering Technology</td>
<td></td>
<td>BS - SUNY College of Technology at Alfred</td>
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<tr>
<td><strong>JESSICA HUTCHISON</strong></td>
<td>(2010) - Assistant Professor, Agriculture and Veterinary Technology</td>
<td></td>
<td>BS - York College Pennsylvania</td>
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<tr>
<td><strong>MARY HYATT</strong></td>
<td>(2021) - Assistant Registrar, Student Records &amp; Financial Service</td>
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<td>BS - York College Pennsylvania</td>
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<tr>
<td><strong>DR. GERALD IANOVICI</strong></td>
<td>(2014) - Assistant Professor, English and Humanities</td>
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<td>BA - New York University</td>
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<td>MA, PhD - University of Kentucky</td>
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<tr>
<td>BRIDGET JACOBS</td>
<td>Coordinator of Assessment, Accreditation and Program Planning, Institutional Research</td>
<td>2019</td>
<td>SUNY at Albany</td>
<td>BA - SUNY at Albany, MA - Radford University, PhD - University of Louisiana at Lafayette</td>
<td></td>
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<tr>
<td>DANIEL JARDINE</td>
<td>Director of Institutional Research, Planning and Effectiveness, Institutional Research</td>
<td>2015</td>
<td>St. Bonaventure University</td>
<td>MA - SUNY College at Binghampton</td>
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<tr>
<td>NICHOLE JOHNSON</td>
<td>Mental Health Counselor, Health and Wellness</td>
<td>2022</td>
<td>SUNY, Alfred University</td>
<td>BA, MS - Alfred University</td>
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<tr>
<td>R. JACK JONES</td>
<td>Associate Professor and Department Chair, Building Trades</td>
<td>2019</td>
<td>Mansfield University</td>
<td>BA - Mansfield University</td>
<td></td>
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<tr>
<td>MEGAN JONES</td>
<td>Residence Hall Director, Residential Services</td>
<td>2022</td>
<td>Alfred University</td>
<td>BA - Alfred University</td>
<td></td>
</tr>
<tr>
<td>JEREMY JOSEPH</td>
<td>Assistant Professor, Electrical, Machine Tool, and Welding Technology</td>
<td>2014</td>
<td>SUNY College of Technology at Alfred</td>
<td>ADS - SUNY College of Technology at Alfred</td>
<td></td>
</tr>
<tr>
<td>RONALD KEENEY</td>
<td>Assistant Professor, Computer and Information Technology</td>
<td>2016</td>
<td>SUNY College at Buffalo</td>
<td>BS - SUNY College at Buffalo, MEd - Edinboro University of Pennsylvania</td>
<td></td>
</tr>
<tr>
<td>JASON S. KELLOGG</td>
<td>Assistant Professor, Automotive Trades</td>
<td>2017</td>
<td>SUNY College of Technology at Alfred</td>
<td>AAS - Monroe Community College</td>
<td></td>
</tr>
<tr>
<td>KAREN KELLY</td>
<td>Assistant Professor, Mathematics and Physics</td>
<td>2008</td>
<td>Cornell University</td>
<td>MA - Cornell University</td>
<td></td>
</tr>
<tr>
<td>DR. DAVID KENDALL</td>
<td>Associate Professor, Mathematics and Physics</td>
<td>2004</td>
<td>Lamar University, Rice University, University of Massachusetts</td>
<td>BS - Lamar University, MS - Rice University, PhD - University of Massachusetts</td>
<td></td>
</tr>
<tr>
<td>LAURA KERNAN</td>
<td>Associate Registrar, Student Records and Financial Services</td>
<td>2009</td>
<td>SUNY College at Oswego</td>
<td>BS - SUNY College at Oswego</td>
<td></td>
</tr>
<tr>
<td>STEPHEN KIELAR</td>
<td>Instructor, Electrical, Machine Tool, and Welding Technology</td>
<td>2007</td>
<td>SUNY College of Technology at Alfred</td>
<td>AOS - SUNY College of Technology at Alfred</td>
<td></td>
</tr>
<tr>
<td>DR. ISAAC S. KLINGENSCHMIT</td>
<td>Assistant Professor, Physical and Life Sciences</td>
<td>2019</td>
<td>Alfred University</td>
<td>BA - Alfred University</td>
<td></td>
</tr>
<tr>
<td>ANGELA KOSKOFF</td>
<td>Personnel Assistant, Human Resources and CCET</td>
<td>2021</td>
<td>Bryant University, University of Maine</td>
<td>BBA - Bryant University, MEd - University of Maine</td>
<td></td>
</tr>
<tr>
<td>DR. MATTHEW LAWRENCE</td>
<td>Professor, Mechanical and Electrical Engineering Technology</td>
<td>2007</td>
<td>SUNY College of Technology at Alfred</td>
<td>BS, MS, PhD - Penn State University, SUNY Chancellor's Award for Excellence in Teaching, 2018-19</td>
<td></td>
</tr>
<tr>
<td>JOHN LEWIS</td>
<td>Associate Director, Admissions</td>
<td>2022</td>
<td>Alfred University</td>
<td>MSED - Alfred University</td>
<td></td>
</tr>
</tbody>
</table>
COLLEGE FACULTY AND STAFF

DR. KATHRYN LINK (2008) - Associate Professor and Department Chair, Physical and Life Sciences
PhD - University of Manitoba

SCOTT Linn (2018) - Executive Head Football Coach, Athletics
BA - Albion College
MSE - Alfred University

JESSICA LIPPA (2015) - Associate Professor and Department Co-Chair, Nursing
BS - SUNY College at Brockport
BS - University of Rochester
MS - St. John Fisher College
SUNY Chancellor’s Award for Excellence in Teaching, 2019-20

CHRISTINA LOPER (1991) - Manager, Cash Operations, Auxiliary Campus Enterprises and Services
AOS - SUNY College of Technology at Alfred

GREGORY MARK (2018) - University Police Officer 1, University Police

KRISTI MARLATT (2007) - Senior Staff Assistant, Institutional Assistant
MA - Alfred University

JOSEPH MARTIN (2021) - Academic Advisement Assistant, Student Success Center
BS - SUNY College Of Technology At Alfred
BA - SUNY At Buffalo

PATRICIA MARTIRE (2013) - Instructional Support Assistant, Library Services
MS, MLS - Alfred University

ERICA S. MATTESON (2009) - Assistant Professor, Allied Health
BPS - SUNY Polytechnic Institute
MS - SUNY College at Oswego

DR. TRAVIS W. MATTESON (2018) - Assistant Professor and Department Chair, English and Humanities
BA - Indiana Wesleyan University
MA - St. Bonaventure University
PhD - SUNY University at Buffalo

CALISTA A. MCBRIDE (2002) - Professor and Department Chair, English and Humanities
BA, MA - Kansas State University
SUNY Chancellor’s Award for Excellence in Teaching, 2006-07

ANNA MCCARTHY (2018) - Assistant Professor, Business
BS - SUNY at Binghamton
MS - University of Denver

MICHELLE McCARTHY (2015) - Director, Procurement and Payment Services, Business Affairs
AAS - SUNY College of Technology at Alfred
BBA - St. Bonaventure University

PETER MCCLENDON (2005) - Director of Sponsored Programs, Business Affairs
BA - Alfred University
MBA - SUNY Empire State College

WILLIAM MCCLENDON (2022) - Instructional Support Assistant, Mechanical & Electrical Engineering Technology
AS - SUNY College Of Technology At Alfred

ANNE MCCORMICK (2015) - Assistant Professor, Nursing
BSN - Nevada State College at Henderson
MHA - University of Phoenix

SEAN MCDONOUGH (1993) - General Manager, Campus Stores, Auxiliary Campus Enterprises and Services
AS - SUNY College of Technology at Alfred
BS - University at Buffalo

TODD MCDOWELL (2019) - Assistant Professor, Electrical, Machine Tool, and Welding Technology
AOS - SUNY College of Technology at Alfred

JAMES MCGEE (2021) - Assistant Professor, Business
BA - Saint Bonaventure University
MS - Iona College
JD - Western New England College
MA - Teachers College, Columbia University

LUKE MCDONOUGH (2011) - Assistant Professor, Automotive Trades
AOS - SUNY College of Technology at Alfred

KATLIN MEEHAN (2018) - Student Records & Financial Services Specialist, Student Records & Financial Service
BS - SUNY College of Technology at Alfred

LYNDA MERRING (2014) - Nurse 2, Health & Wellness Services
AS - SUNY College of Technology at Alfred

GEORGE J. MERRY (2009) - Assistant Professor, Electrical, Machine Tool, and Welding Technology

JESSICA MIDDENAUGH (2022) - University Police Officer 1, University Police
AS - Jamestown Community College
COLLEGE FACULTY AND STAFF

REBECCA MILLINER (2018) - Assistant Professor, Culinary Arts
AOS - SUNY College of Technology at Alfred

ATOSA MOAYEDI (2018) - Institutional Research and Planning Assistant, Institutional Research
BA - Tehran Polytechnic
MEd - Universiti Teknologi Malaysia

CHARLES V. NEAL (1977) - Professor, Business
AAS - SUNY College of Technology at Alfred
BS - University at Buffalo
MBA - St. Bonaventure University
SUNY Chancellor’s Award for Excellence in Teaching, 2001-02

ANDREW NELSON (2000) - Staff Assistant, Marketing Communications
AS - Massachusetts Communications College
BS - SUNY College of Technology at Alfred

LAWRENCE NEUBERGER (2002) - Associate Professor and Department Chair, Digital Media and Animation
BFA - Kutztown University
MFA - Rochester Institute of Technology

JON NICKERSON (2016) - Director of Facilities, Facilities Services
AAS, BS - SUNY College of Technology at Alfred

BRON NORESTHEPORN (2000) - Manager, Special Events Operation, Auxiliary Campus Enterprises and Services
BS - Alfred University

DANIEL B. NOYES (1987) - Associate Professor, Electrical, Machine Tool, and Welding Technology
AAS - Jamestown Community College
AS - Community College of Air Force
Certified National VUE Test Administrator; International Certified Electronic Technician
SUNY Chancellor’s Award for Excellence in Teaching, 1998-99

ASHLEY O’BRIEN (2017) - Senior Counselor, Health and Wellness Services
BS - Nazareth College
ME - Alfred University

DANYELLE O’BRIEN (2015) - Director of Online Learning, Center for Online Learning
BS, MS - Niagara University

SCOTT O’CONNOR (2011) - Associate Professor, Computer and Information Technology
BS, MS - Clarkson University

KELLIE O’DELL (2019) - Instructional Support Assistant, Allied Health
AAS - SUNY College of Technology at Alfred

DR. REX OLSON (2001) - Associate Professor, Social and Behavioral Sciences
BA - University of California
MA, MPhil, PhD - Syracuse University
MA, PhD - Duquesne University

BRIAN ORBAKER (2020) - Lecturer, Electrical, Machine Tool & Welding Technology
BS - SUNY College at Buffalo

LYNN ORTON (2021) - Academic Advisement Assistant, Office of Student and Faculty Development
BS - Daemen College
MA - University Of Phoenix

ROBERT ORTON (2019) - Student Records and Financial Services Specialist, Student Records & Financial Services
AAS, BBA - SUNY College of Technology at Alfred

JAIME L. PALMATIER (2007) - Staff Assistant, Health and Wellness Services
AAS - SUNY College of Technology at Alfred

HARALAMBOS PAPALOUIZOS (2020) - Senior Staff assistant, Athletics
BBUS - SUNY College Of Technology At Alfred

ALEXE PASK (2012) - Senior Staff Assistant/Head Athletic Trainer, Athletics
BS, MS - Daemen College

JEREMY PELT (2021) - Assistant Professor, Digital Media & Animation
BS - University of North Carolina at Asheville
MFA - University of Chicago

MARY PERKINS (2021) - Assistant to Director 13, Institutional Advancement
BA - Arizona State University

JAMES PIAZZA (2019) - Lecturer, Electrical, Machine Tool & Welding Technology
AA - Erie Community College

MICHAEL PIERCE (2018) - Instructor, Electrical, Machine Tool and Welding Technology

AARON POTTER (2022) - Instructor, Building Trades
AOS - SUNY College Of Technology At Alfred

NICHOLE PRESTON (2006) - Instructional Support Associate, Physical and Life Sciences
AAS - SUNY College of Technology at Alfred
KYLE PUTNAM (2018) - Coordinator of Campus Recreation, Student Engagement
BA - Marist College
MS - SUNY College at Cortland

MICHAEL J. PUTNAM (1998) - Professor, Physical and Life Sciences
AAS - SUNY College of Technology at Alfred
BS, MS - University at Buffalo
SUNY Chancellor’s Award for Excellence in Teaching, 2003-04

STEVEN J. QUAGLIATO (1993) - Associate Professor, Mathematics and Physics
BS - University of Massachusetts
MS - University of Rhode Island

CARL H. RAHR, JR. (1998) - Associate Director of Computing Services, Technology Services
AAS - SUNY College of Technology at Alfred
BA - SUNY Geneseo
SUNY Chancellor’s Award for Excellence in Professional Service, 2004-05

ALLEN RAISH (2004) - Associate Professor, Mathematics and Physics
BA - Alfred University
MAT - Binghamton University

TODD RANDALL (2021) - Head Softball Coach, Athletics
BA - Saint Bonaventure University

RICK R. RICHARDS (1994) - Instructional Support Technician, Instructional Technologies

BRUCE RILEY (2016) - Staff Assistant, School of Architecture, Management and Engineering Technology
AA, BS - Cazenovia College
MS - College Misericordia

SHANE ROUSH (2021) - Network/Telecom Technician, Technology Services
BS - University of Pittsburgh-Bradford

ANTHONY RUDOLPH (2017) - Slate Coordinator, Admissions
BS - Medaille College

KYLAN SATTLER (2021) - Assistant Professor, Graphic Media & Design
AAS - Fashion Institute of Technology
BS - Mansfield University
MFA - Vermont College of Fine Arts

DONALD SCHRADER (2018) - Assistant Director of College Housing, Residential Services
AA, BS - SUNY College of Technology at Alfred

PAUL SCHROEDER (2023) - Director of Construction, Business Affairs
BARCH - SUNY College of Technology at Alfred

DR. PHILIP SCHROEDER (2010) - Professor and Department Chair, Agriculture and Veterinary Technology
PhD - University of Georgia

PAUL SCHROEDER (2023) - Director of Construction, Business Affairs
BARCH - SUNY College of Technology at Alfred

DR. PHILIP SCHROEDER (2010) - Professor and Department Chair, Agriculture and Veterinary Technology
PhD - University of Georgia
WILLIAM H. SCHULTZE (1997) - Senior Staff Assistant, Instructional Technologies  
BS - Alfred University

BROOKE SCIANNA (2021) - Coordinator of Campus Recreation, Student Engagement  
AAS, BBA - SUNY College of Technology at Alfred

KEVIN E. SCOTT (2018) - Assistant Professor, Culinary Arts  
AOS - SUNY College of Technology at Alfred

DR. ASHLEY SHALOO (2016) - Assistant Professor, Physical and Life Sciences  
BS - Georgian Court University  
PhD - Uniformed Services University of Health Science

STEPHEN SHAW (2022) - Senior Staff Assistant, Marketing Communications  
BA - SUNY College At Brockport

MAUREEN SIBLE (2002) - Director of Career Planning & Development, Career Development  
BS - The College at Brockport  
MSED - Alfred University

JUSTIN M. SIGNORELLI (2019) - Head Wrestling Coach, Athletics  
BA - SUNY College at Cortland  
MS - Western New England College

AMANDA SILVA (2019) - Assistant Professor, Social and Behavioral Sciences  
BS, PhD - Marywood University  
MA - University of New Haven  
MLitt - Drew University

TARA SLEEMAN (2022) - Instructional Support Assistant, College Farm

ANDREW B. SMITH (2017) - Instructor, Automotive Trades  
AAS - Farmingdale State University of New York

BRADLEY SMITH (2017) - Assistant Professor, Automotive Trades  
AOS - SUNY College of Technology at Alfred

BROOK SMITH (2017) - Assistant Director, Admissions  
BBA - SUNY College of Technology at Alfred  
MA - SUNY at Stony Brook

JILL SMITH (2022) - Assistant Professor, Business  
BA - University Of Pittsburgh  
MBA, MA - Saint Bonaventure University

MEGHAN SMITH (2021) - Assistant Professor, Agriculture & Veterinary Technology  
BA - Alfred University  
AAS - Alfred State College

PATRICK SMITH (2011) - Assistant Director of College Housing, Residential Services  
BA - SUNY College of Technology at Alfred  
MPA - SUNY College at Brockport

RACHEL SMITH (2011) - Instructional Support Assistant-Herdsperson, College Farm  
AAS - SUNY College of Technology at Alfred

LORI SMITHEY (2022) - Assistant Professor, Architecture and Design  
BArch - Cooper Union For The Advancement  
MS - University Of Washington-Seattle Campus  
PhD - University Of Michigan-Ann Arbor

CHRISTOPHER M. STABA (1997) - Professor, Automotive Trades  
AOS - SUNY College of Technology at Alfred  
VTE - Buffalo State College

FRANCINE D. STABA (1994) - Associate Professor, Business  
BS - Bloomsburg University  
MBA - Alfred University

JANICE L. STAFFORD (2002) - Associate Professor, English and Humanities  
MA - Ohio State University

CHRISTOPHER STAMPONE (2022) - Assistant Professor, English & Humanities  
BA - SUNY College at Buffalo  
MA - Brock University  
PhD - Southern Methodist University

CHRISTINA STANKEWICZ (2017) - Assistant Librarian, Hinkle Library  
BA - St. Bonaventure University  
MS - St. John's University

DR. NICHOLAS STEFANSKI (2019) - Assistant Professor, English and Humanities  
BA - University of North Carolina at Chapel Hill  
JD - University of Connecticut  
MA - University of Pittsburgh  
PhD - University of Pittsburgh
Cristin Stewart (2017) - Assistant Director of Procurement and Payment Services, Business Affairs
BS - Houghton College

Paul Stewart (2016) - Instructional Support Assistant, Electrical, Machine Tool, and Welding Technology
BS - University of Phoenix

Rebecca M. Straub (2017) - Assistant Athletic Trainer, Athletics
BS, MA - Gannon University

Craig Sturvedant (2000) - Telecommunications Manager, Auxiliary Campus Enterprises and Services
AOS - SUNY College of Technology at Alfred

Maryam Tabatabaei (2023) - Assistant Professor, Civil Engineering Technology
PhD - Sharif University of Technology

Brett H. Talbot (2015) - Associate Director of Admissions, Admissions
AAS - SUNY College of Technology at Alfred
BSEd - Mansfield University
MSEd - Alfred University

Cory Thomas (2021) - University Police Officer 1, University Police
BA - SUNY College at Geneseo

Zeda Thomas (2020) - Lead Programmer, Technology Services
BA - Alfred University

Bradley J. Thompson (1997) - Assistant Professor and Department Chair, Electrical, Machine Tool, and Welding Technology
AOS - SUNY College of Technology at Alfred

Ethan Thomson (2022) - Head Coach, Lacrosse Coach, Athletics
AS - Mohawk Valley Community College
BA - Lees-McRae College
MS - Southern New Hampshire University

Jennie Thwing (2021) - Associate Professor, Digital Media & Animation
BFA - Tyler School of Art
MFA - University of Maryland

W. Scott Tilley (2017) - Technology Support Manager, Technology Services
BS - SUNY College of Technology at Alfred

Donald Tindel (2022) - Instructor, Building Trades

Bryan Toepfer (2020) - Assistant Professor, Architecture and Design
BS - SUNY College of Technology at Alfred
MArch - University Of Massachusetts-Amherst

Robin L. Torpey (1991) - Associate Professor, Computer and Information Technology
AAS - Community College of the Air Force
AS - Park College
BS - SUNY Empire State College
MLS - University at Buffalo
A+, Network+, CCNA, CCAI

Theresa Toth-Fleischman (2018) - Nurse 1, Health and Wellness Services
AAS - SUNY College of Technology at Alfred

Erika Tracy (2019) - Senior Staff Assistant, Health and Wellness Services
BS - Cazenovia College

Christopher Tremper (2017) - Instructor, Automotive Trades
AAS - SUNY College of Technology at Alfred

Jennifer Trice (2022) - Staff Assistant, School of Arts & Sciences
AA - SUNY College Of Technology At Alfred
BA - Syracuse University
MS - SUNY College At Buffalo

Robert Trimble (2021) - Instructional Support Assistant, Building Trades

Libby Tsibulsky (2013) - Counselor, Health and Wellness Services
BA, MS - Alfred University

Kevin Tucker (2014) - Instructional Support Associate, Architecture and Design
BA - University at Buffalo

Jennifer Updike (2022) - Assistant Professor & DMS Program Director, Allied Health
BS - Rochester Institute of Technology

Peter Van Tyne (2016) - Staff Assistant/Print Systems Technician, Print and Mail Services
BA - Alfred University

Jane A. Vavala (2004) - Associate Librarian, Hinkle Memorial Library
BS - University of Pittsburgh/Bradford
MLS - Clarion University
SUNY Chancellor’s Award for Excellence in Librarianship, 2012-13
CHRISTOPHER VAVREK (2016) - Instructional Support Technician, Digital Media and Animation
BFA - Arizona State University
MFA - California State University at Long Beach

CHRISTIAN A. VERNAM (2008) - Associate Director of Financial Aid, Student Records and Financial Services
BS - The College at Brockport

ANGEL VICTORINO GARO (2020) - Residence Hall Director, Residential Services
ABA, BBA - SUNY College of Technology at Alfred

ERIN VITALE (2001) - Professor and Department Chair, Civil Engineering Technology
BS - University of California, Riverside
MSCE - Stanford University

ALAN H. VLAKANCIC (2019) - Assistant Professor and Co-Chair, Architecture and Design
BA - SUNY Buffalo
MS - Pratt Institute

DR. NICHOLAS WADDY (2002) - Associate Professor, Social and Behavioral Sciences
BA - Washington and Lee University
PhD - University of Rochester

SCOTT WALDEIS (2003) - Lecturer, Physical and Life Sciences
AS - Finger Lakes Community College
BS - SUNY Empire State College
MS - University of Bridgeport
DC - New York Chiropractic College

KEVIN WALSH (2018) - Computer Technician, Technology Services
AAS - SUNY College of Technology at Alfred
AOS - SUNY College of Technology at Alfred
BT - SUNY College of Technology at Alfred

TERRENCE WARD (2018) - Assistant Professor, Mathematics and Physics
BS, MS - Southern Illinois University Edwardsville

LEE WASCHER (2020) - Area Coordinator for Residential Services, Residential Services
BA, MSEd - Alfred University

PAUL WELKER (2001) - Community Relations Associate, Marketing Communications
AS - Finger Lakes Community College
BA - Mercyhurst College

AMY L. WERNER (2006) - Instructional Support Technician, Physical and Life Sciences
AAS - SUNY College of Technology at Alfred

JASON WHITE (1998) - Transfer Adviser, Student Records and Financial Services
BS - LeMoyne College

SIMON WHITEHOUSE (2008) - Assistant Professor and Department Chair, Mathematics and Physics
MA - University at Buffalo

DR. MARK WHITMAN (2013) - Associate Professor, Social and Behavioral Sciences
BAS - Florida Atlantic University
MPS - Alfred University
PhD - Capella University

MATTHEW B. WHITNEY (2017) - University Police Officer I, University Police
AAS - Genesee Community College

RICHARD WHITNEY (2022) - Nurse 1, Health and Wellness
BSN - Daemen College

JEFFREY WILCOX (2011) - Chief of Police, University Police
BS - SUNY Brockport

MATTHEW WILKINSON (2023) - Programmer-Analyst, Technology Services
AS - Genesee Community College

JOY WILLIAMS (2020) - Grants Coordinator, Institutional Research
BA - Amherst College
MA - Columbia University

ANDREA WILLIAMSON (2018) - Assistant Professor, Agriculture and Veterinary Technology
BA - Alfred University
DVM - Cornell University

BREANNA WILLSON (2021) - Assistant Professor, Nursing
AAS - SUNY College of Technology at Alfred
RN to BS - Roberts Wesleyan College
MS - Roberts Wesleyan College

BREANNA WILLSON (2018) - Assistant Professor, Nursing
ADN - SUNY College Of Technology At Alfred
BS, MS - Roberts Wesleyan College

ERIC WILMOT (2005) - Assistant Professor and Department Chair, Automotive Trades
AOS - SUNY College of Technology at Alfred
EMMA WOLF (2019) - Counselor, Health & Wellness Services
BFA - Keuka College
MEd - Alfred University

PATRICK WOODWORTH (2004) - Computer Specialist, Technology Services
BS - SUNY College of Technology at Alfred

DANIEL WOOLSTON (2014) - Staff Associate/Assistant Director, Health and Wellness Services
AAS - SUNY College of Technology at Alfred

DR. M. REZA YADOLLAHI (2018) - Assistant Professor, Civil Engineering Technology
PhD - University of Technology Malaysia

DR. CHOICHIRO YATANI (1991) - Professor, Social and Behavioral Sciences
BS - Utah State University
MA - Oregon State University
PhD - Stony Brook University

MANDY YORK (2017) - Financial Analyst, Business Affairs
BA - University of Kentucky

BRITTANY J. YOUNG (2017) - Certification Officer, Student Records and Financial Services
BS - SUNY College of Technology at Alfred

HOLLY YOUNG (2021) - Associate Professor, Physical & Life Sciences
BS - University of North Carolina
MS, PhD - Pennsylvania State University

KATHY YOUNG (2018) - Associate Professor and Department Chair, Allied Health
BS - Upstate Medical University
MHA - Ohio University

JENNA K. ZETWICK (2019) - Assistant Professor, Allied Health
BS - University of Pittsburgh
MHA - Utica College
President's Council

DR. STEVEN MAURO (2022) - President
BS - SUNY at Buffalo
PhD - SUNY at Buffalo

DR. KATHLEEN CASEY (1993) - Associate Vice President, Academic Services and Interim Dean
PhD - SUNY at Buffalo

TRISH HAGGERTY (2015) - Executive Assistant to the President, Office of the President
BA - SUNY College At Geneseo

DR. CRAIG R. CLARK (1989) - Vice President for Economic Development & Interim Vice President for Academic Affairs
AS - Jamestown Community College
BS - University of Colorado
MS, PhD - North Carolina State University

Maria Bordeaux (2005) – Director, Office of Human Resources
AAS - SUNY College of Technology at Alfred

Jon Nickerson (2016) - Director, Facilities Services
AAS, BS - SUNY College of Technology at Alfred

Mike Case (2002) - Director, Technology Services
BEng - Rochester Institute Of Technology Mechanical Engineering

RUSSELL NUNLEY (2016) - Chief Marketing Officer, Marketing Communications
BS - The University Of Tennesse
MS - Southeastern Oklahoma State University

SPENCER PEAVEY (2006) - Assistant Vice President for Student Affairs, Student Engagement
BA - University of Massachusetts at Lowell
MSEd - St. Bonaventure University

BETSY PENROSE (2018) - Vice President for Enrollment Management
BS - Pennsylvania State University
MS - University of Southern California

DR. JOSEPH PETRICK (2000) - Director, Library Services & Faculty Senate Representative
MLS - Clarion University of Pennsylvania
PhD - SUNY at Buffalo

MATTHEW RYAN (2002) - Chief Diversity Officer/Title IX
BS - SUNY at Cortland
MPA - SUNY at Brockport

DR. GREG SAMMONS (1996) - Vice President for Student Affairs
AAS - Finger Lakes Community College
BS - Houghton College
MSC - Norwich University
DEd - Northeastern University
SUNY Chancellor’s Award for Excellence in Professional Service, 2011-12

TIMOTHY SORTORE (2019) - Vice President for Finance and Administration
BA - SUNY at Buffalo
MBA - University of Rochester

JEFFREY S. STEVENS (2002) - Dean, School of Applied Technology
AOS, AOS - SUNY College of Technology at Alfred
BS - SUNY Empire State College
SUNY Chancellor’s Award for Excellence in Faculty Service, 2011-12

DANIELLE M. WHITE (2009) - Vice President of Institutional Advancement
MBA - University of Phoenix

DR. JOHN C. WILLIAMS (2002) - Dean, School of Architecture, Management and Engineering Technology
BS, MS, PhD - Clarkson University