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 TELEPHONE DIRECTORY

### 1-800-4-ALFRED (425-3733)

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<td>ACES</td>
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<td>Admissions</td>
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<td>Alumni</td>
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<td>Athletics</td>
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<td>Burdock Hall</td>
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<td>Campus Store (Alfred Campus)</td>
<td>607-587-4020</td>
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<tr>
<td>Campus Store (Wellsville Campus)</td>
<td>585-593-6270, ext. 3159 or 607-587-3159</td>
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<td>Career Development</td>
<td>607-587-4060</td>
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## ACADEMIC DEPARTMENT DIRECTORY

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<td>PRINCIPLES &amp; VALUES OF COMMUNITY....................................</td>
<td>7</td>
</tr>
<tr>
<td>STATE UNIVERSITY OF NEW YORK.........................................</td>
<td>7</td>
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<tr>
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<td>7</td>
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<tr>
<td>ADMISSION TO ALFRED STATE..............................................</td>
<td>10</td>
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</tr>
<tr>
<td>INTERNATIONAL STUDENTS................................................</td>
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</tr>
<tr>
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<tr>
<td>HOME-SCHOoled STUDENTS..................................................</td>
<td>10</td>
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<td>TRANSFER AGREEMENTS.....................................................</td>
<td>11</td>
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<td>JOINT ADMISSIONS...........................................................</td>
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<td>ACCESS-VR (FORMERLY VESID)..............................................</td>
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<td>CONCURRENT ADMISSIONS PROGRAM (CON AP)................................</td>
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<td>EX-OFFENDERS/DISCIPLINARY APPLICANTS...............................</td>
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<td>ADMISSION REQUIREMENTS................................................</td>
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</tr>
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<td>OTHER TRANSFER PROGRAM................................................</td>
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<td>17</td>
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<td>SUMMER SCHOOL/WINTER SESSION..........................................</td>
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</tr>
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<td>COOPERATIVE COLLEGE-LEVEL PROGRAM FOR HIGH SCHOOL STUDENTS...</td>
<td>17</td>
</tr>
<tr>
<td>NONCREDIT ON/OFF CAMPUS COURSES.....................................</td>
<td>17</td>
</tr>
<tr>
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</tr>
<tr>
<td>CLEP.................................................................</td>
<td>17</td>
</tr>
<tr>
<td>BUSINESS/INDUSTRY PROGRAMS..............................................</td>
<td>17</td>
</tr>
<tr>
<td>FINANCIAL INFORMATION....................................................</td>
<td>18</td>
</tr>
<tr>
<td>COLLEGE COSTS...............................................................</td>
<td>18</td>
</tr>
<tr>
<td>PART-TIME STUDENTS........................................................</td>
<td>19</td>
</tr>
<tr>
<td>EXPLANATION OF FEES &amp; PAYMENT OPTIONS................................</td>
<td>19</td>
</tr>
<tr>
<td>PAYMENT OPTIONS...........................................................</td>
<td>20</td>
</tr>
<tr>
<td>STUDENT CONSUMER INFORMATION.........................................</td>
<td>20</td>
</tr>
<tr>
<td>RETURN OF TITLE IV FUNDS................................................</td>
<td>21</td>
</tr>
<tr>
<td>ADJUSTMENTS TO BILL......................................................</td>
<td>21</td>
</tr>
<tr>
<td>FINANCIAL AID...............................................................</td>
<td>21</td>
</tr>
<tr>
<td>SCHOLARSHIPS AVAILABLE AT ALFRED STATE............................</td>
<td>23</td>
</tr>
<tr>
<td>STUDENT AFFAIRS............................................................</td>
<td>28</td>
</tr>
<tr>
<td>CAREER DEVELOPMENT.......................................................</td>
<td>28</td>
</tr>
<tr>
<td>STUDENT DISABILITY SERVICES............................................</td>
<td>28</td>
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<tr>
<td>CENTER FOR EQUITY, INCLUSION AND TITLE IX........................</td>
<td>28</td>
</tr>
<tr>
<td>HEALTH AND WELLNESS SERVICES..........................................</td>
<td>28</td>
</tr>
<tr>
<td>CAMPUS SHUTTLE SERVICE..................................................</td>
<td>28</td>
</tr>
<tr>
<td>STUDENT/VISITOR MOTOR VEHICLES.......................................</td>
<td>28</td>
</tr>
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<td>UNIVERSITY POLICE.........................................................</td>
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</tr>
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</tr>
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<td>30</td>
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</tr>
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<td>31</td>
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<td>32</td>
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</tr>
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<td>34</td>
</tr>
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<td>ACADEMIC MINORS............................................................</td>
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</tr>
<tr>
<td>EMPLOYMENT AND CONTINUING EDUCATION................................</td>
<td>34</td>
</tr>
<tr>
<td>CROSS-REGISTRATION.......................................................</td>
<td>34</td>
</tr>
<tr>
<td>COURSE CANCELLATION POLICY............................................</td>
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</tr>
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<td>STUDENT'S UNABLE TO ATTEND CLASSES..................................</td>
<td>35</td>
</tr>
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<td>LEAVE OF ABSENCE POLICIES..............................................</td>
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<td>ADD/DROP.................................................................</td>
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</tr>
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<td>36</td>
</tr>
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<td>36</td>
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<td>DEPARTMENT</td>
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<tr>
<td>---------------------------------------------------------------------------</td>
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</tr>
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<td>AGRICULTURE &amp; VETERINARY TECHNOLOGY</td>
<td>43</td>
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<td>44</td>
</tr>
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<td>ARCHITECTURE &amp; DESIGN</td>
<td>45</td>
</tr>
<tr>
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<td>46</td>
</tr>
<tr>
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<td>47</td>
</tr>
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<td>48</td>
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<td>51</td>
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<td>52</td>
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<td>57</td>
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<td>61</td>
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<td>AGRICULTURAL AUTOMATION AND ROBOTICS</td>
<td>62</td>
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<tr>
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<td>63</td>
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<td>64</td>
</tr>
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<td>ARCHITECTURAL TECHNOLOGY AAS</td>
<td>65</td>
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<tr>
<td>AUTobody REPAIR</td>
<td>66</td>
</tr>
<tr>
<td>AUTOMOTIVE SERVICE TECHNICIAN</td>
<td>67</td>
</tr>
<tr>
<td>BIOLOGICAL SCIENCE</td>
<td>68</td>
</tr>
<tr>
<td>BUILDING TRADES: BUILDING CONSTRUCTION</td>
<td>69</td>
</tr>
<tr>
<td>BUSINESS ADMINISTRATION</td>
<td>70</td>
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<tr>
<td>BUSINESS ADMINISTRATION (BBA)</td>
<td>71</td>
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<td>CODING &amp; REIMBURSEMENT SPECIALIST</td>
<td>72</td>
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<tr>
<td>COMPUTER ENGINEERING TECHNOLOGY</td>
<td>73</td>
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<td>74</td>
</tr>
<tr>
<td>COMPUTER SCIENCE</td>
<td>75</td>
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<tr>
<td>CONSTRUCTION ENGINEERING TECHNOLOGY</td>
<td>76</td>
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<tr>
<td>CONSTRUCTION MANAGEMENT</td>
<td>77</td>
</tr>
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<td>COURT AND REALTIME REPORTING</td>
<td>78</td>
</tr>
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<td>COURT REPORTING &amp; CAPTIONING</td>
<td>79</td>
</tr>
<tr>
<td>CRIMINAL JUSTICE</td>
<td>80</td>
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<tr>
<td>CRIMINAL JUSTICE</td>
<td>81</td>
</tr>
<tr>
<td>CULINARY ARTS: BAKING, PRODUCTION &amp; MANAGEMENT</td>
<td>82</td>
</tr>
<tr>
<td>CYBER SECURITY</td>
<td>83</td>
</tr>
<tr>
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<td>84</td>
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<td>85</td>
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<td>87</td>
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<td>88</td>
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<tr>
<td>FINANCIAL PLANNING</td>
<td>89</td>
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<td>FORENSIC SCIENCE TECHNOLOGY</td>
<td>90</td>
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<td>GAME &amp; INTERACTIVE DESIGN</td>
<td>91</td>
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<td>GAME &amp; INTERACTIVE DESIGN (AS)</td>
<td>92</td>
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<td>93</td>
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<td>95</td>
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<td>96</td>
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<td>HEATING, VENTILATION, AND AIR CONDITIONING</td>
<td>97</td>
</tr>
<tr>
<td>HEAVY EQUIPMENT OPERATIONS</td>
<td>98</td>
</tr>
<tr>
<td>HEAVY EQUIPMENT, TRUCK &amp; DIESEL TECHNICIAN</td>
<td>99</td>
</tr>
<tr>
<td>HUMAN SERVICES</td>
<td>100</td>
</tr>
<tr>
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<td>126</td>
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<td></td>
<td>137</td>
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<td></td>
<td>138</td>
</tr>
<tr>
<td>Course Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>------</td>
</tr>
<tr>
<td>ACCT - ACCOUNTING</td>
<td>195</td>
</tr>
<tr>
<td>AGEC - AGRICULTURE ECON/BUS</td>
<td>195</td>
</tr>
<tr>
<td>AGPS - AGRONOMY/PLANT SCIENCE</td>
<td>195</td>
</tr>
<tr>
<td>AGRI - AGRICULTURE</td>
<td>196</td>
</tr>
<tr>
<td>ANSC - ANIMAL HUSBANDRY/SCIENCE</td>
<td>196</td>
</tr>
<tr>
<td>ANTH - ANTHROPOLOGY</td>
<td>197</td>
</tr>
<tr>
<td>ARCH - ARCHITECTURE AND DESIGN</td>
<td>197</td>
</tr>
<tr>
<td>ASDC - ALFRED STU SUCCESS CENTER</td>
<td>199</td>
</tr>
<tr>
<td>AUTO - AUTOMOTIVE</td>
<td>199</td>
</tr>
<tr>
<td>BIOL - BIOLOGY</td>
<td>201</td>
</tr>
<tr>
<td>BLCT - BUILDING CONSTRUCTION</td>
<td>203</td>
</tr>
<tr>
<td>BSET - BACHELOR OF SCI ENGR TECH</td>
<td>208</td>
</tr>
<tr>
<td>BUAD - BUSINESS ADMINISTRATION</td>
<td>208</td>
</tr>
<tr>
<td>CHEM - CHEMISTRY</td>
<td>210</td>
</tr>
<tr>
<td>CISY - COMPUTER INFORM SYSTEMS</td>
<td>211</td>
</tr>
<tr>
<td>CIVL - CIVIL ENGINEERING TECH</td>
<td>214</td>
</tr>
<tr>
<td>CJUS - CRIMINAL JUSTICE</td>
<td>216</td>
</tr>
<tr>
<td>COMP - COMPOSITION</td>
<td>217</td>
</tr>
<tr>
<td>CTRP - COURT REPORTING</td>
<td>217</td>
</tr>
<tr>
<td>CULN - CULINARY ARTS</td>
<td>218</td>
</tr>
<tr>
<td>DCAD - DRAFTING/CAD</td>
<td>220</td>
</tr>
<tr>
<td>DSGN - INTERIOR DESIGN</td>
<td>221</td>
</tr>
<tr>
<td>ECON - ECONOMICS</td>
<td>222</td>
</tr>
<tr>
<td>EDUC - EDUCATION</td>
<td>223</td>
</tr>
<tr>
<td>ELET - ELECTRICAL ENG TECH</td>
<td>223</td>
</tr>
<tr>
<td>ELTR - ELECTRICAL ELECTRONICS</td>
<td>224</td>
</tr>
<tr>
<td>EMET - ELECTROMECH ENG TECH</td>
<td>225</td>
</tr>
<tr>
<td>ENGR - ENGINEERING SCIENCE</td>
<td>225</td>
</tr>
<tr>
<td>ENVR - ENVIRONMENTAL TECHNOLOGY</td>
<td>226</td>
</tr>
<tr>
<td>EPLP - EMERGING PIONR LDRSHIP PGM</td>
<td>226</td>
</tr>
<tr>
<td>FDSR - FOOD SERVICE</td>
<td>226</td>
</tr>
<tr>
<td>FILM - FILM STUDIES</td>
<td>226</td>
</tr>
<tr>
<td>FNAT - FINE ARTS</td>
<td>227</td>
</tr>
<tr>
<td>FRSC - FORENSIC SCIENCE</td>
<td>227</td>
</tr>
<tr>
<td>FSMA - FINANCIAL SERVICES MANAG</td>
<td>228</td>
</tr>
<tr>
<td>GEOL - GEOLOGY</td>
<td>229</td>
</tr>
<tr>
<td>GLST - GLOBAL STUDIES</td>
<td>229</td>
</tr>
<tr>
<td>HIST - HISTORY</td>
<td>229</td>
</tr>
<tr>
<td>HLTH - HEALTH TECHNOLOGY</td>
<td>230</td>
</tr>
<tr>
<td>HPED - HEALTH &amp; PHYSICAL EDUC</td>
<td>230</td>
</tr>
<tr>
<td>HUMN - HUMANITIES</td>
<td>231</td>
</tr>
<tr>
<td>Code</td>
<td>Program Name</td>
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<tr>
<td>------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>HUSR</td>
<td>HUMAN SERVICES</td>
</tr>
<tr>
<td>IDST</td>
<td>INTERDISCIPLINARY STUDIES</td>
</tr>
<tr>
<td>ITAL</td>
<td>ITALIAN</td>
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<tr>
<td>JAPN</td>
<td>JAPANESE</td>
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<td>LITR</td>
<td>LITERATURE</td>
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<tr>
<td>LSCM</td>
<td>LOGISTICS &amp; SUPPLY CHAIN</td>
</tr>
<tr>
<td>MATH</td>
<td>MATHEMATICS</td>
</tr>
<tr>
<td>MATT</td>
<td>MACHINE TOOL TECHNOLOGY</td>
</tr>
<tr>
<td>MECH</td>
<td>MECHANICAL ENGR TECH</td>
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<tr>
<td>MEDR</td>
<td>HEALTH INFO TECH</td>
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<tr>
<td>MKTG</td>
<td>MARKETING</td>
</tr>
<tr>
<td>MOTO</td>
<td>MOTORCYCLE/POWER SPORTS</td>
</tr>
<tr>
<td>NASC</td>
<td>NATURAL SCIENCE</td>
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<td>NURSING</td>
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<td>PHILOSOPHY</td>
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<td>PSYCHOLOGY</td>
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<td>RADILOGIC TECHNOLOGY</td>
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<td>SPORT MANAGEMENT</td>
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<td>TNGT</td>
<td>TECHNOLOGY MANAGEMENT</td>
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<td>VETERINARY TECHNOLOGY</td>
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<tr>
<td>WELD</td>
<td>WELDING</td>
</tr>
<tr>
<td>WGST</td>
<td>WOMEN AND GENDER STUDIES</td>
</tr>
<tr>
<td>FACU</td>
<td>FACULTY AND STAFF</td>
</tr>
<tr>
<td>PREB</td>
<td>PRESIDENT'S COUNCIL</td>
</tr>
<tr>
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THE COLLEGE
Located in Western New York, Alfred State College of Technology - State University of New York (SUNY) is in a vibrant community surrounded by scenic countryside. In the charming Village of Alfred, college students greatly outnumber permanent residents. This quintessential college town is 15 miles north of the Pennsylvania border, 70 miles south of Rochester, and 90 miles southeast of Buffalo.

Alfred State started as a state school of agriculture in 1908. Then in 1948 it was incorporated into the newly organized SUNY system. The college was authorized by SUNY to award the degree of Associate in Applied Science in 1951, the Associate in Arts and Associate in Science degrees in 1967, and the Associate in Occupational Studies in 1973. Bachelor's degrees were added in 1991.

The college enrolls more than 3,600 undergraduate students annually. There are approximately 400 teaching faculty and staff members supporting the college’s 70+ programs in agriculture, allied health, applied technology, architecture, business, engineering technology, liberal arts, nursing, and sciences.

At Alfred State, we call ourselves pioneers, individuals who prove their fundamental drive, dogged determination, and ability to overcome obstacles. These admirable traits help pioneers put their skills to work to build a brighter future. The college is proud that 99 percent of our recent graduates have jobs or are continuing their education in their chosen field. Employers tell us that Alfred State students:

Hit the ground running® …

COLLEGE VISION
Alfred State will be THE premier regional college of technology, creating opportunity for our students to achieve successful careers and purposeful lives.

COLLEGE MISSION
Alfred State delivers outstanding associate and baccalaureate degree programs through hands-on learning, preparing in-demand and involved students in a caring community.

CORE VALUES
Respect - Showing that something is important, serious, etc., and should be treated appropriately.

Integrity - The quality of being honest, fair, and adhering to a code of moral values.

Service - Donating time, skills, and energy as a way to contribute to the welfare of others.

Dedication - A very strong feeling of support, loyalty, and devotion to someone or something.

PRINCIPLES OF COMMUNITY
As members of Alfred State, we choose to be part of an academic community dedicated to those principles that foster personal and professional integrity, civility, and inclusion.

We strive toward lives of personal integrity and academic excellence – We will encourage in ourselves, and in one another, those responsible actions which lead to lives of productive work, personal enrichment, and useful citizenship in an increasingly interdependent world.

We commit to treat one another with civility – Recognizing that there will be differences of opinion, we will explore these differences in a courteous and forthright manner, always acknowledging individual rights to freedom of expression and association.

We support inclusion – We encourage those of all cultures, orientations, and backgrounds to understand and respect one another in a safe and supporting educational environment.

This set of principles set forth by the college is supported by policies including the Student Code of Conduct and the Policy on Academic Integrity.

STATE UNIVERSITY OF NEW YORK (SUNY)
SUNY’s 64 geographically dispersed campuses bring educational opportunity within commuting distance of virtually all New York citizens and comprise the nation’s largest, centrally managed system of public higher education.

Nearly 400,000 students are pursuing traditional study in classrooms or are working at home, at their own pace, utilizing distance education. SUNY is governed by a board of trustees, appointed by the governor, which directly determines the policies to be followed by the state-operated campuses.

DEGREES AND ACCREDITATIONS
I. Degrees Granted by New York State Department of Education.

Authorization is granted by the Division of Higher Education of the NYS Department of Education to confer the degree of Associate in Applied Science (AAS), Associate in Science (AS), and Associate in Arts (AA). Section 5 of the Commissioner of Education’s Regulations, Paragraph 7, reads as follows:

“Courses of Study. The course of study shall cover two years of standard college work, and shall be so organized and conducted and shall be of such scope and content as to warrant acceptance with full credit upon advanced standing by degree-conferring institutions. Such terminal courses as it offers shall be distinctly of collegiate grade. All courses of study shall contain the subject matter implied by the announced objectives of the institution.”

Authorization is also granted by the Division of Higher Education to confer the degree of Bachelor of Science (BS) in engineering technology, 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 to confer the degree of Associate in Occupational Studies (AOS) under Section 52.2 of the 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).

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 regionally accredited by the Middle States Commission on Higher Education [3624 Market St., Philadelphia, PA 19104; 215-662-5606]. The Commission on Higher Education is an institutional accrediting agency recognized by the US Secretary of Education and the Commission on Recognition of Postsecondary Accreditation.

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:

- Automotive Service Technician
- Constructional 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 nursing associate program is accredited by the Accreditation Commission for Education in Nursing (ACEN) [3343 Peachtree Rd., NE, Suite 850, Atlanta, GA 30326; 404-975-5000]. The ACEN is responsible for the specialized accreditation of all nursing education programs and schools, both postsecondary and higher degree. Alfred State’s BSN program is fully accredited by the Commission on Collegiate Nursing Education (CCNE) [One Dupont Circle, NW Suite 530, Washington, DC 20036].

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 Dullies Technology Dr., Suite 2, Herndon, VA 20171-3421; 703-713-3800; www.asecert.org]:

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

IX. The following programs in applied technology are 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]:

- X. 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 accredited by the American Welding Society (AWS) [8669 NW 36 St., #130, Miami, FL 33166-6672; 800-443-9353; http://www.awda.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.
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, persisters, 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 Campus Awareness and 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, 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 Advisory Committee on Campus Safety 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.

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. Parents or eligible students have:

1. The right to inspect and review the student’s education records maintained by the school;
2. The right to request that a school correct records which they believe to be inaccurate or misleading;
3. The right to consent to disclosures of personally identifiable information contained within 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:
   A. School officials with a legitimate educational interest as defined in detail on the Records Office website within the "Student Records" information;
   B. Other schools to which a student is transferring;
   C. To comply with a judicial order or lawfully issued subpoena.
4. The right to file a complaint concerning alleged failure by Alfred State 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.
5. The right to obtain a copy of Alfred State’s student records policy. A complete copy of this policy and a complete copy of the FERPA Law are available at my.alfredstate.edu under the link to “Records Office” and then “Student Records.”

Directory Information
Directory information (as defined by Alfred State) includes name, Alfred State email address, address and telephone number, dates of attendance, date and place of birth, college major, expected date of graduation, degrees and awards received, photographs, enrollment status, participation in officially recognized sports and 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 may opt to have directory information kept private or share it with the following parties, with the following conditions:

- School officials with a legitimate educational interest as defined in detail on the Records Office website within the “Directory Information” information;
- Other schools to which a student is transferring;
- To comply with a judicial order or lawfully issued subpoena.

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.

Policy of Nondiscrimination
Alfred State, in recognition of its educational mission, its social concern, its responsibility for the personal development of individuals, and its concern for the rights of the individual, hereby expresses the following policy of nondiscrimination. In support of this policy, the college affirms its right to take appropriate action if it or another duly constituted authority should determine that applicable federal and state nondiscrimination law and regulations have been violated or that the effect and intent of this policy have been willfully or habitually abrogated. This policy is an affirmation of the college’s commitment to making nondiscrimination a reality.

All programs and services of the college are administered without discrimination on the basis of age, sex, marital or military status, race, color, creed, religion, national origin, disability, or sexual orientation. This policy of nondiscrimination extends to admission, financial aid, housing, counseling, educational programs, athletic activities, and placement, as well as to all aspects of employment.

Complaints of noncompliance with the policy may be sent to the director of Human Resources at hr@alfredstate.edu.
Admission to Alfred State

Admission into one of Alfred State’s more than 70 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

Transfer students should apply at www.suny.edu.

International students should complete the international student application packet available at www.alfredstate.edu.

Current high school students who are applying using the SUNY application must also complete the SUNY supplemental application. This form can be submitted through the SUNY website.

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

A high school transcript must be supplied to the Alfred State 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 semester applications for those programs open for spring admission (contact the Alfred State Admissions Office) are also considered on a rolling basis according to availability of space.

The priority application deadline for the diagnostic medical sonography and radiologic technology majors is Dec. 1; it is Jan. 1 for spaces in the Nursing I clinical course. Applications received after these dates will be evaluated on a rolling basis.

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.

International students must complete the International Student Application packet, which is available at www.alfredstate.edu. In addition to the admission application, 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 the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS) exam, or the Pearson Test of English Academic (PTE Academic) examination. Letter of academic reference or Scholastic Aptitude Test (SAT) scores (reading/writing and math) or national exam scores are required for entrance into the four-year, baccalaureate programs unless the student has successfully completed college-level course work following high school graduation. SAT scores are also required for students interested in intercollegiate athletics. 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 credential evaluation completed by an approved credential evaluation service. The information available from Josef Silny & Associates, Inc., located at www.jsilny.com, provides information on the service we feel best meets the needs of the applicant and Alfred State. World Education Service (WES) [www.wes.org] is also a good resource. 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 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 passed at a grade "C" or above will be given transfer credit on approval of the department chair in whose department the course is registered. Credit may be given for courses passed with a grade of "C-" if the overall index of the courses being transferred remains at "C" or higher. Only credit hours and honor points earned at this college will be considered when computing a student’s index.

HOME-SCHOOLED STUDENTS

Alfred State 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; (3) official verification of successful completion (a grade of "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 a 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 and two-year colleges, which permit a student to complete an associate degree at the two-year college and transfer to Alfred State 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. The student must provide an official transcript from the two-year college to Alfred State. Refer to www.alfred.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 as well as from our certificate programs into our own associate 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 Admissions Office. This form should be filed during the final semester of the student’s associate degree or certificate program.

ACCES-VR (FORMERLY VESID)
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 website. The completed application, as well as official transcripts from any colleges attended since enrollment at Alfred State, 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 the SUNY Application and process it through the SUNY Application Processing 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
Individuals who have previously been dismissed from another institution for disciplinary reasons will have their application for admission 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. Individuals who have previously been dismissed from another institution for disciplinary reasons and who wish to apply should identify themselves as such.

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 credential or IEP certificate/diploma will not be accepted. These students are advised to take the GED or TASC exam. A score of 2700 or better on the TASC exam or a 2500 on the GED exam is necessary for consideration.
2. Individual program requirements must be satisfied as indicated.
3. To be considered for admission into programs taught on the Alfred campus, the overall high school average must be at least a 76. For programs taught in the School of Applied Technology (Wellsville campus), the overall average must be at least a 74 to be considered. Applicants with averages lower than these but greater than 72 may be considered with additional documentation. Applicants 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). High school students with averages 72 or below will be denied admission.
4. 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.
5. Standardized test score (ACT or SAT) results are required for baccalaureate (bachelor's) degree programs, for some scholarship considerations, and for those students interested in intercollegiate athletics. They are not required, but are strongly encouraged, for associate degree and certificate programs. If a student entering an associate degree or certificate program submits standardized test scores, they are used as a supplement to the educational background studied during the application review process. When multiple score reports are submitted, the highest composite score is used from either the old or new (beginning March 2016) exams; the SAT will not be superscored combining scores from both the old and new exams. Standardized test scores
are not required for applicants to the baccalaureate degree programs who have successfully completed college-level course work following high school graduation. (Transfer students interested in intercollegiate athletics should contact the Athletic Department to discuss standardized test score requirements.)

6. Financial need is not considered as part of the admission process.

PROGRAMS 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. Detailed program information is found in the catalog, alphabetically. References for items with notations may be found on the following page. In addition to course entrance requirements listed, students must meet overall high school average requirements (76 for Alfred campus programs and 74 for Wellsville campus programs) to be considered for admission. Transfer students 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. Students with averages lower than these may be considered with additional documentation.

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:

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 78 or 2.4/4.0 high school average AND a 930 combined reading/writing and math SAT score or an 18 composite ACT to be immediately eligible their first semester. Incoming transfer students who wish to participate in intercollegiate athletics must have a 2.0 cumulative GPA for consideration.

*SAT and/or ACT scores also required with a recommended 1080 combined reading/writing and math SAT score or a composite ACT score of 21. Portfolio is required to enter junior-year studio courses.

**SAT and/or ACT scores also required with a recommended 1170 combined reading/writing and math SAT score or a composite ACT score of 24. Portfolio review is also required.

*** SAT and/or ACT scores also required with a recommended 980 combined reading/writing and math SAT score or a composite ACT score of 19.

^SAT and/or ACT scores also required with a recommended 1080 combined reading/writing and math SAT score or a composite ACT score of 21.

^^It is recommended that a student have an in-depth knowledge of basic math skills.

^^^Letters of recommendation, a personal essay, and a resume indicating related work experience and/or knowledge of field are required.
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<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>Nursing (Part Time)</td>
<td>2809</td>
<td>Graduation from an approved associate degree nursing or certified diploma program</td>
<td>BS</td>
<td>1203</td>
<td></td>
</tr>
<tr>
<td>Pre-Environmental Science and Forestry (option within Liberal Arts &amp; Sciences: Math &amp; Science program)</td>
<td>0645 (Indicate P-ESF on Special Campus Project line)</td>
<td>Algebra, Geometry, Algebra 2; Biology; Chemistry or Physics</td>
<td>Both Chemistry and Physics</td>
<td>AA</td>
<td>5649</td>
</tr>
<tr>
<td>Radiologic Technology</td>
<td>0628</td>
<td>Algebra, Geometry, Algebra 2, Biology</td>
<td>Chemistry and Physics</td>
<td>AAS</td>
<td>5207</td>
</tr>
<tr>
<td>Sport Management</td>
<td>1396</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</td>
<td>BBA</td>
<td>0599</td>
<td></td>
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<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, Biology, Chemistry</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>5308</td>
<td></td>
</tr>
</tbody>
</table>

**Educational Opportunity Program (EOP)**

The Educational Opportunity Program (EOP) offers higher education opportunities to high school graduates or to 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 regular tutoring and academic advising sessions.

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. A student must be matriculated and cannot challenge a course he/she is currently registered for after the registration deadline.

**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 prepare students in meeting chosen program prerequisites and offers academic success coaching, tutoring, supplemental instruction, and subject and skills development courses.

Course work is paced to enhance student success. The first semester schedule is comprised 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, ASOP 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 and heightening their level of success. Positive relationships among students and faculty/staff are nurtured through numerous opportunities. Orientation is a college-wide initiative, inclusive of academics, student services, and support services of the college.

**Student Health Form/Immunizations**
Prior to registration, students must provide the required information to Alfred State Health and Wellness Services as stated on the Student Health Form. Accepted students receive directions for accessing this form 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, based on the students’ math/English placement recommendations, will be prepared during orientation. Final class schedules will be available for new, transfer, and readmitted students on final registration day.

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 Registration Authorization Code. Before meeting with their adviser, they will print their Course Selection Form found in BannerWeb under “Student Forms” within the Student Services and Financial Aid link, and begin choosing classes for the upcoming semester. Registration is done online in BannerWeb. Available classes can be accessed by going to BannerWeb and clicking on “Class Schedule” prior to entering the secure area.

Continuing students will print their own schedules from BannerWeb and adjustments to this schedule may be made during Add/Drop.

New, transfer, and readmitted students will meet with their academic faculty advisers on registration day to pick up and discuss their final schedules. 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. Completed student health forms must also be returned to Health and Wellness Services at this time.

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 around New York State.

Alfred State and the NYSDOT collaborate through the CCET to conduct the NYSDOT welding certification program. This program is scheduled multiple times per year in Wellsville, NY; other sessions are also scheduled around 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/.
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.

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

2018-19 BILLED CHARGES*

NEW YORK STATE RESIDENT

<table>
<thead>
<tr>
<th>On Campus</th>
<th>Full-time</th>
<th>Part-time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition Costs</td>
<td>$6,870</td>
<td>$286</td>
</tr>
<tr>
<td>Comprehensive Fees</td>
<td>$1,700</td>
<td>pro-rated per credit hour</td>
</tr>
<tr>
<td>Housing (Standard Double)</td>
<td>$7,650</td>
<td></td>
</tr>
<tr>
<td>Meal Plan (14 meal plan)</td>
<td>$4,920</td>
<td></td>
</tr>
<tr>
<td>Total On Campus Costs</td>
<td>$21,140</td>
<td></td>
</tr>
</tbody>
</table>

Online

<table>
<thead>
<tr>
<th>Full-time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition Costs</td>
</tr>
<tr>
<td>Comprehensive Fees</td>
</tr>
<tr>
<td>Total Online Costs</td>
</tr>
</tbody>
</table>

Part-time

| Tuition Cost Per Credit Hour | $286 |
| Comprehensive Fees - pro-rated per credit hour | |

LATE REGISTRATION FEE***

***Students who registered or paid 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) (See Other Related Information below), 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. Effective July 1, 2014, veterans who meet eligibility requirements for educational assistance under federal GI bills, even if not actually receiving or using such benefits, are eligible for in-state tuition. Additionally, spouses and dependents who are eligible for educational assistance under federal GI bills are also eligible for in-state tuition effective July 1, 2015. In both cases, a Certificate of Eligibility from the US Department of Defense or the Veterans Administration is required to document eligibility.
## FINANCIAL INFORMATION

### 2018-19 BILLED CHARGES*

#### NON-NEW YORK STATE RESIDENT

**On Campus**

<table>
<thead>
<tr>
<th></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>$10,740</td>
<td>$16,650</td>
</tr>
<tr>
<td>Comprehensive Fees</td>
<td>$1,700</td>
<td>$1,700</td>
</tr>
<tr>
<td>Housing (Standard Double)</td>
<td>$7,650</td>
<td>$7,650</td>
</tr>
<tr>
<td>other housing options available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meal Plan (14 meal plan)</td>
<td>$4,920</td>
<td>$4,920</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><strong>$25,010</strong></td>
<td><strong>$30,920</strong></td>
</tr>
</tbody>
</table>

|                      |           |               |
| **Part-time**        |           |               |
| Tuition Cost Per Credit Hour | $448     | $694          |
| Comprehensive Fees - prorated per credit hour |         |               |

<table>
<thead>
<tr>
<th></th>
<th>Online</th>
<th>Baccalaureate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full-time</strong></td>
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<td></td>
</tr>
<tr>
<td>Tuition Costs</td>
<td>$8,240</td>
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<tr>
<td>Mandatory Fees</td>
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<td>$456</td>
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<tr>
<td><strong>Total Online Costs</strong></td>
<td><strong>$8,696</strong></td>
<td><strong>$8,696</strong></td>
</tr>
</tbody>
</table>

|                      |         |               |
| **Part-time**        |         |               |
| Tuition Cost Per Credit Hour | $286     | $343          |
| Comprehensive Fees - prorated per credit hour |         |               |

**LATE REGISTRATION FEE***

|            | **$50** |

***Students who registered or paid their bill after the initial due date are subject to this fee per term.

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

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

- **Any Personal Expenses**
- **Books and Supplies**
- **Computer Hardware and Software**
- **Transportation**
- **Uniforms and Tools, if needed**

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

### PART-TIME STUDENTS

NYS residents enrolled in day or evening programs carrying fewer than 12 credit hours are charged $278 per credit hour. Tuition for nonresidents is $406 per credit hour for associate degree programs or $680 per credit hour for bachelor 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. The fee covers student activities such as student organizations, social activities, cultural events, films, and recreational programs.
- **Athletic Fee** - Supports the college’s 19 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** - Enables use of the fitness centers (located on the ground floor of Orvis and the second floor of Pioneer Center). 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 $110 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 a non-refundable fee in order to participate in the commencement ceremony. This fee will be imposed per ceremony attended. The commencement ceremony is held in May of each year. Students receiving more than one degree may also be charged for additional accoutrements at the campus store. All students graduating from a bachelor's degree 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's degree graduates will be required to pay $30 at the campus store for their bachelor hoods when they pick up their regalia. No fee is assessed for those who applied to receive their diplomas without attending the ceremony.

- **Vehicle Registration Fee** - Mandatory on all vehicles parked on campus. Vehicles must be registered at the Parking Registration Office (located in the Theta Gamma House) where vehicle hang tags are issued.
ROOM RENT:

must be returned. After the fourth week, all charges will remain on the student's bill.

Graduation Fee and Vehicle Registration Fee:

Late Registration Fee and Transcript Fee:

Orientation Fee and College Fee:

figured as of the close (at 4 p.m.) of five business days.

*For liability purposes, the first day of class session shall be considered the first day as reported on the academic calendar. The end of the first week shall be separating from the college must file the appropriate paperwork with the Student Records and Financial Services Office. Following is a liability schedule based on the "official" withdrawal date or date the class is dropped. Students begin incurring charges the first day of the semester, not the day they complete the registration process.

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. Following is a liability schedule based upon the "official" withdrawal date or date the class is dropped. Students begin incurring charges the first day of the semester, not the day they complete the registration process.

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:

<table>
<thead>
<tr>
<th>Week</th>
<th>Liability Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>0 percent liability</td>
</tr>
<tr>
<td>2nd</td>
<td>30 percent liability</td>
</tr>
<tr>
<td>3rd</td>
<td>50 percent liability</td>
</tr>
<tr>
<td>4th</td>
<td>70 percent liability</td>
</tr>
<tr>
<td>5th</td>
<td>100 percent liability</td>
</tr>
</tbody>
</table>

*For liability purposes, the first day of class session shall be considered the first day as reported on the academic calendar. The end of the first week shall be figured as of the close (at 4 p.m.) of five business days.

Orientation Fee and College Fee: Nonrefundable

Late Registration Fee and Transcript Fee: Nonrefundable after the first week.

Graduation Fee and Vehicle Registration Fee: Charges are removed only if the student withdraws during the first four weeks of classes. The vehicle hang tag must be returned. After the fourth week, all charges will remain on the student's bill.

BILL PAYMENT

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, the refund will be available for pickup in the Student Records and Financial Services Office for one week. Any remaining refund checks not picked up after one week will be mailed to the student's home address. Go to Banner Web, click on "Student Services and Financial Aid," click on "Student Accounts," then on "Display Refund Detail" to see if a refund has been generated.

Importance of Proper Registration - Students must properly register and pay by the appropriate deadlines 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 deadlines have passed or to claim credit for a course in which he/she has participated as an unregistered or a deregistered student. Students must resolve all problems regarding registrations with the Student Records and Financial Services Office. Questions about payments are handled in the Student Records and Financial Services Office.

Late registrants are students who are registered or have processed their bill after the initial billing due date each term. Late registrants will be subject to a late registration fee of $50. This fee is nonrefundable.

De-registration/Blocking - 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 official transcripts and placement records.

Deadlines - Courses may be added and dropped according to academic regulations. Please refer to www.alfredstate.edu/academics/academic-regulations. Full semester courses dropped after the first week of class will incur a liability, according to the liability policy which follows. For courses less than a full semester in length, please contact the Student Records and Financial Services Office for the appropriate liability schedule.

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. Following is a liability schedule based upon the "official" withdrawal date or date the class is dropped. Students begin incurring charges the first day of the semester, not the day they complete the registration process.

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.

FINANCIAL INFORMATION

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.

Meal Plans - Students living on campus MUST have a meal plan. Meal plans are also available for commuters. Carefully review your plan choice 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 preregistered and to avoid a $50 late registration fee and cancellation of their course registrations.

Bills not processed before the due date will be assessed a $50 late registration fee. Bills processed after the due date must include the $50 late fee to be processed and must be received by Final Registration Day only if not registered for classes.

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 cash, check, MasterCard, VISA, Discover, or wire transfer. As financial payments are received by the college, they will be first 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 the plan is available online.

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 noninstitutional 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.

STUDENT CONSUMER INFORMATION

BILL PAYMENT

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, the refund will be available for pickup in the Student Records and Financial Services Office for one week. Any remaining refund checks not picked up after one week will be mailed to the student’s home address. Go to Banner Web, click on “Student Services and Financial Aid,” click on "Student Accounts," then on "Display Refund Detail" to see if a refund has been generated.

Importance of Proper Registration - Students must properly register and pay by the appropriate deadlines 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 deadlines have passed or to claim credit for a course in which he/she has participated as an unregistered or a deregistered student. Students must resolve all problems regarding registrations with the Student Records and Financial Services Office. Questions about payments are handled in the Student Records and Financial Services Office.

Late registrants are students who are registered or have processed their bill after the initial billing due date each term. Late registrants will be subject to a late registration fee of $50. This fee is nonrefundable.

De-registration/Blocking - 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 official transcripts and placement records.

Deadlines - Courses may be added and dropped according to academic regulations. Please refer to www.alfredstate.edu/academics/academic-regulations. Full semester courses dropped after the first week of class will incur a liability, according to the liability policy which follows. For courses less than a full semester in length, please contact the Student Records and Financial Services Office for the appropriate liability schedule.

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. Following is a liability schedule based upon the "official" withdrawal date or date the class is dropped. Students begin incurring charges the first day of the semester, not the day they complete the registration process.

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:

*1st week 0 percent liability
2nd week 20 percent liability
3rd week 50 percent liability
4th week 70 percent liability
5th week 100 percent liability

*For liability purposes, the first day of class session shall be considered the first day as reported on the academic calendar. The end of the first week shall be figured as of the close (at 4 p.m.) of five business days.

Orientation Fee and College Fee: Nonrefundable

Late Registration Fee and Transcript Fee: Nonrefundable after the first week.

Graduation Fee and Vehicle Registration Fee: Charges are removed only if the student withdraws during the first four weeks of classes. The vehicle hang tag must be returned. After the fourth week, all charges will remain on the student’s bill.

ROOM RENT:

<table>
<thead>
<tr>
<th>Period</th>
<th>Liability Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Week</td>
<td>0 percent liability</td>
</tr>
<tr>
<td>2nd - 8th week</td>
<td>50 percent liability</td>
</tr>
<tr>
<td>After 8th week</td>
<td>100 percent liability</td>
</tr>
</tbody>
</table>
Meal Plan; Campus Spending Account: Unused portions are refunded by the ACES Office or credited to the student’s bill.

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. For the purpose of the return of Title IV funds, Federal Title IV aid is PELL, SEOG, subsidized and unsubsidized Stafford 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 he or she is 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 attendance can be determined through our attendance monitoring process, the period midpoint will be used. The student must repay funds credited to his or her 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 director of the appropriate department 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 due date, will be assessed a $50 late registration fee. This fee is nonrefundable.

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

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 Checks: A fee of $20 will be charged for checks returned for insufficient funds.

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, the refund will be available for pickup in the Student Records and Financial Services Office for one week. 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 after Oct. 1 as possible for each academic year in which they want to receive federal Title IV financial aid. The FAFSA can be completed online at www.fafsa.gov. Once the form is submitted, students can print a confirmation page as receipt of the application. While on the FAFSA confirmation page, New York State residents who plan to enroll full time can apply for ‘TAP on the Web.’ TAP can also be applied for online at www.tapweb.org. Eligible New York State residents can apply for the Excelsior Scholarship online at 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

STUDENT LOAN COUNSELING

Entrance counseling – First-time borrowers under the Federal Stafford Loan Program are required to complete an online loan counseling session before loan funds can be disbursed. The session is designed to inform student borrowers of their rights and responsibilities under the Federal Stafford Loan program. Entrance counseling for new borrowers under the Federal Perkins Loan is done at the time students sign their electronic Federal Perkins Loan Master Promissory Note (MPN). Nursing Student Loan borrowers must also complete online student loan counseling.

Exit counseling – Students separating from the college due to graduation, withdrawal, leave of absence, dismissal, or less-than-half-time enrollment are required to complete an online loan exit counseling session. The session is designed to help students avoid the pitfalls of default by informing them of their repayment obligations as well as their deferment and forbearance rights under the loan programs from which they borrowed.

METHODS OF NOTIFICATION
Accepted students with paid deposits are provided with an active Alfred State email account. Award letters, requests for information, and changes to a financial aid package are sent to students’ Alfred State email accounts. It is the students’ responsibility to regularly check their campus email for such updates and requests. Students should also be aware that they can view the status of their financial aid and requests for information anytime using the college’s BannerWeb student information system.

INCOME VERIFICATION AND OTHER REQUESTS FOR INFORMATION
Under US Department of Education guidelines, some students who apply for federal Title IV aid will be selected for verification. This may include household size and income. Title IV aid will not be processed until all requested documents have been received and reviewed by the Student Records and Financial Services Office.

YOUR FINANCIAL AID AWARD
All students are considered for all types of aid, and financial aid packages are made according to a student’s eligibility in each program as determined by federal and state regulations. Awards are determined by financial need based on data provided by the student on the FAFSA. The offer of financial aid is conditional based upon continuation of legislative authority and availability of appropriated funds.

Financial need is calculated using the following formula:

\[
\text{Cost of Attendance} - \text{Expected Family Contribution} = \text{Financial Need}
\]

Electronic financial aid award letters are sent to accepted students with paid deposits via their Alfred State email account beginning in November for those with a valid FAFSA on file with the college. Detailed instructions are provided to students on how to accept and apply for their aid. Generally, financial aid can be categorized into three types:

1. **Scholarship and grant aid are considered gifts and 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 firefighters, victims of the World Trade Center disaster, and certain types of military and public service. The phone number is 888-697-4372. Information can also be found on the Web at www.hesc.org.

Students receiving veterans’ educational benefits through the Department of Veterans’ Affairs must provide a copy of their Certificate of Release or Discharge from Active Duty (DD214) or their certificate of eligibility for benefits to the veterans’ certifying official in the Student Records and Financial Services Office. Here students will receive required forms and enrollment certification for the completion of their application for veterans’ educational benefits. Alfred State is a participating member of the Yellow Ribbon Program.

Campus scholarships are primarily given out by the Admissions Office. Scholarship opportunities and requirements can be viewed on the Web at www.alfredstate.edu/financial-aid/scholarships. Links to outside scholarship searches are also provided. Students are encouraged to seek scholarships and grants through their local high schools, civic organizations, and employers.

Repeating Courses

when students transfer schools.

Opportunity Program (EOP) can receive up to 10 semesters or 60 payment points. TAP payments received at other schools are still counted in the aggregate TAP Aggregate

Students Receiving TAP Need to Know That:

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) 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. Under many academic programs, 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
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, 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 scholarships requiring standardized test scores as criteria, the highest composite score is used from either the old or new (beginning March 2016) exams; the SAT will not be superscored combining scores from both the old and new exams. ACT exams are not superscored.

The Alfred State Athletic Department is a 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.
The following scholarships are available, while funding exists, to incoming students who have been accepted for the fall semester into a regular program for full-time study. Please note that students studying online are not eligible for scholarships.

**Academic Distinction Scholarship** - $4,000 (total value) [$2,000 if enrolled in associate-degree program] awarded to first-time freshman students who possess an 87 or better cumulative high school average through their junior year; at least an 1140 combined reading/writing and math SAT or 23 composite ACT score is required; applied to non-tuition expenses; multiple scholarships available to qualified students who are accepted and provide official documentation of meeting the necessary criteria by March 1; students must maintain required GPA to continue receiving funding in subsequent semesters.

**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 Distinguished Scholars Program** - Please note that the Distinguished Scholars Program Scholarships are for first-time freshman students only. Students must live on campus and be U.S. citizens or permanent residents to receive these three scholarships. Scholarships are guaranteed to qualified students who are accepted and provide official documentation for necessary criteria by March 1.

**Excellence in Education Scholarship** - Free tuition (equivalent to NYS tuition rate), room (standard room, double occupancy), and board (14-meal plan plus); multiple scholarships available; students must possess a 94 or better cumulative high school average through their junior year; at least a 1310 combined reading/writing and math SAT or 28 composite ACT score is required; and students must apply for financial aid with any tuition specific awards (TAP, Excelsior Scholarship) applied toward the cost of tuition; must maintain required GPA to receive funding in subsequent semesters. Total value of scholarship--$77,760 if enrolled in baccalaureate degree program; $38,880 if enrolled in associate degree program.

**Presidential Scholarship** - Free room (standard room, double occupancy); multiple scholarships available; students must possess a 91 or better cumulative high school average through their junior year; at least a 1270 combined reading/writing and math SAT or 26 composite ACT score is required; must maintain required GPA to continue to receive funding in subsequent semesters. Total value of scholarship--$30,800 if enrolled in baccalaureate degree program; $15,300 if enrolled in associate degree program.

**All-American Scholarship** - Free board (14-meal plan plus); multiple scholarships available; students must possess an 89 or better cumulative high school average through their junior year; at least a 1220 combined reading/writing and math SAT or 24 composite ACT score is required; must maintain required GPA to continue to receive funding in subsequent semesters. Total value of scholarship--$19,680 if enrolled in baccalaureate degree program; $9,840 if enrolled in associate degree program.

**Allegany County Counselors’ Association Annual Scholarship** - Awarded to a student attending high school in Allegany County who will be enrolling in a vocational or technical program; preference given to student who attended BOCES while in high school; 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.

**Alumni Scholarship** - $2,000 (total value) [$1,000 if enrolled in associate degree program] awarded to first-time freshman students who are the children or grandchildren of an Alfred State alumnus; applied to non-tuition expenses; multiple scholarships available; student must have at least an 83 high school average (through end of junior year); a letter must be sent to Admissions Office indicating student’s name as well as the alumni’s name at the time of graduation, the year graduated from Alfred State, and the student’s relationship to the alumnus.

**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.

**Lee Brasted Engineering Science Endowed Scholarship** - Awarded to a student enrolling in the engineering science program.

**Anthony C. Cappadonia Endowed Scholarship** - Awarded to an incoming student with a musical background who was in high school 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 1.

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

**Culinary Academic Scholarship** - $1,200 awarded to an incoming student enrolling in culinary arts or culinary arts: baking, production and management program; must have an 80 or better high school average through the end of their junior year and be in the top 50 percent of class; scholarship application available on the Alfred State website.

**Dresser-Rand Endowed Scholarship** - 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.

**Daniel DiFrancesco Memorial Endowed Scholarship** - 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 1.

**East High School Partnership Scholarship** - $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 Scholarship² - Awarded to student enrolling in mechanical engineering technology or the heating, ventilation, and air conditioning program.

Friendship Designated Scholarship² - $500 awarded to graduates of Friendship Central School accepted into a regular program at Alfred State.

Genesee Valley Balloon Association Endowed Scholarship² - Awarded to student from Western New York enrolling in an agriculture program.

Vernon Gleasman SAE Endowed Scholarship² - Awarded to academically talented incoming student enrolling in mechanical engineering technology.

Michael K. Gowdy Memorial Endowed Scholarship² - Awarded to academically talented students from Wellsville High School.

W.R. Grace & Company Endowed Scholarship² - Awarded to a student enrolling in the biological science or forensic science technology program.

M.A. and C.A. Graham Nursing Memorial Endowed Scholarship² - 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 Excellence Scholarship¹ - 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 Scholarship¹ - 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 Scholarship³ - $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 Theater³ - 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 1.

Suzanne Malachesky Memorial Endowed Scholarship³ - Awarded to a commuter student enrolling in the nursing program.

Rudolf "Rudy" Mazourek Memorial Annual Scholarship³ - Awarded to incoming student enrolling in the autobody repair program; preference given to students from Newfield High School or another high school in Tompkins County.

Lawrence "Bud" McCarthy Educational Foundation Endowed Scholarship³ - $1,000 awarded to 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-neverett Memorial Endowed Scholarship⁴ - 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 1.

Ortho-Clinical Diagnostics Endowed Scholarship² - Awarded to an academically talented student entering the forensic science technology program.

Out-of-State Scholarship¹ - $8,000 (total value) [$4,000 if enrolled in associate degree program] awarded to first-time freshmen who reside and attend high school outside of New York State and will be studying on campus; students must possess an 85 or better cumulative high school average through the end of the junior year; multiple scholarships available to qualified students who are accepted and provide official documentation for the necessary criteria by March 1.

Phi Theta Kappa External Transfer Scholarship⁴ - $4,000 (total value) 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 Scholarship⁴ - 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 April 1.

Regional Annual and Endowed Scholarships² - 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 Scholarship⁵ - 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 Scholarship² - Awarded to academically talented incoming students.

Shaw Family Endowed Scholarship² - Awarded to an incoming freshman in an agriculture program.

Steuben Trust Company Annual Scholarship⁷ - Awarded to academically talented students from Allegany or Steuben counties enrolling in the accounting or business administration programs.

Richard D. Stillman Memorial Endowed Scholarship⁵ - Awarded to an incoming student who was a member of his/her high school 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 1.
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) applied to non-tuition expenses; awarded to transfer students entering a baccalaureate degree program; students must have completed at least three semesters with a 3.25 cumulative GPA and demonstrate continuous full-time college attendance since high school graduation; 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.

Evelyn Turner Culinary Arts Annual Scholarship (in memory of Henry "Hank" Turner) - $2,000 awarded to an incoming student 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) 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; students must maintain at least a 2.5 GPA to continue funding.

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.

5 Send letter of interest to specified individual and/or department.

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

Allegheny County School Food Service Assoc. Annual Scholarship
American Institute of Architects Southern New York Chapter Annual Scholarship
Will Arlow Memorial Motorsports Annual Scholarship
Dr. Khalid Asraf Memorial Endowed Scholarship
Automotive Service Excellence (ASE) Endowed Scholarship
BP Electrical Trades Endowed Scholarship
Balfour Annual Scholarship
Doug Bätter Construction Management Annual Scholarship Kathryn Barnes Honorary Guardian of Nursing Annual Award
Bethesda Foundation Annual Scholarship
Thomas H. Brawdy Memorial Masonry Annual Scholarship Bright Future Wealth Management Financial Planning Annual Scholarship
EJ Brown Memorial Annual Scholarship
Paul L. Buckman Memorial Annual Award
Matthew Burzycki Memorial Endowed Scholarship
Anthony Carino Memorial Endowed Scholarship
James Comstock Memorial Annual Scholarship
Paul Constantine, Jr. Memorial Endowed Scholarship
Robert Couse Annual Scholarship
Culinary Honors Club Academic Annual Scholarship
Culinary Honors Club Alumni Annual Scholarship
Culinary Honors Club Continuing Education Award
Culinary Honors Club Performance Award
Dalrymple Companies Annual Scholarship
Norman A. Diedrich 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 Award
Donald Gadfly Memorial Annual Scholarship
Gamma Theta Gamma Fraternity Annual Scholarship
Kappa Sigma Epsilon Endowed Scholarship
Marilyn Lusk 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 Maraschiello 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 Annual Scholarship
New York Propane Gas Association Ganey Memorial Annual Scholarship
Frank Oppedissano ’60 Memorial Endowed Scholarship
Outstanding Student Annual Award – English & Humanities
Pay It Forward Nursing Annual Award
RPM Foundation Annual Scholarship
Dorothy & Lester Reynolds Memorial Endowed Scholarship
Joseph and Carmella SACcone Memorial Endowed Scholarship
Senior Annual Award for Academic Distinction – English & Humanities
Harold A. & Tim ’71 Shay Memorial Annual Scholarship
Sigma Tau Epsilon Endowed Scholarship - Wellsville Campus
Donald Simons Annual Scholarship
Bob Pahl Sorrento Sketchbook Annual Award
Sorrento Italy Study Abroad Business Faculty Led Annual Award
Southern Tier Builders Association Annual Scholarship
Stephens Mills Grange Endowed Scholarship
Study in the South Annual Award
Evelyn Turner Culinary Arts Annual Scholarship (in memory of Henry "Hank" Turner)
Evelyn Turner Excellence in Culinary Arts Annual Scholarship
Western NY Veterinary Medical Association Annual Scholarship
Julia O. Wells Memorial Ed Foundation Annual Scholarship
Wild Brute Winery Annual Scholarship
Robert Wood Freshman English & Humanities Annual Scholarship

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.
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 course work and involvement in a spectrum of diverse social, recreational, and cultural activities. Alfred State recognizes that learning and growth occurs at all hours and in many places. We recognize the importance of life inside and outside of the classroom and encourage all students to attend activities and participate in the clubs and organizations that interest them. An array of activities and opportunities are available, including 19 men’s and women’s intercollegiate athletic programs, leadership positions in the college’s residence halls, intramural sports, and employment opportunities.

At Alfred State students enjoy 100+ clubs and organizations, movies, music and comedy concerts, cultural events, a student radio station, newspaper, band, vocal music, drama, fitness centers, swimming pool, residence hall activities, and sports - intercollegiate and intramural. 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, 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 jobs; on-campus recruitment; career fairs), OptimalResume (online resume, portfolio and website builder, interview prep), CareerBeam (a 24/7 virtual career office), 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 hundreds of job postings for full-time, part-time, and summer employment, Career Development also organizes and facilitates four to five 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 EQUITY, INCLUSION AND TITLE IX
The Center for Equity, Inclusion and Title IX 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 Equity, Inclusion and Title IX facilitates students’ self-awareness, learning, and growth regarding different cultures, viewpoints, and experiences. The office 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 Equity, Inclusion and Title IX 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 Equity, Inclusion and Title IX 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 Centers are located on each campus. At the center, treatment of student illness, accidents, and counseling needs are provided by a doctor, mental health counselor, or registered nurse. The Mind Spa is also located at the Health and Wellness Center on the Alfred campus. A mandatory fee allows the student to obtain medicines and medical supplies provided by Health and Wellness Services without further cost. The Health and Wellness Services records are kept strictly confidential. Appointments can be made in person or by calling 607-587-4200. More information at: www.alfredstate.edu/student-life/health-and-wellness-services.

THE MIND SPA
This unique oasis is a quiet place for students to experience and explore on their own. Students are able to indulge in their senses, clear their minds, or simply relax and unwind while using the Mind Spa. The Mind Spa offers use of a full body massage chair, tea, aromatherapy, bio-feedback software, multi-spectrum light, and self-help audio library as well as many other relaxation and stress reduction aids. More information at: www.alfredstate.edu/student-life/health-and-wellness-services/mindspa.

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 in the “H” building 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 newsletter - Transitions
- 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 Huntington Building. 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 SUNY Connect, 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 19 intercollegiate varsity sports (18 NCAA Division III and 1 IHSA):

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

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

Co-ed sport: Western Equestrian

The Athletic Department is a 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. Incoming freshmen students who wish to compete in intercollegiate athletics must be admitted into a four-year program OR have a 78 or 2.4/4.0 high school average AND a 930 "new" SAT or a 18 composite ACT to be immediately eligible their first semester. Incoming transfer students who wish to compete in intercollegiate athletics must be admitted into a four-year program OR have a 2.0 cumulative GPA for consideration. Continuing students must achieve good standing and progress toward a degree to continue competition.

Alfred State has two 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. 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.
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, pep, and rock ensembles.

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.

21 and Over Lifestyle – A student must be 21 or older at the beginning of the academic year. This lifestyle option is available in select areas.

24 and Over Lifestyle – This lifestyle option was created to address the special needs of nontraditional students, e.g., self-governed quiet hours and the ability to stay in the residence hall during breaks. Available in select areas within Main Gate B only.

Affinity Housing – Members of recognized clubs/organizations and athletic teams will be provided preference during returning student housing sign-ups to live together in the suite-style housing within the Townhouses, MacKenzie Complex, Main Gate A, and Main Gate B.

Baccalaureate Lifestyle – Available in Peet Hall only. This lifestyle option provides an opportunity for students in the baccalaureate programs to reside together.

First-Year Housing – First-year students can live in any building other than the MacKenzie Commons Apartments and The Townhouses. Braddon Hall and Burdick Hall house only first-year students.

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 (password required), 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.

Townhouse Style Living – 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 five 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 (Peet Hall). The ALLC provides access to architecture work labs, study space, and a gallery.

Creative House, LLC (DLLC) – Designed specifically for students in the digital media & animation or graphic & media design programs, this Living Learning Community (LLC) features studio workspaces 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.

Leadership Living and Learning Community (LLC) – An option for returning students in Main Gate A, this LLC will help students learn more about their strengths and leadership, develop mentoring skills, and connect with professionals from the campus and community while taking part in the Leadership Minor.

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 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.

Pioneer Cup: The Pioneer Cup is a friendly (but fierce!) competition between the college’s residence halls for leadership in civic engagement, sustainability, and wellness. You can help your residence hall earn points and win prizes at the same time by participating in activities, programs, and events related to the competition themes.

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 60 miles one way (notarized statement and supplemental statement required)
- **Honorably Discharged Veterans of the U.S. Armed Forces:** DD-214 must be provided as documentation.

**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.

**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 the housing waiver is requested.
- Individual members may not be on any academic 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 he or she is in attendance.

**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 November 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 his/her 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 three general 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 & Wellness Services or email documents to accommodativehousing@alfredstate.edu for review.
- **Review:** The Assistant Director of College Housing or his/her 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.**

**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/new-student-orientation.
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, free-play arcade games, 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 & Wellness Services office is housed within the building. Students may also use the PSU as a quiet study space, as there is an upgraded 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.
Academic Information

Alfred State offers more than 70 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 most 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 opportunities are posted daily for current students and alumni on the Career Development web page.

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: The State of New York does not allow students to use courses that only apply to a minor to meet the 12 credit financial aid eligibility requirement. 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.

Alfred State has three types of minors including Field of Study, Interdisciplinary, and Program Specific.

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:

- Animation, applications software development, business administration, computer technology, construction management, GIS (geographic information systems), graphic design, history, information security, information technology, interactive design, logistics and supply chain management, media production, network administration, psychology, surveying, and web development.

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. Interdisciplinary minors include global studies and leadership.

Program Specific Minors

These minors are limited to students within a specific degree program due to pre-requisite requirements for courses within the minor. The course of study can be within a single department or split between departments with the intention of allowing students within a program to demonstrate specialization in an area that enhances their degree. These minors often overlap one or more courses with a student’s core curriculum. The program specific minors include interior design.

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 apply for minors on degree application forms.

Employment and Continuing Education

The Career Development Office surveyed the 967 members of the May 2017 graduating class. A 75 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 2018:

- 71 percent employed after graduation
- 93 percent employed in their field of study
- 28 percent continued their education
- Combined employment and continuing education rate of 99 percent

Cross-Registration

Under the SUNY policy on cross-registration and agreements with Rochester Area Colleges and Western New York Consortium, matriculated and full-time (12 credit or more) Alfred State students may take up to six credits a semester at a member institution. Students interested in cross-registration must seek the
approval of their academic adviser before entering the program. Registration begins on the opening day of the term at the host institution and is on a space-available basis. Cross-registration forms are available in the Student Records and Financial Services Office.

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 will result in the student’s receiving a grade of "F" for all his/her course work and will show on the official Status Report of the college as an academic dismissal. Complete information on applying for a leave of absence can be found at my.alfredstate.edu, then go to "Services" on the Records Office web pages.

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 his/her course work and will show on the official Status Report of the college as an academic dismissal. Complete information on applying for a withdrawal can be found at my.alfredstate.edu, then go to "Services" on the Records Office web pages.

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. General education courses cannot 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 our website under "Forms" at my.alfredstate.edu/enrollment-management/records-office-forms. Return the approved form 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 not be enrolled or listed in the registrar’s rosters, 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 added or 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 details.

BANNERWEB
Alfred State student software is BannerWeb for students. Students will use this to view and update information, as well as perform a number of functions. You can obtain instructions by going to http://web.alfredstate.edu/banweb/. Functions and information available on BannerWeb include:

- Register for classes and add or drop courses
- View/print student schedules
- Apply to graduate
- Check to see if you have registration holds
- View interim and final grades and academic standing
- View your unofficial academic transcript
- Learn the status of your financial aid award package
• Check your personal information and learn how to change it
• View bill processing information.

DEVELOPMENTAL/REMEDIAL COURSES
SUNY policy states, “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 BannerWeb for Students. This can be done by logging into the Secure Area of BannerWeb for Students and selecting the “Personal Information” menu. If the data reflected in the Personal Information on BannerWeb is accurate, updates need not be submitted. Only inaccurate information should be updated. Information that students should check includes mailing address, telephone number, emergency contact information, and marital status. Students who wish to change their name or correct their social security number must present legal documentation to the Student Records and Financial Services Office.

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, 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 civic 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 adviser 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 evaluations can be viewed within the secure area of BannerWeb for students.

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 advisers/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
Students planning to attend another college after leaving Alfred State must submit a signed transcript request to the Student Records and Financial Services Office. See: www.alfredstate.edu/sites/default/files/downloads/Academic_Transcript_Request_Form.pdf. Transcripts cannot be sent without the student’s written permission each time one is requested. Transcripts can be faxed upon request but are usually considered unofficial and a second one may have to be sent. Transcripts cannot be sent for students who have financial holds. See section on holds for further information.

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 a veteran and are eligible for the GI Bill, you should apply for your benefits online through the VA website. If you do not have Web access, you should contact the Student Records and Financial Services Office for a paper form. You will need to supply a copy of your DD214 or certificate of eligibility to the Student Records and Financial Services Office. Staff will then supply the Veterans’ Administration with the enrollment certification that indicates you are a student so you can receive your monthly benefits.

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”).

RECORDS OFFICE WEBSITE
The Student Records and Financial Services Office Intranet website includes:

• Academic calendar
• Schedule of classes
• Courses approved for completing general education degree requirements
• Courses approved for completing liberal arts & science degree requirements
• Final exam schedule matrix

my.alfredstate.edu/enrollment-management/records-office
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
The following is a listing of agreements which exist between Alfred State and other institutions.

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 or the technology management BBA degree program.

Agreements into Alfred State:

<table>
<thead>
<tr>
<th>BOCES</th>
<th>Campus &amp; Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOCES: Albany-Schoharie-Schenectady-Saratoga</td>
<td>AOS-Automotive Trades, AOS-Building Trades, AOS-Culinary Arts</td>
</tr>
<tr>
<td>BOCES: Bergen County Tech School</td>
<td>AOS-Building Trades</td>
</tr>
<tr>
<td>BOCES: Broome-Tioga</td>
<td>AOS-Building Trades, AOS-Culinary Arts, AOS-Machine Tool, Welding</td>
</tr>
<tr>
<td>BOCES: Cattaraugus-Allegany</td>
<td>AAS-Agricultural Technology, AOS-Electrical Construction and Maintenance Electrician</td>
</tr>
<tr>
<td>BOCES: Cayuga-Onondaga</td>
<td>AOS-Automotive Trades</td>
</tr>
<tr>
<td>BOCES: Delaware-Chenango-Madison-Otsego</td>
<td>AOS-Automotive Trades, AOS-Culinary Arts</td>
</tr>
<tr>
<td>BOCES: Dutchess Career &amp; Tech</td>
<td>AOS-Building Trades</td>
</tr>
<tr>
<td>BOCES: Eastern Suffolk</td>
<td>AOS-Building Trades, AOS-Culinary Arts</td>
</tr>
<tr>
<td>BOCES: Erie I</td>
<td>AOS-Automotive Trades, AOS-Building Trades, AOS-Culinary Arts</td>
</tr>
<tr>
<td>BOCES: Erie II</td>
<td>AOS-Building Trades</td>
</tr>
<tr>
<td>BOCES: Finger Lakes Tech</td>
<td>AOS-Automotive Trades, AOS-Building Trades</td>
</tr>
<tr>
<td>BOCES: Genesee Valley</td>
<td>AOS-Culinary Arts</td>
</tr>
<tr>
<td>BOCES: Greater Southern Tier</td>
<td>AOS-Automotive Trades, AOS-Building Trades</td>
</tr>
<tr>
<td>BOCES: Hamilton-Fulton-Montgomery</td>
<td>AAS-Agricultural Technology, AOS-Culinary Arts</td>
</tr>
<tr>
<td>BOCES: Herkimer-Fulton-Hamilton-Otsego</td>
<td>AOS-Automotive Trades</td>
</tr>
<tr>
<td>BOCES: Jefferson-Lewis</td>
<td>AAS-Agricultural Technology, AOS-Machine Tool, Welding</td>
</tr>
<tr>
<td>BOCES: Madison-Oneida</td>
<td>AAS-Agricultural Technology</td>
</tr>
</tbody>
</table>

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 or the technology management BBA degree program.
| BOCES: Monroe 1 | AOS: Automotive Trades | AOS-Machine Tool, Welding |
| BOCES: Monroe 1 | AOS: Building Trades | AOS-Electrical Construction and Maintenance Electrician |
| BOCES: Monroe 1 | AOS: Culinary Arts | |
| BOCES: Monroe 2-Orleans | AOS: Automotive Trades | AOS-Machine Tool, Welding |
| BOCES: Monroe 2-Orleans | AOS: Building Trades | AOS-Electrical Construction and Maintenance Electrician |
| BOCES: Monroe 2-Orleans | AOS: Culinary Arts | |
| BOCES: Nassau | AOS: Automotive Trades | AOS-Machine Tool, Welding |
| BOCES: Nassau | AOS: Building Trades | AOS-Electrical Construction and Maintenance Electrician |
| BOCES: Nassau | AOS: Culinary Arts | |
| BOCES: Niagara Career & Tech | AOS: Automotive Trades | AOS-Machine Tool, Welding |
| BOCES: Niagara Career & Tech | AOS: Building Trades | AOS-Electrical Construction and Maintenance Electrician |
| BOCES: Niagara Career & Tech | AOS: Culinary Arts | |
| BOCES: Oneida-Herkimer-Madison | AOS: Automotive Trades | AOS-Machine Tool, Welding |
| BOCES: Oneida-Herkimer-Madison | AOS: Building Trades | AOS-Electrical Construction and Maintenance Electrician |
| BOCES: Oneida-Herkimer-Madison | AOS: Culinary Arts | |
| BOCES: Onondaga-Cortland-Madison | AOS: Culinary Arts | |
| BOCES: Orange-Ulster | AOS: Automotive Trades | AOS-Machine Tool, Welding |
| BOCES: Orange-Ulster | AOS: Building Trades | AOS-Electrical Construction and Maintenance Electrician |
| BOCES: Orange-Ulster | AOS: Culinary Arts | |
| BOCES: Orleans Career and Tech Center | AOS: Machine Tool, Welding | |
| BOCES: Orleans Niagara | AOS: Automotive Trades | |
| BOCES: Otsego Northern Catskills | AOS: Automotive Trades | AOS-Culinary Arts |
| BOCES: Otsego Northern Catskills | AOS: Building Trades | |
| BOCES: Putnam-Northern Westchester | AOS: Building Trades | AOS-Electrical Construction and Maintenance Electrician |
| BOCES: Putnam-Northern Westchester | AOS: Machine Tool, Welding | |
| BOCES: Questar III | AOS: Building Trades | AOS-Machine Tool, Welding |
| BOCES: Randolph Technical and Career Center | AOS: Building Trades | AOS-Electrical Construction and Maintenance Electrician |
| BOCES: Randolph Technical and Career Center | AOS: Culinary Arts | |
| BOCES: Rockland CTEC | AOS: Automotive Trades | AOS-Machine Tool, Welding |
| BOCES: Rockland CTEC | AOS: Building Trades | AOS-Electrical Construction and Maintenance Electrician |
| BOCES: Southern Westchester | AOS: Automotive Trades | AOS-Culinary Arts |
| BOCES: Southern Westchester | AOS: Building Trades | AOS-Electrical Construction and Maintenance Electrician |
| BOCES: St. Lawrence-Lewis | AOS: Automotive Trades | AOS-Culinary Arts |
| BOCES: St. Lawrence-Lewis | AOS: Building Trades | |
| BOCES: Sullivan County | AOS: Automotive Trades | AOS-Machine Tool, Welding |
| BOCES: Sullivan County | AOS: Culinary Arts | |
| BOCES: Susquehanna County | AOS: Automotive Trades | AOS-Culinary Arts |
| BOCES: Susquehanna County | AOS: Building Trades | |
| BOCES: Tompkins-Seneca-Tioga | AOS: Automotive Trades | AOS-Machine Tool, Welding |
| BOCES: Ulster | AOS: Automotive Trades | AOS-Machine Tool, Welding |
| BOCES: Ulster | AOS: Culinary Arts | AOS-Electrical Construction and Maintenance Electrician |
| BOCES: Warren County | AOS: Culinary Arts | |
| BOCES: Wayne-Finger Lakes | AOS: Automotive Trades | AOS-Culinary Arts |
| BOCES: Wayne-Finger Lakes | AOS: Machine Tool, Welding | AOS-Electrical Construction and Maintenance Electrician |
| BOCES: Wayne-Finger Lakes | AOS: Building Trades | |
| BOCES: Wayne Tech Career Center | AOS: Culinary Arts | |
ACADEMIC INFORMATION

BOCES: Western Suffolk
AAS-Agricultural Technology
AAS-Veterinary Technology

Broome Community College:
BBA-Sport Management

Corning Community College
BS-Human Services Management
BS-Electrical Engineering Technology

Erie Community College
BS-Mechanical Engineering Technology
BBA-Technology Management

Geneese Community College
BS-Human Services Management
BBA-Technology Management

High School: Automotive HS
AOS-Automotive Trades

High School: Burgard
AOS-Automotive Trades

High School: Constr Trades, Eng & Arch
AOS-Building Trades

High School: GW Carver
AAS-Veterinary Technology

High School: George Westinghouse
AOS-Electrical Construction & Maintenance Electrician

High School: Hutchinson CT & Olmstead HS
AOS-Machine Tool, Welding

High School: Levittown Public Schools
AOS-Automotive Trades

High School: McKee
AOS-Culinary Arts

High School: McKinley
AOS-Building Trades

High School: McKinley HS & Hutchinson CT
AOS-Electrical Construction and Maintenance Electrician

High School: Mt. Vernon
AOS-Automotive Trades

High School: Newburg Free Academy
AOS-Building Trades

High School: Penn Yan Academy
AOS-Building Trades

High School: Pioneer High School
AOS-Machine Tool, Welding

High School: Rochester City Schools
AOS-Automotive Trades

High School: Saunders Trades & Tech
AOS-Building Trades

High School: Syracuse City School
AOS-Electrical Construction and Maintenance Electrician

High School: Tottenville
AOS-Automotive Trades

High School: University Prep Charter School
AOS-Machine Tool, Welding

High School: William E. Grady
AOS-Culinary Arts

Jamestown Community College
BT-Computer and Information Technology
AAS-Court and Realtime Reporting
AAS-Health Information Technology
BS-Health Science

Long Island Business Institute
BBA-Technology Management

Mohawk Valley Community College
BS-Human Services Management

Onondaga Community College
ACADEMIC INFORMATION

BS-Electrical Engineering Technology
Westchester Community College
BS-Information Security & Assurance

Agreements out of Alfred State:
Cedar Crest College
BS-Forensic Science Technology

Clarkson University
BS-Engineering

Cornell University
AAS-Agriculture and Veterinary Technology

Empire State Carpenters Apprenticeship
AOS-Building Trades

IBEW 41, 86, 139, 237 & 241
AOS-Electrical Construction and Maintenance Electrician

Regis University
AAS-Health Information Technology

Saint Joseph’s College
AAS-Health Information Technology

SUNY Upstate Medical University
Health Related

University of Cincinnati
AAS-Health Information Technology

Villa Maria College
AAS-Interior Design

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 that count toward graduation requirements and have earned at least 3.5 semester index.

HONOR SOCIETIES
PHI THETA KAPPA
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.

The goal of Phi Theta Kappa is to recognize and encourage scholarship among associate degree students by providing opportunities for leadership, fellowship, and service.

Founded in 1918, Phi Theta Kappa currently numbers some 1,000 chapters worldwide. Alfred State’s chapter was chartered in spring 1991.

PSI BETA
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 130 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.

SIGMA TAU EPSILON
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
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.

REGULATIONS:
- Transfer credit procedure shall be initiated in the Student Records and Financial Services Office.
- Evaluation of transfer credit from another institution shall be made by the course discipline department chair or designated appointee.
- Credit will be given for courses passed with a grade of “C” or better. In the evaluating of transfer credit, a grade of “S” or “P” will be considered equivalent to a grade of “C”.
- Credit will be given for courses passed with a grade of “C-” or better if the overall index of the courses being transferred remains at 2.0 or higher.
- Credit hours granted will be equivalent to the corresponding course hours in this college. Partial credit may be granted with the approval of the department chair within whose department the course is offered.
- Transfer credits from other institutions will not be included in the calculations of indexes.
• Evaluation of transfer credit from one major to another within the college shall be made by the department chair or designated appointee(s) in the department to which the student transfers. Grades, including "Fs", for courses that have been taken and that are required in the new program, shall be transferred as earned.

• Transfer from one program to another requires consultation with the department chair or designee of the department in which the student is registered and approval of the department chair or designee of the department to which the student wishes to transfer.

• A student may satisfy degree requirements by taking courses at another college and transferring no more than 12 credit hours within a seven-year period after leaving this college. This transfer program shall have prior written approval by his/her department chair. Courses transferred in this manner may replace comparable courses already taken at this college, thereby removing such courses from the calculation of index.

* The preceding rules and regulations are listed under ACADEMIC REGULATIONS-305 on the Alfred State website: www.alfredstate.edu/academics/academic-regulations.

• To receive an associate degree, at least 30 lower-division credit hours (not including challenge credit) must be completed at this college.**

• To receive a bachelor’s degree, at least 30 upper-division credit hours (not including challenge credit) must be completed at this college.***

** The preceding regulation is listed under ACADEMIC REGULATIONS-201.7 on the Alfred State website: www.alfredstate.edu/academics/academic-regulations.

TRANSFER CREDIT MANUAL

• Courses will be transferred in per the college’s Transfer Credit Manual. All courses in the manual have been evaluated by the course discipline department chair.

• Once a student’s official transcript is received, a transfer credit evaluation is completed and students are notified through their Alfred State email account as courses are transferred in. Students can also review transfer credits on their unofficial transcript in BannerWeb for students.

• The transfer evaluation of a course within a specific discipline may be changed on an individual student basis if the discipline department chair is willing to do so.

• If the discipline department chair is not willing to change the transfer evaluation of a course on an individual student basis, that student may appeal per the transfer credit appeals process found on the website.

*** The preceding regulation is listed under ACADEMIC REGULATIONS-202.4 on the Alfred State website: www.alfredstate.edu/academics/academic-regulations.
ACADEMIC DEPARTMENTS BY SCHOOL

School of Arts & Sciences
- Agriculture & Veterinary Technology
- Allied Health
- English & Humanities
- Mathematics & Physics
- Nursing
- Physical & Life Sciences
- Social & Behavioral Sciences

School of Architecture, Management & Engineering Technology
- Architecture & Design
- Business
- Civil Engineering Technology
- Computer & Information Technology
- Digital Media & Animation
- Mechanical & Electrical Engineering Technology

School of Applied Technology
- Automotive Trades
- Building Trades
- Computerized Design and Manufacturing
- Culinary Arts
- Electrical Trades

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 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 & 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, edible flowers, 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 Holsteins, horses, alpacas, swine, poultry, and sheep 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 both an organic dairy herd, with which students gain experience in management intensive grazing and a robotic milking system, and a conventional herd. Currently, Alfred State is the only institution of higher education in the United States with both conventional and organic dairy systems on the same farm. Additional facilities are being developed at the Groveland farm, a 270-acre crop farm near Sonyea, NY.
- **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
- **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 coursework, 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, health information technology, and coding & reimbursement specialist curricula are completely online programs.

DEPARTMENT PROGRAMS

- Coding and Reimbursement Specialist (Certificate)
- Diagnostic Medical Sonography (AAS)
- Health Information Technology (AAS)
- Healthcare Management (BTech)
- Radiologic Technology (AAS)
The Architecture and Design Department offers a five-year professional Bachelor of Architecture degree, a Bachelor of Science degree in architectural technology, and an Associate in Applied Science degree in architectural technology. These degrees are designed to serve various needs within the profession of architecture. The Associate of Applied Science degree in interior design provides graduates with fundamental knowledge and skills for entry-level positions in interior design. The department emphasizes socially responsible design for social good. This mission is 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—and 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 them uniquely qualified to mentor students in design, thinking, development, and production.

All aspects of construction technology and sustainable building practices are integrated into the program design studio sequence through the use of Building Information Modeling software situated within the digital fabrication continuum. This allows students to create inspiring designs that are technically sound and grounded in the realities of professional practice, better preparing them for the demands of the workplace.

Recognizing that an architectural education at Alfred State is a powerful platform upon which to build a career, our students seek opportunities to learn through local and global civic engagement projects in each and every 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, to the department’s signature study abroad program in Sorrento, Italy, and all points in between.

MISSION
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. Emphasizing core values of leadership, professional preparedness, and work ethic, experienced faculty offer personal instruction and guidance to students as they collaborate with real people to explore real challenges across the region and beyond.

FEATURES & FACILITIES
Most departmental facilities, workshops, the maker space, and all design studios are accessible to students 24 hours a day by swipe card for student convenience. Each design studio is laptop-ready, and has customizable workstations. Studios also have networked printers, desktop scanners, white marker boards, floor-to-ceiling, wall-mounted pin-up/display panels, flat file storage, and ceiling-mounted digital projectors. Students also have access to the department’s fabrication space, maker space, interior design product library, advanced computer lab, and architecture library, in addition to the plotter room; digital fabrication lab; soils, concrete, and material testing lab; and energy systems and HVAC&R labs, which are maintained by other departments in the school.

Please note: All students in both the architecture and interior design programs are required to purchase a laptop computer before the beginning of the second year.

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 five automotive trades areas offered by the Automotive Trades Department—automotive service technician; heavy equipment, truck & diesel technician; autobody repair; motorsports technology; and motorcycle and power sports 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 accredited by the NATEF; 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.
- **Motorcycle and Power Sports Technology facility** – Located in the village of Alfred, this facility includes hands-on laboratories, where students work on all kinds of full-size functioning vehicles, from motorcycles to jet skis.

Please refer to the most current required tool list on the Alfred State website at [www.alfredstate.edu/tool-lists](http://www.alfredstate.edu/tool-lists).

TECHNICAL STANDARDS

Applicants for all programs in the Automotive Trades Department must meet the following physical requirements:

1. Must be able to lift 50 pounds to eye level.
2. Must be able to effectively communicate with a person six (6) to ten (10) feet away.
3. Must be able to visually decipher small images on a monitor or digital display.
4. Must be able to distinguish sounds associated with mechanical failures.
5. Must be able to comprehend written information found in service repair manuals.
6. Must have a valid motor vehicle driver’s license.

DEPARTMENT PROGRAMS

- **Autobody Repair (AOS)**
- **Automotive Service Technician (AOS)**
- **Heavy Equipment, Truck & Diesel Technician (AOS)**
- **Motorcycle and Power Sports Technology (AOS)**
- **Motorsports Technology (AOS)**
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
Applicants in the Building Trades Department programs must be able to meet the following physical requirements:

1. Must be able to lift 50 pounds to shoulder height.
2. Must be able to perform safely in the laboratory.
3. Must be able to communicate orally with a person 20 feet away.
4. Must be able to climb a ladder and/or able to climb, un-aided, onto and off equipment using three points of contact.
5. Must be able to stand for long periods of time.
6. Must be able to visually read from a blueprint or drawing.
7. Must be able to hear a backup warning alarm.

Please refer to the most current required tool list on the Alfred State website at 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.

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 workstation. 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)
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

• **Construction management laboratory** – This lab is equipped with 20 computer work stations in conjunction with appropriate estimating software to digitize quantities from drawings and work up estimates electronically. Software commonly used for project scheduling and planning is also used to develop CPM charts. Construction project administration software is also used in this lab.

• **Soils, concrete, and material testing laboratory** – 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.

• **Surveying computations laboratory** – The surveying computations lab contains workstations, 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.

DEPARTMENT PROGRAMS

- [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 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
Provide training and education in the use of computers and computational techniques for associate and bachelor's degree programs. Technical and professional education is provided with dynamic, up-to-date topics and hardware for the rapidly changing needs of an increasingly technological society.

FACILITIES
- **Laboratories** - Students are allowed 24-hour access to labs equipped with state-of-the-art software and hardware. Our laboratories provide students with ample hands-on experience, giving them a considerable edge in the highly competitive computer and information technology job market. Our labs are constantly being updated to keep current with advancing technology.
- **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.

Please note: All entering students are required to purchase a laptop computer. The laptop enables students to have access to program-specific software via the wireless network on campus.

DEPARTMENT PROGRAMS

<table>
<thead>
<tr>
<th>Computer Information Systems (AAS)</th>
<th>Information Technology: Applications Software Development (BTech)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Science (AS)</td>
<td>Information Technology: Network Administration (BTech)</td>
</tr>
<tr>
<td>Cyber Security (BTech)</td>
<td>Information Technology: Web Development (BTech)</td>
</tr>
</tbody>
</table>
The Computerized Design & Manufacturing Department has two areas of study: machine tool technology and welding. Each program provides 1,800 hours of related course work, theory, and hands-on practice, providing graduates with the necessary skills and knowledge to be highly successful in these dynamic fields.

MISSION
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 & Machine Tool
Applicants for the welding and machine tool programs in the Computerized Design and Manufacturing Department must meet the following physical requirements:

1. Must be able to perform safely in the shop.
2. Must be able to lift 50 pounds to eye level.
3. Must be able to communicate orally with a person between six and 10 feet away in a shop environment.
4. Must be able to visually decipher an oscilloscope monitor and digital/analog meter, and scan tool displays.
5. Must be able to diagnose mechanical failures that are distinguished audibly.
6. Must be able to understand and retain information found in service repair manuals and use diagnostic flow charts.
7. Must be able to visually read an LCD display on welding equipment.
8. Must have the dexterity and mobility to weld in all the welding positions to meet all requirements.
9. Good eyesight is recommended.
10. Must be able to stand for long periods of time.

Industrial internships are available to all students of the Alfred State Computerized Design and Manufacturing Department. Upon successful completion, appropriate college credit is applied to the student’s record as applies.

Please refer to the most current required tool list on the Alfred State website at [www.alfredstate.edu/tool-lists](http://www.alfredstate.edu/tool-lists).

FACILITIES
- **Machine tool labs** – This lab is equipped with lathes, mills, shapers, grinders, etc., and appropriate tools acquired from a $1 million grant from the Gleason Foundation. The second-year machine tool technology program is located in an actual industrial setting, where students are instructed in the use of CNC machine tools, and may apply this knowledge in a shadowing experience in the host companies’ facilities.
- **Sustainable Advanced Manufacturing Center** – This $5 million, 16,000-square-foot facility houses freshman and senior welding students and senior machine tool technology 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.
- **Welding shop** – The shop, established using a $300,000 federal Appalachian Regional Commission grant, houses 20 individual welding booths with adjustable exhaust pickups. It contains industrial grade welders—TIG, MIG, Oxy-fuel, and arc—along with oxy-fuel and plasma cutters and hydraulic bend testers and grinders. In our senior welding lab, tools used in the fabrication industry will be used. This impressive facility is located adjacent to our machine tool center at a local industrial park.

DEPARTMENT PROGRAMS
- **Machine Tool Technology (AOS)**
- **Welding Technology (AOS)**
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
Applicants to the Culinary Arts Department programs must be able to meet the following physical requirements:

1. Perform lab functions while standing on their feet for up to five hours daily.
2. Be proficient in reading (for guest checks, recipes, and instructional manuals) and mathematics (for recipe conversion, cost control, and calculations associated with food production and service).
3. Lift 50 pounds from floor to eye level.
4. Visually identify degree of product doneness.
5. Handle kitchen equipment, including knives.

Please refer to the most current required uniform list on the Alfred State website 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 approximately 40 luncheon 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 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)**
Digital Media & Animation

Tammy R. Brackett, Chair
Phone: 607-587-4659
Secretary Phone: 607-587-4696
Email: bracketr@alfredstate.edu

The Digital Media and Animation Department offers Associate of Applied Science and Bachelor of Science degrees in digital media and animation and an Associate of Science and Bachelor of Science in graphic and media 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 access to a large traditional studio space for foundations in traditional materials, figure drawing, and 2-D and 3-D design. They also have access to a highly sophisticated computer lab that provides industry-standard capability in 2-D graphics, Web design, interactive media, motion graphics, 2-D and 3-D animation, screen printing, large format printing and 3-D printing. Students enrolled in a DMA degree program have 24-hour access to these studios.
- Video and sound production studio – This studio contains industry-standard hardware and software.
- Virtual reality and 3-D sculpting studio – This studio utilizes the latest virtual reality technology for interactive design and 3-D modeling.
- Other equipment and software – Digital cameras, digital audio recorders, HD video cameras, and other pieces of high-end equipment are available for students to sign out.

Please note: All entering students in the Digital Media and Animation Department programs are required to purchase a laptop computer.

DEPARTMENT PROGRAMS

- Digital Media and Animation (AAS)
- Digital Media and Animation (BS)
- Graphic and Media Design (AS)
- Graphic and Media Design (BS)
Electricity, and the electricians who install and maintain these systems, play a critical role in the function of the nation’s and the world’s complex industrial technology, as well as an individual’s personal environment. Nearly all aspects of an individual’s life are affected by some component of this diverse field. Without competent personnel to support today’s complex electrical systems, our lives and the economy would be seriously impacted. The faculty and staff of the Electrical Trades Department provide the skills and occupational competence necessary for entry in the field of electrical technologies. The opportunity for real-life work experience is also integrated into the program. The hands-on electrical training provided in the freshman year consists of actual wiring projects off campus, as well as residential wiring projects in our laboratories. Our senior electrical students receive real-life experience working with the campus maintenance department, troubleshooting campus equipment, rewiring existing facilities, and designing and installing the electrical systems in new facilities. Seniors also will 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 Electric Code.

MISSION
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.

FACILITIES
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. The facilities for the Electrical Trades Department have full wireless network capability. Please refer to the most current required tool list on the Alfred State website at www.alfredstate.edu/tool-lists.

TECHNICAL STANDARDS FOR THE ELECTRICAL CONSTRUCTION & MAINTENANCE ELECTRICIAN PROGRAM
Math sequence I & II recommended for all programs, plus the following requirements:

1. Must be able to visually translate information on analog or digital meters and other test equipment.
2. Must be able to lift 50 pounds to eye level.
3. Must be able to communicate orally with a person six to 10 feet away.
4. Must be able to read and decipher information found in technical manuals.
5. Must be able to adhere to and perform all safety requirements.

DEPARTMENT PROGRAMS
Electrical Construction and Maintenance Electrician (AOS)
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 & Sciences: Humanities](#) (AA)
The Mathematics & 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 & Sciences: Math & Science (AA)**
- **Pre-Environmental Science & Forestry (AA)**
- **Undeclared Major**
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, engineering science and computer engineering 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 workstation in this laboratory has a computer that controls automated test equipment stations with a waveform generator, 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 workstations 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 laboratory 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 150 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 & 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 familiarization 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 workstations also feature individual ventilation fans. Once students learn the foundational techniques, students are allowed to use the fabrication resources for later class projects.
- **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 links.
- **Energy Storage and Conversion Laboratory** – (SET 246E) 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.
- **Industrial Controls Laboratory** – (SET 454) This laboratory contains the general-purpose 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 motors and the test 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 & Measurements Laboratory** – (SET 379) serves as a state-of-the-art "quality assurance" center and is anchored by new equipment recently donated by area companies. 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.

• **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 experimentation 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, usually 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. This program can be completed full-time in two years or part-time as the student desires. The upper-level nursing courses are offered in an online format and include nursing, science, and liberal arts courses, primarily.

The baccalaureate degree program in nursing at The State University of New York College of Technology at Alfred is accredited by the Commission on Collegiate Nursing Education, 655 K Street, NW, Suite 750, Washington, DC 20001, 202-887-6791.

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 VitalSim™, Simnewbaby™, 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.
• Community apartment – In addition to the above skills labs, there is a community apartment consisting of a kitchen, living/dining room, bedroom, and bathroom for practice in a community health environment.

DEPARTMENT PROGRAMS
Nursing (AAS)
Nursing (BS in Nursing)
Nursing Dual Degree (AAS 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 his/her success in a program, or the health and safety of others, he/she 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 a recently renovated 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, environmental technology, 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)
- **Environmental Technology** (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 early childhood, chemical dependency, or mental retardation programs. 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 & Sciences: Adolescent Education - Teacher Education Transfer (AA)**
- **Liberal Arts & Sciences: Social Science (AA)**
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.

A laptop computer is recommended, but not required, for students entering the accounting program.

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 – 20 percent are employed; 80 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
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>Semester</th>
<th>Courses</th>
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<tbody>
<tr>
<td>First</td>
<td>ANSC 1204 Introduction to Animal Science</td>
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<td></td>
<td>AGRI 1001 Farm Practicum I</td>
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<td></td>
<td>MATH 1033 College Algebra</td>
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<td>COMP 1503 Freshman Composition</td>
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<td>MECH 1603 Graphics/CAD</td>
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<tr>
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<td>ELET 1202 Intro to Electrical Eng Tech</td>
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<td>ELET 1194 Digital Logic</td>
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<td>ELET 1111 Digital Logic &amp; Laboratory</td>
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<td>AGPS 2113 Field &amp; Forage Crops</td>
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<td></td>
<td>MECH 1203 Materials Science</td>
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<td>CISY 4423 Intro to Mobile Robotics &amp; App</td>
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<td>XXXX xxx3 Gen Education Elective</td>
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<td>Second</td>
<td>ELET 1133 Digital Logic</td>
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<td>ELET 1111 Digital Logic &amp; Laboratory</td>
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<td>AGRI 4900 Directed Study</td>
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<td>MECH 4900 Directed Study</td>
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<td>ELET 1142 Electronic Fabrication</td>
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<td></td>
<td>AGRI 2001 Farm Practicum II</td>
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</table>

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 Science
- 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: fitzidd@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 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 100 percent – 75 percent are employed; 25 percent continued their education.

RELATED PROGRAMS
- Accounting
- Agricultural Technology
- Marketing

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Recommended: Algebra

AGRICULTURAL BUSINESS - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

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<th>First</th>
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<tr>
<td>ANSC 1204</td>
<td>Intro to Animal Science</td>
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<td>ANSC 3203</td>
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<td>AGRI 2013</td>
<td>Organic &amp; Sustainable Ag Tech</td>
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<td>CISY 1003</td>
<td>Intro to Microcomputer Appl</td>
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<td>CISY 1103</td>
<td>Info Technology Management</td>
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<td>ACCT 2224</td>
<td>Managerial Accounting</td>
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<td>AGRI 3001</td>
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<td>Agriculture Electives:</td>
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<td>ANSC 2114</td>
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<td>Feeds and Nutrition</td>
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<td>ANSC 3103</td>
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<td>ANSC 2102</td>
<td>Dairy Cattle Reprod &amp; A.I Tech</td>
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<td>AGPS 2113</td>
<td>Field &amp; Forage Crops</td>
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<td>AGPS 5003</td>
<td>Integrated Pest Management</td>
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<tr>
<td>AGPS 5103</td>
<td>Sustainable Vegetable</td>
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<tr>
<td>AGRI 3351</td>
<td>Live Animal Evaluation</td>
<td>1</td>
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</table>

Business Electives:
- BUAD 3043 Business Law I | 3
- MKTG 3153 Web Design & Marketing | 3
- BUAD 4203 Intro Personal Financial Plan | 3
- CISY 3023 Advanced Microcomputer Spreadsheets | 3
- BUAD 3153 Fundamentals of Management | 3

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, compare and contrast agricultural production 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 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 our two dairy herds: a tie-stall housed conventional herd of registered Holsteins milked in a parlor with integrated dairy cattle management software, and a free-stall housed organic herd milked by a robot. The conventional herd produces more than 28,000 pounds of milk, more than 1,100 pounds of fat with a B.A.A. of more than 108.7 percent. The Alfred State cows have the highest B.A.A. of any publicly owned herd in the nation. Alternative species, including horses, pigs, alpacas, poultry, and sheep are also housed at the College Farm for instructional purposes.

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 – 63 percent are employed; 37 percent continued their education.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Recommended: Geometry, Algebra 2, Biology, Chemistry
Required: Algebra

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.
### Suggested Agriculture or Transfer-related Electives:

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<tr>
<th>Elective</th>
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<td>AGPS</td>
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<td>ANSC</td>
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<td>BIOL</td>
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<tr>
<td>CHEM</td>
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### Suggested Agriculture or Transfer-related Electives:

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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
Our architectural technology programs are designed to provide you with a comprehensive architectural education. The AAS degree offers a broad range of skills and the BS furthers this by combining a philosophic and artistic perspective of building design with an applied technical knowledge of construction systems and materials acquired in a four-year studio structure.

All architecture degree programs have shared course work in the first two years, while the BS and BArch have some shared course work in the third and fourth years. Because of this alignment, the AAS and BS in architectural technology are required to meet the same NAAB “Student Performance Criteria” that apply to the BArch program (which was awarded initial candidacy as of Jan. 1, 2014).

ADVANTAGES
• 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.
• Alfred State has an agreement with Sorrento Lingue International Language Institute (Sant’Anna Institute) in Sorrento, Italy, to offer an optional semester abroad to its students. To learn more, see www.alfredstate.edu/study-abroad/italy.

PROGRAM STUDENT LEARNING OUTCOMES
• Comprehend architecture as being accountable to humanity’s need for safe, affordable shelter, for dignified ways of living and for offering corresponding symbolic meaning - and the ability to produce designs infused by this understanding.
• Demonstrate knowledge of the evolution of architectural ideas (and associated principles, strategies and devices) throughout history and of how these were marshaled by architects in the service of certain intended purposes, as well as the ability to apply such ideas in the student’s own designs.
• Demonstrate knowledge of strategies for infusing design generally, and structural expression particularly, with poetic dimensions that help to transform environments - that would otherwise be merely good functionally and of sound construction - into inspiring and uplifting places.
• Demonstrate knowledge of sustainability, construction technology, and integrated project delivery.
• Demonstrate the ability to take on/participate constructively in urban renewal/social innovation projects that seek to serve the common good.
• Info management (computer and research skills appropriate to degree level and type).
• Written and oral communication (appropriate to degree level and type).
• Critical thinking (problem solving, reasoning skills appropriate to degree level and type).

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.

OCCUPATIONAL OPPORTUNITIES
• Architect (after successfully meeting state requirements)
• Construction manager
• Building inspector
• 3-D modeler/animator
• Computer illustrator
• Detailer
• Specification writer
• Estimator
• Model builder

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 88 percent are employed; 12 percent continued their education.

RELATED PROGRAMS
Construction Management

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry, Algebra 2, SAT and/or ACT scores with a recommended combined reading/writing and math SAT score of 1080 or a composite ACT score of 21.
Recommended: Pre-calculus, Physics

TRANSFER STUDENTS
Prior to studio placement within the architectural technology BS program, each applicant must submit a digital portfolio for review that will be taken into consideration along with his/her overall grade point average and studio course grades.

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.

The overall portfolio should include ten (10) to twenty (20) examples of the applicant’s very best creative work and creative process. All images should be clear (not blurry or pixilated) and include a short description of the work. The description should include: when the work was completed, the medium (materials) used to create the work, the dimensions of the original work, and whether the work was completed as a personal project or as an academic project. If the work presented was part of a group effort, the description should clearly identify any other group members and state your specific role and contribution.

The Admissions committee strongly suggests using an online portfolio site such as AllYou, Behance, PortfolioBox, or similar site. All of these services offer a free option and are straightforward to set up. The department cannot answer questions about sign-in or set-up for these services. Questions about sign-in and set-up should be directed to the appropriate company.

The portfolio should be submitted by email to admissions@alfredstate.edu. Alfred State accepts students on a rolling admissions system, which means students are accepted on a first-come, first-served basis. However, early application and portfolio submission may be important for certain scholarship consideration.

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

As part of the graduation requirements for the Bachelor of Science degree in architectural technology, students must complete a portfolio according to the following guidelines:
• The portfolio must contain a minimum of six (6) examples of creative academic work. These examples should demonstrate achievements as a designer. A minimum of two (2) examples must be from studio class projects in the last two years of the program. A maximum of two (2) examples may be of non-graphic work (example: written work).
• Each example will be accompanied by a short description of the project and solution, and include the name of the class for which the project was produced. If the item is part of a group effort, the specific role of the student should be included.
• Completed portfolios must be submitted digitally in Portable Document Format (PDF) on a CD or as directed by the department chair.
• Portfolios will be evaluated to determine whether they should be graded as “High Pass,” “Pass,” or “Fail.” This assessment will appear on the student’s permanent Alfred State transcript.
• The completed portfolio must be submitted to the Department of Architecture and Design Office by April 1. This is an absolute deadline; no portfolios will be accepted after the April 1 deadline. Evaluation will be done on a yearly basis by faculty reviewers. All decisions are final.

Email Address: DaviddI@alfredstate.edu
EVALUATION CRITERIA
Work in student portfolios should demonstrate:

- Understanding of the philosophy of building design and problem-solving skills through original and thorough design thinking.
- Ability to legibly communicate design ideas in graphic and written form.
- A working knowledge of a variety of construction systems and materials and how they affect building design.
- Competence in the use of graphic tools and techniques including freehand drawing, computer-aided drafting, physical models, and computer imaging.

SEMESTER ABROAD OPTION
Alfred State has an agreement with International Language Institute (Sant’Anna Institute) in Sorrento, Italy, to offer an optional study abroad to its students. Learn more at [www.alfredstate.edu/study-abroad](http://www.alfredstate.edu/study-abroad).

GENERAL NOTES:
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.

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 Silos.

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

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<tr>
<td>MATH 1034</td>
<td>College Algebra of Functions</td>
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<td>COMP 1503</td>
<td>Freshman Composition</td>
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<td>xxx3</td>
<td>Gen Ed/LAS Elective (Am. Hist. or Other World Civ)</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 receive licensure.
ARCHITECTURAL TECHNOLOGY (AAS)

AAS DEGREE - CODE #0538
Juan Burke, Program Coordinator
Email Address: BurkeJL@alfredstate.edu

Our architectural technology programs are designed to provide you with a comprehensive architectural education. The AAS degree offers a broad range of skills and basic data—architectural design, graphic communication, and construction technology—relevant to the building process.

All architecture degree programs have shared course work in the first two years. Because of this alignment, the AAS and BS in architectural technology programs are required to meet the same NAAB “Student Performance Criteria” that apply to the BArch program (which was awarded initial candidacy as of Jan. 1, 2014).

ADVANTAGES
• 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
• Comprehend architecture as being accountable to humanity’s need for safe, affordable shelter, for dignified ways of living, and for offering corresponding symbolic meaning – and the ability to produce designs infused by this understanding.
• Demonstrate knowledge of the evolution of architectural ideas (and associated principles, strategies and devices) throughout history and of how these were marshaled by architects in the service of certain intended purposes, as well as the ability to apply such ideas in the student’s own designs.
• Demonstrate knowledge of strategies for infusing design generally, and structural expression particularly, with poetic dimensions that help to transform environments – that would otherwise be merely good functionally and of sound construction - into inspiring and uplifting places.
• Demonstrate knowledge of sustainability, construction technology, and integrated project delivery.
• Demonstrate the ability to take on/participate constructively in urban renewal/social innovation projects that seek to serve the common good.
• Info management (computer and research skills appropriate to degree level and type).
• Written and oral communication (appropriate to degree level and type)
• Critical thinking (problem-solving, reasoning skills appropriate to degree level and type).

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 required). AAS students wishing to move on to either the 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. A portfolio review is required of all continuing students not meeting this requirement. The 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 go directly into 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.

OCCUPATIONAL OPPORTUNITIES
• Architect (after successfully meeting state requirements)
• Computer modelers
• Computer animators
• Detailers
• Specification writers
• Estimators

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 50 percent are employed; 50 percent continued their education.

RELATED PROGRAMS
Construction Engineering Technology
Interior Design

CERTIFICATION OR LICENSURE
The degree may be accepted for credit toward professional licensure in New York State.

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

TYPICAL PROGRAM
A typical day might be one or two one-hour lectures and a two-hour studio for freshmen. In the second year, some courses use three-hour studios.

GENERAL NOTES:
Students must complete at least one course from each of five SUNY General Education Silos.

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.

For Sociology elective, students may take SOCI 1163 or substitute HIST 1113, HIST 1143, HIST 2153, or PLSC 1043. Students planning to continue in the architectural technology BS program should consult with their adviser regarding Gen. Ed./LAS requirements.
ARCHITECTURAL TECHNOLOGY - AAS DEGREE
TYPICAL FOUR-SEMESTER PROGRAM

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</tbody>
</table>
You are considering studying architecture? You have found the right place!

You are considering studying architecture? You have found the right place!

The Bachelor of Architecture (BArch) program prepares students to be well-rounded, creative, and socially responsible architects who shape our world through the design of meaningful and inspirational spaces and places. The BArch is a professional program, which endeavors to prepare students for licensure shortly after graduation, reducing the need for further graduate education or an advanced degree.

ADVANTAGES

- Students are required to supplement studies with elective concentrations related to architectural practice, such as business, construction management, information technology, visual communication, or interior design. Elective courses may be taken in other departments at Alfred State and students may also cross-register for courses at Alfred University.
- 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 has an agreement with Sorrento Lingue International Language Institute (Sant’Anna Institute) in Sorrento, Italy, to offer an optional study abroad opportunity to its students. To learn more, see www.alfredstate.edu/study-abroad/italy.

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 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 degree. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

The NAAB grants candidacy status to new programs that have developed viable plans for achieving initial accreditation. Candidacy status indicates that a program should be accredited within six years of achieving candidacy, if its plan is properly implemented. In order to meet the education requirement set forth by the National Council of Architectural Registration Boards, an applicant for an NCARB Certificate must hold a professional degree in architecture from a program accredited by the NAAB; the degree must have been awarded not more than two years prior to initial accreditation. However, meeting the education requirement for the NCARB Certificate may not be equivalent to meeting the education requirement for registration in a specific jurisdiction. Please contact NCARB for more information.

The Alfred State Bachelor of Architecture program was granted Initial Candidacy status Jan. 1, 2014 and Continuation of Candidacy status in fall 2016.

PROGRAM STUDENT LEARNING OUTCOMES

- Comprehend architecture as being accountable to humanity's need for safe, affordable shelter, for dignified ways of living, and for offering corresponding symbolic meaning - and the ability to produce designs infused by this understanding.
- Demonstrate knowledge of the evolution of architectural ideas (and associated principles, strategies and devices) throughout history and of how these were marshaled by architects in the service of certain intended purposes, as well as the ability to apply such ideas in the student's own designs.
- Demonstrate knowledge of strategies for infusing design generally, and structural expression particularly, with poetic dimensions that help to transform environments - that would otherwise be merely good functionally and of sound construction - into inspiring and uplifting places.
- Demonstrate knowledge of sustainability, construction technology, and integrated project delivery.
- Demonstrate the ability to take on/participate constructively in urban renewal/social innovation projects that seek to serve the common good.
- Info management (computer and research skills appropriate to degree level and type).
- Written and oral communication (appropriate to degree level and type).
- Critical thinking (problem solving, reasoning skills appropriate to degree level and type).

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry, Algebra 2 with an 86 or above average plus high school pre-calculus. Students must submit a standardized test score (SAT and/or ACT) with a recommended combined reading/writing and math SAT score of 1170 or a composite ACT score of 24. Physics is strongly recommended.

PORTFOLIO REQUIREMENTS

Prior to acceptance into the Bachelor of Architecture program, each applicant must submit a digital portfolio for review and consideration of her/his acceptance. 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.

The overall portfolio should include ten (10) to twenty (20) examples of the applicant's very best creative work and creative process. All images should be clear (not blurry or pixilated) and include a short description of the work. The description should include: when the work was completed, the medium (materials) used to create the work, the dimensions of the original work, and whether the work was completed as a personal project or as an academic project. If the work presented was part of a group effort, the description should clearly identify any other group members and state your specific role and contribution.

The Admissions Committee strongly suggests using an online portfolio site such as AllYou, Behance, Portfoliobox, or similar site. All of these services offer a free option and are straightforward to set up. The department cannot answer questions about sign-in or set-up for these services. Questions about sign-in and set-up should be directed to the appropriate service provider.

The portfolio should be submitted by email to admissions@alfredstate.edu. Alfred State accepts students on a rolling admissions system, which means students are accepted on a first-come, first-served basis. However, early application and portfolio submission may be important for certain scholarship consideration.

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.

As part of the graduation requirements for the Bachelor of Architecture, students must complete a portfolio as part of their professional practice course work.

CAREER OPPORTUNITIES

A wide range of activities are open to graduates of this accredited degree: intern architect, practicing architect (after successfully meeting state registration requirements), or practitioner in related sub-fields that include: 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.
**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.

**TYPICAL PROGRAM**

In the first and second years, a typical day consists of two one-hour lectures and a two-hour studio. At the junior, senior, and fifth-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.

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.

**GENERAL NOTES:**

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

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-Studio 3. A portfolio review is required of all continuing or transfer students not meeting this requirement.

Minimum of "C" is required for ARCH 1184, ARCH 2394, ARCH 3104, ARCH 4304, ARCH 5306, ARCH 6306, ARCH 7306, ARCH 8306, ARCH 8716, and ARCH 8776.

**ARCHITECTURE - BARCH DEGREE**

**TYPICAL TEN-SEMESTER PROGRAM**

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**Seventh**

|          | ARCH 7306 | Design Studio 5       | 6 |
|          | ARCH 7003 | Environmental Controls 2 | 3 |
|          |           | Concentration Elective | 3 |
|          | COMP 5703 | Technical Writing II   | 3 |
|          |           |                       | 15|

**Eighth**

|          | ARCH 8306 | Design Studio 6       | 6 |
|          | ARCH 8003 | Professional Practice | 3 |
|          |           | Concentration Elective | 3 |
|          |           | Gen Ed Elective       | 4 |
|          |           |                       | 16|

**Ninth**

|          | ARCH 8716 | Design Studio 7-Thesis Definit | 6 |
|          | ARCH 8733 | Modern Architectural Theory    | 3 |
|          | ARCH 8753 | Advanced Structural Concepts   | 3 |
|          |           | Concentration Elective        | 3 |
|          |           |                       | 15|

**Tenth**

|          | ARCH 8776 | Design Studio 8-Thesis Develop | 6 |
|          | ARCH 8793 | Professional Development      | 3 |
|          |           | Concentration Elective        | 3 |
|          |           | Gen Ed Elective               | 12|

Be advised that a prior felony conviction may impede a student’s ability to participate in an internship and/or receive 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, rust repair, and frame straightening.

ADVANTAGES

• Inter-Industry Conference on Automotive Collision Repair (ICAR) certified and accredited by the National Automotive Training Educational Foundation (NATEF).
• Graduates may take Automotive Service Excellence (ASE) certification exams. Graduates are also eligible for New York State inspection certification. Students may take the ASE exam for certification in refrigerant recycling and recovery during their senior year.
• Students successfully completing autobody repair may wish to remain at Alfred State in the automotive service technician; heavy equipment, truck & 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 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 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.

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 – 86 percent are employed; 14 percent continued their education.

RELATED PROGRAMS

Automotive Service Technician
Heavy Equipment, Truck & Diesel Technician
Mechanical Engineering Technology
Motorcycle and Power Sports Technology
Motorsports Technology
Welding Technology

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Recommended: Algebra

TECHNICAL STANDARDS

Applicants in the autobody repair program must meet the following physical requirements:

• Must be able to lift 50 pounds to eye level.
• Must be able to effectively communicate with a person 6 to 10 feet away.
• Must be able to visually decipher small images on a monitor or digital display.
• Must be able to distinguish sounds associated with mechanical failures.
• Must be able to comprehend written information found in service repair manuals.
• Must have a valid motor vehicle driver's license.

CERTIFICATION OR LICENSURE

Graduates may take Automotive Service Excellence (ASE) certification exams. Graduates are also eligible for 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

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

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM
Alfred State automotive service technician graduates who apply 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 – 85 percent are employed; 15 percent continued their education.

RELATED PROGRAMS
Autobody Repair
Heavy Equipment, Truck & Diesel Technician
BIOLOGICAL SCIENCE
AAS DEGREE - CODE #1554

Dr. Ashley Shaloo, Program Coordinator
Email address: shalooac@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 health sciences BS, forensic science technology 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 – 100 percent continued their education.

RELATED PROGRAMS
Environmental Technology (AAS)
Forensic Science Technology (BS)
Health Sciences (BS)

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry, Algebra 2, Biology, Chemistry

TECHNICAL STANDARDS:
Students must possess fine motor skills that allow them to focus a microscope with fine adjustment and use forceps.

GRADUATION REQUIREMENTS
A minimum of 63 credit hours is required for graduation, with an overall cumulative index of 2.0. A grade of "C" or better is required in the core science courses (those which have BIOL or CHEM prefixes).
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

R. Jack Jones, Department Chair and Program Coordinator
Email address: jonesrij@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 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.

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 – 60 percent are employed; 40 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

BUILDING TRADES: BUILDING CONSTRUCTION - AOS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

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ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Recommended: Algebra

TECHNICAL STANDARDS
Applicants in the building trades: building construction program must be able to meet the following physical requirements:
• Must be able to lift 50 pounds to shoulder height.
• Must be able to perform safely in the laboratory.
• Must be able to communicate orally with a person 20 feet away.
• Must be able to climb a ladder and/or able to climb, un-aided, onto and off of equipment using three points of contact.
• Must be able to stand for long periods of time.
• Must be able to visually read from a blueprint or drawing.
• Must be able to hear a backup warning alarm.

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.
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.

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 business.
- Identify ethical issues within business.

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 Albion, 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 – 4 percent are employed; 96 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

* 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.

TYPICAL FOUR-SEMESTER PROGRAM

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BUSINESS ADMINISTRATION (BBA)

BBA DEGREE – CODE #0280

BBA DEGREE - ACCELERATED - 3 YEAR - CODE #2602

Francine Staba, Program Coordinator
Email address: stabafm@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 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.

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

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.
• Examine comprehensive business issues and communicate findings and solutions.
• Examine 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.
• Compare and contrast organizations in a global and diverse community.

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 90 percent – 70 percent are employed; 20 percent continued their education.

RELATED PROGRAMS

Accounting  
Business Administration  
Financial Planning  
Marketing  
Sport Management  
Technology Management

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry, SAT and/or ACT scores with a recommended combined reading/writing and math SAT score of 980 or a composite ACT score of 19.

Recommended: Algebra 2
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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

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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
CODING & REIMBURSEMENT SPECIALIST

CERTIFICATE – CODE #1671

Erica Matteson, RHIA, Program Coordinator
Email address: mattheses@alfredstate.edu

Securing accurate and appropriate payment for health care services is a challenge for health care providers, insurance companies, and patients. Today’s complex health care insurance and governmental payment systems depend on medical coding to determine proper payment. The coding and reimbursement specialist program incorporates the knowledge and skills you will need to assign the correct code for prompt and accurate reimbursement. As a C&RS professional, you will analyze patient records, assign ICD (ICD-10-CM/ICD-10-PCS), CPT, and HCPCS codes to diagnoses, procedures, and services provided to patients for timely and accurate health care billing, reimbursement, and medical necessity.

Online instruction is organized under the health information technology program (HiT program). This means if you initially select the C&RS program, you can transfer courses into the HiT program and earn your Associate in Applied Science (AAS) degree.

ADVANTAGES

• Alfred State’s comprehensive coding certificate program offers individuals the opportunity to pursue a business-related career essential to the health care industry.
• Alfred State’s C&RS program is entirely internet-based education, with the exception of the 80 hours of Professional Practice Experience.
• Teaching faculty in C&RS curriculum have real-world Health Information Management (HIM) industry experience.

PROGRAM STUDENT LEARNING OUTCOMES

• Apply biomedical knowledge (including medical terminology, anatomy & physiology, pathophysiology, and pharmacology) to apply diagnosis/procedure codes (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, and 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.
• Apply HIM knowledge of legal, ethical, accreditation, and certification standards as appropriate for the management of health 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 critical thinking to problem-solving and reasoning skills to health information management and coding practices.

PROFESSIONAL PRACTICE EXPERIENCE

Students complete non-paid professional practice experiences (PPEs) in the health information (coding) department of a health care facility (80 hours) in their last semester of study. 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 Joint Commission “Hospital Accreditation Standards Manual” requires hospitals to implement “a process to ensure that a person’s qualifications are consistent with his/her job responsibilities.” This standard “applies to staff, students, and volunteers,” and it further states that 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 C&RS program may be required to undergo a criminal background check prior to placement at the facility. In addition, the 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 PPE. The physical examination includes drug screening, a TB test, and/or DTB, hepatitis B, and/or MMRV immunization or status. Students may be required to incur costs associated with the criminal background check and/or physical examination.

Students may be required to attend an on-site orientation at the professional practice facility, which could be several days in length beyond the 80 PPE hours. Students must make appropriate arrangements with their current employer to complete the 80 hours at the PPE host site.

C&R ENTRANCE REQUIREMENTS & RECOMMENDATIONS

Required:

• High school biology or equivalent
• Must be able to visually read computer monitor
• Must be able to use keyboard and mouse
• Must be able to attend Professional Practice Experience (PPE) course, including 80 hours at a health care facility within reasonable driving/travel distance to home.
• Keyboarding, MS Office Professional

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. 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. The extensive use of a computer keyboard and mouse is required. 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.

CONTINUING EDUCATION OPPORTUNITIES

Graduates are eligible to continue their education by completing the health information technology (HiT) program. The HiT program is also Internet-based.

OCCUPATIONAL OPPORTUNITIES

• Hospitals and other health care facilities
• Clinics and physicians’ offices
• Insurance companies
• State and federal agencies
• Legal firms
• Software companies
• Consulting firms

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 50 percent are employed; 50 percent continued their education.

CERTIFICATION

Graduates are eligible to take national certification examinations offered by the American Health Information Management Association (AHIMA) and the American Academy of Professional Coders (AAPC). AHIMA offers Certified Coding Specialist (CCS) exams, and the AAPC offers Certified Professional Coder (CPC) exams. It is recommended students work for a minimum of one year full-time in a coding position before taking the CCS and CPC exams.

RELATED PROGRAMS

Health Information Technology
CODING & REIMBURSEMENT SPECIALIST - CERTIFICATE

Current Gainful Employment Data can be accessed online at:
catalog.alfredstate.edu/current/programs/coding-reimbursement-specialist/

More information on jobs related to this program can be found at:
www.online.onetcenter.org/link/summary/29-2071.00
TYPICAL FOUR-SEMESTER PROGRAM - Full-time

This program is offered as an Internet-based program only.

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<td>Medical Terminology</td>
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<td>Human Anat &amp; Physiology II</td>
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<td>Electronic Health Record Mgmt</td>
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<td>CPT &amp; HCPCS Level II Coding</td>
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<td>Insurance &amp; Reimbursement Processing</td>
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<td>Advanced Coding &amp; Reimbursement</td>
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</table>

Be advised that a prior felony conviction may impede a student’s ability to participate in a required professional practice experience.

**GRADUATION REQUIREMENTS**

C&RS 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 "C" in the MEDR courses to graduate from the C&RS program.

Should a student fail MEDR or BIOL courses a second time: They may re-take MEDR and/or BIOL courses as a continuing education student. Then, upon successful completion with a "C" or better, apply for readmission to the C&RS program. Or, students may retake the BIOL/MEDR equivalent courses on-campus at Alfred State or at another college, and transfer the credit back to Alfred State after having obtained pre-approval of the course for transfer credit and earning a grade of "C" or better.
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 (MSCA), 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.

A laptop computer is required for students in the computer engineering technology program. The college will provide a list of appropriate laptops and wireless modem cards to all accepted students. Some courses may require specialized tools and/or electronic components.

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 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
• Computer network systems integrator
• Computer network support specialist
• Computer network administrator
• Computer network engineering technician
• Computer systems engineering technician

EMPLOYMENT STATISTICS
Employment and continuing education rate:
Computer engineering technology (AAS degree): 100 percent – 100 percent continued their education.

Computer engineering technology (BS degree): 75 percent are employed.

ENROLLMENT AND GRADUATION DATA

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Degrees Awarded

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<tr>
<td>2015-2016</td>
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RELATED PROGRAMS
- Computer Information Systems
- Computer Science
- Cyber Security
- Electrical Engineering Technology
- Information Technology: Network Administration

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, SAT and/or ACT scores with a recommended combined reading/writing and math SAT score of 1080 or a composite ACT score of 21.
Recommended: Physics

GRADUATION REQUIREMENTS - AAS DEGREE
• 62 semester credit hours in program as listed above
• 25 semester credit hours of liberal arts and sciences
• Five 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
• 2.0 or above grade point average in major courses (BSET, CISY, ELET)
• Approval of department faculty
### COMPUTER ENGINEERING TECHNOLOGY - AAS DEGREE

#### TYPICAL FOUR-SEMESTER PROGRAM

**First**
- **CISY 1113** Computer Programming I 3
- **ELET 1202** Intro to Electrical Engineering Tech 2
- **ELET 1133** Digital Logic 3
- **ELET 1111** Digital Logic Laboratory 1
- **COMP 1503** Freshman Composition 3
- **MATH 1033** College Algebra 3

15

**Second**
- **CISY 2143** Microcomputer Systems I 3
- **ELET 1142** Electronic Fabrication 2
- **ELET 1103** Circuit Theory I 3
- **ELET 1151** Circuit Theory Laboratory 1
- **MATH 2043** College Trigonometry 3
- **LITR xxx3** Gen. Ed. - Literature Elective 3

15

**Third**
- **CISY 5123** Scientific Programming 3
- **ELET 2103** Electronics Theory I 3
- **ELET 2151** Electronics Laboratory I 1
- **ELET 2143** Embedded Controller Fundamentals 3
- **CISY 4033** Networking I 3
- **PHYS 1024** General Physics I 4

17

**Fourth**
- **CISY 3193** Computer Architecture & Organization 3
- **XXXX xxx3** Other approved Major Elective 3
- **CISY 4053** Linux/Unix Admin and Scripting 3
- **MATH 1063** Technical Calculus I 3
- **PHYS 2023** General Physics II 3
- **SOCI 1193** Marriage & Family Acrs Wild Cat OR
- **PLSC 1043** American Government 3

15

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

**Fifth**
- **ELET 5113** Electronic Communications 3
- **COMP 5703** Technical Writing II 3
- **MATH 2074** Technical Calculus II 4
- **SPCH 1083** Effective Speaking 3
- **CISY 3283** Internetworking I 3 OR
- **XXXX xxx3** Other approved Major Elective 16

**Sixth**
- **ELET 7404** Embedded & Real Time Systems 4
- **MATH 5xx4** Upper Division Math Elective 4
- **CISY 4283** Internetworking II OR
- **XXXX xxx3** Other approved Major Elective 3
- **CISY 7023** Network Administration OR
- **XXXX xxx3** Other approved Major Elective - Upper 3
- **CISY 7013** Network & Host Security OR
- **XXXX xxx3** Other approved Major Elective - Upper 17

**Seventh**
- **BSET 7001** Senior Seminar & Project Des 1
- **MATH 7113** Economic Analy for Engr Tech 3
- **MATH 7123** Statistics for Engr Tech & Sci 3
- **PHYS 8013** Modern Physics 3
- **CHEM 5013** Applied Chemical Principles 3
- **CISY 7033** Security Tools OR
- **XXXX xxx3** Other approved Major Elective - Upper 3

16

**Eighth**
- **BSET 8003** Senior Technical Project 3
- **CISY 7003** Project Management OR
- **XXXX xxx3** Other approved Major Elective - Upper 3
- **XXXX xxx3** General Education Elective 3
- **XXXX xxx3** General Education Elective 3
- **XXXX xxx3** General Education Elective 3

15

Be advised that a prior felony conviction may impede a student's ability to receive licensure.
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.

A laptop computer is required for students entering the computer information systems program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

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 Web pages 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, information technology: web development BTech, the interdisciplinary studies BTech, or technology management MBA 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 – 100 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.

COMPUTER INFORMATION SYSTEMS - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

**First**

<table>
<thead>
<tr>
<th>CisY</th>
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**Third**

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**Fourth**

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<tr>
<td></td>
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</tr>
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<td>Total</td>
<td>15</td>
</tr>
</tbody>
</table>

* 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.
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.

A laptop computer is required for students entering the computer science program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

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 Web pages 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 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

TYPICAL FOUR-SEMESTER PROGRAM

First

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>CISY 1113</td>
<td>Computer Programming I</td>
<td>3</td>
</tr>
<tr>
<td>COMP 1503</td>
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Second

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<td>MATH 1084</td>
<td>Calculus I</td>
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<td>CISY 2153</td>
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<td>CISY 4033</td>
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<td>CISY 3223</td>
<td>Intro to Web Page</td>
<td>3</td>
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<td>MATH 2163</td>
<td>Discrete Mathematics</td>
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<td>XXXX</td>
<td>Gen Ed - Natural Science w/Lab</td>
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<td>CISY 3193</td>
<td>Comp Arch and Org</td>
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<tr>
<td>CISY 4053</td>
<td>Linux/Unix Admin and Scripting OR</td>
<td>3</td>
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<tr>
<td>CISY 5403</td>
<td>Database Concepts</td>
<td>3</td>
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<td>CISY 4003</td>
<td>Comp Prgrmming III</td>
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<tr>
<td>XXXX</td>
<td>Open Elective</td>
<td>3</td>
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</table>

Professional elective 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.
CONSTRUCTION ENGINEERING TECHNOLOGY

AAS DEGREE – CODE #0577

Timothy Piotrowski, Program Coordinator
Email address: piotrotj@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 sponsors an intern program with the NYS Construction Materials Association, which enables qualified students to work within this segment of the industry during the summer after the first year.
• 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 laptop computer is required for students entering the construction engineering technology program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

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 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 nontechnical 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 commitment to quality, timeliness, and continuous improvement.

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

Building inspector
Construction inspector
Engineering technician
Installation supervisor
Project coordinator
Sales representative
Supt. of public works
Codes enforcement officer
Construction superintendent
Estimator
Materials tester
Quality control technician
Structural detailer

EMPLOYMENT STATISTICS

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

ENROLLMENT AND GRADUATION DATA

Enrollment (based on fall census)

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
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<td>2017</td>
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Degrees Awarded

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<td>2016-2017</td>
<td>18</td>
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<tr>
<td>2015-2016</td>
<td>14</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

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.
## CONSTRUCTION ENGINEERING TECHNOLOGY - AAS DEGREE

### TYPICAL FOUR-SEMESTER PROGRAM

<table>
<thead>
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<th>Credits</th>
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<tr>
<td>First</td>
<td>COMP 1503</td>
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<tr>
<td></td>
<td>CIVL 1011</td>
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<td>CIVL 1204</td>
<td>Surveying I</td>
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<td></td>
<td>CIVL 1013</td>
<td>Portland Cement Concrete</td>
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</tr>
<tr>
<td></td>
<td>CIVL 1182</td>
<td>Civil Tech Graphics</td>
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<tr>
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<td>College Algebra</td>
<td>3</td>
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<tr>
<td>Second</td>
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<td>4</td>
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<td></td>
<td>xxx3</td>
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<tr>
<td></td>
<td>PHYS 1024</td>
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<td></td>
<td>MATH 2043</td>
<td>College Trigonometry</td>
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<td>Literature Elective</td>
<td>3</td>
</tr>
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<td>Third</td>
<td>CIVL 3553</td>
<td>Comm Bldg Const Methods &amp; Prac</td>
<td>3</td>
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<tr>
<td></td>
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<td>Structures I</td>
<td>3</td>
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<td>General Physics II</td>
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<td>MATH 1063</td>
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<tr>
<td>Fourth</td>
<td>CIVL 4143</td>
<td>Contracts, Specs, &amp; Estimating</td>
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</tr>
<tr>
<td></td>
<td>xxx3</td>
<td>General Education Elective</td>
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</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).
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].
- Students typically gain work experience through summer employment with construction companies.

A laptop computer is required for students entering the construction management program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

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
CONSTRUCTION MANAGEMENT - BS DEGREE
TYPICAL EIGHT-SEMESTER PROGRAM

<table>
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<th>Semester</th>
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<tr>
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<td>PHYS 1024</td>
<td>General Physics I</td>
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<td>College Trigonometry</td>
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<td>COMP 5703</td>
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<td>ACCT 5043</td>
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<td>CIVL 6123</td>
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<td>Statistics I</td>
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<td>CIVL 7223</td>
<td>Construction Project Planning</td>
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<td>MATH 7113</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.

SUGGESTED TECHNICAL ELECTIVES:
- CIVL 6113 Environmental Tech Concepts
- CIVL 7103 Land Development and Design
- Other tech 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 SUPERVISION

BTECH DEGREE – CODE #635

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 presentation 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.
• Apply construction management skills as a member of a multi-disciplinary team.
• Apply electronic-based technology to manage construction processes.
• 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.
• Understand construction quality assurance and control.
• Understand the legal implications of contract, common, and regulatory law to manage a construction project.

OCCUPATIONAL OPPORTUNITIES

• Assistant superintendent
• Equipment and material sales
• Project manager for specialty trade contractors
• Superintendent

EMPLOYMENT STATISTICS

New program -- no data available

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)

RELATED PROGRAMS

• Architectural Technology
• Building Trades: Building Construction

• Construction Management
• Electrical Engineering Technology
• Heavy Equipment Operations
• Mechanical Engineering Technology

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

• Students must either possess an associate degree in a related curriculum or have amassed at least 60 credit hours with a minimum cumulative GPA of 2.0, including courses that fulfill five different general education fields.
• Recommended minimum of five SUNY General Education categories covered (BC and MA included).
• Recommended minimum of 21 credits in liberal arts and sciences.
• A laptop computer will be required of all students. See laptop specifications at www.alfredstate.edu/required-laptops.
• Students entering from an AOS degree will need to work out a general education completion plan with the department chair or curriculum coordinator.

TECHNICAL STANDARDS

Students in the construction supervision 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.

CONSTRUCTION SUPERVISION – BTECH

TYPICAL FIVE- THROUGH EIGHT-SEMESTER PROGRAM

<table>
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</tbody>
</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

Melissa Blake, Program Coordinator
Email address: blikerms@alfredstate.edu

This program, certified 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 in each of the following areas: literary at 180 wpm, jury charge at 200 wpm, and two-voice at 225 wpm.
- Write a dictated list with 95 percent accuracy using advanced shorthand theory, special abbreviations, and phrasing principles applicable to legal and reporting work.
- Perform readback and analysis of shorthand notes.
- Perform proper transcription and various other functions using the computer.
- Translate two-voice and multi-voice testimony, including medical and technical material, literary, jury charge dictation, and dictation containing current events at various speeds.
- 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.
- Demonstrate an understanding and application of law, legal testimony, medical terminology, and/or anatomy.

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 was $49,500 in 2015.
- 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).

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 100 percent are employed

RELATED PROGRAMS

Technology Management (BBA)

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Recommended: Algebra

COURT AND REALTIME REPORTING - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM (on campus and online)

| First | CTRP 1174 | Realtime Writing Theory I | 4 |
|       | BUAD 1543 | Grammar for Court Reporters | 3 |
|       | COMP 1503 | Freshman Composition | 3 |
|       | xxx3 | Gen. Ed. Elective | 3 |
|       |   |   | 13 |
| Second | CTRP 2274 | Realtime Writing Theory II | 3 |
|       | CTRP 3373 | Computer Aided Transcription Humanities Gen. Ed. Elective | 3 |
|       | xxx3 | Gen. Ed. Elective | 13 |
|       |   |   | 3 |
|       | Summer Session (required) |   |   |
|       | CTRP 3163 | Speedbldg I for Report & Capt | 3 |
|       | CTRP 3363 | Tech for Reporting/ Captioning | 3 |
|       |   |   | 6 |
| Third | CTRP 4264 | Spd Bldg II for Reptr & Capt | 4 |
|       | CTRP 2603 | Pencil Dictionary Prod & Maint | 3 |
|       | xxx3 | Business Law I OR Medical Term. | 3 |
|       | SPCH 1083 | Effective Speaking | 3 |
|       | xxx3 | Gen. Ed. Elective | 16 |
| Fourth | CTRP 4364 | Spd Bldg III for Reptr & Capt | 4 |
|       | CTRP 4602 | Int & Prac for Reporter & Capt | 2 |
|       | CTRP 4634 | Proc for Reporters & Captioner | 4 |
|       | xxx3 | Business Law I OR Medical Term. | 3 |
|       | xxx3 | Gen. Ed. Elective | 16 |

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.

- Students may select BUAD 3043 - Business Law I or MEDR 1133 - Medical Terminology in either semester.

ADDITIONAL PROGRAM INFORMATION

- The internship course (CTRP 4602) is completed off campus.
- All students are required to take CTRP 3163 in the summer.

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.
This program, certified 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.

**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 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 in each of the following areas: literary at 180 wpm, jury charge at 200 wpm, and two-voice at 225 wpm.
- Write a dictated list with 95 percent accuracy using advanced shorthand theory, special abbreviations, and phrasing principles applicable to legal and reporting work.
- Perform readback and analysis of shorthand notes.
- Perform proper transcription and various other functions using the computer.
- Translate two-voice and multi-voice testimony, including medical and technical material, literary, jury charge dictation, and dictation containing current events at various speeds.
- 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.
- Apply proper legal, medical, and anatomical terminology in transcription.

**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.

**RELATED PROGRAMS**

- Court and Realtime Reporting (AAS)
- Technology Management (BBA)

**COURT REPORTING AND CAPTIONING - CERTIFICATE**

**TYPICAL FOUR-SEMESTER PROGRAM (on campus and online)**

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<thead>
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<th>Semester</th>
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<th>Credits</th>
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<td>First</td>
<td>CTRP 1174</td>
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<td></td>
<td>BUAD 1543</td>
<td>Grammar for Court Reporters</td>
<td>3</td>
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<td>Second</td>
<td>CTRP 2274</td>
<td>Realtime Writing</td>
<td>4</td>
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<tr>
<td></td>
<td>CTRP 3373</td>
<td>Computer Aided Transcription</td>
<td>3</td>
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<td>MEDR 1133</td>
<td>Medical Terminology</td>
<td>3</td>
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<td>Summer</td>
<td>CTRP 3163</td>
<td>Speedbldg I for Reporter &amp; Captioning</td>
<td>3</td>
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<tr>
<td></td>
<td>CTRP 3363</td>
<td>Tech for Reporting/Captioning</td>
<td>3</td>
</tr>
<tr>
<td>Third</td>
<td>CTRP 4264</td>
<td>Spd Bldg II for Reporter &amp; Caption</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>CTRP 2603</td>
<td>Personal Dictionary Prod &amp; Maint</td>
<td>3</td>
</tr>
<tr>
<td>Fourth</td>
<td>CTRP 4602</td>
<td>Int &amp; Prac for Reporter &amp; Caption</td>
<td>2</td>
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<tr>
<td></td>
<td>CTRP 4634</td>
<td>Proc for Reporters &amp; Captioner</td>
<td>4</td>
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<tr>
<td></td>
<td>CTRP 4364</td>
<td>Spd Bldg III for Reporter &amp; Caption</td>
<td>4</td>
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</table>

Total Credit Hours: 40

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.

**ADDITIONAL PROGRAM INFORMATION**

- The internship course (CTRP 4602) is completed off campus.

Current Gainful Employment Data can be accessed online at:
[catalog.alfredstate.edu/current/programs/court-reporting-captioning/](catalog.alfredstate.edu/current/programs/court-reporting-captioning/)

More information on jobs related to this program can be found at:
[www.onetonline.org/link/summary/23-2091.00](www.onetonline.org/link/summary/23-2091.00)
Insert Certificate Employment Chart
CRIMINAL JUSTICE
AS DEGREE – CODE #2279

Jill Priest Amati, Program Coordinator
Email address: amatiJP@alfredstate.edu

The Associate in Science (AS) degree in criminal justice 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.

ADVANTAGES
AS program – students can attend the Police Academy and receive up to 6 credits toward their degrees for CJUS 1003, Intro to Criminal Justice, and CJUS 2003, Introduction to Law.

Police Academy - http://www.alfredstate.edu/police-academy

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 – 100 percent continued their education.

RELATED PROGRAMS
Criminal Justice (BS)
Forensic Science Technology
Human Services
Individual Studies
Interdisciplinary Studies
Liberal Arts & Sciences: Social Science

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

CRIMINAL JUSTICE - AS DEGREE
TYPICAL FOUR-SEMESTER PROGRAM

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<td>Introduction to Law</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.

Notes: Minimum number of hours required for graduation is 60. Elective courses must be from approved list of courses. Some elective courses have prerequisites, so make sure you have met them before registering for them. You can find them in the college catalog.

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
CRIMINAL JUSTICE
BS DEGREE – CODE #850
Mark Whitman, Program Coordinator
Email address: whitmam@alfredstate.edu

The Bachelor of Science (BS) degree in criminal justice 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
- criminal justice leadership and administration

ADVANTAGES
BS program students can attend the Police Academy and receive up to 12 credits toward their degrees for CJUS 1003, Intro to Criminal Justice, and CJUS 2003, Introduction to Law, and two three-credit professional electives.

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.

RELATED PROGRAMS
Criminal Justice (AS)
Human Services
Human Services Management
Liberal Arts & Sciences: Social Science

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, SAT and/or ACT scores with a recommended combined reading/writing and math SAT score of 1080 or a composite ACT score of 21.

Recommended: Geometry, Biology
## TYPICAL EIGHT-SEMESTER PROGRAM

**First**

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<td>Statistical Concepts OR</td>
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<td>CJUS</td>
<td>1003</td>
<td>Intro to Criminal Justice</td>
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Minimum of “C” required 15-16

**Second**

<table>
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<th>Code</th>
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<td>American Government</td>
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<tr>
<td>CJUS</td>
<td>2003</td>
<td>Introduction to Law</td>
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<td>SPCH</td>
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15-16

**Third**

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<td>Research Methods</td>
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<td>Constitutional Issues in Crim</td>
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**Seventh**

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**Eighth**

**Option #1**

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**Option #2**

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<td>8203</td>
<td>Pvt Security Admin in America</td>
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<td>Terrorism</td>
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<td>XXXX</td>
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12

### 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 manager sanitation certification from the Educational Foundation of the National Restaurant Association as part of the program.
- The department requires that all students obtain experience under direct managerial supervision for a minimum of 300 hours of employment prior to graduation. This is to enhance skill development and improve career advancement after graduation.
- 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

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 30 percent are employed; 70 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 $80 per semester. It is mandatory for all culinary arts students to have at least a 5-meal, meal plan. First-semester textbooks cost approximately $500, and approximately $100 each succeeding semester.

RELATED PROGRAMS
Culinary Arts: Baking, Production and Management

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Recommended: Knowledge of basic math, reading, and writing skills.

TECHNICAL STANDARDS
Applicants in the culinary arts program must meet the following physical requirements:
- Perform lab functions while standing on their feet for up to five hours daily.
- Be proficient in reading (for guest checks, recipes, and instructional manuals) and mathematics (for recipe conversion, cost control, and calculations associated with food production and service).
- Lift 50 pounds from floor to eye level.
- Visually identify degree of product doneness.
- Handle kitchen equipment, including knives.

CERTIFICATION OR LICENSURE
Students may earn manager sanitation certification from the Educational Foundation of the National Restaurant Association as part of the program.

CULINARY ARTS - AOS DEGREE
TYPICAL FOUR-SEMESTER PROGRAM

First
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>CULN 1083</td>
<td>Food Safety &amp; Service Training</td>
<td>3</td>
</tr>
<tr>
<td>CULN 1143</td>
<td>Culinary Foundations</td>
<td>3</td>
</tr>
<tr>
<td>CULN 1373</td>
<td>Purchasing &amp; Cost Control</td>
<td>3</td>
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<tr>
<td>CULN 1479</td>
<td>Kitchen Fundamentals</td>
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<tr>
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<td>CULN 2183</td>
<td>Menu Planning</td>
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<tr>
<td>CULN 2263</td>
<td>Cooking Techniques &amp; Preps</td>
<td>3</td>
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<tr>
<td>CULN 2479</td>
<td>Culinary Preparations</td>
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Third
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<th>Course</th>
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<tr>
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<td>Beverage &amp; Fermentation</td>
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<tr>
<td>CULN 3353</td>
<td>Advanced Culinary Preparation</td>
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<tr>
<td>CULN 3479</td>
<td>Intl Cook, Garde Manger &amp; Baki</td>
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Fourth
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<tr>
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<td>CULN 4163</td>
<td>Advanced Cuisine</td>
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<td>CULN 4253</td>
<td>Hospitality Management</td>
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<tr>
<td>CULN 4479</td>
<td>Culinary Capstone</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 index of 2.0, which is equivalent to a "C" average.

Note: Students must pass 1479 before taking 2479, pass 2479 before taking 3479, and pass 3479 before taking 4479.
CULINARY ARTS: BAKING, PRODUCTION & MANAGEMENT

AOS DEGREE – CODE #0423

Debra Burch, Department Chair and Program Coordinator
Email address: burchda@alfredstate.edu

There’s never been greater demand for skilled bakers. Our program will prepare you for this exciting field with 1,350 hours of hands-on production experience, of which approximately 80 percent is concentrated in bakery training. The major includes detailed instruction in methods, ingredients, measurements, controls, equipment, and merchandising. And the production for breakfast, lunch, and dinner requirements is built into one daily schedule.

ADVANTAGES
- Students may earn sanitation certification from the Educational Foundation of the National Restaurant Association as part of the program.
- The department requires that all students obtain experience under direct managerial supervision for a minimum of 300 hours of employment prior to graduation. This is to enhance skill development and improve career advancement after graduation.
- Graduates have the option of applying for readmission into a dual-degree program whereby they may obtain a second degree in culinary arts in one additional year.

PROGRAM STUDENT LEARNING OUTCOMES
- Interpret and comply with prevailing food safety regulations.
- Create products from complex formulas.
- Successfully vie for employment or continuing education in the food service industry.
- Competently utilize typical bakery equipment.
- Establish product and plate cost for bakery menu items.
- Demonstrate the relationship among menu, equipment, layout, and design.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM
Alfred State culinary arts: baking, production and management 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
- Baker
- Caterer
- Pastry chef
- Sales representative
- Commercial baker and management
- Management
- Product developer
- Entrepreneur

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

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 $80 per semester. It is mandatory that all culinary arts: baking, production & management students have at least a 5-meal, meal plan. First-semester textbooks cost approximately $500, and approximately $100 each succeeding semester.

RELATED PROGRAMS
Culinary Arts

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Recommended: Knowledge of basic math, reading, and writing skills.

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<td>Menu Planning</td>
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- Be proficient in reading (for guest checks, recipes, and instructional manuals) and mathematics (for recipe conversion, cost control, and calculations associated with food production and service).
- Lift 50 pounds from floor to eye level.
- Visually identify degree of product doneness.
- Handle kitchen equipment, including knives.

CULINARY ARTS: BAKING, PRODUCTION & MANAGEMENT - AOS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

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Fourth
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</tbody>
</table>
The Bachelor of Technology degree in cyber security at Alfred State is designed to prepare you to enter the work force 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.

A laptop computer is required for students entering the cyber security program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

PROGRAM STUDENT LEARNING OUTCOMES
- Demonstrate troubleshooting strategies with a variety of security problems.
- 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 security management.
- Demonstrate effective research, planning, and security management of software updates and fixes.
- Apply accumulated knowledge and skills in an actual industry environment.
- Demonstrate effectiveness in the use of computer forensic tools, procedures, techniques, and hardware, as well as maintain physical evidence.
- Demonstrate effectiveness in configuring authentication schemes, such as NAT, content security and content vectoring, SYNDefender, and VPNs using industry standard firewalls.
- Demonstrate effectiveness in the use and scan of a network with heterogeneous operating systems and identify security vulnerabilities.
- Demonstrate knowledge of multiple areas within the liberal arts arena.
- Demonstrate knowledge in design and configuration of Windows security.
- Demonstrate effectiveness in tracking and monitoring attacks against Linux servers and how to prevent them.

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, SAT and/or ACT scores with a recommended combined reading/writing and math SAT score of 1080 or a composite ACT score of 21.

CYBER SECURITY - BTECH DEGREE
TYPICAL EIGHT-SEMESTER PROGRAM

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<td>Cisy 1113</td>
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<tr>
<td></td>
<td>Comp 1503</td>
<td>Freshman Composition</td>
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<td>XXXX xxx3</td>
<td>Gen. Ed. Social Science</td>
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<td>XXXX xxx3</td>
<td>Gen. Ed. Other</td>
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<td></td>
<td>Cisy 2153</td>
<td>Database Appl and Programming I</td>
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<td>Computer Programming II</td>
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<td>Database Appl and Programming I</td>
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<td>Networking I</td>
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<td>Cisy 3223</td>
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<td>Acct 1124</td>
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<td>Cisy 4053</td>
<td>Linux/Unix Admin and Scripting</td>
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<td>Buad 3153</td>
<td>Fundamentals of Management</td>
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<td>XXXX xxx3</td>
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<td>CISY 7033</td>
<td>Security Tools</td>
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<td>CISY 7023</td>
<td>Compu Forensics &amp; Legal Issues</td>
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<td>XXXX xxx3</td>
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Total: 18 credits

### Sixth Semester

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<td>CISY 7013</td>
<td>Network &amp; Host Security</td>
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<td>CISY 5133</td>
<td>Sec Policies, Recov &amp; Risk Man</td>
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<td>CISY 8303</td>
<td>Sfw Intgtn &amp; Interoperability</td>
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<td>CISY 8603</td>
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Total: 15 credits

### Eighth Semester

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Total: 12 credits

* If not required, take LAS elective to complete degree requirements of 3 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
Bridgett Mayorga, Program Director
Email address: mayorgbl@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), the Joint Review Committee on Education in Diagnostic Medical Sonography (JRCDMS), 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.

The diagnostic medical sonography (DMS) program is seeking accreditation from the Commission on Accreditation of Allied Health Education Programs (CAAHEP) during the 2018-2019 academic year. Currently, there are three pathways available to students to achieve sonography certification depending on individual requirements. The certifications are available via the American Society of Diagnostic Medical Sonography (ARDMS) and the American Registry of Radiologic Technologist (ARRT). Once the DMS program receives accreditation with CAAHEP, students will be required to take only one certification exam. Please contact our DMS program for further information.

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 12-week (40 hours per week) summer session that is required and provides valuable experience in developing clinical competency skills. In addition, nine 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

National employment statistics are available by visiting the Society for Diagnostic Medical Sonography website at www.sdms.org.

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

Recommended: Chemistry, Physics

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.

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 health care 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.
## DIAGNOSTIC MEDICAL SONOGRAPHY - AAS DEGREE

### TYPICAL FOUR-SEMESTER PROGRAM

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<thead>
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<tr>
<td>SONO 1003</td>
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<td>RALT 1003</td>
<td>Radiation Physics</td>
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<tr>
<td>MATH x3x3</td>
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<td>BIOL 1404</td>
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<tr>
<td>SONO 2003</td>
<td>Sectional Anatomy</td>
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<td>SONO 2013</td>
<td>US Physics and Instrument I</td>
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<td>SONO 2024</td>
<td>Sonographic Procedures I</td>
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<td>BIOL 2504</td>
<td>Anatomy &amp; Physiology II</td>
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<td>SONO 3013</td>
<td>US Physics &amp; Instrument II</td>
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<td>SONO 3034</td>
<td>Sonographic Procedures II</td>
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<td>BIOL 4403</td>
<td>Pathophysiology</td>
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<td>SONO 4003</td>
<td>Professional Dev in Sonography</td>
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<td>SONO 4014</td>
<td>Sonographic Clinical III</td>
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<td>SONO 4044</td>
<td>Sonographic Procedures III</td>
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<td>Effective Speaking</td>
<td>3</td>
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</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 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

Jeremy Speed Schwartz, Program Coordinator
Email address: schwarj@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.

A laptop computer is required for students entering the digital media and animation program. Laptop specifications are available at www.alfredstate.edu/required-laptops#Apple-MacBook-Pro.

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

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 100 percent are employed.

RELATED PROGRAMS

Computer Engineering Technology
Graphic & Media Design
Information Technology: Web Development

ENTRANCE REQUIREMENT/RECOMMENDATIONS

Required: Algebra, Geometry. SAT and/or ACT scores with a recommended combined reading/writing and math SAT score of 1080 or a composite ACT score of 21.

Recommended: Algebra 2

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.
# DIGITAL MEDIA AND ANIMATION – BS

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<td>Intro to Visual Communication</td>
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<td>Foundations:Form/Space Rltnship</td>
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<td>DGMA 1333</td>
<td>Survey of Animatn &amp; Visual Eff</td>
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<td>3D Design/Color</td>
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## TYPICAL FIVE- THROUGH EIGHT-SEMESTER PROGRAM

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<td>Adv Modeling, Texturing &amp; Ligh</td>
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<td>DGMA 6103</td>
<td>Production II</td>
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<td>COMP 5703</td>
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<td>Motion Graphics</td>
<td>3</td>
</tr>
<tr>
<td>DGMA 6413</td>
<td>Advanced Animation (Upper Level)</td>
<td>3</td>
</tr>
<tr>
<td>DGMA xxx3</td>
<td>Technical Elective (Upper Level)</td>
<td>3</td>
</tr>
<tr>
<td>XXXX xxx3</td>
<td>Gen Ed/LAS Elective (Upper Level)</td>
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<tr>
<td>XXXX xxx3</td>
<td>Gen Ed/Western Civilization OR</td>
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<tr>
<td>XXXX xxx3</td>
<td>Gen Ed/Foreign Language</td>
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## Seventh

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>DGMA 7203</td>
<td>Senior Seminar</td>
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<tr>
<td>DGMA 7403</td>
<td>Senior Studio Project I</td>
<td>3</td>
</tr>
<tr>
<td>DGMA 7503</td>
<td>Digital Media &amp; Anmtn Internsh</td>
<td>3</td>
</tr>
<tr>
<td>DGMA 3113</td>
<td>Studio Tokyo</td>
<td>3</td>
</tr>
<tr>
<td>XXXX xxx3</td>
<td>Gen Ed/LAS Elective</td>
<td>3</td>
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<thead>
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<tr>
<td>DGMA 8106</td>
<td>Senior Studio Project II</td>
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</tr>
<tr>
<td>DGMA 8103</td>
<td>Portfolio</td>
<td>3</td>
</tr>
<tr>
<td>XXXX xxx3</td>
<td>Gen Ed/LAS Elective</td>
<td>3</td>
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<tr>
<td>XXXX xxx3</td>
<td>Gen Ed/American History</td>
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<tr>
<td>XXXX xxx3</td>
<td>Gen Ed/Other Worl Civ</td>
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</tbody>
</table>
DIGITAL MEDIA AND ANIMATION

AAS DEGREE – CODE #1212

Jeremy Speed Schwartz, Program Coordinator
Email address: speedj@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.

A laptop computer is required for students entering the digital media and animation program. Laptop specifications are available at www.alfredstate.edu/required-laptops#Apple-MacBook-Pro.

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

EMPLOYMENT STATISTICS

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

RELATED PROGRAMS

- Computer Engineering Technology
- Graphic & Media Design
- Information Technology; Web Development

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry

Recommended: Algebra 2

DIGITAL MEDIA AND ANIMATION (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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<tbody>
<tr>
<td>DGMA 1403</td>
<td>Digital Foundations I</td>
<td>3</td>
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<tr>
<td>DGMA 1413</td>
<td>Foundations: Form/Space Rlnship</td>
<td>3</td>
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<tr>
<td>DGMA 1423</td>
<td>Intro to Visual Communication</td>
<td>3</td>
<td></td>
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<tr>
<td>DGMA 1333</td>
<td>Survey of Animatn &amp; Visual Eff</td>
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<tr>
<td>COMP 1503</td>
<td>Freshman Composition</td>
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<tr>
<td>DGMA 2403</td>
<td>Introduction to 3D Animation</td>
<td>3</td>
<td></td>
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<tr>
<td>FNAT 2423</td>
<td>3D Design/Color</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>FNAT 2433</td>
<td>Figure and Motion</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>FNAT 1313</td>
<td>Art History</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MATH xxx3</td>
<td>Gen Ed - Math Elective</td>
<td>3</td>
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<tr>
<td>DGMA 3403</td>
<td>Intermediate 3D Animation</td>
<td>3</td>
<td></td>
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<tr>
<td>SOCI xxx3</td>
<td>Gen Ed - Social Science Elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>XXXX xxx3</td>
<td>Gen Ed - Natural Science Elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>LITR xxx3</td>
<td>Literature Elective</td>
<td>3</td>
<td></td>
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<td></td>
<td>15</td>
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<tr>
<td>DGMA 4103</td>
<td>Interactive Design</td>
<td>3</td>
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<tr>
<td>SPCH 1083</td>
<td>Effective Speaking</td>
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<tr>
<td>FNAT 3513</td>
<td>Art History II</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>LITR 2813</td>
<td>Introduction to Film</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>DGMA xxx3</td>
<td>Technical Elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>XXXX xxx3</td>
<td>Liberal Arts Elective</td>
<td>3</td>
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<td></td>
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<td>18</td>
</tr>
</tbody>
</table>

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.
ELECTRICAL CONSTRUCTION AND MAINTENANCE ELECTRICIAN
AOS DEGREE – CODE #0498
Bradley Thompson, Department Chair and Program Coordinator
Email address: thompsjb@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 Wellslev Electric 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, lay-out, 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 B Tech 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.

<table>
<thead>
<tr>
<th>IBEW Local</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>241</td>
<td>Ithaca</td>
</tr>
<tr>
<td>86</td>
<td>Rochester</td>
</tr>
<tr>
<td>237</td>
<td>Niagara Falls</td>
</tr>
</tbody>
</table>

OCCUPATIONAL OPPORTUNITIES
- Designer
- Installer
- Construction site electrician
- Electrical estimator
- Electrical inspector
- PLC programmer
- Salesperson
- Electrical trade union or non-union apprentice
- 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 100 percent – 91 percent are employed; 9 percent continued their education.

RELATED PROGRAMS
Building Trades: Building Construction
Electrical Engineering Technology

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Recommended: Algebra; good writing and reading comprehension skills

TECHNICAL STANDARDS
Applicants in the electrical construction and maintenance electrician program must meet the following physical requirements:
- Must be able to visually translate information on analog or digital meters and other test equipment.
- Must be able to lift 50 pounds to eye level.
- 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 adhere to and perform all safety requirements.

ELECTRICAL CONSTRUCTION & MAINTENANCE ELECTRICIAN - AOS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

<table>
<thead>
<tr>
<th></th>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>ELTR 1156</td>
<td>Residential Wiring I</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>ELTR 1166</td>
<td>Residential Wiring Lab IA</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>ELTR 1176</td>
<td>Residential Wiring Lab IB</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>ELTR 1176</td>
<td>Residential Wiring Lab IB</td>
<td>18</td>
</tr>
<tr>
<td>Second</td>
<td>ELTR 2156</td>
<td>Residential Wiring II</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>ELTR 2166</td>
<td>Residential Wiring Lab IIA</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>ELTR 2176</td>
<td>Residential Wiring Lab IIB</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>ELTR 2176</td>
<td>Residential Wiring Lab IIB</td>
<td>18</td>
</tr>
<tr>
<td>Third</td>
<td>ELTR 3156</td>
<td>Electrical Power Systems</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>ELTR 3326</td>
<td>Magnetic Motor Controls</td>
<td>6</td>
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<tr>
<td></td>
<td>ELTR 3306</td>
<td>Alarms and Special Systems</td>
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<tr>
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<td>ELTR 3306</td>
<td>Alarms and Special Systems</td>
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</tr>
<tr>
<td>Fourth</td>
<td>ELTR 3336</td>
<td>Photovoltaic &amp; Wind Turbines</td>
<td>6</td>
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<tr>
<td></td>
<td>ELTR 3356</td>
<td>Prgrmble Cntrls for Ind Automtn</td>
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</tr>
<tr>
<td></td>
<td>ELTR 3366</td>
<td>Ind Automtn &amp; Process Controls</td>
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</tr>
<tr>
<td></td>
<td>ELTR 3366</td>
<td>Ind Automtn &amp; Process Controls</td>
<td>18</td>
</tr>
</tbody>
</table>

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 in the prescribed four-semester program and earn a minimum cumulative index of 2.0, which is equivalent to a “C” average.
The electrical engineering technology AAS and BS programs provide the skills and occupational competence necessary for entry into the field as an applied engineer who works with and is responsible for all the electronic equipment in the field. Thus, in addition to a firm foundation in electrical circuit concepts, the program provides a robust laboratory experience.

This program will prepare you by emphasizing basic knowledge and skills during the first year of the program. Studies include fundamental DC and AC circuit analysis and digital circuit logic to develop skills in use of electronic test equipment and in use of tools and printed circuit fabrication equipment. Laboratory experiments supplement classroom instruction and problem solving. Computer problem solving and simulation aid in course instruction.

The second year of the associate degree program continues the study of fundamental electronic circuits. The areas of study include microcontroller circuitry and programming, electronic communication circuits and systems, and IC circuit fabrication on silicon wafers.

**ADVANTAGES**

- The understanding of general processes gained through laboratory experiences prepares students to either continue their education or enter the workforce in the fields of microcontrollers, power systems, and microelectronics.
- Both electrical engineering technology programs are accredited by the Engineering Technology Accreditation Commission of ABET, [http://www.abet.org](http://www.abet.org).
- 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.

A 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.

**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 address 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.
- 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.

**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:

- Electrical Engineering Technology (AAS degree): 100 percent – 33 percent are employed; 67 percent continued their education.
- Electrical Engineering Technology (BS degree): 100 percent – 89 percent are employed; 11 percent continued their education.

**ENROLLMENT AND GRADUATION DATA**

<table>
<thead>
<tr>
<th>AAS Degree</th>
<th>Enrollment (based on Fall census)</th>
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<td>2018</td>
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<td>2017</td>
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<td>2016</td>
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Degrees Awarded

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<tbody>
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<td>11</td>
<td>7</td>
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<td>AAS Degree</td>
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<td></td>
<td>15</td>
<td>14</td>
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</tr>
</tbody>
</table>

**RELATED PROGRAMS**

- Computer Engineering Technology
- Electrical Construction and Maintenance Electrician
Engineering Science

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, SAT and/or ACT scores with a recommended combined reading/writing and Math SAT score of 1080 or a composite ACT score of 21.
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.

ELECTRICAL ENGINEERING TECHNOLOGY - AAS DEGREE
TYPICAL FOUR-SEMESTER PROGRAM

<table>
<thead>
<tr>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<td>1001</td>
<td>Seminar</td>
<td>1</td>
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<tr>
<td>ELET</td>
<td>1202</td>
<td>Intro to Electrical Eng Tech</td>
<td>2</td>
</tr>
<tr>
<td>ELET</td>
<td>1111</td>
<td>Digital Logic Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>ELET</td>
<td>1133</td>
<td>Digital Logic</td>
<td>3</td>
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<tr>
<td>COMP</td>
<td>1503</td>
<td>Freshman Composition</td>
<td>3</td>
</tr>
<tr>
<td>MATH</td>
<td>1033</td>
<td>College Algebra</td>
<td>3</td>
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<tr>
<td>XXXX</td>
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<td>LAS/Gen Ed Elective</td>
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<tr>
<td>ELET</td>
<td>1103</td>
<td>Circuit Theory I</td>
<td>3</td>
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<tr>
<td>ELET</td>
<td>1151</td>
<td>Circuit Theory Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>ELET</td>
<td>1142</td>
<td>Electronic Fabrication</td>
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<td>MATH</td>
<td>2043</td>
<td>College Trigonometry</td>
<td>3</td>
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<tr>
<td>PHYS</td>
<td>1024</td>
<td>General Physics I</td>
<td>4</td>
</tr>
<tr>
<td>LITR</td>
<td>xxx3</td>
<td>Gen. Ed. - Literature Elective</td>
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<table>
<thead>
<tr>
<th>Third</th>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ELET</td>
<td>2103</td>
<td>Electronics Theory I</td>
<td>3</td>
</tr>
<tr>
<td>ELET</td>
<td>2151</td>
<td>Electronics Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>ELET</td>
<td>2124</td>
<td>Electrical Power</td>
<td>4</td>
</tr>
<tr>
<td>ELET</td>
<td>2143</td>
<td>Embedded Controller Fundmts</td>
<td>3</td>
</tr>
<tr>
<td>MATH</td>
<td>1063</td>
<td>Technical Calculus I</td>
<td>3</td>
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<td>PHYS</td>
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<td>General Physics II</td>
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</table>

<table>
<thead>
<tr>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ELET</td>
<td>3103</td>
<td>Electronics Theory II</td>
<td>3</td>
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<tr>
<td>ELET</td>
<td>3151</td>
<td>Electronics Laboratory II</td>
<td>1</td>
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<tr>
<td>ELET</td>
<td>4154</td>
<td>Microelectronics</td>
<td>4</td>
</tr>
<tr>
<td>ELET</td>
<td>4224</td>
<td>Alternative Energy Generation</td>
<td>4</td>
</tr>
<tr>
<td>xxx3</td>
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<td>General Education Elective</td>
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</tbody>
</table>

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

ELECTRICAL ENGINEERING TECHNOLOGY - BS DEGREE
TYPICAL FIVE- THROUGH EIGHT-SEMESTER PROGRAM

<table>
<thead>
<tr>
<th>Fifth</th>
<th>Course Code</th>
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<tbody>
<tr>
<td>ELET</td>
<td>5113</td>
<td>Electronic Communications</td>
<td>3</td>
</tr>
<tr>
<td>ELET</td>
<td>5004</td>
<td>Instrumentation</td>
<td>4</td>
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<tr>
<td>SPCH</td>
<td>1083</td>
<td>Effective Speaking</td>
<td>3</td>
</tr>
<tr>
<td>COMP</td>
<td>5703</td>
<td>Technical Writing II</td>
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<tr>
<td>MATH</td>
<td>2074</td>
<td>Technical Calculus II</td>
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</thead>
<tbody>
<tr>
<td>ELET</td>
<td>6143</td>
<td>Electrical Machines &amp; Controls</td>
<td>3</td>
</tr>
<tr>
<td>MATH</td>
<td>6114</td>
<td>Differential Equations</td>
<td>4</td>
</tr>
<tr>
<td>ELET</td>
<td>xxx4</td>
<td>Adv. Power Systems or other approved Tech Elective</td>
<td>4</td>
</tr>
<tr>
<td>ELET</td>
<td>7404</td>
<td>Embedded &amp; Real Time Systems</td>
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<tbody>
<tr>
<td>BSET</td>
<td>7001</td>
<td>Senior Seminar &amp; Project Des</td>
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<tr>
<td>MATH</td>
<td>7113</td>
<td>Economic Analy for Engr Tech</td>
<td>3</td>
</tr>
<tr>
<td>MATH</td>
<td>7123</td>
<td>Statistics for Engr Tech &amp; Sci</td>
<td>3</td>
</tr>
<tr>
<td>CHEM</td>
<td>5013</td>
<td>Applied Chemical Principles</td>
<td>3</td>
</tr>
<tr>
<td>PHYS</td>
<td>8013</td>
<td>Modern Physics</td>
<td>3</td>
</tr>
<tr>
<td>ELET</td>
<td>7104</td>
<td>Integrated Circuit Technology</td>
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<td>BSET</td>
<td>8003</td>
<td>Senior Technical Project</td>
<td>3</td>
</tr>
<tr>
<td>EMET</td>
<td>6004</td>
<td>Feedback Control Systems</td>
<td>4</td>
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<tr>
<td>XXXX</td>
<td>xxx3</td>
<td>Liberal Arts/Social Science Elective</td>
<td>3</td>
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<tr>
<td>XXXX</td>
<td>xxx3</td>
<td>Liberal Arts/Social Science Elective</td>
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</table>

GRADUATION REQUIREMENTS - BS DEGREE
- 128 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, and
- Approval of department faculty

If not required to take math due to placement scores, take LAS elective to complete degree requirements of three credits; otherwise, take free elective.

If not required to take math due to placement scores, take LAS elective to complete degree requirements of three credits; otherwise, take free elective.
EMBRACING A STRONG CORE OF COURSES IN CHEMISTRY, MATHEMATICS, AND PHYSICS, AND INCLUDING BASIC ENGLISH AND HUMANITIES SEQUENCES, THIS PROGRAM IS AUGMENTED BY BASIC ENGINEERING COURSES ESSENTIAL TO ALL ENGINEERING DISCIPLINES. THE PRIMARY OBJECTIVE OF OUR PROGRAM IS TO PROVIDE YOU WITH A BASIC TWO YEARS OF STUDY IN ORDER TO CONTINUE YOUR EDUCATION AT THE BACCALAUREATE LEVEL IN ANY OF THE ENGINEERING DISCIPLINES.

ADVANTAGES
- The program is structured so that most students do not need to decide upon an engineering discipline until the last semester of the second year, allowing them to carefully investigate disciplines and institutions.
- Students develop laboratory techniques and skills using modern engineering tools.

PROGRAM STUDENT LEARNING OUTCOMES
- Apply knowledge of mathematics, physics, and chemistry to solve engineering problems.
- Integrate the concepts of mathematics, sciences, and humanities in engineering courses.
- Develop student computational proficiency to analyze and interpret data in solving engineering problems.
- Develop laboratory techniques and skills using modern engineering tools, including documentation and engineering reports, which reinforce and advance theoretical concepts.
- Communicate effectively with clear, critical thinking skills and broaden understanding of self and society through the general education requirements.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM
Alfred State engineering science 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 – 100 percent continued their education.

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

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry, Algebra 2, Pre-calculus; Physics or Chemistry
Recommneded: Both Physics and Chemistry

GRADUATION REQUIREMENTS
- 67 semester credit hours in program as listed above
- 40 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). A total of three courses in the humanities and social sciences is recommended to enhance transfer
- 2.0 cumulative grade point average, and department requirement of 2.0 grade point average in major courses (ENGR, ELET, CIVL, MECH, CISY)
- Approval of department faculty

ENGINEERING SCIENCE - AS DEGREE
TYPICAL FOUR-SEMESTER PROGRAM

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<th>Semester</th>
<th>Courses</th>
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<td>COMP 1503</td>
<td>Freshman Composition</td>
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<tr>
<td></td>
<td>ENGR 1201</td>
<td>Engineering Sci Orientation</td>
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<tr>
<td></td>
<td>MATH 1084</td>
<td>Calculus I</td>
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<td></td>
<td>ENGR 2001</td>
<td>Engineering Computing Applctns</td>
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<tr>
<td></td>
<td>PHYS 1064</td>
<td>Physics for Engr &amp; Science I</td>
</tr>
<tr>
<td></td>
<td>LITR xx3</td>
<td>General Education Elective</td>
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<tr>
<td></td>
<td>SOCI 1193</td>
<td>Marriage &amp; Family Acs Wild Ct</td>
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<tr>
<td></td>
<td>PLSC 1043</td>
<td>American Government OR</td>
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<tr>
<td></td>
<td>ANTH 1013</td>
<td>Cultural Anthropology</td>
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<tr>
<td></td>
<td>MATH 2094</td>
<td>Calculus II</td>
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<tr>
<td>Second</td>
<td>ENGR 2201</td>
<td>Engineering Science Seminar</td>
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<td></td>
<td>ENGR 3004</td>
<td>Circuit Analysis I</td>
</tr>
<tr>
<td></td>
<td>ENGR 3213</td>
<td>Analytical Mechanics I</td>
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<td>MATH 6114</td>
<td>Differential Equations</td>
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<td></td>
<td>PHYS 2064</td>
<td>Physics for Engr &amp; Sci II</td>
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<td>ENGR 4213</td>
<td>Analytical Mechanics II</td>
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<tr>
<td></td>
<td>ENGR 4264</td>
<td>Engr Mechanics of Materials</td>
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<td></td>
<td>MATH 6104</td>
<td>Multivariate &amp; Vector Calculus</td>
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<td></td>
<td>SPCH 1083</td>
<td>Effective Speaking</td>
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<tr>
<td></td>
<td>ENGR 3254</td>
<td>Systems Dynamics I OR</td>
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<td>ENGR 4004</td>
<td>Circuit Analysis II</td>
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<td>Fourth</td>
<td>ENGR 4213</td>
<td>Analytical Mechanics II</td>
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<td>ENGR 4264</td>
<td>Engr Mechanics of Materials</td>
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<td>MATH 6104</td>
<td>Multivariate &amp; Vector Calculus</td>
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<td>SPCH 1083</td>
<td>Effective Speaking</td>
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<tr>
<td></td>
<td>ENGR 3254</td>
<td>Systems Dynamics I OR</td>
</tr>
<tr>
<td></td>
<td>ENGR 4004</td>
<td>Circuit Analysis II</td>
</tr>
</tbody>
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Typical Technical Electives:

- BIOL 1104 | General Biology I | 4
- BIOL 2304 | General Biology II | 4
- CHEM 2984 | Chemical Principles II | 4
- CHEM 3514 | Organic Chemistry I | 4
- CHEM 4524 | Organic Chemistry II | 4
- CISY 4003 | Comp Prgrmmng III Data Strctu | 3
- CISY 5123 | Scientific Programming | 3
- CIVL 1204 | Surveying I | 4
- CIVL 2204 | Surveying II | 4
- ELET 1133 | Digital Logic | 3
- ELET 1111 | Digital Logic Laboratory | 1
- ELET 1143 | | 1
- ELET 2143 | Embedded Controller Fundmtnls | 3
- ELET 4154 | Microelectronics | 4
- ELET 4224 | Alternative Energy Generation | 4
- MATH 7113 | Economic Analy for Engr Tech | 3
- MATH 7123 | Statistics for Engr Tech & Sci | 3
- MECH 1203 | Materials Science | 3
- MECH 4003 | Solid Modeling | 3
- MECH 1603 | Graphics/CAD | 3
- MECH 1663 | Manufacturing Processes | 3
- PHYS 8013 | Modern Physics | 3

Typical Technical Electives:
ENVIRONMENTAL TECHNOLOGY
AAS DEGREE - CODE #2193
Stephanie Rugg, Program Coordinator
Email address: ruggcc@alfredstate.edu

The environmental technology program will prepare you to serve as field and laboratory technicians for a wide variety of industrial and governmental employers involved in environmental testing, remediation, and monitoring. The program is an interdisciplinary one, including extensive faculty and laboratory capacity in chemistry, biology, instrumentation, soil and plant sciences, environmental engineering, and spatial analysis, as well as a common core of general studies.

ADVANTAGES
• The major emphasis in the required courses is gaining proficiency in technical skills.
• Flexibility through the selection of technical electives will allow you to pursue an interest in a particular environmental sub-discipline and become better prepared for a specific type of job.
• Students in the program also have access to an outdoor laboratory - an engineered wetland treatment system in nearby Wellsville, NY.

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.
• Select an appropriate analytical technique to evaluate an environmental problem.
• Apply microbiological techniques to isolate organisms in pure culture.
• Utilize appropriate software to record, manage, retrieve, analyze, and present laboratory data.
• Evaluate the social, ethical, and legal issues in biological research.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS
Alfred State environmental technology graduates may enter directly into either the interdisciplinary studies BTech or the technology management BBA degree program.

CONTINUING EDUCATION OPPORTUNITIES
For students wishing to transfer to bachelor-level programs in environmental science, electives can be selected that meet specific requirements of transfer institutions. Current articulation agreements with Cornell University’s College of Agriculture and Life Sciences and the SUNY School of Environmental Science and Forestry provide excellent options for continued study.

OCCUPATIONAL OPPORTUNITIES
• Waste water treatment
• Soil conservation
• Solid waste disposal
• Environmental monitoring
• Laboratory pollutant analysis
• Incinerator operation
• Brownfield remediation

RELATED PROGRAMS
Biological Science (AAS)

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry, Algebra 2, Biology, Chemistry

TECHNICAL STANDARDS
Students must possess fine motor skills that allow them to focus a microscope with fine adjustment and use forceps.

GRADUATION REQUIREMENTS
A minimum of 63 credit hours is required for graduation, with an overall cumulative index of 2.0 in the above-listed courses. A grade of "C" or better is required in chemistry, biology, and environmental courses.

Academic programs are subject to modification.
FINANCIAL PLANNING

BBA DEGREE – CODE #1938

Scott DuMond, Program Coordinator
Email address: dumondsr@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.

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

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.
- Examine comprehensive personal finance issues and communicate findings and solutions.
- Examine 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. SAT and/or ACT scores with a recommended combined reading/writing and math SAT score of 980 or a composite ACT score of 19.

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 this difficult exam is only 55 percent to 60 percent. This comprehensive exam ensures that CFP® professionals are highly qualified to develop a plan for your finances.

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

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<th>Semester</th>
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<td>ACCT 1124</td>
<td>Financial Accounting</td>
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<td>COMP 1503</td>
<td>Freshman Composition</td>
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<td>MKTG 2073</td>
<td>Principles of Marketing</td>
<td>3</td>
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<tr>
<td></td>
<td>MKTG xxx3</td>
<td>Stats I or Stats Methods</td>
<td>3</td>
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<td></td>
<td>CISY xxx3</td>
<td>Computer Elective</td>
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<td><strong>Second</strong></td>
<td>ACCT 2224</td>
<td>Managerial Accounting</td>
<td>4</td>
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<td>BUAD 2033</td>
<td>Business Communication</td>
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<td>SPCH 1083</td>
<td>Effective Speaking</td>
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<td></td>
<td>MKTG xxx3</td>
<td>Open Elective</td>
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<td>MATH xxx3</td>
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<td><strong>Third</strong></td>
<td>BUAD 3153</td>
<td>Fundamentals of Management</td>
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<td>BUAD 3043</td>
<td>Business Law I</td>
<td>3</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>BUAD 4133</td>
<td>Investments</td>
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<td><strong>Fourth</strong></td>
<td>MKTG 1063</td>
<td>Principles of Sales</td>
<td>3</td>
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<td>ECON 2023</td>
<td>Principles of Microeconomics</td>
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<td>BUAD 4193</td>
<td>Insurance and Risk Management</td>
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<td>LITR xxx3</td>
<td>Literature Elective</td>
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<td>MKTG xxx3</td>
<td>Gen Ed Elective</td>
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<td><strong>Fifth</strong></td>
<td>ACCT 3453</td>
<td>Tax Accounting I</td>
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<td>BUAD 5003</td>
<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>
<td>Estate Planning</td>
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<td>FSMA 7123</td>
<td>Persn Finan Planning Capstone</td>
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<td>BUAD 5033</td>
<td>Retirement Planning</td>
<td>3</td>
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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
FORENSIC SCIENCE TECHNOLOGY

BS DEGREE - CODE #2023

Wayne Bensley, Department Chair and Program Director
Email address: benslewd@alfredstate.edu

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.

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.
- 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
- Orange County Medical Examiner’s Office
- Onondaga County Medical Examiner’s Office
- Erie County Crime Lab
- Erie County Medical Examiner’s Office

FUTURE EDUCATIONAL OPPORTUNITIES
- Graduate-Level Forensic Science Programs
- Medicine
- Dentistry
- Pharmacy
- Biology
- Chemistry

Graduates of the program have been accepted into master’s or doctorate level programs from several universities including:
- Syracuse University
- Cedar Crest College
- University of Buffalo
- University of Albany
- George Washington University
- Pace University
- Pittsburgh University
- Marshall University

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 58 percent are employed; 42 continued their education.

RELATED PROGRAMS
- Biological Science
- Criminal Justice
- Health Sciences

INTERNSHIP OPPORTUNITIES
Students have completed internship experiences at various locations, including the 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, SAT and/or ACT scores with a recommended combined reading/writing and math SAT score of 1080 or a composite ACT score of 21.

Recommended: Physics

FORENSIC SCIENCE TECHNOLOGY - BS DEGREE
TYPICAL EIGHT-SEMESTER PROGRAM

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Approved Technical Electives:

ANTH 5333 Medical Anthropology
BIOL 1404 Anatomy & Physiology I
BIOL 2504 Anatomy & Physiology II  
BIOL 2633 Histotechniques  
BIOL 4403 Pathophysiology  
BIOL 5003 Genomics  
BIOL 5900 Directed Study, Biology  
BIOL 6003 Molecular and Cell Biology  
BIOL 6403 Advanced Pathophysiology  
BIOL 8823 Research Methods in Health Sciences  
CHEM 4900 Directed Study, Chemistry  
CHEM 6854 Physical Chemistry  
ENGR 3213 Analytical Mechanics I  
ENVR 4424 Environmental Chemistry and Microbiology  
FRSC 3113 Forensic Pathology  
FRSC 8900 Directed Study, Forensic Science  
MATH 2094 Calculus II  
MATH 6114 Differential Equations  
MEDR 1132 Essentials of Pharmacology

**TECHNICAL STANDARDS**

Students must be able to physically lift 25 pounds and possess fine motor skills that allow them to focus a microscope with fine adjustment and use forceps.

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 121 total semester credit hours
- Completion of at least one course from seven of the 10 SUNY General Education Categories
- Minimum of 45 upper-division semester credit hours
- Minimum of 30 upper-division semester credit hours in residence
- Completion of either a minimum 120-hour-long internship in a workplace laboratory setting OR a semester-long research project
- 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
GAME & INTERACTIVE DESIGN

GAME & INTERACTIVE DESIGN

BS - CODE #2919

Jeremy Speed Schwartz, Program Coordinator
Email address: speedj@alfredstate.edu

The game & 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 (trip 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 & 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

Graduates of the game & 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.

Graduates of the program will be able to:

• 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

RELATED PROGRAMS

• Digital Media and Animation
• Graphic & Media Design
• Information Technology: Web Development

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra and Geometry, SAT and/or ACT scores with a recommended combined reading/writing and math new SAT score of 1080 (1000 combined critical reading and math old SAT) or a composite ACT score of 21. 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

TYPICAL EIGHT-SEMESTER PROGRAM

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BS DEGREE GRADUATION REQUIREMENTS

- Complete 121 total semester credit hours
- 60 credit hours of liberal arts and sciences from eight of the ten 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

Jeremy Speed Schwartz, Program Coordinator
Email address: speedj@alfredstate.edu

The game & 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 & interactive design Associate of 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.

A laptop computer is required for students entering the game & interactive design program. Laptop specifications are available at www.alfredstate.edu/required-laptops#Tier-3.

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.

OCCUPATIONAL OPPORTUNITIES

- Game design
- UX (user experience design)
- Interactive entertainment
- Application design
- Data visualization
- Web design

RELATED PROGRAMS

- Digital Media and Animation
- Graphic & Media Design
- Information Technology: Web Development

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry

Recommended: Algebra 2, Physics

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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TYPICAL FOUR-SEMESTER PROGRAM

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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, Apple TVs, and surround-sound in each studio
- Real-world collaborative studio environments
- Virtual reality and 3-D sculpting studio

OCCUPATIONAL OPPORTUNITIES

- Graphic design
- Media design
- Fine art
- Video and audio production
- Marketing
- Communications
- Education

RELATED PROGRAMS

Digital Media and Animation

RELATED CLUBS

- Visual Impact Club

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry
Recommended: Algebra 2

GRAPHIC AND MEDIA DESIGN (AS DEGREE)

TYPICAL FOUR-SEMESTER PROGRAM

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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.

OCCUPATIONAL OPPORTUNITIES
• Graphic design
• Media design
• Fine art
• Video and audio production
• Marketing
• Communication
• Education

RELATED PROGRAMS
• Digital Media and Animation
• Information Technology: Web Development

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry, SAT and/or ACT scores with a recommended combined reading/writing and math SAT score of 1080 or a composite ACT score of 21.

Recommended: Algebra 2

GRAPHIC AND MEDIA DESIGN - BS DEGREE
TYPICAL EIGHT-SEMESTER PROGRAM

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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: MattesonAlfredState.edu

Securing accurate and appropriate payment for health care services is a challenge for health care providers, insurance companies, and patients. Today’s complex health care insurance and governmental payment systems depend on medical coding to determine proper payment. The coding and reimbursement specialist (C&RS) program incorporates the knowledge and skills you will need to assign the correct code for prompt and accurate reimbursement. As a C&RS professional, you will analyze patient records, assign ICD (ICD-10-CM/ICD-10-PCS), CPT, and HCPCS codes to diagnoses, procedures, and services provided to patients for timely and accurate health care billing, reimbursement, and medical necessity.

Online instruction is organized under the health information technology program (HiT program). This means if you initially select the C&RS program, you can transfer courses into the HiT program and earn your Associate in Applied Science (AAS) degree.

ADVANTAGES

• Alfred State’s comprehensive coding certificate program offers individuals the opportunity to pursue a business-related career essential to the health care industry.
• Alfred State’s C&RS program is entirely internet-based education, with the exception of the 80 hours of Professional Practice Experience.
• Teaching faculty in C&RS 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-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, and 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.
• Apply HIM knowledge of legal, ethical, accreditation, and certification standards as appropriate for the management of health information.
• 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 critical thinking to problem-solving and reasoning skills to health information management and coding practices.

C&RS ENTRANCE REQUIREMENTS
Required: high school biology or equivalent, MS Office Professional, keyboarding. Must be able to attend Professional Practice Experience (PPE) course including 80 hours at a health care facility within reasonable driving distance/travel distance to home.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM
Alfred State health information technology graduates may enter directly into either the healthcare management BTech, the interdisciplinary studies BTech, or the technology management BBA degree program.

PROFESSIONAL PRACTICE EXPERIENCES
Students complete non-paid professional practice experiences (PPEs) in the health information (coding) department of a health care facility (80 hours) in their last semester of study. 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 Joint Commission Hospital Accreditation Standards Manual requires hospitals to implement “a process to ensure that a person’s qualifications are consistent with his/her job responsibilities.” This standard “applies to staff, students, and volunteers,” and it 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 C&RS program may be required to undergo a criminal background check prior to placement at the facility. In addition, the 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 PPE. The physical examination includes drug screening, a TB test, and/or DTB, hepatitis B, and/ or MRUV immunization or status. Students may be required to incur costs associated with the criminal background check and/or physical examination.

Students may be required to attend an on-site orientation at the professional practice facility, which could be several days in length beyond the 80 PPE hours. Students must make appropriate arrangements with their current employer to complete the 80 hours at the PPE host site.

ARTICULATION AGREEMENTS
One-plus-one transfer agreements exist among Alfred State and Jamestown and American Somo Community Colleges. Students complete their first year of study at the local community college and transfer to Alfred State for their second year. Transfer is guaranteed if a student successfully completes the prescribed first-year schedule of courses with a 2.0 cumulative index.

CONTINUING EDUCATION OPPORTUNITIES
Graduates are eligible to continue their education by completing the health information technology (HiT) program. The HiT program is also internet-based.

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 100 percent – 50 percent are employed; 50 percent continued their education.

Survey Details

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STUDENT ACHIEVEMENT
The RHIT pass rate for the 2016-2017 graduates is 87 percent. The RHIT completion rate for the 2017-2017 cohort is 37 percent.

ACCREDITATION/CERTIFICATION
The health information technology program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education
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 Accreditation (CHEA) [One Dupont Circle NW, Suite 510, Washington, DC 20036, 202-955-6126, chea@chea.org]. CHEA is a nationally recognized nongovernmental higher education organization that enforces quality Accreditation Standards for Health Informatics and Health Information Management (HIM) educational programs through accreditation.

Alfred State is accredited by the Middle States Commission on Higher Education [3624 Market St., Philadelphia, PA 19104, 215-662-5606].

CERTIFICATION

Graduates are eligible to take national certification examinations offered by the American Health Information Management Association (AHIMA) and the American Academy of Professional Coders (AAPC). AHIMA offers Certified Coding Specialty (CPC) exams. It is recommended students work for a minimum of one year full-time in a coding position before taking the CCS and CPC exams.

RELATED PROGRAMS

Health Information Technology

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: High school keyboarding, biology, MS Office Professional or equivalent.

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.

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.

HEALTH INFORMATION TECHNOLOGY - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM - Full-time

This program is offered as an Internet-based program only

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Be advised that a prior felony conviction may impede a student's ability to participate in a required professional practice experience.

GRADUATION REQUIREMENTS

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.

MEDR 2614 (advanced coding & reimbursement) may be taken in the last semester as an elective.
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.

Be advised that a prior felony conviction may impede a student’s ability to participate in an internship.

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

- Biology technologist
- Laboratory assistant
- Pharmaceutical technician
- Environmental health safety officer
- Food scientist
- Biomedical researcher

FUTURE EDUCATIONAL OPPORTUNITIES

- Medicine
- Physician assistant
- Dentistry
- Optometry
- Osteopathy
- Pharmacy
- Audiology
- Physical therapy
- Occupational therapy
- Chiropractic
- Clinical psychology
- Environmental science
- Graduate level biology, chemistry, or biomedical science

EMPLOYMENT STATISTICS

New program – no data available

RELATED PROGRAMS

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, SAT and/or ACT scores with a recommended combined reading/writing and math SAT score of 1080 or a composite ACT score of 21.

Recommended: Physics

TECHNICAL STANDARDS

Students must possess fine motor skills that allow them to focus a microscope with fine adjustment and use forceps.
## HEALTH SCIENCES – BS DEGREE

### TYPICAL EIGHT-SEMESTER PROGRAM

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### GRADUATION REQUIREMENTS

- 124 total semester credit hours
- 74 semester credit hours of liberal arts and sciences from seven of the 10 SUNY General Education Categories
- 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 core courses with BIOL, CHEM or HLTH prefixes
- Approval of department faculty
HEALTHCARE MANAGEMENT
BTECH DEGREE – CODE #2647
Kathy Young, Department Chair
Email address: youngkl@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
New program – no data available.

RELATED PROGRAMS
Diagnostic Medical Sonography (AAS)
Health Information Technology (AAS)
Radiologic Technology (AAS)
Technology Management (BTech)

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
This upper-division program is designed to accept students who have already earned an associate degree in a health-related field. Accordingly, the admission requirements reflect the requisite advanced standing. In all other respects, the criteria parallel the requirements of similar baccalaureate completion programs at Alfred State.

- Associate degree or 60-plus credits in a health-related field.
- A minimum of 5 SUNY Gen. Education categories covered.
- A minimum of 21 credits in liberal arts and sciences
- Minimum GPA of 2.00

HEALTHCARE MANAGEMENT – BTECH DEGREE
TYPICAL FOUR-SEMESTER PROGRAM

First

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<td>ACCT 5043</td>
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<td>HLTH 5233</td>
<td>The Culture of Healthcare</td>
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<td>HLTH 5223</td>
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First 7-Week Session
HEALTHCARE MANAGEMENT

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Second 7-Week Session

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GRADUATION REQUIREMENTS

- 120 total semester credit hours
- 30 semester credit hours of liberal arts and sciences from seven of the 10 SUNY General Education Categories
- 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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<td>Marriage &amp; Family Acrs Wld Crt</td>
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<td>LITR 2033</td>
<td>The Short Story</td>
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<td>HIST 2153</td>
<td>Surv of American History II</td>
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<td>Biology of Human Sexuality</td>
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<td>PLSC 1043</td>
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<td>SOCI 1223</td>
<td>Power, Privilege, &amp; Difference</td>
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UPPER TECHNICAL ELECTIVES:

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<td>BUAD 6113</td>
<td>Strategic &amp; Creative Prob Solv</td>
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<tr>
<td>BUAD 6403</td>
<td>Proj Mgmt for Busi Professionals</td>
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<tr>
<td>BUAD 5013</td>
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<td>BUAD 7023</td>
<td>Legal Environment of Business</td>
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<tr>
<td>TMGT 7003</td>
<td>Managing Tech &amp; Innovation Cap</td>
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</table>
HEATING, VENTILATION, AND AIR CONDITIONING

AOS DEGREE - CODE #0464

R. Jack Jones, Department Chair and Program Coordinator
Email: jonesrj@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 100 percent – 100 percent are employed.

RELATED PROGRAMS
Building Trades: Building Construction
Masonry

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Recommended: Algebra

TECHNICAL STANDARDS
Applicants in the heating, ventilation, and air conditioning program must meet the following physical requirements:

- Must be able to lift 50 pounds to shoulder height.
- Must be able to perform safely in the laboratory.
- Must be able to communicate orally with a person 20 feet away.
- Must be able to climb a ladder and/or able to climb, un-aided, onto and off equipment using three points of contact.
- Must be able to stand for long periods of time.
- Must be able to visually read from a blueprint or drawing.
- Must be able to hear a backup warning alarm.

HEATING, VENTILATION, AND AIR CONDITIONING - AOS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

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<td>BLCT Pipe Fitting - Math Estimating</td>
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<td>3433</td>
<td>BLCT Cop Pipe &amp; Tub, Water Sys Des</td>
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<td>3443</td>
<td>BLCT Drainage Systems &amp; Piping</td>
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<td>3453</td>
<td>BLCT Plumb Trade History &amp; Safety</td>
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<td>3463</td>
<td>BLCT Watr Heats-Plumb Fix Inst/Rpr</td>
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<td>BLCT Sheet Metal Fabrication</td>
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<td>4163</td>
<td>BLCT Md &amp; Hi Efl Fry Furn-Alt Warm Ar</td>
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<td>4173</td>
<td>BLCT Sheet Ml Air Dist Systm &amp;Vent</td>
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<td>4183</td>
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<td>3493</td>
<td>BLCT Forced Air Furnace Controls</td>
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<td>3503</td>
<td>BLCT Hydro Comp, Circu Pump&amp;H Emit</td>
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<td>3513</td>
<td>BLCT Hydronic Controls and Motors</td>
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<td>BLCT Hydronic Funda &amp; Heat Sources</td>
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<td>BLCT Hydronic Piping Systems</td>
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<td>4213</td>
<td>BLCT Air Conditioning Fundamentals</td>
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<td>4223</td>
<td>BLCT Air Cond Perf &amp; Trou &amp; Hi Pump</td>
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<td>4233</td>
<td>BLCT Heat Loss &amp; Heat Gain</td>
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<td>4243</td>
<td>BLCT Refrigeration Handling Cert</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 index of 2.0, which is equivalent to a “C” average.
HEAVY EQUIPMENT OPERATIONS

AOS DEGREE – CODE #1908
Mark Payne, Program Coordinator
Email address: paynem@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 excavation or earthmoving operation.
- 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

EMPLOYMENT STATISTICS
Employment and continuing education rate: 100 percent – 96 percent are employed; 4 percent continued their education.

RELATED PROGRAMS
Heavy Equipment, Truck & Diesel Technician

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Recommended: Algebra

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.

TECHNICAL STANDARDS
Applicants in the heavy equipment operations program must meet the following physical requirements:
- Must be able to lift 50 pounds to shoulder height.
- Must be able to perform safely in the laboratory.
- Must be able to communicate orally with a person 20 feet away.
- Must be able to climb a ladder and/or able to climb, un-aided, onto and off equipment using three points of contact.
- Must be able to stand for long periods of time.
- Must be able to visually read from a blueprint or drawing.
- Must be able to hear a backup warning alarm.

HEAVY EQUIPMENT OPERATIONS - AOS DEGREE
TYPICAL FOUR-SEMESTER PROGRAM

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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.
HEAVY EQUIPMENT, TRUCK & DIESEL TECHNICIAN
AOS DEGREE – CODE #0452
Eric Wilmot, Department Chair and Program Coordinator
Email address: wilmot@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 freshman 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 & 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 & diesel technician program is one of only nine national ADS TechSmart training programs.
• Students successfully completing the heavy equipment, truck & 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.
• 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.

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 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 & 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 100 percent – 93 percent are employed; 7 percent continued their education.

RELATED PROGRAMS
Autobody Repair
Automotive Service Technician
Mechanical Engineering Technology

Motorcycle and Power Sports Technology
Welding Technology

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Recommended: Algebra

TECHNICAL STANDARDS
Applicants for all programs in the Automotive Trades Department must meet the following physical requirements:
• Must be able to lift 50 pounds to eye level.
• Must be able to effectively communicate with a person 6 to 10 feet away.
• Must be able to visually decipher small images on a monitor or digital display.
• Must be able to distinguish sounds associated with mechanical failures.
• Must be able to comprehend written information found in service repair manuals.
• Must have a valid motor vehicle driver’s license.

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 & DIESEL TECHNICIAN - AOS DEGREE
TYPICAL FOUR-SEMESTER PROGRAM

First
AUTO 1224  Welding  4
AUTO 1245  Trk Bsc Electrs & Cmpt Ovrh  5
AUTO 1219  Truck Brake, Steer & Sus Sys  9

Second
AUTO 1239  Trk Insp, Maint, AC, Clng/Htg  9
AUTO 2169  Truck Gas Eng Tune-up, Electro  9

Third
AUTO 3609  Heavy Duty Drive Train  9
AUTO 3649  Diesel Engine Service  9

Fourth
AUTO 3623  Air Brake Service  3
AUTO 4363  Heavy Duty Elec/Hyd Specal  3
AUTO 4669  Diesel Fuel System Service  9
AUTO 2503  Prev Maint for Hvy Tk & Diesel  3

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 index of 2.0, which is equivalent to a “C” average.
HUMAN SERVICES
AS DEGREE – CODE #1175
Jill Priest Amati, Department Chair and Program Coordinator
Email address: amatijp@alfredstate.edu

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 100 percent – 10 percent are employed; 90 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

HUMAN SERVICES - AS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

First

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HUSR 2083 fall only

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<td>HUSR 4033</td>
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HUSR 4033 spring only

Third

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Fourth

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<td>XXXX xxxx3</td>
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Also required: One credit hour of physical education.

PRACTICUM (HUSR 1074) PRE-REQUISITES

• 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 departmental 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
• Combined "C" average or higher among HUSR 2083, HUSR 4033, and PSYC 1063*
• HUSR 1074 with a "B" or higher*
• Submission of the college's degree application form

* Changes effective for fall 2018 and after.
HUMAN SERVICES MANAGEMENT

BS DEGREE – CODE #2153

BS Degree - Accelerated - 3 year - Code #2603

Jill Priest Amati, Department Chair and Program Coordinator
Email address: amatijp@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, business administration - non-profit and government, and 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, business administration - non-profit and government, and 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 100 percent – 75 percent are employed; 25 percent continued 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. Depending on location, starting salary will typically range from $35,000 to $45,000.

RELATED PROGRAMS
Business Administration
Human Services
Interdisciplinary Studies
Liberal Arts & 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, SAT and/or ACT scores with a recommended combined reading/writing and math SAT score of 1080 or a composite ACT score of 21.

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*
• Grade of “C” or higher in all upper-level courses*

Practicum (HUSR 1074) Pre-requisites
• Good academic standing (cumulative GPA of 2.0 or higher)
• Completion of PSYC 1063 and either HUSR 2083 or HUSR 4033 with a combined grade of “C” or higher*
• Submission of HUSR 1074 practicum application form to the departmental practicum coordinator
• Approval of the departmental faculty
• Ability to pass any agency required background check

Practicum (HUSR 5314) Pre-requisites
• Good academic standing (cumulative GPA of 2.0 or higher)
• Completion of at least three of the following four courses - HUSR 5003, HUSR 5103, HUSR 5203, HUSR 5213 - with a “C” or higher grade in each of the three*
• Submission of HUSR 5314 practicum application form to the departmental practicum coordinator
• Approval of the departmental faculty
• Ability to pass any required background check
• Completion of HUSR 1074 with a grade of “B” or higher*
| Fourth | SOCI 1183 | Contemporary Social Problems | 3 |
|        | HUSR 1074 | Practicum in Human Services | 4 |
|        | XXXX xxx3 | Departmental Elective | 3 |
|        | XXXX xxx3 | Liberal Arts Elective | 3 |
|        | XXXX xxx3 | Open Elective | 3 |

| Fifth | ACCT 5043 | Accounting Perspectives | 3 |
|       | BUAD 3153 | Fundamentals of Management | 3 |
|       | SOCI 5023 | Research Methods (Fall only) | 3 |
|       | PSYC 5013 | Counseling Theory (Fall only) | 3 |
|       | HUSR 5003 | Community Organizations | 3 |

| Sixth | BUAD 5023 | Human Resource Management | 3 |
|       | BUAD 5013 | Principles of Leadership | 3 |
|       | BUAD 5003 | Management Communications | 3 |
|       | XXXX xxx3 | Liberal Arts Elective | 3 |
|       | HUSR 5103 | Social Policy & Human Services | 3 |

| Seventh | XXXX xxx3 | Liberal Arts Elective | 3 |
|         | BUAD 5043 | Business Ethics | 3 |
|         | HUSR 5203 | Grants Contracts Organ Adv HS | 3 |
|         | HUSR 5213 | Case Management Systems | 3 |
|         | PSYC 5103 | Industrial/Organizational Psychology | 3 |

| Eighth | HUSR 5314 | Human Serv Field Practicum & Seminar | 14 |

**ONLINE OPTION (FOR LAST TWO YEARS)**

**First Seven Week Session**

- BUAD 3153 | Fundamentals of Management | 3
- HUSR 5003 | Community Organizations | 3
- PSYC 5013 | Counseling Theory | 3

**Second Seven Week Session**

*Changes effective for fall 2018 and after.*
### Winter Session

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<td>HUSR</td>
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### Sixth
**First Seven Week Session**

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### Second Seven Week Session

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### Summer
**First Five Week Session**

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### Second Five Week Session

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### Seventh
**First Seven Week Session**

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### Second Seven Week Session

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<td>PSYC</td>
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### Eighth
**Fifteen Week Session**

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### ACCELERATED 3-YEAR PROGRAM

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<td>Basic Helping Skills</td>
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<td>Accounting Perspectives</td>
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<td>BUAD</td>
<td>3153</td>
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**Note:** Minimum of "C" required pre req for all upper-level BUAD courses.
HUMAN SERVICES MANAGEMENT

Fifth

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<tr>
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Note: Minimum of "C" required (Fall only)

Sixth

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<th>Course</th>
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<tbody>
<tr>
<td>XXXX xxx3</td>
<td>Liberal Arts Elective*</td>
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<tr>
<td>HUSR 5314</td>
<td>Human Serv Field Practic &amp; Sem</td>
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</table>

(Spring only) (Grade of "B" or higher required) (Minimum 400 hours field work, three-hour weekly seminar)

Note:

* Any non-required course designated as "Liberal Arts and Sciences" in the college catalog.

** One of ANTH 1013 (Cultural Anthropology), ANTH 5113 (Cross-Cultural Encounters), ANTH 5333 (Medical Anthropology), HIST 3003 (World History I), HIST 5133 (Africa and the West), HIST 6133 (World at War), PLSC 1053 (International Relations), SOCI 1193 (Marriage & Family Across World Cultures), or GEOW 9100.

*** 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.

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.

** One of ANTH 1013 (Cultural Anthropology), ANTH 5113 (Cross-Cultural Encounters), ANTH 5333 (Medical Anthropology), HIST 3003 (World History I), HIST 5133 (Africa and the West), HIST 6133 (World at War), PLSC 1053 (International Relations), SOCI 1193 (Marriage & Family Across World Cultures), or GEOW 9100.

*** 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.
INDIVIDUAL STUDIES
AS DEGREE – CODE #0688

Dr. Kathleen Ebert, Program Coordinator
Email address: ebertkc@alfredstate.edu

This broad-based program will give you the opportunity to explore majors, career options, and futures—all in one place. 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 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 (“C” or better) seven of the 10 SUNY General Education skill areas.
• Complete 15 credit hours in a 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 – 40 percent are employed; 60 percent continued their education.

RELATED PROGRAMS
Business Administration
Liberal Arts & Sciences: Adolescent Education - Teacher Education Transfer
Liberal Arts & Sciences: Humanities
Liberal Arts & Sciences: Math & Science
Liberal Arts & Sciences: Social Science

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

INDIVIDUAL STUDIES - AS DEGREE
TYPICAL FOUR-SEMESTER PROGRAM

First
ASDC  xxxx  College & Life Skills, Methods of Inquiry, Academic Literacy, or Career Exploration  1-3
COMP  1503  Freshman Composition  3
XXXX  xxxx  Gen. Education Math Elective  3
XXXX  xxxx  Gen. Education Elective*  3
XXXX  xxxx  Career Area  3
XXXX  xxxx  Elective  3
16-18

Second
SPCH  1083  Effective Speaking  3
XXXX  xxxx  Gen. Education Elective*  3
XXXX  xxxx  Gen. Education Elective*  3
XXXX  xxxx  Career Area  3
XXXX  xxxx  Elective  3
HXED  xxxx  Phys Ed Elective  1
16

Third
XXXX  xxxx  Career Area  3
XXXX  xxxx  Elective  3
XXXX  xxxx  Elective  3
XXXX  xxxx  Gen. Education Elective*  3
XXXX  xxxx  Gen. Education Elective* OR
XXXX  xxxx  Liberal Arts Elective  3 15

Fourth
XXXX  xxxx  Career Area  3
XXXX  xxxx  Career Area  3
XXXX  xxxx  Elective  3
XXXX  xxxx  Gen. Education Elective*  3
XXXX  xxxx  Gen. Education Elective* OR
XXXX  xxxx  Liberal Arts Elective  3 15

*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 credit hours in general education with at least seven of the 10 SUNY GE knowledge areas met (two of which must include math and written and oral communication).
• Students must complete at least 30 liberal arts and sciences credits
• HPED
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.

A laptop computer is required for students entering the information technology: applications software development program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

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
# INFORMATION TECHNOLOGY: APPLICATIONS SOFTWARE DEVELOPMENT - BTECH DEGREE

## TYPICAL EIGHT-SEMESTER PROGRAM

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<thead>
<tr>
<th>First</th>
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<tbody>
<tr>
<td>CISY 1023</td>
<td>Intro to Information Tech</td>
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<tr>
<td>CISY 1113</td>
<td>Computer Programming I</td>
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<td>Freshman Composition</td>
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<td>Networking I</td>
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<td>CISY 3223</td>
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<td>ACCT 1124</td>
<td>Financial Accounting</td>
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<td>Statistical Methods &amp; Analysis</td>
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<td>Systems Analysis &amp; Design</td>
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<td>Fundamentals of Management</td>
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<td>SPCH 1083</td>
<td>Effective Speaking</td>
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<td>CISY 4003</td>
<td>Comp Programming III/ Data Struc</td>
<td>3</td>
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<td>CISY 4723</td>
<td>Essentials of Info Security</td>
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<td>CISY 8503</td>
<td>Appl Database Management</td>
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<td>CISY 8603</td>
<td>Seminar Critical Issues in IT</td>
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*If not required, take LAS elective to complete degree requirements of 3 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 Associate (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.

A laptop computer is required for students entering the information technology: network administration program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

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. SAT and/or ACT scores with a recommended combined reading/writing SAT score of 1080 or a composite ACT score of 21.
INFORMATION TECHNOLOGY: NETWORK ADMINISTRATION - BTECH DEGREE

TYPICAL EIGHT-SEMESTER PROGRAM

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<td>CISY 4053</td>
<td>Linux/Unix Admin and Scripting</td>
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<td>CISY 4723</td>
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<td>SPCH 1083</td>
<td>Effective Speaking</td>
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<td>Fundamentals of Management Open Elective - Upper**</td>
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<td>CISY 7003</td>
<td>Project Management Network Design Concepts</td>
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<td>CISY 6703</td>
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<td>Sfw Intgtn &amp; Interoperability Seminar Critical Issues in IT Open Elective - Upper (LAS recommended)</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
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 comprise 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 looking for.

A laptop computer is required for students entering the information technology: web development program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

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 in field.

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, SAT and/or ACT scores with a recommended combined reading/writing SAT score of 1080 or a composite ACT score of 21.
## INFORMATION TECHNOLOGY: WEB DEVELOPMENT - BTECH DEGREE

### TYPICAL EIGHT-SEMESTER PROGRAM

#### First

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<td>Computer Programming I</td>
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<td>Object-Oriented Programming</td>
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<td>CISY</td>
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<td>CISY</td>
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</table>

*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

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:
- Technical writer
- Health office manager
- Sales engineer
- Logician
- 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

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Second Year of Advanced Math, Two Units of Science, SAT and/or ACT scores with a recommended combined reading/writing and math SAT score of 980 or a composite ACT score of 19.

INTERDISCIPLINARY STUDIES - BTECH DEGREE
TYPICAL EIGHT-SEMESTER PROGRAM

YEARS ONE AND TWO

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<tr>
<td>XXXX xxxx</td>
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<td>XXXX xxxx</td>
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YEARS THREE AND FOUR

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<td>XXXX xxxx</td>
<td>21</td>
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<tr>
<td>XXXX 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 (must include math as well as written and oral communication)
- 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

PREPARATION FOR INTERDISCIPLINARY STUDIES

Consistency in demonstrating the appropriate level of preparation for the degree is determined by SAT and/or ACT scores. Students may be required to take the Algebra and Writing Subject Tests on the SAT or the Math, English, and Reading sections on the ACT. Students who do not meet the recommended scores are required to complete a developmental course with an additional fee.

Email: ebertkc@alfredstate.edu
This program is designed to provide you with basic 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. Computer applications are integrated throughout the four semesters, with a strong component in 2-D and 3-D computer graphics.

**ADVANTAGES**

- The faculty consists of expert 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, and materials.

A laptop computer is required for students entering the interior design program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

**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 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 BBA or the interdisciplinary studies BTech degree program.

**ARTICULATION AGREEMENTS**

An articulation agreement exists between Alfred State and Villa Maria College (with placement based on a portfolio review and an interview).

**OCCUPATIONAL 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 – 50 percent are employed; 50 percent continued their education.

**ENTRANCE REQUIREMENTS/RECOMMENDATIONS**

Required: Algebra, Geometry

Recommended: Algebra 2

**INTERIOR DESIGN - AAS DEGREE**

**TYPICAL FOUR-SEMESTER PROGRAM**

**First**

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**Fourth**

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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 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.
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 & 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.

RELATED PROGRAMS
- Biological Science
- Interdisciplinary Studies
- Liberal Arts & Sciences: Humanities
- Liberal Arts & Sciences: Math & Science
- Liberal Arts & 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.
**LIBERAL ARTS & SCIENCES: ADOLESCENT EDUCATION - TEACHER EDUCATION TRANSFER**

**TYPICAL FOUR-SEMESTER PROGRAM**

**HISTORY/SOCIAL STUDIES CONCENTRATION**

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<td></td>
<td>LITR 2343</td>
<td>Children's Literature OR</td>
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<td>LITR 2603</td>
<td>Introduction to Literature</td>
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<td>Surv of American History II</td>
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| Third          | HIST xxx3 | Gen Ed Western Civilization Elective | 3 |
|                | XXXX xxx3 | Liberal Arts Elective | 3 |
|                | XXXX 3003 | World History I | 3 |
|                | XXXX xxx3 | Open Elective | 3 |
|                | XXXX xxx3 | Liberal Arts Elective | 3 |

| Fourth         | EDUC 2163 | Foundations of Education | 3 |
|                | SPCH 1083 | Effective Speaking | 3 |
|                | PLSC 1043 | American Government | 3 |
|                | XXXX xxx3 | Open Elective | 3 |
|                | XXXX xxx3 | Liberal Arts Elective | 3 |

**BIOLOGY CONCENTRATION**

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<th>Second</th>
<th>PSYC 2033</th>
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|                | HPEP xxx1 | Health/Physical Education Elective | 1 |
|                | BIOL 4254 | General Microbiology | 4 |
|                | BIOL 1304 | Botany | 4 |
|                | BIOL 1404 | Anatomy & Physiology I | 4 |

| Fourth         | XXXX xxx3 | Foreign Language II | 3 |
|                | EDUC 2163 | Foundations of Education | 3 |
|                | BIOL 6534 | Genetics | 4 |
|                | SPCH 1083 | Effective Speaking | 3 |
# ENGLISH CONCENTRATION

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<td>Survey of American Lit I</td>
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<td>The Short Story</td>
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<td>XXXX</td>
<td>xxxx</td>
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<tr>
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# MATH CONCENTRATION

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<td>XXXX</td>
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# PHYSICS CONCENTRATION

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**Fourth**

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<td>Multivariate &amp; Vector Calculus</td>
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# MATH CONCENTRATION

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<td>General Education Elective (Other World Civilizations)</td>
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</table>
If you’re planning on continuing your education at another four-year college or university, the liberal arts & 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 & 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.
- 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 & sciences: humanities 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 – 100 percent are employed.

**RELATED PROGRAMS**

- Health Information Technology
- Human Services
- Individual Studies
- Liberal Arts & Sciences: Math & Science
- Liberal Arts & Sciences: Social Science
- Nursing

**ENTRANCE REQUIREMENTS/RECOMMENDATIONS**

Required: Algebra

Recommended: Geometry, Biology

### TYPICAL FOUR-SEMESTER PROGRAM

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<td>xxx3</td>
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All students must pass COMP 1503 Freshman Composition with a "C" or better.

Humanities electives can be chosen from among the following course prefixes: COMP, FNAT, ITAL, LITR, RELG, SPAN, or SPCH.

Also required: writing portfolio and one unit of physical education.

**GRADUATION REQUIREMENTS**

Each student must successfully complete 60 credit hours (excluding HPE) with a minimum grade point average of 2.0.
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 & sciences: math and science graduates may enter directly into either the interdisciplinary studies BTech or the technology management MBA 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 – 33 percent are employed; 67 percent continued their education.

**RELATED PROGRAMS**

- Biological Science
- Forensic Science Technology
- Individual Studies
- Liberal Arts & Sciences: Humanities
- Liberal Arts & Sciences: Social Science
- Pre-Environmental Science & Forestry

**ENTRANCE REQUIREMENTS/RECOMMENDATIONS**

Required: Algebra, Geometry, and Algebra 2; Biology; Chemistry; or Physics

Recommended: Both Chemistry and Physics

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**TYPICAL FOUR-SEMESTER PROGRAM**

### First

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### Second

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**GRADUATION REQUIREMENTS**

A minimum of 61 credit hours is required for graduation with a cumulative index of 2.0. Students must also have a cumulative index of at least 2.0 in mathematics and science sequence courses.
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 & 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/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 – 11 percent are employed; 89 percent continued their education.

**RELATED PROGRAMS**

- Criminal Justice
- Human Services
- Human Services Management
- Individual Studies
- Interdisciplinary Studies
- Liberal Arts & Sciences: Adolescent Education (Teacher Education Transfer)
- Liberal Arts & Sciences: Humanities
- Liberal Arts & Sciences: Math & Science

**ENTRANCE REQUIREMENTS/RECOMMENDATIONS**

Required: Algebra

Recommended: Geometry, Biology
MACHINE TOOL TECHNOLOGY

AOS DEGREE – CODE #0551

Bradley Thompson, Interim Department Chair
Email address: thompsb@alfredstate.edu

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 this average salary 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 machine tool technology. 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 machine tool technology 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.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM

Alfred State machine tool 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

• CNC programmers
• CNC machinists
• CNC engineers
• Tool and die makers
• Machine setters and operators
• Machinists
• Mold makers

EMPLOYMENT STATISTICS

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

RELATED PROGRAMS

Welding Technology

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Recommended: Algebra

TECHNICAL STANDARDS

Applicants for the machine tool technology program must meet the following physical requirements:

• Must be able to perform safely in the shop.
• Must be able to lift 50 pounds up to eye level.
• 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/analogue 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.
• Good eyesight is recommended.

MACHINE TOOL – AOS DEGREE

First

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<tr>
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<th>Credits</th>
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<td>MATT 1004</td>
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<td>MATT 1014</td>
<td>Industrial Machining I</td>
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<td>MATT 1024</td>
<td>Industrial Machining II</td>
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<td>MATT 1713</td>
<td>Reading Engineering Drawings</td>
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<td>MATT 1913</td>
<td>Machinist Calculations I</td>
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<td>MATT 1244</td>
<td>Industrial Machining IV</td>
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<td>MATT 1254</td>
<td>Industrial Machining V</td>
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<td>MATT 1723</td>
<td>Reading Engineering Drawings</td>
<td>3</td>
</tr>
<tr>
<td>MATT 1923</td>
<td>Machinist Calculations II</td>
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<td>MATT 3015</td>
<td>CNC Industrial Machining I</td>
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</tr>
<tr>
<td>MATT 3025</td>
<td>CNC Industrial Machining II</td>
<td>5</td>
</tr>
<tr>
<td>MATT 3033</td>
<td>Geometric Dimensioning &amp; Tolerancing</td>
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Fourth

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<tr>
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<td>MATT 4015</td>
<td>CNC Industrial Machining IV</td>
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</tr>
<tr>
<td>MATT 4025</td>
<td>CNC Industrial Machining V</td>
<td>5</td>
</tr>
<tr>
<td>MATT 4003</td>
<td>Senior Project</td>
<td>3</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 index of 2.0, which is equivalent to a “C” average.

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.)
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.

A laptop computer is recommended, but not required, for students entering the marketing program. The college will provide a list of appropriate laptops to all students who have been accepted to attend Alfred State.

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
- Transportation systems

EMPLOYMENT STATISTICS
Employment and continuing education rate of 100 percent – 100 percent continued their education.

RELATED PROGRAMS
- Accounting
- Business Administration (AS)
- Business Administration (BBA)
- Financial Planning
- Technology Management

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra

Recommended: Geometry, Algebra 2
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.
- 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 – 71 percent are employed; 29 percent continued their education.

RELATED PROGRAMS

- Heating, Ventilation, and Air Conditioning
- Building Trades: Building Construction
- Electrical Construction and Maintenance Electrician

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Recommended: Algebra

TECHNICAL STANDARDS

Applicants in the masonry program must be able to meet the following physical requirements:

- Must be able to lift 50 pounds to shoulder height.
- Must be able to perform safely in the laboratory.
- Must be able to communicate orally with a person 20 feet away.
- Must be able to climb a ladder and/or able to climb, unaided, onto and off equipment using three points of contact.
- Must be able to stand for long periods of time.
- Must be able to visually read from a blueprint or drawing.
- Must be able to hear a backup warning alarm.
MECHANICAL ENGINEERING TECHNOLOGY
AAS DEGREE - CODE #0493
BS DEGREE - CODE #0235

Aric Bryant, AAS Program Coordinator
Email address: bryantam@alfredstate.edu

Chris Tomasi, AAS Program Co-Coordinator
Email address: tomasic@alfredstate.edu

Dr. Reza Rashidi, BS Program Coordinator
Email address: rashidr@alfredstate.edu

Dr. Matt Lawrence, Department Chair and BS Program Co-Coordinator
Email address: lawrenmj@alfredstate.edu

As a mechanical engineering technology program graduate, you will be well prepared to be a mechanical technologist or technician for 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.

A laptop computer is required for students entering the mechanical engineering technology programs. Laptop specifications are available at www.alfredstate.edu/required-laptops.

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 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 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.
• Application of principles of geometric dimensioning and tolerancing.
• Use of computer aided drafting and design software.
• Performing set-up, and calibration of measurement tools/instrumentation.
• Elements of differential and integral calculus.
• Manufacturing processes.
• Material science and selection.
• Solid mechanics (such as statics, dynamics, strength of materials, etc.).
• Mechanical system design.
• Thermal sciences (such as thermodynamics, fluid mechanics, heat transfer, etc.).
• Electrical circuits (ac and dc) and electronic controls.
• Application of industry codes, specifications and standards.
• Technical communications typically used in preparation of engineering proposals, reports, and specifications.

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

<table>
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<tr>
<th>Automotive industry</th>
<th>HVAC &amp; R industry</th>
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<tbody>
<tr>
<td>Sales and applications</td>
<td>Manufacturing</td>
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<tr>
<td>Development/design</td>
<td>Petroleum industry</td>
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<td>Field service</td>
<td>Engineering aide</td>
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<tr>
<td>Installation supervision</td>
<td>Test technicians</td>
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<tr>
<td>Aerospace industry</td>
<td>Utility companies</td>
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<tr>
<td>Process equipment</td>
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EMPLOYMENT STATISTICS

Employment and continuing education rate:

Mechanical engineering technology (AAS degree): 100 percent – 100 percent continued their education.
Mechanical engineering technology (BS degree): 100 percent – 98 percent are employed; 2 percent continued their education.

RELATED PROGRAMS

Motorcycle and Power Sports Technology

ENROLLMENT AND GRADUATION DATA

AAS Degree

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<td>2017</td>
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<td>2016</td>
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BS Degree

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<th>Enrollment (based on Fall census)</th>
<th>Degrees Awarded</th>
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</thead>
<tbody>
<tr>
<td>2018</td>
<td>185</td>
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<td>2017</td>
<td>187</td>
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<tr>
<td>2016</td>
<td>193</td>
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</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, SAT and/or ACT scores with a recommended combined reading/writing and math SAT score of 1080 or a composite ACT score of 21.

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.

MECHANICAL ENGINEERING TECHNOLOGY - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

First

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<th>CRN</th>
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<td>MECH 1203</td>
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<td>MECH 1603</td>
<td>Graphics/CAD</td>
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<td>COMP 1503</td>
<td>Freshman Composition</td>
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<td>MATH 1033</td>
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<td>MECH 1663</td>
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<tr>
<td>MECH 4003</td>
<td>Solid Modeling</td>
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<tr>
<td>MECH 4523</td>
<td>Control System</td>
<td>3</td>
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<td>MATH 2043</td>
<td>College Trigonometry</td>
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<td>PHYS 1024</td>
<td>General Physics I</td>
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<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>SOCI 1193</td>
<td>Marriage &amp; Family Acrs Wild CIt</td>
<td>3</td>
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</tr>
<tr>
<td>PLSC 1043</td>
<td>OR American Government</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ANTH 1013</td>
<td>OR Cultural Anthropology</td>
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Fourth

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<td>MECH 4024</td>
<td>Dynamics</td>
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<tr>
<td>MATH 2074</td>
<td>Technical Calculus II</td>
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<tr>
<td>MECH 3124</td>
<td>HVAC Systems</td>
<td>4</td>
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<tr>
<td>MECH 4554</td>
<td>OR Computer Aided Mfg Famamentals</td>
<td>4</td>
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<tr>
<td>MECH 4224</td>
<td>Mechanical Systems Design</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
- Five of 10 General Education areas

Any student who does not enroll in SOCI 1193, PLSC 1043, or ANTH 1013 must enroll in two appropriate General Education courses.
# Typical Five-Through Eight-Semester Program

**Fifth**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MECH 7114</td>
<td>Applied Thermodynamics</td>
<td>4</td>
</tr>
<tr>
<td>MECH 5334</td>
<td>Mechanics of Materials</td>
<td>4</td>
</tr>
<tr>
<td>MECH 6334</td>
<td>Fluid Mechanics</td>
<td>4</td>
</tr>
<tr>
<td>LITR xxx3</td>
<td>Literature Elective</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 5013</td>
<td>Applied Chemical Principles</td>
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**Sixth**

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<tr>
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<tr>
<td>MATH 6114</td>
<td>Differential Equations</td>
<td>4</td>
</tr>
<tr>
<td>COMP 5703</td>
<td>Technical Writing II</td>
<td>3</td>
</tr>
<tr>
<td>SPOH 1083</td>
<td>Effective Speaking</td>
<td>3</td>
</tr>
<tr>
<td>MATH 7123</td>
<td>Statistics for Engr Tech &amp; Sci</td>
<td>3</td>
</tr>
<tr>
<td>MECH 6643</td>
<td>Process Engineering &amp; Manufact</td>
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**Seventh**

<table>
<thead>
<tr>
<th>Code</th>
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<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>
</tr>
<tr>
<td>MECH 7153</td>
<td>Fluid Power Systems Design</td>
<td>3</td>
</tr>
<tr>
<td>EMET 5004</td>
<td>Instrumentation</td>
<td>4</td>
</tr>
<tr>
<td>xxx3</td>
<td>Gen Ed/LAS Elective</td>
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</table>

**Eighth**

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>BSET 8003</td>
<td>Senior Technical Project Technology</td>
<td>3</td>
</tr>
<tr>
<td>MECH 7403</td>
<td>Microfabrication Technology</td>
<td>3</td>
</tr>
<tr>
<td>xxx3</td>
<td>Liberal Arts/Science Elective</td>
<td>3</td>
</tr>
<tr>
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<td>Liberal Arts/Science Elective</td>
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</table>

**Typical Liberal Arts/Science Electives:**

<table>
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<tr>
<th>Code</th>
<th>Course Title</th>
<th>Credits</th>
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<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 1043</td>
<td>American Government</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>
<tr>
<td>SOCI 1193</td>
<td>Marriage &amp; Family Acrs World Cult</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 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.

A laptop computer is required for students entering the mechatronics technology program. Laptop specifications are available at www.alfredstate.edu/required-laptops. Some courses may require specialized tools and/or electronic components.

**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

**RELATED PROGRAMS**
- Computer Engineering Technology
- Electrical Engineering Technology
- Mechanical Engineering Technology

**ENTRANCE REQUIREMENTS/RECOMMENDATIONS (AAS)**
Applicants for the mechatronics 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
Recommended: Physics

**ENTRANCE REQUIREMENTS/RECOMMENDATIONS (BS)**
Required: Algebra, Geometry, Algebra 2, SAT and/or ACT scores with a recommended combined reading/writing and math SAT score of 1080 or a composite ACT score of 21.
Recommended: Physics

---

**MECHATRONICS TECHNOLOGY - AAS DEGREE**

**TYPICAL FOUR-SEMESTER PROGRAM**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ELET 1133</td>
<td>Digital Logic</td>
<td>3</td>
</tr>
<tr>
<td>ELET 1111</td>
<td>Digital Logic Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>MATH 1024</td>
<td>General Physics I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2423</td>
<td>Circuits Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>MCET 2461</td>
<td>Circuits Fundamentals Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>LITR xxx3</td>
<td>General Education/Literature Elective</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 2023</td>
<td>General Physics II</td>
<td>3</td>
</tr>
<tr>
<td>XXX    xxx3</td>
<td>General Education/LAS Elective</td>
<td>3</td>
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<tr>
<td>XXX    xxx3</td>
<td>Technical Elective</td>
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**ENTRANCE REQUIREMENTS (AAS)**

- 62 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

**MECHATRONICS TECHNOLOGY**

**AAS DEGREE – CODE #2729**

**BS DEGREE - CODE #2882**

Timothy Cochran, Program Coordinator (AAS and BS)

Email address: cochratj@alfredstate.edu
**MECHATRONICS TECHNOLOGY - BS DEGREE**

**TYPICAL EIGHT-SEMESTER PROGRAM**

### First

<table>
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<th>Course</th>
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<tbody>
<tr>
<td>ELET</td>
<td>1133</td>
<td>Digital Logic</td>
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<tr>
<td>ELET</td>
<td>1111</td>
<td>Digital Logic Laboratory</td>
<td>1</td>
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<tr>
<td>COMP</td>
<td>1503</td>
<td>Freshman Composition</td>
<td>3</td>
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<tr>
<td>MATH</td>
<td>1033</td>
<td>College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MECH</td>
<td>1603</td>
<td>Graphics/CAD</td>
<td>3</td>
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<tr>
<td>ELET</td>
<td>1202</td>
<td>Intro to Electrical Eng Tech</td>
<td>2</td>
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<tr>
<td>ELET</td>
<td>1001</td>
<td>Seminar</td>
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### Second

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<tbody>
<tr>
<td>ELET</td>
<td>1142</td>
<td>Electronic Fabrication</td>
<td>2</td>
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<tr>
<td>MATH</td>
<td>2043</td>
<td>College Trigonometry</td>
<td>3</td>
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<tr>
<td>PHYS</td>
<td>1024</td>
<td>General Physics I</td>
<td>4</td>
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<tr>
<td>MCET</td>
<td>2423</td>
<td>Circuits Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>MCET</td>
<td>2461</td>
<td>Circuits Fundamentals Laboratory</td>
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<td>LITR</td>
<td>xxx3</td>
<td>General Education/LAS Elective</td>
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### Third

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<tr>
<td>ELET</td>
<td>2103</td>
<td>Electronics Theory I</td>
<td>3</td>
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<td>ELET</td>
<td>2151</td>
<td>Electronics Laboratory I</td>
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<td>MECH</td>
<td>3334</td>
<td>Statics</td>
<td>4</td>
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<tr>
<td>ELET</td>
<td>2143</td>
<td>Embedded Controller Fundamentals</td>
<td>3</td>
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<tr>
<td>MATH</td>
<td>1063</td>
<td>Technical Calculus I</td>
<td>3</td>
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<tr>
<td>XXXX</td>
<td>xxx3</td>
<td>General Education/LAS Elective</td>
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### Fourth

<table>
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<th>Course</th>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>PHYS</td>
<td>2023</td>
<td>General Physics II</td>
<td>3</td>
</tr>
<tr>
<td>MATH</td>
<td>2074</td>
<td>Technical Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>XXXX</td>
<td>xxx3</td>
<td>Technical Elective</td>
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</tr>
<tr>
<td>XXXX</td>
<td>xxx3</td>
<td>General Education/LAS Elective</td>
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<tr>
<td>XXXX</td>
<td>xxx3</td>
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**Typical Five- through eight-semester program**

### Fifth

<table>
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<tr>
<th>Course</th>
<th>Code</th>
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<tr>
<td>CHEM</td>
<td>5013</td>
<td>Applied Chemical Principles</td>
<td>3</td>
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<tr>
<td>MECH</td>
<td>5334</td>
<td>Mechanics of Materials</td>
<td>4</td>
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<td>XXXX</td>
<td>xxx3</td>
<td>Technical Elective (Upper)</td>
<td>3</td>
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<td>XXXX</td>
<td>xxx3</td>
<td>Technical Elective (Upper)</td>
<td>3</td>
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<tr>
<td>XXXX</td>
<td>xxx3</td>
<td>Technical Elective (Upper)</td>
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### Sixth

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<tbody>
<tr>
<td>ELET</td>
<td>6143</td>
<td>Electrical Machines &amp; Controls</td>
<td>3</td>
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<td>MATH</td>
<td>6114</td>
<td>Differential Equations</td>
<td>4</td>
</tr>
<tr>
<td>MATH</td>
<td>7123</td>
<td>Statistics for Engr Tech &amp; Sci</td>
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<tr>
<td>MCET</td>
<td>7143</td>
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<tr>
<td>COMP</td>
<td>5703</td>
<td>Technical Writing II</td>
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<td>Economic Analy for Engr Tech</td>
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<td>EMET</td>
<td>5004</td>
<td>Instrumentation</td>
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<tr>
<td>PHYS</td>
<td>8013</td>
<td>Modern Physics</td>
<td>3</td>
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<tr>
<td>SPCH</td>
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<td>Effective Speaking</td>
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### Eighth

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<tbody>
<tr>
<td>BSET</td>
<td>8003</td>
<td>Senior Technical Project</td>
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<td>General Education/LAS Elective</td>
<td>3</td>
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<tr>
<td>XXXX</td>
<td>xxx3</td>
<td>Technical Elective</td>
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<tr>
<td>XXXX</td>
<td>xxx3</td>
<td>Technical Elective (Upper)</td>
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<tr>
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<td>Technical Elective (Upper)</td>
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</table>

**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
Motorcycle and power sports technology is a two-year AOS degree program that prepares students for a career as motorcycle / power sports / small engine technicians. This program incorporates a progressively challenging format and hands-on laboratories using full-size functioning vehicles. Training will include all aspects of motorcycle and small vehicle repair, including the diagnosis and repair of gasoline and diesel engines, transmissions, electrical/electronic systems, brake systems, steering systems, and suspension systems.

**ADVANTAGES**
- Provides a simulated real-world practice environment that will prepare the student for immediate entry-level employment as a technician after graduation.
- The diverse tools and equipment provided for hands-on practice will prepare the student for a variety of employment opportunities.
- Instructors are well trained, with many years of field experience.

**PROGRAM STUDENT LEARNING OUTCOMES**
Graduates of the program will be able to:
- Prepare a focused, coherent, and organized written report.
- Perform mathematical calculations required for entry-level employment.
- Demonstrate the ability to retain and 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 drive train systems.
- Demonstrate the ability to describe operation, diagnose, and repair modern engines.
- Demonstrate the ability to describe operation, diagnose, and repair steering, brakes, and suspension systems.

**DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM**
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**
- Motorcycle technician
- Marine vehicle technician
- Small engine/lawn and garden equipment technician
- Service manager
- Shop foreman

**RELATED PROGRAMS**
- Autobody Repair
- Heavy Equipment, Truck & Diesel Technician
- Mechanical Engineering Technology
- Motorsports Technology
- Welding

**ENTRANCE REQUIREMENTS/RECOMMENDATIONS**
Recommended: Algebra

**TECHNICAL STANDARDS**
Applicants in the motorcycle and power sports technology program must meet the following physical requirements:
- Must be able to lift 50 pounds to eye level.
- Must be able to effectively communicate with a person 6 to 10 feet away.
- Must be able to visually decipher small images on a monitor or digital display.
- Must be able to distinguish sounds associated with mechanical failures.

**CERTIFICATION OR LICENSURE**
The New York State vehicle inspector exam is offered on campus.

**TYPICAL FOUR-SEMESTER PROGRAM**

<table>
<thead>
<tr>
<th>First</th>
<th>Second</th>
<th>Third</th>
<th>Fourth</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOTO 1003 Intro to Shop Service Basics 3</td>
<td>MOTO 2013 Inspection &amp; Preventative Mtn 3</td>
<td>MOTO 3003 Diesel Engines 3</td>
<td>MOTO 4023 Exhaust &amp; Induction Systems 3</td>
</tr>
<tr>
<td>MOTO 1005 Basic Electrical Systems 5</td>
<td>MOTO 2005 Starting &amp; Charging Systems 5</td>
<td>MOTO 3005 Two &amp; Four Stroke Engines 5</td>
<td>MOTO 4005 Advanced Drivability Systems 5</td>
</tr>
<tr>
<td>MOTO 1015 Welding &amp; Fabrication 5</td>
<td>MOTO 2015 Suspension &amp; Steering Systems 5</td>
<td>MOTO 3015 Transmissions 5</td>
<td>MOTO 4015 Advanced Electrical 5</td>
</tr>
<tr>
<td>MOTO 1025 Brake Systems 5</td>
<td>MOTO 3035 Fuel &amp; Ignition Systems 5</td>
<td>MOTO 3035 Drive Systems 5</td>
<td>MOTO 4025 Advanced Applications 5</td>
</tr>
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</tbody>
</table>

**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.
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, diagnose, and repair race automotive drive train systems.
- Demonstrate the ability to describe operation, diagnose, and repair race engines.
- 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 100 percent – 100 percent are employed.

**RELATED PROGRAMS**
- Autobody Repair
- Automotive Service Technician
- Mechanical Engineering Technology
- Motorcycle and Power Sports Technology
- Welding Technology

**ENTRANCE REQUIREMENTS/RECOMMENDATIONS**
Recommended: Algebra

**TECHNICAL STANDARDS**
Applicants in the motorsports technology program must meet the following physical requirements:
- Must be able to lift 50 pounds to eye level.
NURSING

AAS DEGREE - CODE #0622

Jess Lippa, Department Co-Chair and Program Coordinator
Email address: lippa@alfredstate.edu

The nursing AAS program will prepare you to become a registered professional 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, psychiatric, 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. There is no guarantee that the college will provide bus transportation to and from all clinical sites.

A laptop is required for the nursing 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.

All sciences (anatomy and physiology I and II, microbiology) must be passed with a minimum of “C+” in order to progress through the nursing program. Students must earn a “C” in Nursing I (NURS 1108) and Nursing II (NURS 2208) and a “C+” in Nursing III (NURS 3310) and Nursing IV (NURS 4410) to progress in the nursing program. Competency in medication clinical computation is required and is tested as part of the Nursing II (NURS 2208) and Nursing III (NURS 3310) courses.

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. Microbiology taught in a classroom with lab component at the same college.

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.

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, and other requirements may be specified by affiliating agencies.

Any student wishing more information should contact the nursing program.

ADVANTAGES

- The program is accredited by the Accreditation Commission for Education in Nursing (ACEN) [3343 Peachtree Road, Suite 850, Atlanta, GA 30326] phone 404-975-5000, www.acenursing.org.
- The associate degree in nursing (AAS) is currently being offered in three different educational pathways:
  - The traditional two-year program
  - A three-year part-time program
  - Within a dual-degree format
- Graduates of the AAS degree may directly enroll in the RN-BSN program after filling out the "Joint Intent to Enroll" form.
- Graduates of the AAS degree are eligible to apply for licensure as a registered professional nurse (RN-NCLEX) in any state.

PROGRAM STUDENT LEARNING OUTCOMES

- Acquires self-empowerment to provide holistic care to a diverse population while providing health education using learner-centered focused principles.
- Demonstrates accountability and effective interpersonal relationships with clients and members of the health care team, and works collaboratively in professional 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.
- Demonstrates responsibility for continued learning and further growth.
- Manages care for clients while evaluating own performance to improve professional practice, quality of care, and safety in a timely and cost-effective manner.
- Applies technology and information management skills to retrieve data, communicate, support decision making, and submit information.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM

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

FACILITIES

Facilities used for clinical experiences may include: Cuba Memorial Hospital, Elderwood, Guthrie Corning Hospital, Highland Hospital, Highland Park Rehabilitation & Nursing Center, Jones Memorial Hospital, Noyes Memorial Hospital, Open General Hospital, and 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 may be responsible for their own transportation.

PROFESSIONAL OPPORTUNITIES

- Ambulatory settings
- Health insurance providers
- Hospitals
- Long-term care facilities
- Schools
- Clinics
- Home health care
- Industry
- Physician offices
- Visiting nurses' agencies

EMPLOYMENT STATISTICS

According to the most recent Employment and Continuing Education survey, of those 2017 graduates responding, 67 percent are employed in their major; 33 percent continued their education.

STUDENT ACHIEVEMENT DATA

The NCLEX pass rate for the May 2017 graduates is 89 percent. The completion rate for the fall 2016 cohort is 67 percent.

RELATED PROGRAMS

- Biological Science
- Diagnostic Medical Sonography
- Health Information Technology
- Health Science
- Human Services
- Liberal Arts & Sciences: Humanities
- Radiologic Technology

ENTRANCE 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

Students who believe they need a reasonable accommodation to participate in clinical care 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.

Licensure
Graduates are eligible to apply for licensure as a registered professional nurse (RN-NCLEX) in any state. Completion of the nursing program does not assure licensure as a registered professional nurse. Graduates of this 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. 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?
- If the answer to any of the questions is yes, the applicant must offer full explanation and establish his/her good moral character with the State Education Department, prior to earning a license.

General Notes:
Min. of a "C" grade is required for Nursing I and II; min. of "C+" is required for Nursing III and IV.

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.

CPR certification is required BEFORE taking Nursing I (NURS 1108) and must remain active throughout the nursing program.

RN Transfer Program
Alfred State students may transfer to most New York State baccalaureate programs consistent with NYS transfer agreement.

Registered Nurse Program Nursing - AAS Degree
Typical Two-Year Program

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<tr>
<th>First</th>
<th>COMP 1503</th>
<th>Freshman Composition</th>
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<tbody>
<tr>
<td>BIOL 1404</td>
<td>Anatomy &amp; Physiology I</td>
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<tr>
<td>NURS 1108</td>
<td>Nursing I</td>
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Min. of "C+" is required in BIOL 1404 to progress
Min. of a "C" grade is required for Nursing I

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<tr>
<th>Second</th>
<th>PSYC 1013</th>
<th>General Psychology</th>
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<tr>
<td>BIOL 2504</td>
<td>Anatomy &amp; Physiology II</td>
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<tr>
<td>NURS 2208</td>
<td>Nursing II</td>
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Min. of "C+" is required in BIOL 2504 to progress
Min. of a "C" grade is required for Nursing II

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<tr>
<th>Third</th>
<th>PSYC 1023</th>
<th>Human Development</th>
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<tbody>
<tr>
<td>BIOL 4254</td>
<td>General Microbiology</td>
<td>4</td>
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<tr>
<td>NURS 3310</td>
<td>Nursing III</td>
<td>10</td>
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</table>

BIOL 4254 is a prerequisite for NURS 4411. A min. grade of "C+" is required for BIOL 4254.
Min. of a "C+" grade is required for Nursing III

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<tr>
<th>Fourth</th>
<th>LITR xx3</th>
<th>Literature</th>
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<tr>
<td>SOCI 1163</td>
<td>General Sociology</td>
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<tr>
<td>NURS 4410</td>
<td>Nursing IV</td>
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</table>

Min. of a "C+" grade is required for Nursing IV

Be advised that a prior felony conviction may impede a student’s ability to participate in a required professional practice experience.

Graduation Requirements
- 36 credits of nursing (nursing I, II, III, IV)
- 12 credits of natural science (anatomy & physiology I and II, microbiology)
- Nine credits of social science (general psychology, general sociology, human development)
- Six credits of English/humanities (freshman composition, literature)
PROGRAM STUDENT LEARNING OUTCOMES

The completion rate for the May 2017 graduates is 97 percent.

STUDENT ACHIEVEMENT DATA

The BS in Nursing program can be taken entirely online, allowing the student to progress at their own pace.

ADMISSIONS REQUIREMENTS

According to the most recent Employment and Continuing Education survey, of those 2017 graduates responding, 87 percent are employed in their major and 13 percent continued their education.

NURSING

BS IN NURSING DEGREE - CODE #0291

KathyAnn Sager, Department Co-Chair and Program Coordinator
Email Address: sagerk@alfredstate.edu

The demand for nurses with bachelor’s degrees or higher has never been greater. In order to meet that need, Alfred State now 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 at the graduate level. The BS in Nursing program is offered in both an online format and on-campus 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 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.

STUDENT ACHIEVEMENT DATA

The completion rate for the May 2017 graduates is 97 percent.

PROGRAM STUDENT LEARNING OUTCOMES

- 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 in a variety of health care settings and institutions throughout New York State and the US.

EMPLOYMENT STATISTICS

According to the most recent Employment and Continuing Education survey, of those 2017 graduates responding, 87 percent are employed in their major and 13 percent continued 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
- Course work in communication, literature, psychology, and sociology

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 who believe they need a reasonable accommodation to participate in clinical care 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.

Students must have an active, unencumbered state license to progress into the second semester of BSN courses.

ACCREDITATION/CERTIFICATION

- Middle States Commission on Higher Education (www.msche.org); 3624 Market Street, 2nd Floor West, Philadelphia, PA 19104; phone: 267-284-5000.
- The baccalaureate degree program in nursing at The State University of New York College of Technology at Alfred is accredited by the Commission on Collegiate Nursing Education, 655 K Street, NW, Suite 750, Washington, DC 20001, 202-887-6791.
- The BS in Nursing program is registered by the NYS Education Department.
**ARTICULATION AGREEMENTS**

Articulation agreements are in progress between multiple regional community colleges and Alfred State for the BS in Nursing program.

**NURSING - BS IN NURSING**

**TYPICAL TWO-YEAR UPPER-LEVEL COMPLETION PROGRAM**

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<td>NURS 5023 NURS 8003</td>
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<td>NURS 6003 NURS 6413 NURS xxx3 XXXX xxx3 XXXX xxx3 XXXX xxx3 xxxx</td>
<td>NURS 7004 NURS 8013 ANTH 5113 XXXX xxx3 XXXX xxx3</td>
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<tr>
<td>Contemporary Nursing</td>
<td>Ethical Issues in Health Care</td>
<td>Nursing Leadership/Management</td>
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<td>NURS 8003 SPCH 1083</td>
<td>NURS 7003 NURS 6403 BIOL 6403 HLTH 1313 XXXX</td>
<td>NURS xxx3 Nursing Elective - Upper</td>
<td>Professional Capstone</td>
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<td>Informatics &amp; Tech App</td>
<td>Nursing Research</td>
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<td>MATH 1123</td>
<td>BIOL 6403</td>
<td>NURS xxx3 Liberal Arts Elective - Upper Level</td>
<td>Liberal Arts Elective - Upper</td>
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<td>Advanced Pathophysiology</td>
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<td>Liberal Arts Elective - Upper</td>
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<td>Liberal Arts Elective - Upper</td>
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<td>Liberal Arts Elective - Upper</td>
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<tr>
<td>RN license is required before proceeding into NURS 7004 Population Focused Care.</td>
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Be advised that a prior felony conviction may impede a student’s ability to participate in a required professional practice experience.

**GRADUATION REQUIREMENTS**

- 28 credits of upper-level nursing
- A minimum of 60 credits of liberal arts and sciences (inclusive of associate degree credits)
- A minimum of a “C” grade in upper-level nursing courses
NURSING DUAL DEGREE PROGRAM

DUAL DEGREE PROGRAM - CODE #373

Jess Lippa, Department Co-Chair and Program Coordinator
Email address: lippaj@alfredstate.edu

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. In order to meet the recommended 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 professional 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, psychiatrics, 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.

FACILITIES

Facilities used for clinical experiences may include: Cuba Memorial Hospital, Elderwood, Guthrie Corning Hospital, Highland Hospital, Highland Park Rehabilitation & Nursing Center, Jones Memorial Hospital, Noyes Memorial Hospital, Olean General Hospital, and 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 may 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 nursing 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.

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

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.

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.

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 professional nurse (RN-NCLEX) in any state.

Articulation agreements are in progress between multiple regional community colleges and Alfred State for the BSN program.

PROGRAM STUDENT LEARNING OUTCOMES

- Acquires self-empowerment to provide holistic care to a diverse population while providing health education using learner-centered focused principles.
- Demonstrates accountability and effective interpersonal relationships with clients and members of the health care team, and works collaboratively in professional 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.
- Demonstrates responsibility for continued learning and further growth.
- Manages care for clients while evaluating own performance to improve professional practice, quality of care, and safety in a time and cost-effective manner.
- Applies technology and information management skills to retrieve data, communicate, support decision making, and submit information.
- Synthesizes theory and concepts from nursing, the liberal education domain, and other professions to expand knowledge.
- Creates a plan to foster social justice through civic engagement.
- Applies principles of critical reflection, inquiry, and evidence-based practice to resolve nursing issues.
- Integrates leadership principles to design, manage, and coordinate care for individuals and populations in complex and changing health care delivery systems.
- Appropriates 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.
- Applies knowledge of informatics to foster inter- and intra-professional communication and collaboration in the delivery of safe, quality health care.
- Creates a philosophy as a foundation for commitment to the profession, advancement and lifelong learning.
- Uses 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 in a variety of health care settings and institutions throughout New York State and the US.

STUDENT ACHIEVEMENT DATA

The NCLEX pass rate for the May 2017 graduates was 89 percent.

The dual degree program was officially registered with the NYS Department of Education as of the fall 2016 semester.

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 50 percent are employed; 50 percent continued their education.

RELATED PROGRAMS

- Biological Science
- Diagnostic Medical Sonography
- Health Information Technology
- Health Sciences
- Human Services
- Liberal Arts & Sciences; Humanities
- Radiologic Technology

ENTRANCE REQUIREMENTS

Required: Algebra, Biology, Chemistry

Combined reading/writing and math SAT score of 1080 or an ACT composite score of 21. Additional details and entrance requirements may be obtained directly from the Admissions Office.

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

Students who believe they need a reasonable accommodation to participate in clinical care 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.

A computer with Internet access, webcam, and Microsoft Office is required for the nursing program. Written work must be submitted in Word 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.

LICENSURE

Upon completion of the AAS degree portion of the dual degree program, graduates are eligible to apply for licensure as a registered professional nurse (RN-NCLEX) in any state. 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. 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?

If the answer to any of the questions is yes, the applicant must offer full explanation and establish his/her good moral character with the State Education Department, prior to earning a license.

Be advised that a prior felony conviction may impede a student’s ability to participate in a required professional practice experience.

ACCREDITATION/CERTIFICATION

• The nursing programs at The State University of New York, College of Technology at Alfred are accredited by the Middle States Commission on Higher Education [3624 Market Street, 2nd Floor West, Philadelphia, PA 19104; 267-284-5000].
• The AAS nursing program is accredited by the Accreditation Commission for Education in Nursing (ACEN), formerly the National League for Nursing Accreditation Commission (NLNAC) [3343 Peachtree Road, Suite 850, Atlanta, GA 30326]; phone 404-975-5000, www.acenursing.org
• The baccalaureate degree program in nursing at The State University of New York College of Technology at Alfred is accredited by the Commission on Collegiate Nursing Education, 655 K Street NW, Suite 750, Washington, DC 20001; 202-887-6791.

• Both the AAS and BS in Nursing programs are registered by the NYS Education Department. Graduates of the AAS degree are eligible to apply for licensure as a registered professional nurse (RN-NCLEX) in any state.

DUAL DEGREE PROGRAM NURSING – AAS TO BS IN NURSING DEGREE

TYPICAL FOUR-YEAR PROGRAM

<table>
<thead>
<tr>
<th>Level</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>BIOL1404</td>
<td>Anatomy &amp; Physiology I</td>
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<tr>
<td></td>
<td>COMP1503</td>
<td>Freshman Composition</td>
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<tr>
<td></td>
<td>PSYC1013</td>
<td>General Psychology</td>
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<td></td>
<td>SOCI1163</td>
<td>General Sociology</td>
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<td>XXXX</td>
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<td>(Fine Arts, Foreign Language, Western Civilization or American History)</td>
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<td>BIOL2504</td>
<td>Anatomy &amp; Physiology II</td>
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<td>LITR2603</td>
<td>Introduction to Literature</td>
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<td></td>
<td>PSYC1023</td>
<td>Human Development</td>
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<td>HLTH1313</td>
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<td>MATH1123</td>
<td>Statistics I</td>
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<td>Third</td>
<td>NURS1108</td>
<td>Nursing I</td>
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<td></td>
<td>BIOL4254</td>
<td>General Microbiology</td>
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<td>ANTH5113</td>
<td>Cross-Cultural Encounters</td>
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<td>Fourth</td>
<td>NURS2208</td>
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<td></td>
<td>SPCH1083</td>
<td>Effective Speaking</td>
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<td></td>
<td>XXXX</td>
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<td>NURS3310</td>
<td>Nursing III</td>
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<td></td>
<td>NURS8003</td>
<td>Informatics &amp; Tech App in Hlthcare</td>
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<tr>
<td></td>
<td>NURS5023</td>
<td>Contemporary Nursing</td>
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<td>Sixth</td>
<td>NURS4410</td>
<td>Nursing IV</td>
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<td>BIOL6403</td>
<td>Advanced Pathophysiology</td>
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<tr>
<td></td>
<td>NURS6413</td>
<td>Health Asmt &amp; Promotion Acros</td>
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<tr>
<td></td>
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Student is eligible to apply for licensure as a registered professional nurse (RN-NCLEX) in any state.

<table>
<thead>
<tr>
<th>Level</th>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Seventh</td>
<td>NURS5003</td>
<td>Ethical Issues in Health Care</td>
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<tr>
<td></td>
<td>NURS6003</td>
<td>Nursing Leadership/Management</td>
</tr>
<tr>
<td></td>
<td>NURS7003</td>
<td>Nursing Research</td>
</tr>
<tr>
<td></td>
<td>XXXX</td>
<td>Nursing Elective (Upper Level)</td>
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<tr>
<td></td>
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<td>(Total)</td>
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</tbody>
</table>

Eighth Evidence of RN Licensure required prior to progression into NURS 7004 Population Focused Care.
GRADUATION REQUIREMENTS

AAS

- 36 credits of nursing (nursing I, II, III, IV)
- 12 credits of natural science (anatomy & physiology I and II, microbiology)
- Nine credits of social science (general psychology, general sociology, human development)
- Six credits of English/humanities (freshman composition, literature)

BS - Total dual degree credits

- 64 credits of nursing
- 60 gen ed/liberal arts and sciences credits
PART TIME NURSING BS
BS IN NURSING DEGREE - CODE #836

KathyAnn Sager, Department Co-Chair and Program Coordinator
Email Address: sagerk@alfredstate.edu

The demand for nurses with bachelor's degrees or higher has never been greater. In order to meet that need, Alfred State now 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 at the graduate level. The BS in Nursing program is offered in both an online format and on-campus 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 BSN 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 BSN 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 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.

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
- NURS 8013 - Advanced Nursing Practice

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.

ADVANTAGES

- The BS in Nursing program can be taken entirely online, allowing the student to progress at their own pace.

PROGRAM STUDENT LEARNING OUTCOMES

- 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 in a variety of health care settings and institutions throughout New York State and the US.

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 a classroom
- Course work in communication, literature, psychology, and sociology
- A grade point average (GPA) of 2.00

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 who believe they need a reasonable accommodation to participate in clinical care 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.
Students must have an active, unencumbered state license to progress into the second semester of BS in Nursing courses.

### First

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>NURS</td>
<td>5023</td>
<td>Contemporary Nursing</td>
<td>3</td>
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<tr>
<td>NURS</td>
<td>8003</td>
<td>Informatics &amp; Tech App in Hlthcare</td>
<td>3</td>
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<td>SPCH</td>
<td>1083</td>
<td>Effective Speaking</td>
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<tr>
<td>XXXX</td>
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**Total:** 12 credits

### Second

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<tr>
<td>XXXX</td>
<td>xxxx3</td>
<td>Gen. Ed. Elective</td>
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<td>Higth</td>
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<td>Nutrition</td>
<td>3</td>
</tr>
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<td>MATH</td>
<td>1123</td>
<td>Statistics I</td>
<td>3</td>
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<td>NURS</td>
<td>5003</td>
<td>Ethical Issues in Health Care</td>
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**Total:** 12 credits

### Third

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<tr>
<td>ANTH</td>
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<td>NURS</td>
<td>7003</td>
<td>Nursing Research</td>
<td>3</td>
</tr>
<tr>
<td>XXXX</td>
<td>xxxx3</td>
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**Total:** 9 credits

### Fourth

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<tr>
<td>BIOL</td>
<td>6403</td>
<td>Advanced Pathophysiology</td>
<td>3</td>
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<tr>
<td>NURS</td>
<td>6413</td>
<td>Health Assess &amp; Promotion Acns</td>
<td>3</td>
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<tr>
<td>XXXX</td>
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**Total:** 9 credits

### Fifth

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<tr>
<td>NURS</td>
<td>6003</td>
<td>Nursing Leadership/Management</td>
<td>3</td>
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<td>NURS</td>
<td>xxxx3</td>
<td>Nursing Upper Elective</td>
<td>3</td>
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<tr>
<td>XXXX</td>
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**Total:** 9 credits

### Sixth

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<th>Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>NURS</td>
<td>7004</td>
<td>Population Focused Care in Com</td>
<td>4</td>
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<tr>
<td>NURS</td>
<td>8013</td>
<td>Professional Capstone</td>
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<tr>
<td>XXXX</td>
<td>xxxx3</td>
<td>LAS Upper Elective</td>
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**Total:** 10 credits

**GRADUATION REQUIREMENTS**

- 28 credits of upper-level nursing
- A minimum of 60 credits of liberal arts and sciences (inclusive of associate degree credits)
- A minimum of a "C" grade in upper-level nursing courses

**ACCREDITATION/CERTIFICATION**

- Middle States Commission on Higher Education ([www.msche.org](http://www.msche.org)); 3624 Market Street, 2nd Floor West, Philadelphia, PA 19104; phone: 267-284-5000
- The baccalaureate degree in nursing at The State University of New York College of Technology at Alfred is accredited by the Commission on Collegiate Nursing Education, 655 K Street, NW, Suite 750, Washington, DC 20001, 202-887-6791.

- The BS in Nursing program is registered by the NYS Education Department.

**ARTICULATION AGREEMENTS**

Articulation agreements are in progress between multiple regional community colleges and Alfred State for the BSN program.
ADVANTAGES

- The program is accredited by the Accreditation Commission for Education in Nursing (ACEN) [3343 Peachtree Road, Suite 850, Atlanta, GA 30326] phone 404-975-5000, www.acenursing.org.
- The associate degree in nursing (AAS) is currently being offered in three different educational pathways:
  - The traditional two-year program
  - A three-year part-time program
  - Within a dual-degree format
- Graduates of the AAS degree may directly enroll in the RN-BSN program after filling out the "Joint Intent to Enroll" form.
- Graduates of the AAS degree are eligible to apply for licensure as a registered professional nurse (RN-NCLEX) in any state.

PROGRAM STUDENT LEARNING OUTCOMES

- Acquires self-empowerment to provide holistic care to a diverse population while providing health education using learner-centered focused principles.
- Demonstrates accountability and effective interpersonal relationships with clients and members of the health care team, and works collaboratively in professional 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.
- Demonstrates responsibility for continued learning and further growth.
- Manages care for clients while evaluating own performance to improve professional practice, quality of care, and safety in a timely and cost-effective manner.
- Applies technology and information management skills to retrieve data, communicate, support decision making, and submit information.

DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM

Alfred State nursing graduates may enter directly into the healthcare management BTech, the interdisciplinary studies BTech, the nursing BS, or the technology management BBA degree program.

FACILITIES

Facilities used for clinical experiences may include: Cuba Memorial Hospital, Elderwood, Guthrie Corning Hospital, Highland Hospital, Highland Park Rehabilitation & Nursing Center, Jones Memorial Hospital, Noyes Memorial Hospital, Good General Hospital, and 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 may be responsible for their own transportation.

PROFESSIONAL OPPORTUNITIES

- Ambulatory settings
- Health insurance providers
- Hospitals
- Long-term care facilities
- Schools
- Clinics
- Home health care
- Industry
- Physician offices
- Visiting nurses’ agencies

STUDENT ACHIEVEMENT DATA

The NCLEX pass rate for the May 2017 graduates is 89 percent. The completion rate for the fall 2016 cohort is 67 percent.

RELATED PROGRAMS

- Biological Science
- Diagnostic Medical Sonography
- Health Information Technology
- Health Science
- Human Services
- Liberal Arts & Sciences: Humanities
- Radiologic Technology

ENTRANCE 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
PART TIME NURSING AAS

- 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

Students who believe they need a reasonable accommodation to participate in clinical care 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.

**LICENSURE**

Graduates are eligible to apply for licensure as a registered professional nurse (RN-NCLEX) in any state. Completion of the nursing program does not assure licensure as a registered professional nurse. Graduates of this 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. 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?
- If the answer to any of the questions is yes, the applicant must offer full explanation and establish his/her good moral character with the State Education Department, prior to earning a license.

**GENERAL NOTES:**

Min. of a “C” grade is required for Nursing I and II; min. of “C+” is required for Nursing III and IV.

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.

CPR certification is required BEFORE taking Nursing I (NURS 1108) and must remain active throughout the nursing program.

**RN TRANSFER PROGRAM**

Alfred State students may transfer to most New York State baccalaureate programs consistent with NYS transfer agreement.

**GRADUATION REQUIREMENTS**

- 36 credits of nursing (nursing I, II, III, IV)
- 12 credits of natural science (anatomy & physiology I and II, microbiology)
- Nine credits of social science (general psychology, general sociology, human development)
- Six credits of English/humanities (freshman composition, literature)

**REGISTERED NURSE PROGRAM NURSING - AAS DEGREE**

**TYPICAL TWO-YEAR PROGRAM**

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<th>Freshman Composition 3</th>
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<td>BIOL 1404</td>
<td>Anatomy &amp; Physiology 4</td>
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<tr>
<td>PSYC 1013</td>
<td>General Psychology 3</td>
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Min. of “C+” is required in BIOL 1404 to progress

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<tr>
<td>BIOL 2504</td>
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</tr>
<tr>
<td>LITR XXX3</td>
<td>Literature Elective 3</td>
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Min. of “C+” is required in BIOL 2504 to progress

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<tr>
<th>Third</th>
<th>BIOL 4254</th>
<th>General Microbiology 4</th>
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<tr>
<td>NURS 1108</td>
<td>Nursing I 8</td>
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BIOL 4254 is a prerequisite for NURS 4411. A min. grade of “C+” is required for BIOL 4254.

Min. of a “C+” grade is required for Nursing III

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<tr>
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<td>NURS 2208</td>
<td>Nursing II 8</td>
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Min. of a “C+” grade is required for Nursing IV

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<tr>
<th>Fifth</th>
<th>NURS 3310</th>
<th>Nursing III 10</th>
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</table>

Min. of a “C+” grade is required for Nursing IV

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<thead>
<tr>
<th>Sixth</th>
<th>NURS 4410</th>
<th>Nursing IV 10</th>
</tr>
</thead>
</table>

Min. of a “C+” grade is required for Nursing IV

Min. of a “C” grade is required for Nursing I
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.

RELATED PROGRAMS

Agricultural Business
Agricultural Technology
Biological Science
Construction Management
Environmental Technology
Individual Studies
Liberal Arts & Sciences: Humanities
Liberal Arts & Sciences: Math & Science
Liberal Arts & Sciences: Social Science
RADIOLOGIC TECHNOLOGY
AAS DEGREE - CODE #0628

Radiologic technology is a two-year AAS degree program preparing qualified students to become healthcare 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 12-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 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 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 healthcare 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 may enter directly into either the healthcare management BTech, the interdisciplinary studies B.Tech, or technology management BBA degree program.

ACCREDITATION/CERTIFICATION
The radiologic technology program at Alfred State is fully accredited by JRCERT, the Joint Review Committee on Education in Radiologic Technology. 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>
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<tbody>
<tr>
<td>2015*</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2016*</td>
<td>0</td>
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<td>0</td>
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<tr>
<td>2018</td>
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<td>9</td>
<td>82%</td>
</tr>
<tr>
<td>2019</td>
<td>9</td>
<td>0</td>
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Five Year Average 0


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>
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</thead>
<tbody>
<tr>
<td>2015*</td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>2018</td>
<td>20</td>
<td>16</td>
<td></td>
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<tr>
<td>2019</td>
<td>9</td>
<td>9</td>
<td></td>
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Five Year Average 84.6


Transfer program effective data 5 year average:

Exam - 93%
Program Completion - 93%
Job Placement - 90%

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>
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<td>2015*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016*</td>
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<td></td>
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<td>11</td>
<td>100</td>
</tr>
<tr>
<td>2019</td>
<td>11</td>
<td>11</td>
<td></td>
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</table>

Five Year Average 0


EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 100 percent are employed.

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
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.

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 newly renovated 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 four-year program in radiologic science such as ultrasound, 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

RADIOLOGIC TECHNOLOGY - AAS DEGREE

TYPICAL FOUR-SEMESTER PROGRAM

First

<table>
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<tr>
<th>Course</th>
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<th>Credits</th>
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<td>Fundamentals of Radiologic Sci</td>
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<tr>
<td>RADT 1003</td>
<td></td>
<td>Radiation Physics</td>
<td>3</td>
</tr>
<tr>
<td>COMP 1503</td>
<td></td>
<td>Freshman Composition</td>
<td>3</td>
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<tr>
<td>MATH xhx3</td>
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<td>College Algebra or higher</td>
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</tr>
<tr>
<td>BIOL 1404</td>
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<td>Anatomy &amp; Physiology I</td>
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Second

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<td>Radiobiological Protection</td>
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<tr>
<td>RADT 2013</td>
<td></td>
<td>Radiographic Exposure &amp; Qualit</td>
<td>3</td>
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<tr>
<td>RADT 2014</td>
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<td>Radiographic Procedures I</td>
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<td>RADT 2041</td>
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<td>Radiology Clinical I</td>
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<tr>
<td>BIOL 2504</td>
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<td>Anatomy &amp; Physiology II</td>
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Summer

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<tr>
<td>RADT 2044</td>
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<td>Radiology Clinical II</td>
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Third

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<td>Diagnostic Imaging I</td>
<td>3</td>
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<tr>
<td>RADT 3014</td>
<td></td>
<td>Radiographic Procedures II</td>
<td>4</td>
</tr>
<tr>
<td>RADT 3043</td>
<td></td>
<td>Radiology Clinical III</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 4403</td>
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<td>Pathophysiology</td>
<td>3</td>
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Fourth

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<td>Diagnostic Imaging II</td>
<td>3</td>
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<tr>
<td>RADT 4003</td>
<td></td>
<td>Intro to Adv Diagnostic Imagin</td>
<td>3</td>
</tr>
<tr>
<td>RADT 4043</td>
<td></td>
<td>Radiology Clinical IV</td>
<td>3</td>
</tr>
<tr>
<td>RADT 4013</td>
<td></td>
<td>Prof Development in Imaging Sc</td>
<td>3</td>
</tr>
<tr>
<td>SPCH 1083</td>
<td></td>
<td>Effective Speaking</td>
<td>3</td>
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</tbody>
</table>

Grade of “C+” or better required for all BIOL and RADT prefix courses.

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
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.

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

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

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 – 100 percent continued their education.

RELATED PROGRAMS

Business Administration
Sport Management (BBA)

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry

Recommended: Algebra 2
SPORT MANAGEMENT

BBA DEGREE - CODE #0182

John Lisec, Program Coordinator
Email address: LisecJS@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.

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

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.
- Examine comprehensive sport management issues and communicate findings and solutions.
- Examine the sport management environment in relation to the current legal, financial, 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 — 88 percent are employed; 12 percent continued their education.

RELATED PROGRAMS
- Business Administration (BBA)
- Business Administration (AS)
- Financial Planning (BBA)
- Marketing

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Required: Algebra, Geometry, SAT and/or ACT scores with a recommended combined reading/writing and math SAT score of 980 or a composite ACT score of 19.

Recommended: Algebra 2

SPORT MANAGEMENT - BBA DEGREE

TYPICAL EIGHT-SEMESTER PROGRAM

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<th>Credits</th>
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<td>CISY</td>
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<td>1123</td>
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<td>LITR</td>
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<td>3043</td>
<td>Business Law</td>
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<td>3001</td>
<td>Field Experience I</td>
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<td>SPMG</td>
<td>1013</td>
<td>Principles of Macroeconomics</td>
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Fourth

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Seventh

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<td>Strategic Mgmt in Sport</td>
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Eighth

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Be advised that a prior felony conviction may impede a student’s ability to participate in an internship and complete the program.
SPORT MANAGEMENT

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
SURVEYING AND GEOMATICS ENGINEERING TECHNOLOGY

BS DEGREE - CODE #1046

Kera Mariotti, Program Coordinator
Email address: mariotka@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 laptop computer is required for students entering the surveying engineering technology programs. Laptop specifications are available at www.alfredstate.edu/required-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 select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly defined engineering technology activities.
- An ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require limited application of principles and applied procedures or methodologies.
- 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 nontechnical environments, and an ability to identify and use appropriate technical literature.
- An understanding of the need for engagement 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.

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:

- 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 – 100 percent are employed.

ENROLLMENT AND GRADUATION DATA

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<th>Year</th>
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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) programs are 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.

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. 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 engineering technology program with appropriate course work and grade point averages.

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry, Algebra 2. SAT and/or ACT scores with a recommended combined reading/writing and math SAT score of 1080 or a composite ACT score of 21.

Recommended: Physics

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).
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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.
SURVEYING ENGINEERING TECHNOLOGY

AAS DEGREE - CODE #1039
Kera Mariotti, Program Coordinator
Email address: mariotka@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 laptop computer is required for students entering the surveying engineering technology program. Laptop specifications are available at www.alfredstate.edu/required-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 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 nontechnical 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 commitment to quality, timeliness, and continuous improvement.

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 surveying and geomatics engineering technology BS, the construction supervision BTech, the technology management BBA, or the interdisciplinary studies BTech degree program.
SURVEYING ENGINEERING TECHNOLOGY - AAS DEGREE
TYPICAL FOUR-SEMESTER PROGRAM

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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).
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.
- Examine comprehensive business issues and communicate findings and solutions.
- Examine 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.
- Compare and contrast technology-related organizations in a global and diverse community.

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

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
- Required: Successful completion of an associate degree (AAS, AA, AS, or AOS) with a minimum cumulative GPA of 2.0.
- Students must either possess an AAS, AA, AS, or AOS degree or have amassed at least 60 credit hours, including courses that fulfill five different general education fields.
- Students entering the program should have a minimum cumulative GPA of 2.0.
- A laptop computer will be required of all students. See laptop specifications at www.alfredstate.edu/required-laptops.
- Students entering this major from an AOS degree program are accepted in the program as ASOP students until 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.

TYPICAL FIVE-THROUGH EIGHT-SEMESTER PROGRAM

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<td>ACCT</td>
<td>5043</td>
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<td>TMGT</td>
<td>7153</td>
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<td>6113</td>
<td>Strategic &amp; Creative Prob Solv</td>
</tr>
<tr>
<td>COMP</td>
<td>5703</td>
<td>Technical Writing II</td>
</tr>
<tr>
<td>MKTG</td>
<td>6003</td>
<td>Strategic Marketing</td>
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<tr>
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Seventh
<table>
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<tr>
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<tr>
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<td>Business Ethics</td>
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<tr>
<td>BUAD</td>
<td>5023</td>
<td>Human Resource Management</td>
</tr>
<tr>
<td>TMGT</td>
<td>7003</td>
<td>Managing Tech &amp; Innovation Cap</td>
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<tr>
<td>SPCCH</td>
<td>1083</td>
<td>Effective Speaking</td>
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Eighth
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<tr>
<td>TMGT</td>
<td>8112</td>
<td>Tech Management Internship</td>
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<tr>
<td>xxx3</td>
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<td>Professional Elective - Upper</td>
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<td></td>
<td>Professional Elective - Upper</td>
</tr>
<tr>
<td>xxx3</td>
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<td>Professional Elective - Upper</td>
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</tbody>
</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 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.
- 12 credit hours may be transferred back within a seven-year period if you leave Alfred State prior to completing your degree.

2017-18 Summary (pdf)
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

TYPICAL TWO-SEMESTER PROGRAM

<table>
<thead>
<tr>
<th>First</th>
<th>Second</th>
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</thead>
<tbody>
<tr>
<td>XXXX</td>
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<tr>
<td>xxx1</td>
<td>xxx3</td>
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<tr>
<td>Career Exploration and Planning*</td>
<td>Freshman Composition**</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
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<tr>
<td>XXXX</td>
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<td>xxx3</td>
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<tr>
<td>3-4</td>
<td>16-18</td>
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<td>XXXX</td>
<td>xxx</td>
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<tr>
<td>Introduction to Literature</td>
<td>Math or Science</td>
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<td>3</td>
<td>3-4</td>
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<tr>
<td>3-4</td>
<td>15-19</td>
</tr>
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</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>July 1, 2015 – June 30, 2018</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Number of eligible first-time candidates</td>
<td>#103</td>
</tr>
<tr>
<td>Number of first-time candidates that have taken the VTNE</td>
<td>#97</td>
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<tr>
<td>Three-year VTNE pass percentage</td>
<td>89.7%</td>
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</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 either the interdisciplinary studies BTech or the technology management BBA degree program.

**EXPENSES**

Rabies vaccinations are strongly encouraged for all veterinary technology students. The vaccination series cost varies between $600 and $800. 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
### Veterinary Technology - AAS Degree

#### TYPICAL FOUR-SEMESTER PROGRAM

**First**

<table>
<thead>
<tr>
<th>Course</th>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>VETS</td>
<td>1203</td>
<td>Intro to Veterinary Technology</td>
<td>3</td>
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<tr>
<td>VETS</td>
<td>1214</td>
<td>Anatomy &amp; Physiology of Animals I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM</td>
<td>1114</td>
<td>General Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>ANSC</td>
<td>1204</td>
<td>Introduction to Animal Science</td>
<td>4</td>
</tr>
<tr>
<td>MATH</td>
<td>xxx3</td>
<td>Math Elective (Students planning to transfer to four year program must take MATH 1033)</td>
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<tr>
<td>COMP</td>
<td>1503</td>
<td>Freshman Composition</td>
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</table>

**Second**

<table>
<thead>
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<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>VETS</td>
<td>2014</td>
<td>Anatomy &amp; Physiology of Animals II</td>
<td>4</td>
</tr>
<tr>
<td>VETS</td>
<td>3013</td>
<td>Animal Parasitology</td>
<td>3</td>
</tr>
<tr>
<td>VETS</td>
<td>3003</td>
<td>Animal Health Care</td>
<td>3</td>
</tr>
<tr>
<td>VETS</td>
<td>3204</td>
<td>Farm Animal Management</td>
<td>4</td>
</tr>
<tr>
<td>CHEM</td>
<td>1114</td>
<td>General Chemistry I</td>
<td>4</td>
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<tr>
<td>MATH</td>
<td>xxx3</td>
<td>Math Elective (OR)</td>
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<td>COMP</td>
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#### Summer Session

Preceptorship Work Experience

#### Third

<table>
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<tbody>
<tr>
<td>VETS</td>
<td>2104</td>
<td>Pathophysiology of An Disease</td>
<td>4</td>
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<tr>
<td>VETS</td>
<td>3023</td>
<td>Radiography</td>
<td>3</td>
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<tr>
<td>VETS</td>
<td>4103</td>
<td>Laboratory Animal and Exotics</td>
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<td>VETS</td>
<td>3022</td>
<td>Intro to Anesthesia &amp; Surg Nsg</td>
<td>2</td>
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<tr>
<td>BIOL</td>
<td>5254</td>
<td>Principles of Microbiology</td>
<td>4</td>
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<tr>
<td>XXXX</td>
<td>xxx3</td>
<td>GenEd Elective</td>
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#### Fourth

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<tbody>
<tr>
<td>VETS</td>
<td>3004</td>
<td>Anesthesia &amp; Surgical Nursing</td>
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<td>VETS</td>
<td>3024</td>
<td>Clinical Laboratory Techniques</td>
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<tr>
<td>VETS</td>
<td>4302</td>
<td>Pharmacology for the Vet Techn</td>
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<tr>
<td>BUAD</td>
<td>3153</td>
<td>Fundamentals of Management</td>
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<tr>
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#### Technical Electives

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<td>General Chemistry II</td>
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<tr>
<td>BIOL</td>
<td>6534</td>
<td>Genetics</td>
<td>4</td>
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<td>ANSC</td>
<td>3223</td>
<td>Dairy Calf Management</td>
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<tr>
<td>ANSC</td>
<td>3203</td>
<td>Dairy Cattle Production I</td>
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<td>ANSC</td>
<td>3204</td>
<td>Dairy Cattle Production III</td>
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<td>Dairy Cattle Reprod &amp; A.I Tech</td>
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<td>ANSC</td>
<td>3003</td>
<td>Feeds and Nutrition</td>
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<td>ANSC</td>
<td>3103</td>
<td>Livestock Mgmt &amp; Production</td>
<td>3</td>
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<tr>
<td>BIOL</td>
<td>1104</td>
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<td>1084</td>
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<td>Statistics I</td>
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<td>VETS</td>
<td>4202</td>
<td>Small Animal Nutrition</td>
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<td>VETS</td>
<td>4002</td>
<td>Advanced Animal Health Care</td>
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**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 earn a “B” or better in 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.
- Completed 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:
### Critical Thinking


### Interpersonal

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.

### Communication

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.

### Mobility

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).

### Motor Skills

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.

### Hearing

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.

### Visual

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.

### Tactile

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.

### Physical Condition

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.
WELDING TECHNOLOGY

AOS DEGREE - CODE #0666
Bradley Thompson, Interim Department Chair
Email address: thompbsi@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, bevel and cuts using manual and automatic oxyfuel and plasma equipment.
- Set up and operate constant current welding equipment.
- Perform fillet and groove welds in all positions on carbon steel plate.
- 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 – 81 percent are employed; 19 percent continued their education.

RELATED PROGRAMS
- Autobody Repair
- Heating, Ventilation, and Air Conditioning
- Machine Tool Technology
- Mechanical Engineering Technology
- Motorcycle and Power Sports Technology

ENTRANCE REQUIREMENTS/RECOMMENDATIONS
Recommended: In-depth knowledge of basic math skills.

TECHNICAL STANDARDS
Applicants for the welding program must meet the following physical requirements:
- 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 use diagnostic flow charts.
- Must be able to visually read an LCD display on welding equipment.
- Must have the dexterity and mobility to weld in all the welding positions to meet all requirements.
- Good eyesight is recommended.
- Must be able to stand for long periods of time.

WELDING - AOS DEGREE
TYPICAL FOUR-SEMESTER PROGRAM

First

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>WELD 1724</td>
<td>Gas Welding/Cutting &amp; Plasma Cutting</td>
</tr>
<tr>
<td>WELD 1733</td>
<td>Blueprint Reading, Inspection &amp; Test</td>
</tr>
<tr>
<td>WELD 1104</td>
<td>Intro Shielded Metal Arc Welding</td>
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<tr>
<td>WELD 1204</td>
<td>SMAW Carbon Arc Cutting/Group</td>
</tr>
<tr>
<td>WELD 1723</td>
<td>Welder Calculations</td>
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Second

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<th>Credits</th>
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<tbody>
<tr>
<td>WELD 2715</td>
<td>Shielded Metal Arc &amp; Flux Core Arc Welding</td>
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<tr>
<td>WELD 2725</td>
<td>Gas Metal Arc Welding I</td>
</tr>
<tr>
<td>WELD 2735</td>
<td>Gas Tungsten Arc Welding</td>
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<tr>
<td>WELD 2733</td>
<td>Tolerancing &amp; Working Drawings</td>
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Third

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<tr>
<td>WELD 3005</td>
<td>Shielded Metal Arc Welding II</td>
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<tr>
<td>WELD 3015</td>
<td>GMAW II, FCAW II</td>
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<td>WELD 3025</td>
<td>Gas Tungsten Arc Welding II</td>
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<tr>
<td>WELD 3813</td>
<td>Metallography, Codes, Certs &amp; Inspection</td>
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Fourth

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<tr>
<td>WELD 4425</td>
<td>GMAW III &amp; GTAW IV</td>
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<tr>
<td>WELD 4435</td>
<td>Gas Tungsten Arc Welding III</td>
</tr>
<tr>
<td>WELD 4445</td>
<td>Welding Fabrication</td>
</tr>
<tr>
<td>WELD 4013</td>
<td>Senior Project</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 index of 2.0, which is equivalent to a “C” average. Students are required to earn a grade of “C” or higher in WELD 1723 to be eligible for graduation. (Articulation is available in this area.)

A “C” or higher must also be received for WELD 4013.
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 will 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: current liabilities; nature of corporations and related equity and income reporting issues; long-term liabilities; statement of cash flows; analysis of financial statements; nature and behavior of manufacturing costs; introduction to cost accounting concepts and systems; cost-volume-profit relationships; introduction to budgetary planning.

ACCT - 3423 Intermediate Accounting I, 3.00 Credits
Prerequisite(s): ACCT 2224 with C 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 on the contemporary theory and practice that applies to accounting statements. Topics include general introduction of accounting, the accounting process, accounting statements, and asset structure of the balance sheet.

ACCT - 3453 Tax Accounting I, 3.00 Credits
Prerequisite(s): ACCT 1124 with D or better
Applied Learning-Practicum
This course will focus on fundamental income tax concepts related to understanding and computing both individual and 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, taxation of 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 - 4523 Intermediate Accounting II, 3.00 Credits
Prerequisite(s): ACCT 3453 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.

ACCT - 4663 Acctng Sys & Computer Appl, 3.00 Credits
Prerequisite(s): ACCT 2224 with D or better
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
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 *why* of accounting to a much greater degree than the *how*. 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 of the course examines managerial accounting topics, with the primary emphasis being the fulfillment of the needs of management. The course would be particularly beneficial to individuals in engineering technology, management, marketing, and vocational technology careers where the general knowledge of how to do accounting, if not available, will be expected to effectively comprehend accounting reports and statements as well as communicate with accounting personnel.

AGEC - AGRICULTURE ECON/BUS

AGEC - 3213 Farm & Rural Business Mgmt I, 3.00 Credits
Level: Lower
This is the first in a two semester series where both the production management and financial management of a rural or farm business are studied. The course emphasizes the skills needed to manage a profitable business including analysis of financial statements, record keeping, key production management areas, leadership and decision-making skills. The relationship between good management performance and financial success will be stressed. The primary emphasis of the course is improving management skills and acquiring resources for management. This includes farm business organization and transfer, as well as the acquisition of resources for rural enterprises. The importance of risk management and enterprise analysis to the success of the business will be stressed.

AGPS - AGRONOMY/PLANT SCIENCE

AGPS - 1103 Soils, 3.00 Credits
Course Fee $24.00, Gen Ed - Natural Sciences, Liberal Arts and Science
Prerequisite(s): AGPS 1103 with D or better
Applied Learning-Practicum
Fundamental principles of soil science are studied in an effort to relate soil characteristics to plant growth. Soil parent materials and soil formation, physical, chemical and colloidal properties of soils and soil surveys, life in the soil, soil water, and water conservation, plant nutrition, lime and liming practices are all covered in this course. Laboratory components complement lecture material.

AGPS - 1104 Soils, 4.00 Credits
Level: Lower
Applied Learning-Practicum
This course is an introduction to Integrated Pest Management (IPM): the study of plant pest protection on an interdisciplinary basis. Ecological, biological and economic principles will be emphasized from each of the participating disciplines: entomology, nematology, plant pathology, weed science, and crop protection, and economics. Reasons and principles for establishing pest management programs will be discussed. Computer-aided instruction is used in portions of the course. The objectives of the course are to: introduce the student to the principles of pest management, develop an understanding of vocabulary and basic concepts; develop an understanding of tactics associated with pest management; and create an awareness of interdisciplinary complexity and necessity of systems approach in IPM.

AGPS - 5033 Sustainable Vegetbl Prodtn Tech, 3.00 Credits
Prerequisite(s): AGPS 1103 with D or better
Applied Learning-Entrepreneur, Course Fee $24.00
Students will learn how to site, design, and manage a small-scale vegetable farm using organic and/or other sustainable practices that support niche-marketing strategies. Particular attention will be paid to crop sequences appropriate for the climates and soils of the Northeastern United States. Students will gain hands-on experience in building soil quality, starting transplants, identifying and managing pests, harvesting and marketing of vegetables. Later in the course students will work with sustainable winter-production technologies, including passively-heated high tunnels and intensive vegetable production using hydroponic techniques. Civic Engagement Intensive (CEI) sections exist.

AGPS - 5113 Sustainable Fruit Production, 3.00 Credits
Prerequisite(s): AGPS 1104 with D or better or AGRI 1304 with D or better
Level: Upper
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.

AGPS - 5103 Sustainable Fruit Production, 3.00 Credits
Prerequisite(s): AGEC 3213 with D or better
Level: Upper
This is the second in a two semester series where both the production management and financial management of a rural or farm business are studied. The course emphasizes the skills needed to manage a profitable business including analysis of financial statements, record keeping, key production management areas, leadership and decision-making skills. The relationship between good management performance and financial success will be stressed. The primary emphasis of the course is improving management skills and acquiring resources for management. This includes farm business organization and transfer, as well as the acquisition of resources for rural enterprises. The importance of risk management and enterprise analysis to the success of the business will be stressed.
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 - 1002 Introduction to Agriculture, 2.00 Credits
Level: Lower
Applied Learning-Practicum
The introduction to Agriculture will give the students the opportunity to learn and practice a variety of agriculture skills. Skills will include care and management of dairy animals, machinery and equipment safety and operation, crop, fruit and vegetable production.

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 - 2012 Ag Equipment Operation & Repair, 2.00 Credits
Level: Lower
Applied Learning-Practicum
This course is an introduction to the operation and basic maintenance of agricultural equipment.

AGRI - 3001 Farm Practicum III, 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 - 3202 Rabbit Production, 2.00 Credits
Level: Lower
Applied Learning-Practicum
Students enrolled in this course will learn how to raise rabbits at a commercial and hobby level. They will learn practical skills such as breeding, feeding and marketing of rabbits.

AGRI - 3351 Livestock Evaluation, 1.00 Credit
Level: Lower
Applied Learning-Practicum
The efficiency of animal husbandry depends on the ability of an individual to evaluate, judge and select animals based on their productive and reproductive abilities. Communication, both oral and written, makes the judges reason much more effective.

AGRI - 4001 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.

AGRI - 4002 Senior Seminar/Capstone Proj, 2.00 Credits
Level: Lower
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 is organized, resumes prepared with cover letters, and practice interviews are conducted. Many types of jobs are studied using successful graduates. Professional and personal goals are discussed.

AGRI - 4103 Constructn Technqs for Agricult, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course is designed for students planning for careers requiring general knowledge and basic skills in agricultural building construction and maintenance. The course content consists of proper and safe hand tool and power tool utilization. Safe utilization of these tools will be a hands-on experience. Various building materials will be explained and demonstrated throughout this course. Construction techniques and methods will be presented in lecture and performed in each lab.

AGRI - 4900 Directed Study, 1.00 TO 4.00 Credits
Level: Lower
Applied Learning-Practicum
Students must have permission of their advisor and the department chairperson before enrollment. An outline of the study must be submitted before enrollment. Directed study provides an opportunity to continue study in an area of special interest. Study may be carried out within any curriculum in the department in which the student is enrolled.

AGRI - 6103 Precision Agriculture, 3.00 Credits
Level: Upper
This course covers the acquisition and analysis of geographically referenced data for the management of crop production systems. Topics include: mapping, map projections, implementation of global positioning systems, data formats, geographic information systems, grid sampling, soil fertility and physical properties, yield monitoring, variable-rate application, and economics.

ANSC - ANIMAL HUSBANDRY/SCIENCE

ANSC - 1204 Introduction to Animal Science, 4.00 Credits
Level: Lower
Applied Learning-Practicum, Course Fee $33.00, Liberal Arts and Science
This course provides a survey of the Dairy Cattle and Livestock industry, including beef, sheep, swine, and horses. Breeding and feeding systems, disease control measures, housing and animal management practices. The selection of animals for production, market, and breeding. Characteristics of the major breeds, their economic importance and marketing trends of their products will be covered.

ANSC - 2102 Dairy Cattle Reprod & AI Tech, 2.00 Credits
Prerequisite(s): ANSC 1204 with D+ or better or VETS 3204 with C or better
Level: Lower
Applied Learning-Practicum, Course Fee $24.00
This course will provide the student with a basic understanding of reproduction and artificial insemination (A.I.) techniques in dairy cattle. The student will gain an understanding of the anatomy of the bovine reproductive tract through examination and palpation of both slaughterhouse specimens and live animal palpations. The student will learn to read sire summaries, use linear scoring, apply recordkeeping approaches and analysis of herd reproductive performance. Common reproductive diseases will be discussed as well as the latest information on heat detection and synchronization programs. The labs and two required field trips will provide individual student A.I. training and practice sessions needed for the National Association of Animal Breeders (NAAB) certification.

ANSC - 2114 Dom Animal Anat & Phys, 4.00 Credits
Level: Lower
Applied Learning-Other, Course Fee $24.00, Liberal Arts and Science
This course is a systems approach to the study of anatomy and physiology of common domestic animals, emphasizing Ruminant, Equine, Swine, Canine and Feline as the animal models. The on-line course materials will provide the student with a complete overview of how each body system functions in the maintenance of a normal healthy animal. The on-line course materials will be reinforced in the laboratory where skeletons, models and processed specimens will allow the student to gain applied perspectives of the gross anatomy and normal physiology. Histologic slides, kadoschameters, radiographs and live animals will also be used to enhance student understanding. Computer simulated dissection materials will also be used to provide the opportunity for the students to refine their understanding of the required information.

ANSC - 3003 Feeds and Nutrition, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course provides the student with an understanding of animal nutrition. Students will learn feeding farm animals for growth, production, and profit, nutrient content and physiological value of feeds; nutrient requirements of farm livestock; physiology of digestion and developing and evaluating rations.

ANSC - 3013 Animal Disease Control, 3.00 Credits
Prerequisite(s): ANSC 1204 with D or better
Level: Lower
This course focuses on the student to understand the prevention and control of animal diseases. Students will analyze and distinguish between the symptoms of various diseases as well as to explore the synergy of an integrated organic cropping and animal agriculture system.

ANSC - 3103 Livestock Mgmt & Production, 3.00 Credits
Prerequisite(s): ANSC 1204 with D+ or better or VETS 3204 with C or better
Level: Lower
Applied Learning-Field Study
This course introduces the student to the management and production of assorted species of livestock. Breeds of sheep, beef, and swine will be studied as well as the skills in selecting and judging these species. Feeding and management of each of these species, as well as housing and equipment requirements for animals in specific types of operations will be examined. Students will be introduced to diseases and parasites that may be encountered when managing a species-specific livestock operation. Students will also gain insight into different types of marketing used in livestock production.

ANSC - 3202 Dairy Management Analysis, 2.00 Credits
Prerequisite(s): ANSC 3203 with D or better
Level: Lower
Applied Learning-Practicum
Dairy Management Analysis is an overview of specific subject matter which influences dairy cattle production units today. Subject matter includes dairy records analysis, fresh cow management, heifer and calf management, housing and ventilation, economics, profitability and employee management. Participation in the Northeast Dairy Challenge interscholastic competition or an assigned farm assessment is required.

ANSC - 3203 Dairy Cattle Production I, 3.00 Credits
Prerequisite(s): ANSC 1204 with D or better or VETS 3204 with D or better
Level: Lower
Applied Learning-Field Study
Dairy Cattle Production I is an introduction to specific subject matter which includes cattle production units today. Subject matter includes: on-farm disease control and biosecurity, call and heifer management, milk letdown and physiology of lactation, udder health, basic herdsmanship skills and introduction to Dairy Comp 305 record keeping software.

ANSC - 3204 Dairy Cattle Production II, 4.00 Credits
Prerequisite(s): ANSC 1204 with D or better or VETS 3204 with D or better
Level: Lower
Applied Learning-Field Study
Dairy Cattle Production II focuses on dairy farm management analysis to troubleshoot and prioritize production and profitability opportunities. The course includes: developing on-farm observation skills, production records analysis using Dairy Comp 305, monitoring cow and rumen health, nutrition and feeding management and employee management.
ARCH - 2014 Computer Visualization, 4.00 Credits
Prerequisite(s): ARCH 1184 with C or better
Level: Lower
Applied Learning-Practicum
This is an introductory course that examines the practical and theoretical issues of the computer as a tool for the practice of architectural production. Knowledge in SketchUp, Revit and Photoshop are learned through tutorials and projects. Students learn to create and execute projects utilizing the computer as an architectural tool through the application of technical skills.

ARCH-294 Design Fundamentals 2, 4.00 Credits
Prerequisite(s): ARCH 1184 with C or better or CIAT 1184 with C or better
Level: Lower
Course Fee $53.00
Introductory course designed to expose students to fundamental design skills, 3D problem solving, color theory, perspective drawing and rendering. The course examines specific issues such as form, material, light, rhythm, contrast, pattern, value, space definition, color theory, perspective rendering, and two and three point perspective methods and basic model building.

ARCH - 2433 Urban Sketching and Journaling, 3.00 Credits
Prerequisite(s): ARCH 1184 with C or better
Level: Lower
Applied Learning-Intl/Dom Trvl
Urban sketching and Journaling is offered to students enrolled at Sant' Anna Institute as part of the study abroad program in Sorrento, Italy. This course is designed to augment the architecture students' experience of their semester abroad, but is also intended for students of the arts, and for any student wishing to develop drawing skills and observational acuity. Emphasis is placed on the fundamentals of drawing as an invaluable tool for seeing, learning, thinking, and communicating. Lectures are centered on the basics of line drawing, perspective, illumination, and composition. Experiences are gained through field trips to explore the unique urban environments of Sorrento and southern Italy. Students are required to keep a running journal of their thoughts and experiences throughout the semester.

ARCH - 3003 Environmental Controls 1, 3.00 Credits
Prerequisite(s): MATH 1033 with C or better or MATH 1034 with C or better or MATH 1054 with C or better
Level: Lower
This course introduces the student to the fundamental principles of mechanical, electrical and plumbing (MEP) systems for small buildings. Students will explore passive design strategies and their effects on building systems. The course also emphasizes environmental and energy systems through case studies and building energy models. This course is focused on construction techniques for commercial buildings. Topics covered include the Building Information Modeling (BIM). Emphasis will be placed on the graphic standards used in the architectural industry and developing a basic understanding of construction documents. As the course progresses, each student will apply their understanding of residential construction technology, materials and the software environment by producing a series of architectural documents. As the semester progresses, these drawings, which start as schematic graphics addressing issues of design and organization, will develop into contract documents for construction.

ARCH - 3014 Construction Technology 1, 4.00 Credits
Prerequisite(s): ARCH 2014 with D or better
Level: Lower
This course introduces students to the materials, methods and systems commonly used in residential construction. Students will study the inherent qualities of materials and design an understanding of their use and integration within a residential structure. The process of construction and the resulting assembly will be graphically explored using Building Information Modeling (BIM). Emphasis will be placed on the graphic standards used in the architectural industry and developing a basic understanding of construction documents. As the course progresses, each student will apply their understanding of residential construction technology, materials and the software environment by producing a series of architectural documents. As the semester progresses, these drawings, which start as schematic graphics addressing issues of design and organization, will develop into contract documents for construction.

ARCH - 3104 Design Studio 1, 4.00 Credits
Prerequisite(s): ARCH 2934 with C or better
Level: Lower
Course Fee $106.00
This course explores the programming, schematic design and design development phases of the architectural design process. This course presents students with a critical method of approach to architectural design methods. Methods of graphic thinking are introduced as a means of exploring and evaluating issues related to the design process. Architectural form is investigated relative to human needs and environmental context. Student verbal and graphic communication skills are refined in project presentations.

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, material characteristics, code requirements, and building envelope efficiency, exterior walls, roof assemblies, structural provisions, 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 focuses on 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
This course concentrates on problem-solving methods for a variety of architectural project types and scales. 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 4013 with D or better and ARCH 4014 with D or better and CIVL 4103 with D or better
Level: Upper
Course Fee $106.00
This studio is designed to develop the student's ability to apply and integrate architectural principles and methods to the design of 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: 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.

ARCH - 6102 Community-Economic Redevelopment, 2.00 Credits
Level: Upper
Liberal Arts and Science
This course is a multidisciplinary overview of redevelopment process. This course will be run as a seminar that will meet in a seminar and discussion format. Understanding of the course topics will be encouraged through class participation and projects. The learning experiences will include guest lectures from community leaders and professionals involved in the process of redeveloping communities. The course will be structured around the experiences, field trips and lectures of a community in the process of redevelopment. It will impart valuable skills for staff and leadership in consulting firms, municipalities, agencies and non-profits that do community redevelopment.

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
Course Fee $106.00
This studio course concentrates on developing the problem solving skills associated with the design of adaptive reuse and historic preservation building projects. Projects will involve the gathering of information about the historical evolution of the building, the documentation and analysis of the building's structural and material conditions, the understanding of the building's relationship to its wider physical and cultural environment and making appropriate design decisions in response to the new uses. Over the course of the semester, students will creatively synthesize their research, building and site with new program requirements into schematics and design development proposals. Sustainability, standards for documentation of as-built conditions, architectural styles, identifying architectural character, historic construction technology and materials will be addressed.

ARCH - 6406 Studio Sorrento, 6.00 Credits
Prerequisite(s): ARCH 5306 with C or better or CIAT 5306 with C or better
Level: Upper
Applied Learning-Intl/Dom Trvl
Studio Sorrento is intended solely for students enrolled in the Junior Year Study Abroad Program in Sorrento, Italy. The course will be structured around the experiences, field trips andother learning opportunities during the semester of study in Italy. Particular attention will focus on elements of traditional town design, sustainable building strategies, historic building analysis, and adaptive/sustainable re-use of historic structures. Student 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 - 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
This course reinforces advanced technical and design strategies to maximize sustainability in large building design, 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. Case 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
This course 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 two-dimensional 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.

ARCH - 8003 Professional Practice, 3.00 Credits
Prerequisite(s): ARCH 4014 with D or better
Level: Upper
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
This course is the capstone of the six semester sequence of architectural design studios. Building upon the thesis research completed during the previous semester, students will finalize their design program for their chosen thesis project. They will carry out a comprehensive design development study, present their design solution to a jury 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 technological solutions and in the creation of a livable, efficient, and contextually appropriate structure.

ARCH - 8716 Design Studio 7-Thesis Defntn, 6.00 Credits
Prerequisite(s): ARCH 8306 with C or better
Level: Upper
Applied Learning-Creative Work, Course Fee $159.00
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, discretely delineate and plan, research, manage, and successfully complete a comprehensive 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 section that will encompass weekly seminar discussions, and weekly tutorials on scientific method, design process, and the iterative process. Attendanto 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): FNAT 5303 with C or better and ( ARCH 8306 with C or better or CIAT 8306 with C or better )
Level: Upper
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 piece made relative to the contemporary and future practice of architecture. Students will prepare a series of long research papers that analyze and synthesize the arguments presented in the selected readings for the course. A brief oral presentation will accompany the term paper 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
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. Materials covered are; glass, steel and advanced composites. 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
This course is the capstone of the eight semester sequence of architectural design studios. Building upon the thesis research completed during the previous semester in Design Studio 7 – Studio Definition, students will finalize a design program for their chosen thesis project. They will carry out a comprehensive design development study, present their design solution to a jury 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 technological 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
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 disciplines.

ARCH - 8795 Professional Practice, 3.00 Credits
Prerequisite(s): ARCH 8003 with C or better or CIAT 8003 with C or better
Level:Upper
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 disciplines.
ASDC - ALFRED STU SUCCESS CENTER

ASDC - 1901 Structured Learning*, 1.00 Credit
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 campus; and management of 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 - 1902 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 mindsets, 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 note reading. They will work in a small group, integrate information literacy, information management aspects, integrate backboard and include preliminary development of a portfolio.

ASDC - 1201 Structured Learning-Soc Sciien*, 1.00 Credit
Level: Remedial
Remedial
This course will be supplemental instruction and recitation for students who need more structured study and development time. It will be co-taught by a faculty, professional tutor, and/or a student success staff. Faculty develop additional review problems to match homework and topics of need. This course will include in lecture and recitation course (e.g. history, psychology, criminal justice) and serve as a co-requisite or stand-alone. This course will be graded Pass/Fail.

ASDC - 1301 Structured Learning-Eng Tech*, 1.00 Credit
Level: Remedial
Pass/Fail, Remedial
This course will be supplemental instruction and recitation for students who need more structured study and development time. It will be co-taught by a faculty, professional tutor, and/or a student success staff. Faculty develop additional review problems to match homework and topics of need. This course will include in lecture and recitation course (e.g. math, science, or English) and serve as a co-requisite or stand-alone. This course will be graded Pass/Fail.

ASDC - 1401 Structured Learning-Science*, 1.00 Credit
Level: Remedial
Pass/Fail, Remedial
This course will be supplemental instruction and recitation for students who need more structured study and development time. It will be co-taught by a faculty, professional tutor, and/or a student success staff. Faculty develop additional review problems to match homework and topics of need. This course will include in lecture and recitation course (e.g. math, science, or English) and serve as a co-requisite or stand-alone. This course will be graded Pass/Fail.

ASDC - 1601 Structured Learning-Computer*, 1.00 Credit
Level: Remedial
Pass/Fail, Remedial
This course will be supplemental instruction and recitation for students who need more structured study and development time. It will be co-taught by a faculty, professional tutor, and/or a student success staff. Faculty develop additional review problems to match homework and topics of need. This course will include in lecture and recitation course (e.g. math, science, or English) and serve as a co-requisite or stand-alone. This course will be graded Pass/Fail.

ASDC - 1801 Structured Learning-English*, 1.00 Credit
Level: Remedial
Pass/Fail, Remedial
This course will be supplemental instruction and recitation for students who need more structured study and development time. It will be co-taught by a faculty, professional tutor, and/or a student success staff. Faculty develop additional review problems to match homework and topics of need. This course will include in lecture and recitation course (e.g. math, science, or English) and serve as a co-requisite or stand-alone. This course will be graded Pass/Fail.

ASDC - 1901 Structured Learning*, 1.00 Credit
Level: Remedial
Pass/Fail, Remedial
This course will be supplemental instruction and recitation for students who need more structured study and development time. It will be co-taught by a faculty, professional tutor, and/or a student success staff. Faculty develop additional review problems to match homework and topics of need. This course will include in lecture and recitation course (e.g. math, science, or English) and serve as a co-requisite or stand-alone. 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 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 - 2193 Intro to Academic Literacy, 3.00 Credits
Level: Lower
This course focuses on the continued improvement of literacy skills - reading comprehension skills, reading efficiency and flexibility, critical thinking, development of a college-level vocabulary, and the grammar, writing, and study skills needed for success with college course work. Students may be placed in this course on the basis of their placement test scores or may take it as an elective to expand their basic literacy skill levels.

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 student will confer regularly regarding the process of the study.

AUTO - AUTOMOTIVE

AUTO - 1199 Brakes, Steering & Susp Sys, 9.00 Credits
Level: Lower
Applied Learning-Practicum
This course provides a practical understanding of the principles, operation, diagnosis, and repair of suspension, steering, and brake systems. Vehicle alignment, tire balancing, and vibration diagnosis are included. Students will be trained to operate a variety of brake, suspension, and alignment equipment while performing actual repairs, adjustments, and diagnosis. This training will supplement the students' auto education in preparation for entry-level employment.

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. Some methods covered are: stick, oxy-acetylene, MIG, and TIG. 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.

AUTO - 1135 AutoBsc Electrn & Comptn Overhl, 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 Ohms Law to calculate voltage drop, current flow 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 Htng & Clng, 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 unit 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 electrical engine controls systems.

AUTO - 1219 Truck Brake, Steer & Sus Sys, 9.00 Credits
Level: Lower
Applied Learning-Practicum
This unit of instruction is designed to train high school graduates and adult learners in the service and diagnosis of light truck brake, steering, and suspension systems. Vehicle alignment, tire balancing, and vibration diagnosis are included. Students will be trained to operate a variety of brake, suspension, and alignment equipment while performing actual repairs, adjustments, and diagnosis. This training will supplement the students' truck education in preparation for entry-level employment.

AUTO - 1224 Welding, 4.00 Credits
Level: Lower
Applied Learning-Practicum, Course Fee $67.00
The application of several common welding methods in use in the heavy repair field is covered in this course. Actual welding using arc, gas, MIG, TIG, and spot are practiced in the lab. 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.

AUTO - 1239 Trk Insp, Maint, AC, Clng/Htng, 9.00 Credits
Level: Lower
Applied Learning-Practicum
This course includes lab application of vehicle preventive maintenance and mandated annual safety inspection. Repair techniques to insure driver comfort and engine efficiency through the control of heat are studied. They apply to the truck cooling, heating and air conditioning systems. Analyzing how refrigerated cargo is maintained is a part of this course.

AUTO - 1245 Trk Bsc Electrn & Cmpnt Oilvld, 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 Ohms Law to calculate voltage drop, current flow and resistance in electrical circuits. Air bag, power window motor and power door lock actuator testing and diagnosis will also 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 hoisting, 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 thinnest, high-strength, low alloy steels. Some of the methods covered in depth are: arc, 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 finishing finishes as well as the sequence of foundation coats.

AUTO - 2309 Brakes, Susp & Structr Anlys, 9.00 Credits
Level: Lower
Applied Learning-Practicum
This unit of instruction is designed to train high school graduates and adult learners in the service and diagnosis of automotive brake and suspension systems as they relate to collision repair. Vehicle alignment, tire balancing, and vibration diagnosis are included. Students will be trained to operate a variety of brake, suspension, and alignment equipment while performing actual repairs, adjustments, and diagnosis. In addition, identification and analysis of structural damage, as well as frame and body measuring techniques are covered. This training will supplement the students’ auto body education in preparation for entry-level employment.

AUTO - 2365 Chassis Electrical, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This unit of instruction is designed to enable trainees to become proficient in chassis electrical testing, repair, and component replacement.

AUTO - 2503 Prev Maint for Hvy Tk & Diesel, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course is designed to teach preventive maintenance procedures that students apply to trucks and heavy equipment. Vehicle system checks include air brakes, tires, critical fluids, and lubrication points. Training is focused on ensuring safety and reliability between scheduled Preventive Maintenance checks.

AUTO - 3409 Engine Service, 9.00 Credits
Level: Lower
Applied Learning-Practicum
Theory of operation and repair procedures of gasoline engine valve systems, crankshaft and bearings, connecting rods, cylinders, and pistons, diagnosis of engine malfunctions and repair procedures, cooling system repairs and diagnosis, cylinder boring, piston pin fitting, connecting rod reconditioning, valve guide replacement, valve seat replacement, and other machine work and service procedures.

AUTO - 3429 Adv Electr & Engine Perfmc, 9.00 Credits
Level: Lower
Applied Learning-Practicum
Lecture sessions cover most areas of the automobile except engine and drive train repairs. Designed to update and bring together earlier training with emphasis on diagnosing sophisticated automotive electrical, drivability and emission-related problems. This is an extremely critical area with enhanced inspection programs and OBDII systems.

AUTO - 3504 Motorsport Fabrication I, 4.00 Credits
Level: Lower
Applied Learning-Practicum, Course Fee $138.00
This course is designed to teach the student the fundamental skills of complete chassis and roll cage fabrication. Major topics include principles of layout, bending, bead rolling, riveting and welding processes. Laboratory exercises emphasize technique and skill development to build race cars.

AUTO - 3506 Introduction to Motorsports, 6.00 Credits
Level: Lower
Applied Learning-Practicum
This course is designed to teach the student the fundamental skills of team organization and management. Major topics include introduction to motorsports, team structure, budgeting and finance. Laboratory exercises emphasize technique and skill development for success at the track. A sponsorship proposal is developed by each student.

AUTO - 3514 Racing Suspension Dynamics, 4.00 Credits
Level: Lower
Applied Learning-Practicum
This course is designed to teach the student advanced skills in race car chassis. Major topics include principles of suspension setup, development and weight transfer. Laboratory exercises emphasize technique and skill development in modified suspension and steering geometry to build race cars to meet different track demands.

AUTO - 3524 Hgh Prfmcn Tune-Up/Electrns, 4.00 Credits
Level: Lower
Applied Learning-Practicum
This course is designed to teach the student the advanced skills of tuning the race car for optimum performance at the track. Major topics include principles of handling modified race fuels and modified delivery. Laboratory exercises emphasize techniques and skills to modify fuel and ignition systems.

AUTO - 3534 Hgh Permnce Sngn/Brks/Chasis, 4.00 Credits
Level: Lower
Applied Learning-Practicum
This course is designed to teach the student the formulas and concepts of race car brakes and steering. Major topics include the principles of modifying chassis, brakes, and steering. Laboratory exercises emphasize technique and skill development in the different modified demands.

AUTO - 3535 Hgf Permnce 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. Major 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 - 3545 Motorsport Fabrication II, 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 Mentor clutches, Mack and Eaton transmissions, and Mentor, 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
Includes lab application of body panel alignment and mandated annual safety inspection, repair techniques to insure customer satisfaction with component fit and operation, keeping customer safety in mind when components are replaced, and techniques to insure customer comfort and engine efficiency through control of heat as they apply to auto cooling, heating and air conditioning systems.

AUTO - 3819 Auto Body SkUs/Compudrzt Ed, 9.00 Credits
Level: Lower
Applied Learning-Practicum, Course Fee $106.00
Includes the different states of repair: metal analysis, metal straightening, filling and metal finishing, glass replacement, alignment problems, fender and door replacement, any and all small, quick, one or two day jobs. Also includes how to make manual and computerized estimates.

AUTO - 4363 Heavy Duty Elec/Ehrd Special, 3.00 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 series parallel circuits including 12 and 24 volt systems. Included in this course is the service and troubleshooting of hydraulic systems as found in heavy equipment, truck and diesel. This will include pumps, valves, actuators, accumulators and other related components in today’s hydraulic systems.
BIOL - 1114 Human Anat & Physiology I, 4.00 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, motorist’s bill of rights, lemon laws and understanding the nature of the automotive business and reviews Hybrid vehicles operation. 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 - 4439 Drive Train Service, 9.00 Credits
Level: Lower
Applied Learning-Practicum
Study and actual repair of standard, automatic, and automatic transmissions and transaxles 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 - 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 total, 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 will be covered. Engine tune-up procedures, and diesel fuel system troubleshooting and computer usage will be included. Injection pumps, governors, injectors, emissions 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 - 1101 Topics in General Biology, 1.00 Credit
Level: Lower
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 events, as long as that topic was already introduced in the BIOL 1104 class lecture or lab and the students have some familiarity with the subjects.

BIOL - 1104 General Biology I, 4.00 Credits
Level: Lower
Applied Learning-Other, Course Fee $7.00, 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 hereditary aspects of early embryonic development of plants and animals into complex structures (organogenesis).

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 Internet-based course sequence, including laboratory components, that covers the structure and function of the human body. General topics include 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, Libral 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 farm forests for a variety of desired outcomes, including lumber, fuel, aesthetics, erosion control, and wildlife habitat. The financial aspects of various forestry strategies are also 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) and a feeling for 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 laboratory, the college farm, field trips, and the plant science greenhouse integrates various teaching methods for the above aspects.

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 directional 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 2104 with C or better and BIOL 1104 with C or better or CHEM 1114 and CHEM 1114 with C or better ) or ( CHEM 1114 with C or better and CHEM 2124 with C or better )
Level: Lower
This course is intended for students typically in their fourth semester of the two-year Biological Sciences curriculum. This course is designed to prepare the student for transfer to a four-year institution and/or enter the workforce. Students are introduced to the theoretical 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 bioenergetics, including human impacts on the environment.

BIOL - 2214 Human Anat & Physiology II, 4.00 Credits
Prerequisite(s): BIOL 1114 with 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 topics include the maintenance of the human body, pregnancy, human development and heredity. Topics include the endocrine, blood, cardiovascular, lymphatic, immunity, 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 group of laboratory exercises to aid in the study of human systems and their physiology. The laboratory sessions are designed to provide students with a basic understanding of the structure and functions of cells, tissues and organ systems. The goals of the course are to promote an appreciation for the remarkable complexity of our bodies; to develop a proficiency in the use of laboratory equipment and the proper handling of materials, and to foster the development of self-sufficiency in the conduct of laboratory experiments and observations.

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 include basic chemistry, cell structure and biochemistry, digestion, circulation and blood, immunity, respiration, excretion, nervous integration, senses, endocrine system, and reproduction. Sexually transmitted diseases will also 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 structure facilitates function. The areas emphasized are the endocrine, cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems.
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 human populations is described. The interaction 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 - 4254 General Microbiology, 4.00 Credits
Level: Lower
Applied Learning-Other, Course Fee $29.00, Gen Ed - Natural Sciences, Liberal Arts and Science
This course is designed to provide an introductory survey to the various microorganisms, prions, viruses, bacteria, protozoans, and multicellular parasites, their structures, physiology, identification, with the various medical and non-medical implications in our daily lives. Lecture topics include prokaryotic cell structure and function, biochemical processes, 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 - 4403 Pathophysiology, 3.00 Credits
Prerequisite(s): BIOL 2504 with C or better * or BIOL 2214 with C or better *
Level: Lower
Gen Ed - Natural Sciences, Liberal Arts and Science
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 - 4900 Directed Study, 1.00 TO 4.00 Credits
Liberal Arts and Science
Elective courses for students interested in advanced work in the biological sciences on problems in their special field of interest. Enrollment limited in order to allow each student the opportunity to pursue his/her field of special interest.

BIOL - 5003 Genomics, 3.00 Credits
Prerequisite(s): BIOL 6354 with D or better
Level: Upper
Applied Learning Practicum, Liberal Arts and Science
This course focuses on the development of advanced practical skills, competencies, and knowledge in laboratory techniques commonly used in genomics 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 - 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
The course will analyze the abiotic and biotic factors that influence or limit distributions of organisms. Emphasis will be placed on population and community biology, including evolution, genetics, behavior, population growth, species interactions and community structure. Metabolic and energy relationships at the ecosystem level also will 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 2504 with C or better or BIOL 2504 with C or better ) or ( VETS 2013 with C or better or VETS 2014 with C or better or VETS 2013 with D or better or VETS 1214 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 $28.00, Liberal Arts and Science
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 processes, physical and chemical factors that affect cell growth, classification and identification, and 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
A student may adopt for one to six credit hours of upper-level 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.

BIOL - 6003 Molecular and Cell Biology, 3.00 Credits
Prerequisite(s): BIOL 6534 with D or better
Level: Upper
Liberal Arts and Science
This course will provide a firm foundation on the principles of modern molecular and cellular biology. The first half of the course will focus on the molecular structure and function of DNA, RNA and proteins and the tenets of the central dogma of molecular biology. The second half of the course will focus on the fundamental processes that enable cells to grow, move, 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.

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
This internet-based course examines abnormal human physiology in a clinical context, with intent to develop specific intellectual skills related to nursing and other allied health professions. Pathophysiology is considered from a systemic perspective, with emphasis given to cellular abnormalities, disruptions of homeostasis, infectious disease, inflammation, and disorders of the blood, immune, cardiovascular, respiratory, digestive, endocrine, neurologic, musculoskeletal, intestinal, renal, genitourinary, and reproductive systems. The course concludes with case study presentations to allow students to derive and discuss correlations among clinical healthcare or other related disciplinary settings.

BIOL - 6534 Genetics, 4.00 Credits
Prerequisite(s): BIOL 1104 with C or better or BIOL 1304 with C or better or BIOL 1404 with C or better or VETS 1214 with C or better
Level: Upper
Applied Learning-Other, Course Fee $104.00, Liberal Arts and Science
A study of heredity and the gene from the perspective of the individual, the cell and the population. The human species will be emphasized along with recent advances in biotechnology. Laboratory work includes Drosophila breeding, polymerase chain reaction, and DNA electrophoresis.

BIOL - 8803 Senior Research Project, 3.00 Credits
Prerequisite(s): BIOL 8823 with C or better
Level: Upper
Applied Learning-Research
This course is intended for students in the final year of the four-year Health Sciences curriculum. Students are required to complete an approved research project in an area of specific interest in health sciences. The student will submit a plan for research acceptable to the Health Sciences program director and to the department chair. The instructor and student will confer regularly regarding the progress of study and research. The student will be required to prepare a formal scientific paper and will be required to give a formal presentation to the campus community upon completion of the research project. Students will be encouraged to present their findings at a national or regional health science conference.

BIOL - 8813 Professional Internship, 3.00 Credits
Prerequisite(s): BIOL 8823 with C or better
Level: Upper
Applied Learning-Internship
This course is intended for students in the final year of the four-year Health Science curriculum. Students are required to complete a supervised internship at an approved off-campus site. Students will work under the supervision of a qualified personnel to whom they are assigned. Students will also receive college faculty consultation. The internship is designed to enable students to obtain actual work experience in theoretical and application-based procedures previously studied. This internship consists of 120 hours, which can be completed in one week on a full-time basis (for three weeks) or on a part-time basis over an extended period of time (e.g., 8 hours/week for 15 weeks). All students will be required to give a formal presentation to the campus community following completion of the internship.
Mortar mixing is studied along with an introduction to concrete footers and footer forming. This course covers basic block laying, sizes, uses, layout, bonding, and foundations. Students will expand on these skills while building two shop projects. One project using only hand tools and the other project introducing them to stationary power tools, usage, setup and safety. Power tools used include: table saws, radial arm saws, joints, planers, band saws, drills, and sanders.

BLCT - 1024 Construction Essentials II, 4.00 Credits

Course Fee $25.00
This course introduces hand and power tools. Skills are developed through practical experience in tool usage through a series of required projects. Students will learn hand tool skills by completing a series of wood joints using chisels, planes, handsaws, and layout tools. This 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 - 1022 Wood Fabrication Technology I, 2.00 Credits

Course Fee $25.00
This course introduces basic shop skills in using hand tools and familiarity with power tools. Students will work independently on projects and tools used will include table saws, circular saws, routers, drill presses, band saws, and hand tools. This course is intended for students who have not taken a construction course in high school.

BLCT - 1034 Workplace Environment & Safety, 4.00 Credits

This course explores the opportunities provided by the various occupations associated with the construction industry. This course will cover the safety codes and the insurance requirements, as well as the risk management and loss control issues in this industry. This course will also cover the training requirements set forth by the Occupational Safety and Health Administration (OSHA) Hazard Communication Outreach Program.

BLCT - 1035 Workplace Environment & Safety, 4.00 Credits

This course provides an overview of soil composition and characteristics. The students will describe different types of soil classification methods and how to use them. The course introduces the concept of soil compaction in highway and building construction. The course covers the basic principles of soil mechanics and soil behavior, and includes laboratory and field techniques for each machine. This will include safe setup of machines as well as excavation equipment.

BLCT - 1032 Blueprint Reading & Grades I, 2.00 Credits

This course is an introduction to different types of plans and how they represent finished grades of buildings. This course will present the students with blueprints in detail including symbols, the title block, and grid lines. Students will be introduced to site plans and the concept of preparing graded surfaces using heavy equipment. Identification of construction stakes and interpretation of marks on each type of stake will be covered. The process for grading slopes will also be discussed.

BLCT - 1032 Blueprint Reading & Grades I, 2.00 Credits

This course provides an introduction to the use of grading equipment and heavy equipment. Students will learn the proper use of tools, fasteners, and adhesives as well as critical thinking problems that challenge students’ comprehension of 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

This course is an overview of the process of building a structure. This course will cover the process of building layout along with concrete form building, concrete science, mixing and placement. Block wall construction and principles will also be introduced in this course.

BLCT - 1232 Framing II, 2.00 Credits

Prerequisite(s): BLCT 1232 with D or better
This course is a continuation of concepts taught in BLCT 1232. The course will include critical thinking problems that challenge students’ comprehension of 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.
COURSE DESCRIPTIONS

BLCT - 2032 Wood Fabrication Technology II, 2.00 Credits
Prerequisite(s): BLCT 1022 with D or better
Level: Lower
Applied Learning-Practicum
This course continues the study of tractors, dump trucks, and front-end loaders. Safe
equipment usage and presentation responsibilities including specifying basic
materials and how to combine different types of materials.

BLCT - 2044 Construction Essentials III, 4.00 Credits
Level: Lower
This course is an introduction to drywall, plaster, steel buildings, and transit. An introduction
to commercial construction is included with a focus on apprenticeship training, energy
insulated materials, and pre-concrete systems.

BLCT - 2044 Construction Essentials IV, 4.00 Credits
Level: Lower
This course provides the student with a basic knowledge of residential siding. Course content
includes applicable terminology, comparisons of different siding types and installation
methods, and the use of labor skills utilized in the construction industry. Throughout the semester,
students will be trained to handle and combine different types of materials.

BLCT - 2048 Structural Components, 4.00 Credits
Prerequisite(s): BLCT 1024 with D or better
Level: Lower
This course explores a variety of structural components and building practices in frame
construction. Major topics include manufactured building materials, span and load bearing
requirements, floor systems, roof systems, fastening techniques, and estimating, as well as
common frame construction techniques. The lab exercises allow the student to practice the
layout, assembly, and construction of a variety of structural components with concentration
on common rafters and manufactured joists, trusses, and beams.

BLCT - 2092 Soils Part II, 2.00 Credits
Prerequisite(s): BLCT 1052 with D or better
Level: Lower
This course describes basic soil classification methods, details factors affecting classification,
and presents soil density and compaction requirements. The course also includes
requirements for handling and combining different types of materials.

BLCT - 2132 Estimating II, 2.00 Credits
Level: Lower
The Estimating II course is a continuation of Estimating I. This course develops mathematical
concepts and application skills necessary for the carpenter and mason to estimate building
quantities and associated costs. Topics include formulas for area, lineal footage, board foot
quantities, and basic geometry as it pertains to construction. The student will be required to
figure material takeoffs for sidings, roof materials, and cornice. These are the exterior finish
materials for building a house. Upon completion of this course the student will be able to
estimate a structure to the point of trimming it out.

BLCT - 2142 Masonry II, 2.00 Credits
Level: Lower
Applied Learning-Practicum
This course covers the various types of mortar mixes and their appropriate uses, reinforces
and builds on trade aspects and skills introduced in BLCT 1142. The evolution of the
masonry trade, tools, and materials used will be studied. We will develop the skills needed by
those restoring or maintaining historic masonry structures. Bricklaying and stone veneers
will be introduced. The basics of plasterwork will be covered.

BLCT - 2202 Insulation and Drywall, 2.00 Credits
Level: Lower
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
development and concealing fasteners and joints (finishing) drywall. Students learn of various
tools and fasteners related to the industry.

BLCT - 2206 Building Contraction Lab II, 6.00 Credits
Prerequisite(s): BLCT 1206 with D or better
Level: Lower
Applied Learning-Practicum
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. Emerging technologies in
exterior cladding systems will also be covered.

BLCT - 2242 Wood Products & Fabrication, 2.00 Credits
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. Site training will also continue on the back hoe and bulldozer. Students will
be introduced to advanced positioning systems and automated controls.

BLCT - 2252 Intro to Print Reading & Estim, 2.00 Credits
Prerequisite(s): BLCT 1222 with D or better
Level: Lower
This course provides 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 Masonry, 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 - 2266 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 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 - 2272 Blueprint Reading & Grades II, 2.00 Credits
Prerequisite(s): BLCT 1302 with D or better
Level: Lower
Applied Learning-Practicum
This course presents proper practices for setting grades off benchmarks and describes
methods of setting grades using various types of levels. The student is taught how to read
and interpret construction drawings to determine grading requirements. The course will review
basic grading operations, site prep, New York State Code rule 753, contours, establishing grades,
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 - 2272 Building Contraction Lab II, 6.00 Credits
Prerequisite(s): BLCT 1206 with D or better
Level: Lower
Applied Learning-Practicum
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. Emerging technologies in
exterior cladding systems will also be covered.

BLCT - 2273 Siding and Cornices, 2.00 Credits
Level: Lower
This course presents proper practices for setting grades off benchmarks and describes
methods of setting grades using various types of levels. The student is taught how to read
and interpret construction drawings to determine grading requirements. The course will review
basic grading operations, site prep, New York State Code rule 753, contours, establishing grades,
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 - 2273 Siding and Cornices, 2.00 Credits
Level: Lower
This course presents proper practices for setting grades off benchmarks and describes
methods of setting grades using various types of levels. The student is taught how to read
and interpret construction drawings to determine grading requirements. The course will review
basic grading operations, site prep, New York State Code rule 753, contours, establishing grades,
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 - 2276 Equipment Preventative Maintnc, 2.00 Credits
Level: Lower
This course presents proper practices for setting grades off benchmarks and describes
methods of setting grades using various types of levels. The student is taught how to read
and interpret construction drawings to determine grading requirements. The course will review
basic grading operations, site prep, New York State Code rule 753, contours, establishing grades,
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 - 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 vibratory compactor, and sheepsfoot compactor. The use of compaction and stabilization equipment for leveling 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 - 3002 Blueprint Reading Part III, 2.00 Credits
Level: Lower
This course covers the equipment and supplies required to perform structural work. Discussions include the following topics: bridge types and materials, bridge substructures, bridge superstructures, structural concrete and structural steel. Reading and interpreting site plans will also be reinforced.

BLCT - 3003 Advanced Equipment Safety, 3.00 Credits
Level: Lower
This course teaches advanced safety techniques and requirements for heavy equipment operators and emphasizes organizing and conducting safety meetings. Discussions include OSHA hazardous material requirements and safe operation of equipment. Course topics also include safety reporting, inspections and investigations.

BLCT - 3005 Operations Part III, 5.00 Credits
Prerequisite(s): BLCT 1016 with D or better and BLCT 2036 with D or better
Level: Lower
This course covers the use, safe operation, and maintenance of excavators, trucks, and trailers. Students will explain and demonstrate the use of excavators in digging, grading, and slope-finishing operations, describing various operating techniques. The course describes the types of trucks used in highway/heavy construction including rigid frame trucks, such as dump trucks, transit-mix trucks, and tractor trailer trucks. The trailers discussed include bulk haulers and flatbed trailers. Trailer components and controls, preventive maintenance and operation, and required licensing are also covered. This course will continue to reinforce correct operation of backhoes, bulldozers, and front end loaders.

BLCT - 3012 Soils - Part III, 2.00 Credits
Level: Lower
This course addresses problems associated with bridged areas and breakthroughs, as well as soil stabilization. It presents the proper use of geo-textile materials. Students will review soil compaction requirements, specific procedures for running moisture tests and methods of fixing compaction problems.

BLCT - 3013 Paving Part I, 3.00 Credits
Level: Lower
This course includes the processing and preparation of asphalt and concrete, including quarrying, crushing, screening, and testing. The operation of concrete plants, hot mix asphalt plants, and pug mills is also explained. Students will be prepared for MSHA (Mine Safety Health Administration) certification.

BLCT - 3023 Supervision Part I, 3.00 Credits
Level: Lower
In this course students will learn the principles of project planning, scheduling, estimating, and management, and the basic skills required for supervising personnel.

BLCT - 3033 Cabinet & Counter Top Constr, 3.00 Credits
Prerequisite(s): BLCT 1022 with D or better and BLCT 2032 with D or better
Level: Lower
This course covers the principles of cabinet construction and countertop fabrication. The students will build cabinets and work on fabricating laminate countertops in the laboratory.

BLCT - 3123 Constr Drawings & Specif, 3.00 Credits
Prerequisite(s): BLCT 2054 with D or better
Level: Lower
The four major plan groups are architectural, structural, mechanical, and civil. The students will be able to identify major types of plans. Emphasis is placed on residential plan reading and development.

BLCT - 3159 Masonry III, 9.00 Credits
Level: Lower
This course covers job supervision, foundations, material estimates, fireplace design and construction, stone masonry skills in these areas and to provide repetition to increase production and accuracy.

BLCT - 3169 Masonry IV, 9.00 Credits
Level: Lower
This course provides instruction in mortar types for specific applications, masonry repair and restoration, ornamental masonry and bonding patterns. Cold weather construction techniques relevant to concrete and masonry construction is studied. A unit on engineered brick masonry and prefabrication is included. Lab activities are provided to develop hands-on skills.

BLCT - 3203 Estimating III, 3.00 Credits
Prerequisite(s): BLCT 2132 with D or better
Level: Lower
This course is a study of cost and quantity estimating, for materials, labor, and work units for residential and light commercial construction. Construction Specification Institute (CSI) Division specifications are applied in an estimate and bid project as part of the course requirements.

BLCT - 3213 Exterior Construction Details, 3.00 Credits
Prerequisite(s): BLCT 2054 with D or better
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 and breezeways. Students will learn about flooring and decking materials, different types of entrance doors and their installation, garage doors, footings and fasteners, railing systems and structural supports, and building code requirements.

BLCT - 3223 Home Remodeling, 3.00 Credits
Level: Lower
This course covers the evaluation of overall conditions found in older buildings. Students will learn about the construction techniques used in remodeling and how they differ from new construction. This will include the process of identifying and handling hazardous materials, historical framing styles, and different styles of interior and exterior trim.

BLCT - 3233 Advanced Framing, 3.00 Credits
Prerequisite(s): BLCT 2054 with D or better
Level: Lower
Applied Learning-Practicum
This course will teach roof design, including the cutting and fitting of hip and valley rafters. The course will also cover truss design and installation of trusses.

BLCT - 3302 Blueprint Reading & Grades III, 2.00 Credits
Prerequisite(s): BLCT 2312 with D or better
Level: Lower
Applied Learning-Practicum
This course builds on the content of HEO lab part II. Additional highway and bridge construction techniques, as well as advanced pieces of heavy equipment will be introduced. Labs will include practice with record keeping, estimation and project management.

BLCT - 3312 Introduction to Grading, 2.00 Credits
Level: Lower
This course contains information using various grading instruments and tools. A laser level, engineer’s level, and GPS are used to establish grades for surface and sub-surface construction sites. Students will place and correctly mark appropriate grades stakes used at industry standard work sites.

BLCT - 3313 Basic CAD for Resid Drawings, 3.00 Credits
Prerequisite(s): BLCT 2054 with D or better
Level: Lower
Applied Learning-Practicum
This course builds on the content of HEO lab part I. Additional highway and bridge construction techniques, as well as advanced pieces of heavy equipment will be introduced. Labs will include practice with record keeping, estimation and project management.

BLCT - 3322 Advanced Operations, 2.00 Credits
Prerequisite(s): BLCT 2332 with D or better
Level: Lower
This course covers the use, safe operation, and maintenance of excavators, trucks, and trailers. The course content will explain and demonstrate the use of excavators in digging, grading, and slope-finishing 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 are also covered. This course will continue to reinforce the operation of backhoes, bulldozers, and front-end loaders.

BLCT - 3323 Interior Trim, 3.00 Credits
Prerequisite(s): BLCT 1024 with D or better and BLCT 2044 with D or better
Level: Lower
Applied Learning-Practicum
This course covers hanging and trimming doors; trimming windows; and installing interior moldings in a laboratory setting.

BLCT - 3332 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 operation of asphalt pavers and all equipment required to perform paving and concrete applications.

BLCT - 3342 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 - 3352 Tracked Finishing & Grading, 2.00 Credits
Level: Lower
This course includes the use of tracked equipment used in the process of finishish and grading of a construction site. Types of equipment available, proper selection and operating techniques will be discussed.

BLCT - 3413 Blueprint Reading-Bldg Construct, 3.00 Credits
Corequisite(s):
Level: Lower
This course covers instruction in blueprint reading, concentrating on plumbing and mechanical and software settings. CAD basics introduced in lecture are then applied in a laboratory setting with emphasis on developing CAD preliminary residential prints.

BLCT - 3423 Pipe Fitting - Math Estimating, 3.00 Credits
Corequisite(s):
Level: Lower
This course covers basic math and materials estimating the plumbing trades. Pipe fitting math is practiced and applied to ensure proper plumbing drainage, as well as water and gas line pipe length installations. Material lists and job estimating is also taught as it pertains to various plumbing systems and fixtures. The students are given instruction on materials mark up for profit, proper customer billing, and required income and sales tax as it pertains to a self-run plumbing business.
COURSE DESCRIPTIONS

BLCT - 3433 Cop Pipe & Tub, Water Sys Des, 3.00 Credits
Corequisite(s): Level: Lower
This course covers the study and installation of various types of copper pipe and tubing and proper methods of joining. Also includes instruction on fitting use and proper code applications. The methods of testing potable water lines are also covered.

BLCT - 3443 Drainage Systems & Piping, 3.00 Credits
Corequisite(s): Level: Lower
Applied Learning-Practicum
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 - 3453 Plumb Trade History & Safety, 3.00 Credits
Level: Lower
This course covers the study of safety 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 - 3463 Wat Heats-Plumb Fix Inst/Rpr, 3.00 Credits
Corequisite(s): Level: Lower
This course covers the instruction and study of selection and installation of water heaters for industry standards. Instruction is also given on gas and electric water heater troubleshooting and repairs. This course also covers the instruction of plumbing fixture specifications and installation. Fixtures troubleshooting and repair is also covered in this course.

BLCT - 3473 Heating Fuels-Comb Theo&Troubl, 3.00 Credits
Prerequisite(s): BLCT 3453 with D or better
Level: Lower
This course is an introduction to the various fuels used in the heating trades and the methods of converting fuels for various applications. The theory of combustion and combustion troubleshooting is also covered in the course. Common forced air furnace parts and components are discussed and various and manufactured retrofit products are applied. This course also includes basic wiring of conventional forced air furnaces and principles and troubleshooting of furnace electronic ignition.

BLCT - 3483 Electrical Fundamentals, 3.00 Credits
Prerequisite(s): BLCT 3453 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 different types of electrical circuit functions and what different electrical components do in those circuits. Special emphasis is placed on temperature controls and switching. Elementary wiring diagrams are introduced.

BLCT - 3493 Forced Air Furnace Controls, 3.00 Credits
Prerequisite(s): BLCT 3453 with D or better
Level: Lower
The objective of this course is to develop skills in the installation and service of electrical components of gas and oil forced air furnaces. This includes gas standing pilot and electronic ignition systems. It applies to both 80% and 90% efficient furnaces including those with integrated circuit boards.

BLCT - 3503 Hydro Comp, Circu Pump&Ht Emit, 3.00 Credits
Prerequisite(s): BLCT 3453 with D or better
Level: Lower
Applied Learning-Practicum
The purpose of the course is to develop an understanding of piping materials, fittings and various components used in hydronic heating systems. This includes knowledge about types and performance of circulation pumps. Also included are heat emitters which have been used in the past and several new types which are currently gaining popularity.

BLCT - 3513 Hydronic Controls and Motors, 3.00 Credits
Prerequisite(s): BLCT 3453 with D or better
Level: Lower
This course covers electrical components as they apply to hydronic heating. Students will produce wiring diagrams for external boiler wiring as it applies to zone valves and pumps. Investigation into areas of multiple boiler controls, injection mixing controls and outdoor reset controls are pursued. The theory and application of different motors used in the HVAC industry are also presented.

BLCT - 3523 Hydronic Funda & Heat Sources, 3.00 Credits
Prerequisite(s): BLCT 3453 with D or better
Level: Lower
This course will introduce students to basic thermodynamic principles. The course will explore the advantages of hot water and steam heating, as well as the various types of boilers used in the industry.

BLCT - 3533 Hydronic Piping Systems, 3.00 Credits
Prerequisite(s): BLCT 3453 with D or better
Level: Lower
The objective of this course is to develop an understanding of various piping systems used in hydronic heating systems including series loop, one pipe two pipe (direct and reverse return) and primary/secondary piping. The course will also cover the applications and installations available for a variety of radiant heating types.

BLCT - 3602 Residential Remodel, 2.00 Credits
Level: Lower
This course covers the evaluation of overall conditions found in existing buildings. Students will learn about the construction techniques used in remodeling and how they differ from new construction. This will include the process of identifying and handling hazardous materials, historical framing styles, and replication of existing interior and exterior trim.

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 design, 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 continued advancement in construction estimating and print reading, and 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 & Estim, 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 reading and drawing 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 fastening systems, raftering systems and structural supports, as well as building code requirements for these systems.

BLCT - 3642 Interior Trim, 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 used in hip and valley roof layout and fabrication. This 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, porches 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 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 fastening systems, raftering systems and structural supports, as well as building code requirements for these systems.

BLCT - 3712 Building Stone, 2.00 Credits
Prerequisite(s): BLCT 2252 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 masonry.

BLCT - 3716 Masonry Construction Lab II, 6.00 Credits
Prerequisite(s): BLCT 2206 with D or better
Level: Lower
This course presents to the学生the proper knowledge, techniques, and tool and equipment use to construct stonewall, facades and building elements of natural and cast masonry.

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 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 fastening systems, raftering systems and structural supports, as well as building code requirements for these systems.

BLCT - 3742 Masonry Fundamentals, 3.00 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 - 3752 Masonry Construction Lab I, 6.00 Credits
Prerequisite(s): BLCT 2206 with D or better
Level: Lower
Applied Learning-Practicum
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 masonry.

BLCT - 3752 Masonry Restoration, 2.00 Credits
Prerequisite(s): BLCT 2262 with D or better
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 fastening systems, raftering systems and structural supports, as well as building code requirements for these systems.

BLCT - 3752 Masonry Construction Lab II, 6.00 Credits
Prerequisite(s): BLCT 2206 with D or better
Level: Lower
Applied Learning-Practicum
This course presents the proper knowledge, techniques, and tool and equipment use to construct stonewall, facades and building elements of natural and cast masonry.
BLCT - 4002 Below Grade Construction, 2.00 Credits  
Level: Lower  
Applied Learning-Practicum  
Course Fee $196.00  
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 - 4003 Paving Part II, 3.00 Credits  
Prerequisite(s): BLCT 3013 with D or better  
Level: Lower  
This course explains how to perform hot mix asphalt paving and concrete paving. The course covers the operation of asphalt pavers and all equipment required to perform paving. Discussions will include concrete paving equipment such as concrete pavers, slip-form pavers, and texture/curing machines.

BLCT - 4004 Operations Part IV, 4.00 Credits  
Prerequisite(s): BLCT 3005 with D or better  
Level: Lower  
Applied Learning-Practicum  
This course presents information on the operation and maintenance of excavators. Students learn basic operation of equipment and apply this knowledge in performing earth work activities such as ditching, placing riprap, and slope finishing. Included are safety issues and preventive maintenance activities.

BLCT - 4012 Earth Moving (Hvy Highway), 2.00 Credits  
Level: Lower  
Applied Learning-Practicum  
This course describes the necessary procedures for preparing ground for highway/heavy construction. It explains basic skills, including terminology, identification, and classification. Earthmoving operations, such as laying out slopes and grades, site excavation, and hauling, are addressed along with methods of stabilizing soils.

BLCT - 4013 Supervision Part II, 3.00 Credits  
Prerequisite(s): BLCT 3023 with D or better  
Level: Lower  
Applied Learning-Practicum  
This course will reinforce Supervision - Part I. In addition to this the student will learn about prevailing wage schedules used by DOL, professional ethics, customer focus, ability to listen, teamwork, communication, attitude, responsibility, and patience.

BLCT - 4022 Finish Operations, 2.00 Credits  
Level: Lower  
Applied Learning-Practicum  
This course contains information about the responsibilities of the finish operator. It discusses leadership abilities in relation to organizing and directing workers and operations, an how to understand and interpret production requirements and specifications. Also the course explains how to set up and adjust leveling instruments.

BLCT - 4023 Form Building, 3.00 Credits  
Level: Lower  
This course provides the basics of building footer forms and installing concrete wall forms. It will also introduce students to SMAW (Shielded Metal Arc Welding) electric arc welding and cutting steel with an oxy-acetylene torch.

BLCT - 4032 Finishing & Grading, 2.00 Credits  
Level: Lower  
This course provides instruction in the use of various types of heavy equipment to finish and trim grades and slopes of roads, pads, ditches, and other structures; specifications used for grading will be discussed as well as procedures for checking the final grade.

BLCT - 4033 Historic Framing Techniques, 3.00 Credits  
Level: Lower  
This course will look at the evolution of systems used in the construction of wooden house frames throughout the history of building in 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. Students will apply these techniques to new and/or existing structures.

BLCT - 4042 Construct Business Operation, 2.00 Credits  
Prerequisite(s): BLCT 3203 with D or better *  
Level: Lower  
This course is an overview of the basic requirements of ownership and operation of a small construction business. The course also covers the building code sections that establish minimum standards for public safety and protect consumers from hazardous design and construction.

BLCT - 4043 Masonry Sketching & Detailing, 3.00 Credits  
Prerequisite(s): BLCT 3169 with D or better  
Level: Lower  
This course will give students the knowledge and ability to use an architect's scale and basic drafting skills to produce shop drawing sketches of masonry wall systems, masonry details, shapes for architectural building stone and architectural pre-cast.

BLCT - 4053 Blueprint Reading for Masonry, 3.00 Credits  
Prerequisite(s): BLCT 3169 with D or better  
Level: Lower  
Students will develop a working knowledge of blueprints and specifications for masonry projects. Topics will include masonry cost and material estimating, jobfile preparation, and construction. Students will interpret and apply standards commonly used in masonry construction.

BLCT - 4143 Basic House Wiring-Forced 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 is also 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 distressing 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 the application of various materials of the sheet metal trade. Students are also instructed in the forming and use of different shapes 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-Air 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 proper sizing 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 Metal Air Dist System &Vent, 3.00 Credits  
Prerequisite(s): BLCT 3453 with D or better  
Level: Lower  
This course covers the many types of furnace ductwork and proper application of various duct fittings. Proper application and installation of furnace air distribution systems is also covered. Instruction on Type B galvanized sheet metal vent pipe and components is given and the proper sizing and installation of this metal piping is covered. Sheet metal math such as perimeter, area, and volume is also included in this course.

BLCT - 4176 Masonry V, 6.00 Credits  
Level: Lower  
To give the student a working knowledge of the concrete industry by showing form construction as well as various types of concrete and their uses. Stair building, brick and concrete are also included within this course. This is a five (5) week course.

BLCT - 4183 Sheet Metal Trade Safety, 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 - 4186 Masonry VI, 6.00 Credits  
Level: Lower  
This course serves as an overview of contracting, applying for jobs, small business and structural details on commercial and heavy construction. This is a five-week course.

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 - 4212 Construction Safety, 2.00 Credits  
Level: Lower  
This course explores the opportunities provided by the various occupations associated with the construction trades and covers the insurance requirements, as well as the risk management and loss control issues in the industry. Much of this course will follow the training requirements set forth by the Occupational Safety and Health Administration (OSHA) Construction Safety Outreach Program including the use of personal protective equipment, electrical safety, fall protection and the safe use of scaffolding and ladders. Excavation safety and material handling, proper record keeping requirements, and harassment policies will also be covered in this course.

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 Pump, 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 3503 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 equipment and diffusers.

BLCT - 4243 Refrigeration Handling Cert, 3.00 Credits  
Prerequisite(s): BLCT 4233 with D or better *  
Level: Lower  
Students will learn the fundamentals of duct system design as it applies to residential forced air heating and cooling systems. This includes an in-depth look at blower performance and equipment which affects airflow in ductwork.

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 interior finishes, 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 3706 with D or better  
Level: Lower  
This course provides hands-on learning experience in the area of interior finishes. Students will learn how to properly install floor and wall materials as well as install and assemble stair parts in the laboratory.

BLCT - 4302 Introduction to Residential Building, 2.00 Credits  
Course provides an overview of the building industry and introduces students to the various trades involved in the construction process. Students will also learn about materials, tools and equipment used in the field.

BLCT - 4301 Green Building & Bldg Science, 2.00 Credits  
This course introduces students to the concepts of green building and sustainable construction practices. Students will learn about energy efficiency, water conservation, and the use of sustainable materials.

BLCT - 4304 Mechanisms and 2,000 Credits  
Level: Lower  
This course provides an overview of the use of mechanical systems in buildings, including heating, ventilation, and air conditioning. Students will learn about the principles of heating, cooling, and ventilation systems and how to design and install them in buildings.

BLCT - 4305 Advanced Finishes, 2.00 Credits  
Prerequisite(s): BLCT 3706 with D or better  
Level: Lower  
This course covers advanced finishing techniques, including the installation of interior finishes such as plaster, drywall, and tile. Students will learn about the tools and techniques used in finishing work.

BLCT - 4306 Heavy Equipment Lab IV, 6.00 Credits  
Prerequisite(s): BLCT 3306 with D or better  
Level: Lower  
This course provides hands-on training in the use of heavy equipment, including excavators, dozers, and cranes. Students will learn about the operation and maintenance of heavy equipment.

BLCT - 4412 Finish Processes, 2.00 Credits  
Prerequisite(s): BLCT 3323 with D or better  
Level: Lower  
This course covers the processes used in the finishing of interior surfaces, including the application of finishes such as paint, plaster, and tile. Students will learn about the tools and techniques used in the finishing process.

BLCT - 4422 Project Management & Support, 2.00 Credits  
Prerequisite(s): BLCT 3706 with D or better  
Level: Lower  
This course covers the processes used in the construction of interior finishes, including the planning, scheduling, and execution of construction projects. Students will learn about the tools and techniques used in project management.

BLCT - 4432 Advanced Safety, 2.00 Credits  
Prerequisite(s): BLCT 3706 with D or better  
Level: Lower  
This course teaches advanced safety techniques and equipment used in the construction industry. Students will learn about the hazards associated with construction work and how to protect themselves and others.

BLCT - 4442 Machine Control Technology, 2.00 Credits  
Level: Lower  
This course teaches advanced machine control technology and the use of industrial control systems. Students will learn about the principles of machine control and how to use industrial control systems in the construction industry.

BLCT - 4452 Commercial Construction, 2.00 Credits  
Prerequisite(s): BLCT 3706 with D or better  
Level: Lower  
This course covers the principles of commercial construction, including the planning and execution of commercial projects. Students will learn about the tools and techniques used in commercial construction.

BUAD - 4003 Occupational Experience, 3.00 Credits  
Prerequisite(s): BUAD 1003 with D or better  
Level: Lower  
This course provides an opportunity for students to gain hands-on experience in the construction industry. Students will work on a construction project under the supervision of a faculty member.

COURSE DESCRIPTIONS

BSET - Bachelor of Science in Engineering Technology

BSET - 7001 Senior Seminar & Project Design, 1.00 Credit  
Level: Upper  
This course is a senior seminar where students will work on a project under the supervision of a faculty member. The project is subject to faculty approval.

BSET - 8003 Senior Technical Project, 3.00 Credits  
Prerequisite(s): BSET 7001 with D or better  
Level: Upper  
This course is a senior technical project where students will work on a project under the supervision of a faculty member.

BUAD - Business Administration

BUAD - 1043 Occupational Experience, 3.00 Credits  
Prerequisite(s): BUAD 1042 with D or better  
Level: Lower  
This course provides an opportunity for students to gain hands-on experience in the construction industry. Students will work on a construction project under the supervision of a faculty member.
BUAD - 1543 Grammar for Court Reporters, 3.00 Credits
Level: Lower
In this course students will develop a high-level ability in spelling, vocabulary, sentence structure, word choice, capitalization and punctuation with direct application to business writing and legal reporting. This course encourages application of this knowledge through editing activities. Attention is given to diagnosing fragments, run-ons, comma splices and parallelism errors. Emphasis is placed upon mastery of grammatical structure needed for effective writing of sentences, paragraphs, and essays. When this course serves as the prerequisite for another course, the student must receive a grade of "C" or better in this course.

BUAD - 2033 Business Communication, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better
Level: Lower
This course develops skills in communicating in the digital age workplace. In addition to learning fundamentals of communication theory and principles, special attention is given to the business writing process, preparing short workplace messages and digital memos, preparing positive, negative and persuasive messages, written and oral reports. Emphasis is also given to preparing students for the job search, application and interview process in the digital workplace. Workplace professionalism will be modeled, preparing students for workplace communication success.

BUAD - 3043 Business Law I, 3.00 Credits
Level: Lower
This course offers a general inquiry into the nature of law and the legal system in the United States. Areas covered include, but are not limited to, the different schools of jurisprudential thought, the Common Law tradition, Alternative Dispute Resolution, court procedures, legal research, and case citations. Special attention is given to Constitutional Law and business, Torts and Crimes, Intellectual Property and the Common Law of Contracts.

BUAD - 3114 Intl Tourism: Itaol Food & Geog, 4.00 Credits
Level: Lower
This course presents concepts of tourism relating to food and geography, using Italy as its example. The course is relevant to students of all backgrounds but was designed specifically for students of hospitality, business, and culinary arts. Students will study international organizations operating in tourism (i.e. WTO) and the different types of tourism, with particular attention paid to sustainable tourism. Students will be asked to investigate the tourism geography of Italy, becoming familiar with the most important tourist sites in Italy and Campania (through several excursions). The third module of the course will be dedicated to a very important kind of tourism in Italy and of the Campania Region: Food and Wine Tourism. Students are expected to actively participate and contribute to class discussion. Students will learn about marketing and/or sales activities such as marketing research and advertising, promotional campaign organization, and media relations connected with the promotion of tourism in Italy and Campania.

BUAD - 3153 Fundamentals of Management, 3.00 Credits
Level: Lower
This course deals with the skills necessary to become a manager. The student will develop an understanding of management theories and management skills through an examination of the basic functions of management. The concepts of planning, organizing, leading, and controlling a business organization are examined to show how these basic principles can be used to create a healthy and thriving organization in today's global environment. Special attention will be given to decision making, problem solving, and leadership in an environment where productivity improvements are a major concern.

BUAD - 4004 Ess of Entrepr & Sm Bus Mgmt, 4.00 Credits
Level: Lower
This course offers the student a step-by-step approach to starting a business. The course covers the fundamental principles of marketing, law, management, and office administration as applied to beginning a new venture. The class will be divided into teams that will prepare a comprehensive individual and team business plan to include a market profile, site analysis, competitive analysis, financials, goals and objectives, marketing and organizational 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 the venture.

BUAD - 4053 Business Law II, 3.00 Credits
Level: Lower
This course is an examination of the law of sales, commercial paper, agency-employment relationships, business organizations and government regulation of same. Article 2 of the UCC is used in the sales area with special attention paid to contract formation, title and risk of loss, performance and product liability. In examining commercial paper, Article 3 of the UCC is referred with emphasis on function and form, holders in due course and liability and discharge. Attention is also given to employer/employee relationships, and distinguishing between sole proprietorships, partnerships, limited liability companies and corporations. Finally, government regulation of business is examined, especially in the areas of anti-trust and restraint of trade.

BUAD - 4133 Investments, 3.00 Credits
Level: Lower
This course is designed to be an introductory course in investments. Topics covered include sources of information, establishing investment goals, investment returns and risks, time value of money, investing in common stocks, bonds, and mutual funds, tax aspects of investing, analysis of financial statements, portfolio management techniques, and introduction to futures and options.

BUAD - 4193 Insurance and Risk Management, 3.00 Credits
Level: Lower
This course covers one of the six components of financial planning. This course will describe the techniques a financial planning/risk manager will use to analyze risk and assess alternate strategies. The course begins by examining the pervasive nature of risk and its impact on both the individual and society. It also demonstrates the various ways in which insurance can be used to deal with the problems posed by such risk. Insurance is an integral part of the personal financial planning process; therefore the course is designed to be consumer oriented. The course can also be useful in preparation for a career in the fields of life, health, and disability, and property and casualty insurance.

BUAD - 4203 Intro Personal Financial Plan, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course is an introduction to personal finance covering those areas that are necessary for an individual to make better financial decisions throughout one's lifetime. Topics include: developing financial statements, plans, budgets, time value of money, money management, credit management, tax planning, insurance, investments, retirement planning, and estate planning. Computer, business calculator applications, and case studies will be used throughout the course. The creation of a comprehensive financial plan will be required.

BUAD - 4403 Business Computer Applications, 3.00 Credits
Level: Lower
This course will introduce students to multiple aspects of business computer applications used in the business environment using current computer software packages to include: representing, storing, manipulating, and using 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 career setting or for personal use. Students also develop an understanding of key ethical issues they will face in the context of using information technology.

BUAD - 5003 Management Communications, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better or BUAD 2033 with D or better
Level: Upper
This course is designed to provide the student with the range of communication issues 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
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
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, 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
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, 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
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, and while building trust, commitment, and effort within the business organization.

BUAD - 5900 Directed Study, 1.00 TO 6.00 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 progress of the study.

BUAD - 6003 Managerial Finance, 3.00 Credits
Prerequisite(s): ACCT 1124 with D or better and ACCT 2224 with D or better or ACCT 5043 with D or better
Level: Upper
This course is a comprehensive examination of the theoretical and practical approaches to financial management. Among the topics covered are: capital budgeting, cost of capital, capital structure, sources of financial resources, and capital structure. The course also covers long-term financing decisions, including capital structure, sources of funds, and long-term capital structure. The course also covers the different aspects of financial management and the role of financial managers in decision-making. Financial management is an essential aspect of any business operation, and understanding the principles of financial management is crucial for success in the business world. The course will help students develop a deeper understanding of financial management concepts and their applications. Students will learn how to analyze and interpret financial statements, evaluate investment opportunities, design capital budgets, and manage capital structures. The course will also cover financial planning, risk management, and corporate financial strategy. Students will learn how to use financial models to make informed decisions, and how to effectively communicate financial information to stakeholders. This course is designed for students who have a strong interest in finance and want to develop a solid foundation in financial management. It is highly recommended for students who are considering careers in finance or related fields.
The focus of this course is the analysis of issues that managers typically address in problem-solving situations and the 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 will cover 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 - 7033 Operations Management, 3.00 Credits
Prerequisite(s): BUAD 3153 with D or better or TMGT 7153 with D or better
Level: Upper
Upon completion of this course, the student will understand modern (quantitative and qualitative) concepts in operations management and their application to problems relevant to today's workplace, for both industrial and service organizations. Operations management (OM) is the management of operations, production, and service systems. This course will focus on providing students with the theoretical framework and managerial tools necessary to lead and manage operations. The emphasis will be on how OM principles and tools can be applied to real-world situations. Students will learn how to analyze and improve organizational processes, develop and implement efficient production systems, and lead and manage operations teams. The course will cover topics such as process design, production planning and control, quality management, and operations strategy. Students will also have the opportunity to explore the application of operations management concepts to specific industries and organizational contexts.
CHEM - 1114 General Chemistry I, 4.00 Credits
Level: Lower
Prerequisite(s): CHEM 2124 with D or better or CHEM 2984 with D or better
Required of: Applied Engineering Technology, Biotechnology, Chemical Technology, Food Science, Liberal Arts and Science
This course is designed for science majors, particularly focused in the health or agricultural areas who have had high school chemistry. It can be a terminal course in chemistry for those seeking an AAS in veterinary technology. Topical coverage includes: metric units and conversions, atomic theory, periodicity, electronic bonding models (Lewis, Pauling, Gilbert's VSEPR), inorganic nomenclature, nomenclature of organic molecules (methathesis, acid-base, redox), stoichiometry and the mole concept, gas laws, phase transitions (phase diagrams), cooling curves, critical phenomena, heat capacities, intermolecular interactions, equilibrium (calculations involving K, Le Chatelier’s principle) and elementary kinetics (Arrhenius model).

CHEM - 1984 Chemical Principles I, 4.00 Credits
Level: Lower
Prerequisite(s): CHEM 1114 with D or better or CHEM 1984 with D or better
Required of: Applied Learning-Other, Course Fee $6.00, 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 the chemical bond.

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
Required of: Liberal Arts and Science
This course is the second semester of a two-semester sequence in general chemistry starting in the fall. The course is designed to provide students with a thorough understanding of the basic concepts of chemistry and problem-solving techniques that are essential in science. General topics include atomic theory and chemistry, valence hybrid and molecular orbital theory, the language of stereochemistry, the basic language and chemistry of selected functional groups (alkanes, alkenes, aromatics, alcohols, aldehydes, ketones, esters, and carboxylic acids) along with an understanding of chirality, how it be covered and 2) Biochemistry, where the chemistry and structure of carbohydrates, lipids and proteins will be studied.

CHEM - 2984 Chemical Principles II, 4.00 Credits
Prerequisite(s): CHEM 2124 with D or better or CHEM 1984 with D or better
Level: Lower
Required of: Liberal Arts and Science, Applied Learning-Other
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, esters, and carboxylic acids) along with an understanding of chirality, how it be covered and 2) Biochemistry, where the chemistry and structure of carbohydrates, lipids and proteins will be covered.

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
Required of: 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, mechanisms, materials and concepts fundamental to organic chemistry. Lecture topics include: VSEPR and atomic orbital models; basic valence hybrid and molecular orbital theory; the language of stereochemistry; the basic ‘active complex’ model of reaction; pericyclic processes; and the language of organic chemistry. 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 - 4524 Organic Chemistry II, 4.00 Credits
Prerequisite(s): CHEM 3514 with D or better
Level: Lower
Required of: 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 aldehydes; notably: alkenes, alkynes, allylic and alkadienes with emphasis on accompanying mechanistic pictures notably: radical and carboxylation reactions, concerted additions, radical substitutions; synthetic routes to and from substituted aromatic compounds with emphasis on the electrophilic substitution mechanism; synthetic routes to and from carbonyl 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 amine, imine, imidates, and a survey of carbohydrate structure and chemistry. A thorough 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 MS analysis, mass spectrometry and gas chromatography with capillary columns discussed in lecture, notably: ring substitution, cycladdition, stereodistinction, carbononyl condensations, and estimation.

CHEM - 4900 Directed Study, 1.00 TO 4.00 Credits
Level: Lower
Required of: Liberal Arts and Science
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 chair. The instructor and student will confer regularly concerning the process of the study.

CHEM - 5013 Applied Chemical Principles, 3.00 Credits
Prerequisite(s): MATH 1023 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: Upper
Required of: Applied Learning-Practicum, Course Fee $3.00, Liberal Arts and Science
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 included. Topics include: atomic theory, bonding, stoichiometry, acid-base chemistry, oxidation-reduction, gases, and chemical equilibrium.

CHEM - 5414 Analytical Principles, 4.00 Credits
Prerequisite(s): CHEM 2124 with C or better or CHEM 2984 with C or better
Level: Upper
Required of: Applied Learning-Practicum, Course Fee $62.00
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 - 6614 Instrumental Analysis, 4.00 Credits
Prerequisite(s): CHEM 4524 with D or better
Level: Upper
Required of: Applied Learning-Practicum, Course Fee $55.00
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 laboratories: Atomic Absorption Spectroscopy, Atomic Absorption Spectroscopy (AAS), Infrared 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 - 6854 Physical Chemistry, 4.00 Credits
Prerequisite(s): CHEM 2984 with C or better and PHYS 1064 with C or better and MATH 6114 with C or better
Level: Upper
Required of: Applied Learning-Practicum, Course Fee $57.00
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 thermochromical 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 include mathematical explorations developing necessary mathematical tools, notably eigenvalue problems, series solutions of differential and various matrix algebraic methods. The thermodynamic focus will be on efficiently developing the 4 laws of thermodynamics into simple terms whereby chemical equilibria and phase change of chemical systems can be predicted and described. A strong emphasis will be laid on using the practical chemical results of thermochromical reasoning (K and Q predictions, Clausius-Clapeyron, Gibbs-Helmholtz and Nernst equation, phase rules and Gibbs-Duhem equations) rather than deriving the abstracted expressions of the several thermodynamic laws.

CHEM - 7784 Biochemistry, 4.00 Credits
Prerequisite(s): CHEM 4524 with C or better and BIOL 2204 with C or better
Level: Upper
Required of: Applied Learning-Practicum, Course Fee $109.00
This course is a comprehensive course intended for science majors. Topics covered include the basic structure and reactions of biological compounds (carbohydrates, lipids, proteins, enzymes, and nucleic acids), the digestion and absorption of nutrients, bioenergetics principles, and catabolic and anabolic metabolism of major biochemistry in the human body. The laboratory exercises include classic techniques in isolation, purification and assay of proteins, enzymes (and kinases), carbohydrates, lipids, and nucleic acids as well as polypeptide and polynucleotide sequencing and synthesis.

CISY - COMPUTER INFORM SYSTEMS

CISY - 1003 Intro to Microcomputer App, 3.00 Credits
Level: Lower
Required of: Applied Learning-Practicum
An introductory course in business computing, focusing on microcomputer technology utilizing operating system concepts, word processing, spreadsheets, and database software used in business organizations.

CISY - 1023 Intro to Information Tech, 3.00 Credits
Level: Lower
Required of: Applied Learning-Practicum
This is an introductory course in information technology and computer applications. The course focuses on computer concepts and technology emphasizing secure file and memory management within various operating system commands, spreadsheets, databases, web tools and web applications used in business and scientific environments.
CISY - 1103 Info Technology Management, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course will introduce the student to multiple aspects of information technology management including: representing, storing, manipulating, and using digital information. Topics include: computer hardware and software fundamentals, essential applications, networking and the Internet, and computer user security and risks. Students will develop skills in collecting, analyzing, and using information from a variety of resources in order to complete class projects.

CISY - 1113 Computer Programming I, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course covers the fundamentals of computer problem solving and programming. Topics include: program development process, differences between the object-oriented, structured, and functional programming methodologies, phases of language translation (compiling, interpreting, linking, executing), and error conditions associated with each phase, primitive data types, memory representation, variables, expressions, assignment, fundamental programming constructs (sequence, selection, iteration), algorithms for solving simple problems, tracing execution, subprograms/functions/methods, parameter passing, secure coding techniques (criteria for selection of a specific type and use, input data validation), and professional behavior in response to ethical issues inherent in computing.

CISY - 1123 Intro to Programming for IT, 3.00 Credits
Level: Lower
Applied Learning-Practicum
An introductory programming course for information technology or CIS majors. The development of solutions through a set of logical steps and basic control structures (including selection and iteration) will be introduced. Students will write, debug and execute programs using a high level visual programming language.

CISY - 2133 Computer Programming II, 3.00 Credits
Prerequisite(s): CISY 1113 with D or better
Level: Lower
Applied Learning-Practicum
This course covers the fundamentals of algorithms and object oriented software development. Topics include: modern IDE for software development, primitive and reference data types, encapsulation, information hiding, selection, iteration, functions/methods, parameters, recursion, exception handling, generic linear data structures (arrays, records/ structs) and maps, file types, file I/O, simple GUIs with event handling, programming to an interface, lambda expressions, semantics of inheritance and use of polymorphism, and relation with subtyping. Additionally focus will be given to searching (sequential, binary, selecting (min, max), and sorting (bubble, insertion, selection) algorithms, complexity notation, documentation using standard tools, program testing (unit testing) and debugging, reasoning about control flow in a program, and societal impacts related to computing and software.

CISY - 2143 Microcomputer Systems I, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course provides an exposure to computer operating systems and hardware. Topics include hardware, trouble-shooting, operating system commands, system utilities, memory managers, graphical user interface (GUI) software and computer security.

CISY - 2153 Database Appl and Programming I, 3.00 Credits
Prerequisite(s): CISY 1023 with D or better
Level: Lower
Applied Learning-Creative Work
A comprehensive exposure to the use of database software concepts, capabilities and application; focusing on relational database techniques, SQL, normalization, database programming and developing application systems. A final/comprehensive project will be required.

CISY - 3023 Advanced Microcmpr Spreadshts, 3.00 Credits
Prerequisite(s): CISY 1003 with D or better or CISY 1023 with D or better or CISY 1103 with D or better
Level: Lower
Applied Learning-Practicum
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
Applied Learning-Practicum
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 subroutine 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
Applied Learning-Practicum
An introductory course in web page development with HTML and XHTML. Also included will be various software packages that automate the web page design process. These may include Dreamweaver, Front Page, 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), 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 seminars 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 Structs, 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 - 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. Included will be basic server installation, configuration, and management. A variety of workstation and server operating systems will be explored through extensive hands-on labs with an emphasis on network security.

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 will take a more in depth look at Linux and Unix-like system administration. Topics will include 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 exercise 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
Applied Learning-Practicum
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-program classes, files, and data abstraction. Debugging and proper program design and documentation will be stressed.

CISY - 4283 Internetworking II, 3.00 Credits
Prerequisite(s): CISY 3283 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 3283 and this course.

CISY - 4423 Intro to Mobile Robotics & Ani, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course covers basic programming techniques of mobile and stationary robotic systems with an emphasis to autonomous function and interaction with the environment. Topics include basic programming techniques, robot platforms, use of sensors, embedded control, pre-programmed problem solving, robot construction, and human-robot interaction. Students will complete programming and complete 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 4033 with D or better or ELET 2012 with D or better
Level: Lower
Applied Learning-Practicum
This course is a comprehensive survey of all aspects of computer Programming I. Emphasis will be placed on advanced algorithms, program design and development. Topics included will be sub-program classes, files, and data abstraction. Debugging and proper program design and documentation will be stressed.

CISY - 5123 Scientific Programming, 3.00 Credits
Prerequisite(s): or MATH 1033 with D or better
Level: Upper
Applied Learning-Practicum
This course students will learn structured programming techniques to solve scientific and engineering application 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 1113 with D or better or CISY 1123 with D or better
Level: Upper
Applied Learning-Practicum
Students will be introduced to security policies, the tools and techniques used in security management, and risk management procedures. They will analyze risk and security threats in the organization as well as manage, test, and establish security policy. Topics such as information protection, code of practice for information security, risk management, security awareness, and security evaluations will be explored. A final project in security assessment will be required.

CISY - 5203 Network Administration, 3.00 Credits
Prerequisite(s): CISY 4033 with D or better or ELET 2012 with D or better
Level: Upper
Applied Learning-Practicum
Students will use a variety of network management tools to manage, monitor, support and troubleshoot network operations. Topics will include performance issues, 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
This course will cover the design, prototyping, and evaluation of user interface to computers. This 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 - 5303 Web Programming I, 3.00 Credits
Prerequisite(s): CISY 3223 with D or better
Level: Upper
Applied Learning-Practicum
A comprehensive survey of HTML and web publishing software to create robust, functional web pages. This course will examine HTML standards, browser capabilities, information architecture, bandwidth considerations, image format, maps, frames, forms, and server/client side scripting. Topics of current interest will be included, such as: JavaScript, VBScript, ActiveX, Active Server Pages, Dynamic HTML, and Cascading Style Sheets.

CISY - 5403 Database Concepts, 3.00 Credits
Prerequisite(s): CISY 2153 with D or better
Level: Upper
Applied Learning-Practicum
This course is a study of the terminology, design, implementation and software associated with database systems. Topics include the need for database management systems, data 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 - 5613 UNIX/Linux Server Admin, 3.00 Credits
Prerequisite(s): CISY 4033 with D or better
Level: Upper
Applied Learning-Practicum
This course will introduce students to the techniques and practices associated with the installation, configuration, tuning, and administration 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 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
Applied Learning-Practicum
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 - 5900 Directed Study, 1.00 TO 6.00 Credits
Level: Upper
Applied Learning-Practicum
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 applications 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 4033 with D or better and CISY 3223 with D or better
Level: Upper
Applied Learning-Practicum
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
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 window 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 4103 with D or better
Level: Upper
Applied Learning-Practicum
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
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): CISY 1003 with D or better or CISY 1023 with D or better or CISY 1113 with D or better or CISY 1123 with D or better or BUAD 5053 with D or better
Level: Upper
Applied Learning-Practicum
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, CMM, GANTT, 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
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 Compu Forensics & Legal Issues, 3.00 Credits
Prerequisite(s): CISY 5003 with D or better or CISY 5613 with D or better
Level: Upper
Applied Learning-Practicum
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 5003 with D or better or CISY 4043 with D or better or CISY 4053 with D or better
Level: Upper
Applied Learning-Practicum
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), and network vulnerability scanners, wireless security probes, wireless intrusion detectors, 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 lessons learned 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 5003 with D or better
Level: Upper
Applied Learning-Practicum
A survey of programming languages and techniques for Web development. Topics include CGI’s (Common Gateway Interfaces), 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 client/server database applications.

CISY - 8303 Sftw Intgrtn & Interoperability, 3.00 Credits
Prerequisite(s): CISY 6703 with D or better and CISY 4723 with D or better
Level: Upper
Applied Learning-Practicum
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 7003 with D or better
Level: Upper
Applied Learning-Creative Work
In this capstone course, students will create web-based multimedia 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
In this capstone course, students will design 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
This is a research-oriented and performance-oriented course. The course addresses critical (both theoretical and pragmatic) 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.

CIVL - 3553 Comm Bldg Const Methods & Prac, 3.00 Credits
Prerequisite(s): CIVL 3513 with D or better
Level: Upper
Applied Learning-Creative Work
This is an introductory course in construction/civil surveying/graphics. The student will be introduced to scales, dimensioning, surveying maps, house plans, building codes, and construction terminology. Contour maps, wall sections, foundation plans, floor plans, and house elevations will be drawn and plotted using industry standard software.

CIVL - 1013 Portland Cement Concrete, 3.00 Credits
Level: Lower
Applied Learning-Field Study
This course introduces aggregates and concrete as construction materials. Standard techniques of measurements and compaction are presented and then applied to testing materials. The student is prepared to reach the level of the 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 - 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 introduced to scales, dimensioning, surveying maps, house plans, building codes, and construction terminology. Contour maps, wall sections, foundation plans, floor plans, and house elevations will be drawn and plotted using industry standard software.

CIVL - 1204 Surveying I, 4.00 Credits
Level: Lower
Applied Learning-Field Study
This course is a study of the fundamentals of plane surveying. Emphasis will be placed on the use and care of total station, level, tape and leveling rod, note keeping and basic surveying calculations and adjustment of data. The course introduces 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 1204 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 - 3204 Legal Asp & Prac of Land Surv, 4.00 Credits
Prerequisite(s): CIVL 2204 with D or better
Level: Lower
Applied Learning-Field Study
This course is a study of the professional land surveyor’s role in society and legal responsibility. Emphasis will also be placed on systems used to describe real property, types of transfer of real property, techniques of record research, as well as locating sequential and simultaneous real property conveyances.

CIVL - 3215 Geodesy, 4.00 Credits
Prerequisite(s): MATH 1054 with D or better and MATH 2043 with D or better and MATH 1063 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 - 3214 Surveying Calculations, 4.00 Credits
Prerequisite(s): CIVL 1204 with D or better and CIVL 1182 with D or better
Level: Lower
Applied Learning-Field Study
This course introduces aggregates and concrete as construction materials. Standard techniques of measurements and compaction are presented and then applied to testing materials. The student is prepared to reach the level of the 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 - 4043 Construction Management, 3.00 Credits
Level: Lower
Applied Learning-Field Study
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
Applied Learning-Field Study
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 timber and steel beams and columns are also presented.
CIVL-4134 Contracts, Specs, & Estimating, 3.00 Credits
Prerequisite(s): CIVL 3533 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 estimate a construction project.

CIVL-4204 Subdivision Theory & Appl, 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, data interpretation, and mapping. Students are responsible for the execution of a comprehensive surveying project.

CIVL-4243 Surveying Computer Appl, 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 class 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
This course is 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 apportionment, and field and office procedures for locating written title boundaries are discussed. The writing of deed descriptions is discussed in both a theoretical and applied sense.

CIVL-5213 Foundations and Concrete, 3.00 Credits
Prerequisite(s): CIVL 4104 with D or better or CIVL 4103 with D or better
Level: Upper
This course introduces students to basic design principles of reinforced concrete structural members such as beams, slabs, and walls. Topics will include bending of single and double reinforced beams, T-beams, and slabs, as well as shear design of these members. The design of development length and splicing of reinforcing bars in the members will be included as well. Methods and materials used in concrete work will be discussed with attention given to the materials and methods of formwork construction and pertinent AGI codes and regulations.

CIVL-5900 Directed Study, 1.00 TO 6.00 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.

CIVL-6022 Community-Economic Redevelop, 2.00 Credits
Level: Upper
Liberal Arts and Science
This course is a multidisciplinary overview of redevelopment process. This course will be run as a seminar that will meet in a seminar and discussion format. Understanding of the course topics will equip students with the knowledge of community economic development and regeneration project development. It will impart valuable skills for staff and leadership in consulting firms, municipalities, agencies and non-profits that do community development and community regeneration.

CIVL-6104 Anlys & Adjmnts of Surv Methms, 4.00 Credits
Prerequisite(s): MATH 2074 with D or better or MATH 2094 with D or better
Level: Upper
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
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 assessments. 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 both in the workplace and in the student's 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
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-6154 Supervisory Estimating, 4.00 Credits
Prerequisite(s): CIVL 7503 with D or better
Level: Upper
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 database estimating software package to incorporate advanced estimating techniques into a final project cost estimate. During the course the students will complete estimates in several disciplines of construction to include commercial building and heavy civil construction estimates.

CIVL-6212 Construction Safety, 2.00 Credits
Prerequisite(s): CIVL 3553 with D or better or ARCH 4014 with D or better
Level: Upper
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 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
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 I, 1.00 Credit
Level: Upper
Applied Learning-Creative Work
This course is the first of a two-semester sequence required for all Geomatics/Land Surveying Engineering Technology Bachelor seniors. Students design and implement a project in field and office automation, the use of geographic information systems, and the change order process during construction. The course teaches the student to use software for scheduling, monitoring, and "crashing" projects to evaluate alternatives to reduce time to completion and to ensure cost effectiveness and safety considerations.
Level: Lower
Study of specific contract clauses that are common in construction contracts including change orders, differing site conditions, construction delays, liquidated damages, construction claims and dispute resolutions. Students will read construction contract disputes and determine reasonable outcomes based on the given fact patterns. Additionally, students will be introduced to the business of construction through construction job cost accounting.

CIVL - 7523 Construction Scheduling, 3.00 Credits
Prerequisite(s): CIVL 7003 with D or better
Level: Upper
Applied Learning-Practicum
In this course, students will study job site construction scheduling. Software will be employed to produce Critical Path Method analysis. Topics include Lean, Last Planner System, crew distribution and leveling as well as construction equipment resource loading. 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
In this course, students implement a capstone technical project proposed and designed in CIVL 7001. Each student must do research, prepare a plan/map, conduct a formal oral presentation and submit a comprehensive written report.

CIVL - 8104 Global Positioning Systems, 4.00 Credits
Prerequisite(s): CIVL 3214 with D or better
Level: Upper
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 - 8123 Construction Project Admin, 3.00 Credits
Prerequisite(s): CIVL 4043 with D or better or CIVL 7503 with D or better
Level: Upper
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 - 8512 Construction Mgmt Internship, 12.00 Credits
Prerequisite(s): CIVL 7503 with D or better
Level: Upper
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 education 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.

CJUS - CRIMINAL JUSTICE

CJUS - 4103 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 - 5003 Constitutional Issues in Crtm, 3.00 Credits
Prerequisite(s): CJUS 1003 with D or better
Level: Upper
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 equality, 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 on state and local law enforcement as it pertains to a specific topic culminating in a research project.

CJUS - 5103 Courts in Contemporary Society, 3.00 Credits
Prerequisite(s): CJUS 1003 with D or better
Level: Upper
The Courts in Contemporary Society is a comprehensive analysis of the courts: structure, processes, and issues. This course provides a historical perspective of courts in America from past to present requiring students to critically analyze social policy affecting the courts: transformation to contemporary functions including diversion, alternative dispute resolution, recidivism, and specialty courts. This examines the law and its origins, compares the federal and state court systems, and examines juvenile justice process in America.

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
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 examination requires a synthesizing of leadership models for transformational change in a written practical exercise.

CJUS - 6603 Law & Criminal Evidence, 3.00 Credits
Prerequisite(s): CJUS 1003 with D or better or SOCI 1243 with D or better
Level: Upper
The course examines the origin, development, philosophy, and legal bases of evidence, including a brief survey of the system of constitutional and procedural rules and standards affecting evidence collection and admissibility. Specific topics include evidence collection and preservation, the trial process, expert and lay opinion, scientific evidence, and confessions and admissions. The course requires a research paper.

CJUS - 6603 Ethics in Criminal Justice Adm., 3.00 Credits
Prerequisite(s): SOCI 1163 with C or better
Level: Upper
This course examines ethical issues in the criminal justice (CJ) field, including an analysis of divergent and situational ethical issues that determine the ethical climate of 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 - 7004 Criminal Investigation & Mgmt, 4.00 Credits
Prerequisite(s): CJUS 6603 with D or better
Level: Upper
Applied Learning-Practicum
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 evaluation. 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 as an applied course.

CJUS - 8003 Criminal Investigation Capston, 3.00 Credits
Prerequisite(s): CJUS 7004 with D or better
Level: Upper
Applied Learning-Practicum
The Criminal Investigation Capstone course applies case law, evidence identification, securing and preservation of evidence from initial crime scene through courtroom testimony. This course evaluates the scientific aspects of criminal investigation from the scene to the crime laboratory. This includes the application of identifying, preserving and processing fingerprints; tool impressions; hair, fibers, blood and narcotics; casts and molds; and interview and interrogation techniques. This course utilizes law enforcement and crime lab experience in an applied setting. This capstone project requires student's crime scene notes, logs, and investigative reports in a completed case file that identifies the crime, suspects, methods used to secure suspects and witnesses, as well as documentation of assistance from external sources. A course fee may be required.
COURSE DESCRIPTIONS

CJUS - 8012 Criminal Justice Internship, 12.00 Credits
Prerequisite(s): CJUS 1003 with C or better and CJUS 6203 with C or better
Level: Upper
Applied Learning Internship
This course requires a minimum of 480 hours of work experience in an approved public safety agency, commonly defined as police, courts, corrections, or fire service, or in a commercial/industrial security agency. The agency or industry selected must be approved by the Department Chair and Internship Coordinator and be specifically related to the curriculum of the student. This course requires a comprehensive final report and the student must maintain the standards of the cooperating agency in order to participate.

CJUS - 8103 Criminal Justice Internship, 3.00 Credits
Prerequisite(s): CJUS 1003 with C or better and CJUS 6203 with C or better
Level: Upper
Applied Learning Internship
This course requires a minimum of 120 hours of work experience in an approved public safety agency, commonly defined as police, courts, corrections or fire service, or in a commercial/industrial security agency. The agency or industry selected must be approved by the Internship Coordinator and be specifically related to the curriculum of the student. The course requires a comprehensive final report and daily diary.

CJUS - 8203 PVT Security Admin in America, 3.00 Credits
Prerequisite(s): CJUS 5003 with C or better
Level: Upper
This course examines contemporary management theories and concepts applied to private security. The examination of private security theories and principles is used to analyze effective security management schemes, ranging from leadership and supervision to recruitment, selection of employees, training, performance appraisal, labor relations and other issues. This course contrasts public sector policing and private security in America with student forecasts of the future of the private security industry.

COMP - COMPOSITION

COMP - 1403 English Fundamentals*, 3.00 Credits
Level: Remedial
Remedial
English Fundamentals is a course designed specifically for the study and for the improvement of basic writing skills and techniques. As such, English Fundamentals allows the student to master a variety of sentence constructions and paragraph types, culminating in the ability to create a multi-paragraph essay. The emphasis is on grammar, spelling, punctuation, sentence structure, writing and revising techniques, and proofreading and editing to produce clear, concise, and information-rich sentences and paragraphs. This is a remedial/developmental course; it will not satisfy any graduation requirements. Student performance on the Comprehensive Language Usage Exam and the Writing Competency Exam will affect the final course grade.

COMP - 1503 Freshman Composition, 3.00 Credits
Level: Lower
Gen Ed - BC-COMP3503/SPCH1083
Gen Ed - BC-COMP1503/SPCH5083
Gen Ed - BC-COMP1503/BUAD2033
Liberal Arts and Science
Freshman Composition is intended to enable students to express themselves in essays. They will generate ideas, develop thesis statements, plan paragraphs, organize compositions, and select rhetorical strategies. Essays and a reference paper are required. Readings stimulate language use, critical thinking, and writing techniques.

COMP - 2900 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 agreement with 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.

COMP - 3503 Advanced Composition, 3.00 Credits
Prerequisite(s): COMP 1503 with C or better and ( LTR 2603 with D or better or LTR 2033 with C or better or LTR 2343 with C or better or LTR 2493 with C or better or LTR 2713 with C or better or LTR 2913 with C or better or LTR 3233 with C or better or LTR 4333 with C or better or LTR 7003 with C or better )
Level: Lower
Gen Ed - BC-COMP3503/SPCH1083
Gen Ed - BC-COMP3503/SPCH5083
Gen Ed - BC-COMP3503/BUAD2033
Liberal Arts and Science
This course focuses on developing the student's ability to write at an advanced level about topics of broad cultural and social significance. Students will demonstrate assurance and skill in producing written communications on par with published prose. This class will go beyond the mechanics of proper English composition and explore concepts such as originality, honesty of both fact and presentation, clarity, sincerity of emotion, economy of expression, and naturalness of style. This course can be taught from many perspectives. It will strive to instill Alexander Pope's thought that "true ease in writing comes from art, not chance." Writing is emphasized in response to readings from accomplished essayists such as Plutarch, Montaigne, Johnson, Orwell, Emerson, Thoreau, Mencken, Didion, and Dillard, among others.

COMP - 3603 Writing for Emergent Media, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better and LTR 2603 with D or better or LTR 2033 with D or better or LTR 2343 with D or better or LTR 2503 with D or better or LTR 2603 with D or better or LTR 2703 with D or better or LTR 2813 with D or better or LTR 2900 with D or better or LTR 2913 with D or better or LTR 3233 with D or better or LTR 4333 with D or better or LTR 7003 with D or better )
Level: Lower
Liberal Arts and Science
This is an introduction to writing for emergent media. Students will be taught basic principles of good writing as they apply to various media forms, practices, and online audiences. An emphasis will be placed on textual and visual development for use in different contexts: digital narrative, Web page content, blogging, screenwriting, online journalism, and hypertext styles. Students will design, edit and publish online content using current methods and tools across different platforms. Ethics in writing for emergent media will be a focus in the course.

COMP - 5703 Technical Writing II, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better and ( LTR 2603 with D or better or LTR 2033 with D or better or LTR 2343 with D or better or LTR 2503 with D or better or LTR 2703 with D or better or LTR 2813 with D or better or LTR 2900 with D or better or LTR 2913 with D or better or LTR 3233 with D or better or LTR 4333 with D or better or LTR 7003 with D or better or LTR 3333 with D or better or LTR 7013 with D or better )
Level: Upper
Applied Learning-Services-Learn, 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 the use of on-line computer-aided technology and teacher interaction; live practice dictation for speed and accuracy; read back and analysis of shorthand notes. NCRA requirements include the following: students are required to transcribe steno notes and speed takes under timed institutional supervision or if an internet student, sign a sworn verification form stating that the work was completed while online. Students are required to transcribe steno notes and speed takes under timed institutional supervision or if an internet student, sign a sworn verification form stating that the work was completed while online 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 tests shall be deleted immediately. Internet students must sign a sworn statement verifying 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.

CTRP - COURT REPORTING

CTRP - 1174 Realtime Writing Theory I, 4.00 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 on-line computer-aided technology and teacher interaction; live practice dictation for speed and accuracy; read back and analysis of shorthand notes. NCRA requirements include the following: students are required to transcribe steno notes and speed takes under timed institutional supervision or if an internet student, sign a sworn verification form stating that the work was completed while online 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 tests shall be deleted immediately. Internet students must sign a sworn statement verifying 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.

CTRP - 2274 Realtime Writing Theory II, 4.00 Credits
Prerequisite(s): CTRP 1174 with C or better
Level: Lower
Applied Learning-Practicum
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. Each class requires a minimum of three hours of practice time per day. The course is designed for both on campus and internet training. On campus students will meet at a designated time and place. Internet students can access the class at any time during the day, but are required to spend the same amount of time in class and out of class as an on campus student. All students are expected to spend a minimum of three hours a day on homework, which includes practicing accuracy and speed. Students are required to transcribe steno notes and speed takes under institutional supervision or if an internet student, sign a sworn verification form stating that the work was completed while online 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 tests shall be deleted immediately. Internet students must sign a sworn statement verifying 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.

CTRP - 2603 Peren Dictionary Prod & Maint, 3.00 Credits
Prerequisite(s): CTRP 1174 with C or better and CTRP 2274 with C or better
Level: Lower
This course will be an extension of the material learned in Computer Aided Transcription (CTRP 3373) and is a direct application of the realtime techniques learned in Realtime Writing Theory I (CTRP 1174) and Realtime Writing Theory II (CTRP 2274). The topics to be covered will include personal dictionaries; update area; D-Defines, J-Defines, R-Defines, and E-Defines; job dictionaries; power defines; phonetic tables; how to insert, modify, and delete entries; filtering dictionary; printing dictionary, backup up and restoring dictionaries, and dictionary maintenance. Students will build and maintain their personal dictionary by adding new entries throughout the course.
CTRP - 3111 Transcript Production, 1.00 Credit
Prerequisite(s): CTRP 2274 with D or better
Level: Lower
Students will learn how to properly format and prepare judicial transcripts, including cover page, appearance page, examination and exhibit indexes, question-and-answer, coloquy, parentheticals, jurats, and certification pages, as well as how to prepare ASCII disk and mini-transcripts.

CTRP - 3163 Speedbug I for Report & Capt., 3.00 Credits
Prerequisite(s): CTRP 2274 with C or better
Level: Lower
Applied Learning-Practicum
The prerequisite for this course is the successful completion of the Realtime Writing Theory course (CTRP 174 and CTRP 2274) or approval of the instructor. 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. The course is structured into 45 class periods. The typical structured classroom meets every Monday, Wednesday, and Friday throughout the semester and online in the summer. Each class requires a minimum of three hours of practice time per day. The course is designed for Internet training. The course suffices as a survey course to explore the two different modes of reporting: Judicial reporting and broadcast reporting. Students must be able to transcribe five minute dictations of unfamiliar material in the following areas: 80 wpm on literary material, 100 wpm on jury charge material, and 120 wpm on two-voice material. All speed takes must be transcribed with a minimum of 95 percent accuracy or higher. Testing material used for speed takes will be given at incremental speeds on unfamiliar material; the same material will not be used more than once every six months. Internet students must 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 tests shall be deleted immediately. Online 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. 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. The course includes on-line computer-aided technology for realtime translation.

CTRP - 3363 Tech for Reporting/Captioning, 3.00 Credits
Prerequisite(s): CTRP 2274 with C or better
Level: Lower
This course will complement the Computer Aided Transcription course (CTRP 3373) to the extent that information pertaining to the computers, hardware, software, maintenance, and upkeep will be enhanced. The material covered in this class for reporting students will relate to reporting technology, computer operating systems, realtime applications, realtime reporting in the captioning/CART environment, litigation support, videotaping, and information on related software packages used by judicial reporters. The material covered in this class for captioning students will relate to captioning technology, computer operating systems, on-line translations systems, administrative hearings, indexing and archiving steno notes, both paper and electronic, and maintenance of computer hardware, input device, basic setup and maintenance of captioner’s equipment, broadcast news production preparation, prescripting, psychology of on-air captioning, verbatim vs. word substitutes, finger spelling, history of captioning, and information relating to the deaf and hard-of-hearing community.

CTRP - 3373 Computer Aided Transcription, 3.00 Credits
Level: Lower
This course will teach the student how the computer works with the shorthand writing machine to produce an instantaneous transcript using realtime translation. The course includes computer concepts and terminology and basic file management, saving, editing, and printing. The course will include the student in the basics of a computer application software program to a more advanced level of understanding and appreciation. The goal of the CAT course is to integrate computer concepts and English punctuation rules to produce an accurate and saleable work product. Students will review basic punctuation rules and apply them to transcript production.

CTRP - 4264 Spd Bldg II for Repr & Capt., 4.00 Credits
Prerequisite(s): CTRP 3163 with C or better
Level: Lower
Applied Learning-Practicum
This course is a continuation of Speed Building I for Reporters and Captioners. Students 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 testicles (including medical and technical material), literary, and jury charge. Captioning students must be able to write three 5-minute takes of literary material at 110 wpm with 96 percent accuracy or higher. In addition, captioning students must write a 30-minute broadcast news program with an accuracy of 96 percent or better. Students are required to perform a line-by-line test of analysis of steno notes. Testing material used for speed takes will be given at incremental speeds on unfamiliar material; the same material will not be used more than once every six months. Students will be required to write 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. Students are required to transcribe at least once a week. All speed takes and tests shall be deleted immediately. Online 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. 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. The course includes on-line computer-aided technology for realtime translation.

CTRP - 4634 Proc for Reporters & Captioner, 4.00 Credits
Prerequisite(s): CTRP 3163 with C or better
Level: Lower
Applied Learning-Internship, Pass/Fail
This course is an introduction of court and realtime reporting procedures and practices for court reporting including: professional responsibilities of federal and state court systems; civil and criminal trials; logistics of reporting; reporting techniques; and transcript production. The course includes a description and discussion of the role of the captioner and CART provider. Included in this course will be a simulation of a deposition where the student will act in the role as 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 transcript preparation including software and internet search engines. Students 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.

CTRP - 4900 Directed Study, 1.00 TO 6.00 Credits
Level: Lower
This 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.

CULN - CULINARY ARTS

CULN - 1083 Food Safety & Service Training, 3.00 Credits
Level: Lower
Applied Learning-Practicum
This course is an introduction to the basic aspects of culinary arts sanitation with an emphasis on various types of food service operations, 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 food 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 the course.

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 basics methods and scientific principles of cookery, and will explore the fundamentals of industry specific cooking techniques unique to 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 the 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, conversion and standardization procedures. This course will also cover cashier's report procedures, 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
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 get hands-on experience preparing fried bakery goods, yeast dough, quick breads, pies, cookies, cakes and icings. Students will rotate bi-weekly through experiences with general baking concepts, equipment use, safety, mixing, panning and finishing of the products.

CULN - 2011 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 also be reviewed. The importance of producing, storing, and using nutritious ingredients in the daily preparation of food will be stressed. In addition, students will examine various topics related to the American diet such as fast food, herbs and supplements, diet and exercise, allergens, special needs diets and food additives.

CULN - 2287 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 as food merchandising and styling will be covered.

CULN - 2283 Cooking Techniques & Props, 3.00 Credits
Prerequisite(s): CULN 1413 with D or better or FDSR 1473 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 - 2271 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 products such as baguettes and brioches, as well as intermediate baked goods, cakes, icings, and specialty pastries. 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 quality 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, fabrication, 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
Applied Learning-Practicum
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. The course will introduce and raise awareness of the importance of business plans, tax implications, and cash controls.

CULN - 3173 Intl Cook, Garden Manger & Baki, 3.00 Credits
Prerequisite(s): CULN 2263 with D or better
Level: Lower
Applied Learning-Practicum
This course introduces basic cooking 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 Intl 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 cakes. 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. Students will give an oral report on their work experience required by department mandates as it relates to personnel management. 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. Each student will gain 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
Prerequisite(s): CULN 3293 with D or better
Level: Lower
Applied Learning-Practicum
This course is an introduction to food science - the biology, chemistry, and physics of food ingredients and food production. The role of formulation, heating, and cooling on foods, as well as the way taste, texture and appearance effect food production will be covered. The chemical 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 3293 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.
COURSE DESCRIPTIONS

CULN - 4253 Hospitality Management, 3.00 Credits
Prerequisite(s): CULN 3553 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 personal 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, Course Fee $60.00
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 bakery 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 pastries, frosted cakes, 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.

DCAD - DRAFTING/CAD

DCAD - 1053 Technical Calculations I, 3.00 Credits
Level: Lower
Mathematics review, basic algebra, industrial applications applying the decimal and metric systems, use of reference books and electronic calculators. Successful completion of this course requires a grade of "C" or better.

DCAD - 1205 Industrial Drafting Intro, 5.00 Credits
Level: Lower
Applied Learning-Creative Work
The use of traditional drafting equipment, lettering, sketching, geometric construction, and orthographic projection, along with similar application on computer programs will also be addressed. In this course, 3 dimensional solid modeling sketching, and software orientation shall occur. Student will be instructed in the use, manipulation and 3 dimensional solids using industrially accepted CAD software.

DCAD - 1305 Industrial Drafting I, 5.00 Credits
Prerequisite(s): DCAD 1205 with D or better
Level: Lower
Preparation of drafting and machine detail drawings using proper dimensioning practices and applications of conventional section views. Introduction of various manufacturing processes, shop terminology, machine operations, and materials used in industrial applications.

DCAD - 1405 Industrial Drafting II, 5.00 Credits
Prerequisite(s): DCAD 1305 with D or better
Level: Lower
Applied Learning-Practicum
The use and application of auxiliary view drawings. Also the use and application of development drawings. Students will develop, through projection and solid modeling processes, developed sheet metal developments and intersections. This course will address aspects of freedom modeling and HVAC applications.

DCAD - 2053 Introduction to Unigraphics, 3.00 Credits
Level: Lower
Applied Learning-Creative Work
In this course the student will model, using a current version of Unigraphics, industrial projects giving careful consideration to their interrelated features. The student will use both sketches and Boolean operations to complete their models. The importance of parametric controls within and between part files will be stressed.

DCAD - 2063 Technical Calculations II, 3.00 Credits
Level: Lower
Practical geometry and trigonometry as a continuation of Technical Calculations I. The scope of this course includes solutions of geometric shapes and solids, right and oblique triangles, using industrially related situations. Successful completion of this course requires a grade of "C" or better.

DCAD - 2205 Industrial Drafting III, 5.00 Credits
Level: Lower
Applied Learning-Practicum
Develop and complete industrial assembly drawings and detail drawings for assemblies, using appropriate dimensioning and ANSI tolerances, complete bill of materials including thread and fastener information and identification. Course will involve, also, aspects of tolerance stack up their calculations. Addresses the family of drawings and assembly.

DCAD - 2305 Welding Drawings, 5.00 Credits
Level: Lower
Applied Learning-Practicum
Develop and complete industrial weldment drawings using various welding processes and types of joints used to draw weldment assemblies using related symbols, appropriate materials and dimensioning practices. This will include raw stock materials, piping and structural members. Converting castings to fabrication parts will also be addressed. Successful completion of this course requires a grade of 70% or better on a comprehensive II exam.

DCAD - 2805 Detailing for Residential Const, 5.00 Credits
Level: Lower
The application of basic methods, symbols and conventions to prepare working drawings for the construction of residential buildings. This course is designed to permit the drafting student to develop design and create drawings typical to the residential industry. These drawings will allow the student to demonstrate their understanding and design capabilities applied to residential structures. Each student will perform appropriate calculations and prepare all drawings applicable to modern residential construction.

DCAD - 2905 Geometric Dimen & Tolerencing, 3.00 Credits
Level: Lower
Correctly specify geometric form controls and positional tolerances to engineering drawings with the use of ANSI geometric symbols.

DCAD - 3024 Layout & Details, 4.00 Credits
Level: Lower
Applied Learning-Practicum
Preparation of mechanical design layouts, details and assembly drawings, using mechanisms such as linkages, pneumatics, hydraulics, gears, linear, belt and chain drives and control systems. Application of geometric dimensioning and tolerances to appropriate detail drawings. This is a five (5) week course.

DCAD - 3044 Fluid Power, 4.00 Credits
Level: Lower
Applied Learning-Practicum
In this course students will prepare layouts of single and double line drawings for hydraulic and pneumatic systems, and will also study and apply mathematical calculations as they pertain to their assignments. The use of vendor catalogs and live components are used in the preparation of the above-mentioned drawings. The student will also prepare a sequence of operations explaining how each schematic operates.

DCAD - 3103 Intro to 3D Parametric Model, 3.00 Credits
Level: Lower
Applied Learning-Practicum
The student will model, using a current version of 3D parametric software, industrially correct projects giving careful consideration to their interfaced relations. The student will use both sketches and Boolean operations to accomplish their models. The importance of parametric controls within and between part files will be stressed.

DCAD - 3104 Advanced Mechanical Layout, 4.00 Credits
Level: Lower
Applied Learning-Practicum
This course will address advanced layout techniques and practices that are typical in the design industry. Students will be presented with design concepts and will use problem solving techniques to accomplish tasks. The course includes the study of power transfer systems such as couplings, chain and sprocket drives, and the use of motors and bearings. Instruction in the application of clutches, and their uses in machine design, will also be stressed.

DCAD - 4003 Senior Project, 3.00 Credits
Level: Lower
Applied Learning-Creative Work
This course shall be considered a capstone project for the authentic assessment of the curriculum. The student shall select a project that shall challenge the student and demonstrate various abilities and skills acquired in their previous classes. This project shall include an oral presentation along with a written report and a demonstration of their chosen project. This demonstration may include all associated drawings, a finished part of their design, and an electronic "slide show". This capstone course is considered a capstone design/improve a consumer product. Instructor shall supply minimal guidance in the development of this project.

DCAD - 4125 Process Piping I, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course will facilitate the concepts and principals employed by drafters in the Industrial Process Piping industry. Using techniques with topics including process flow diagrams, orthographic and isometric piped drawings, plant & elevator piping arrangements, selection of valves, pipe racks and supports. Students will generate a variety of accurate CAD piping assignments similar to the ones currently used in industry today.

DCAD - 4155 Technical Illustration, 5.00 Credits
Level: Lower
Applied Learning-Practicum
In this course students will master isometric exploded view technical illustration, including such topics as applications, pictorial selections, and illustration techniques. In addition students will learn about basic printing process, scaling artwork for press runs and coordinating with printing firms. The student will also supply complete assembly instructions (sequence of operations) explaining how this job is put together and functions.

DCAD - 4225 Process Piping II, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course will include the necessary theory and laboratory applications in the design of chemical processing plant layout. Calling upon skills developed in prerequisite coursework, in addition to Industrial Process Piping Plant Layout standards, students will create an actual CAD model of a plant that they have designed for a comprehensive understanding of piping plant design.

DCAD - 4335 CNC Machine Programming, 5.00 Credits
Level: Lower
Applied Learning-Practicum
Through the use of standard industrial codes and formulas to write computer programs that will enable CNC machining centers and CNC turning centers to produce parts, within quality standards. To be able to write these CNC programs both from scratch and with the use of commercially available CNC programming software.

DCAD - 4900 Directed Study, 1.00 TO 9.00 Credits
Level: Lower
By arrangement with advisor. Directed study is to provide an opportunity for the student to continue study in a subject of special interest or special concern, related directly to an actual job opportunity within the drafting curriculum.
DGMA - 1333 Survey of Animatn & 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 were created 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: time management, team 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 of 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/colaborative issues involved in visual communication. Building on the elements and principles of design/communication the student will 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 - 2503 Digital Foundations II, 3.00 Credits
Prerequisite(s): DGMA 1403 with C or better
Level: Lower
Applied Learning-Practicum
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 were created 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 - 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
Prerequisite(s): DGMA 2403 with C or better
Level: Upper
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 - 4103 Interactive Design, 3.00 Credits
Prerequisite(s): DGMA 2403 with C or better
Level: Upper
Applied Learning-Creative Work
This course is an exploration of visual communication through interactive media and interface design. Students will explore the fundamental concepts of interactivity and visual perception with regard to computer interfaces with special focus on design for websites and online media. 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 - 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 II, 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-Practicum
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 3111 with D or better and JAPN 1203 with D or better and ( DGMA 3111 with D or better or DGMA 6203 with D or better )
Level: Upper
Applied Learning-Intl/Dom Trvl
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 individual 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 - 5303 Sound Design, 3.00 Credits
Prerequisite(s): DGMA 2503 with C or better
Level: Upper
Applied Learning-Practicum
This course explores fundamental concepts of sound as a creative medium. Emphasis will be placed on concurrent development of theory and practice of sound and how it contextualizes visual experience. Students will learn about waveform synthesis, expanded Foley techniques, electronics, performance, acoustics and theories of listening. By the end of this course, students will create both stand alone and integrated sonic artworks for use in film, interactive and other digital media applications.

DGMA - 5333 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 studies. 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 - 5403 Adv Modeling, Texturing & Ligh, 3.00 Credits
Prerequisite(s): ( CIAT 4443 with C or better or DGMA 4443 with C or better )
Level: Upper
Applied Learning-Creative Work
This course develops a refinement of skills from the preceding semesters' work with modeling focusing on NURBS based models. The student will build upon their knowledge of modeling and will provide an in-depth study of NURBS modeling coupled with lighting and texturing. The course shows students how to visualize an object and how to effectively build it in the 3D world using various NURBS surface types and communicate scenarios and moods through the use of textures and light to surface interactions.

DGMA - 5603 Interactive Media, 3.00 Credits
Prerequisite(s): DGMA 4103 with C or better
Level: Upper
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. Special emphasis will be given to the incorporation of video animation in interactive environments. Students will explore the possibilities of communication through interactive media in storytelling and complete interactive titles of their own 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
This is an advanced course that expands upon the fundamental concepts involved in time based 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
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 composting, 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
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
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 - 6603 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-PRACTICUM
This course continues to develop the students' media design studio practice. Students in this upper level course lead design teams on real-world media design problems, with emphasis on video production, motion graphics, and project management.

DGMA - 7203 Senior Seminar, 3.00 Credits
Level: Upper
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 Project I, 3.00 Credits
Prerequisite(s): DGMA 6103 with C or better and DGMA 6413 with C or better
Level: Upper
Applied Learning-Creative Work
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 - 7503 Digital Media & Anmtn Internsh, 3.00 Credits
Level: Upper
Applied Learning-Internship, Pass/Fail
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 professionals. The student will be responsible for all aspects of the project for a business or organization.

DGMA - 7603 Advanced Motion Graphics, 3.00 Credits
Prerequisite(s): DGMA 6203 with C or better
Level: Upper
Applied Learning-Creative Work
This course builds on the knowledge and skills gained in Motion Graphics. Focus is on 3D motion graphics, special effects, and compositing. Students will complete projects using Motion Graphics software.

DGMA - 7703 Adv Topics Interactive Design, 3.00 Credits
Prerequisite(s): DGMA 5603 with C or better
Level: Upper
In this course students will expand 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
In this course there will be an 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 - 8103 Portfolio, 3.00 Credits
Prerequisite(s): CIAT 7403 with C or better or DGMA 7403 with C or better
Level: Upper
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. Inpiration will be given to develop a professional identity and to create a portfolio of their work. Current print and web design software will be utilized to produce an electronic portfolio detailing their work.

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
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, fully Interactive/Informative Media project). Students will produce all pre-production work including proposal, storyboards and animations. 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 6103 with C or better
Level: Upper
This seminar will prepare Graphic Design and Media 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 - 8403 Sr Studio Proj - Media Design, 3.00 Credits
Prerequisite(s): DGMA 6103 with C or better
Level: Upper
Applied Learning-Creative Work
In this course, students will identify an existing design problem and complete the design process towards a successful solution. The course will provide research and development skills needed to complete a project that can be applied to a career or graduate program.

DGMA - 8503 Special Topics Media Design II, 3.00 Credits
Prerequisite(s): DGMA 6103 with C or better
Level: Upper
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.

DSGN - INTERIOR DESIGN

DSGN - 1433 Furniture & Finishes, 3.00 Credits
Prerequisite(s): ARCH 1184 with C or better or CIAT 1184 with C or better
Level: Lower
This survey 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.

DSGN - 1443 Color, Lighting and Acoustics, 3.00 Credits
Prerequisite(s): ( ARCH 1433 with C or better or CIAT 1433 with C or better )
Level: Lower
This 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.
values, strengths and weaknesses as related to student and technical career success, and recommend application techniques such as resume writing, letters of application, interviewing and follow-up communications. Research assignments use library and Internet as resources and all written assignments are generated by computer.

**ELET - 1103 Circuit Theory I, 3.00 Credits**

Prerequisite(s): MATH 1033 with D or better or MATH 1043 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

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 exponentials.

**ELET - 1111 Digital Logic Laboratory, 1.00 Credit**

Corequisite(s):
- ELET 1014 with D or better
- Applied Learning-Other

This laboratory implements the theoretical principles of ELET 1113. Digital Logic. Students learn to build working circuitry based upon the fundamental electrical principles. Students will also follow the circuitry through a computer simulation program.

**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 reading & analysis, computer applications for schematic drawing & printed circuit board layout, circuit construction, troubleshooting fundamentals, soldering techniques, project part 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-Practicum

This course offers a critical overview of the history of interior design, its connection to different periods and cultures, and its integral relationship with architecture, stylistic movements and the decorative arts. Course content introduces students to major historical design ideas which evolve from prehistoric habitats to contemporary design. Lectures highlight period design, furniture styles, decorative objects, color palettes and their relevance to present-day interior design.

**DSGN - 2204 Interiors Design II, 4.00 Credits**

Prerequisite(s): DSGN 2204 with C or better or CIAT 2204 with C or better

Course Fee $106.00

This studio focuses on creating interior solutions with the tools of programming strategies, the development of conceptual ideas and the generation of design development drawings. Projects emphasize branding a client image through design of the interior architecture and selection of a representative FF&E (Furniture, Fixtures & Equipment) package. Students will focus on institutional, residential and retail projects that include intensive pre-design research, development of a concept statement, space-planning, assigning interior design elements, color scheme and finishes. Sustainable principles will be introduced with exercises designed to teach the student how to effectively evaluate the “greenness” of manufacturers and their products. Interior Design Studio II students will build upon their knowledge and expanding skills acquired in previous courses. In particular, interior design project book organization and specification writing will be emphasized. The refinement of hand and computer generated rendering techniques is expected by the end of the course. Advanced board design and material board techniques will be reinforced and professional presentation practices underscored.

**ECON - ECONOMICS**

ECON - 1013 Principles of Microeconomics, 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

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.

ECON - 5133 Territory & Entrepreneurship: Tradtn., 3.00 Credits

Prerequisite(s): ECON 1013 with D or better or ECON 2023 with D or better

Level: Upper

The course aims to analyze the relationship between sustainability, economy, quality and globalization. It will also focus on the European Union and sustainable development. Other included topics will be: food industry in Italy (especially in the Campania region), organic farming in Italy, “local food, local market, local business” and sustainable tourism in Italy.

**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, education 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 ENG TECH**

ELET - 1001 Seminar, 1.00 Credit

Level: Lower

An examination of strategies for success, including organizational and study skills, and transfer and career opportunities for engineering technology students in industry. There will be at least a dozen textbook and research readings followed by written assignments on topics to include the variety of engineering transfer institutions and engineering majors, diversity in society and the technical workplace, personal assessments of goals.
ELET - 2143 Embedded Controller Fundamentals, 3.00 Credits
Prerequisite(s): ELET 1110 with D or better and ELET 1103 with D or better and ( ELET 1142 with D or better or ELET 1143 with D or better )
Level: Lower
Applied Learning-Practicum
This course provides the student with a realistic experience in semiconductor manufacturing processes. Students will learn 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 - 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.

ELET - 5113 Electronics Theory II, 3.00 Credits
Prerequisite(s): ELET 2103 with D or better
Corequisite(s): ELET 2100 with D or better
Level: Lower
Applied Learning-Other
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 - 4154 Microelectronics, 4.00 Credits
Prerequisite(s): ELET 1143 with D or better and ELET 1103 with D or better
Corequisite(s): ELET 2103 with D or better
Level: Lower
Course Fee $98.00
This course provides the student 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 circuits necessary for energy conversion. Using trigonometry, students will be able to calculate the position of the sun at any time or place and calculate the energy available at different panel orientations. Students will have the beginning tools to design a grid and on-grid photovoltaic energy systems. MATLAB and LabVIEW software will be used to analyze and measure the solar resource.

ELET - 4224 Alternative Energy Generation, 4.00 Credits
Level: Lower
Applied Learning-Practicum
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.

ELECTRICAL/ELECTRONICS
Corequisite(s):
for each circuit and outside of lab, report and analysis writing is necessary.
COURSE DESCRIPTIONS

ELTR - 2156 Residential Wiring II, 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 *
Corequisite(s): ELTR 1156 with D or better * and ELTR 1166 with D or better * and ELTR 1176 with D or better *
Level: Lower
Understanding and interpretation of the National Electrical Code requirements for residential branch circuits are covered in detail. Practical considerations for the economic and adequate distribution of electrical energy are discussed, as well as the adequacy of circuit design. Reading and interpreting floor plan drawings as they relate to all trades is taught. Power calculations along with all N.E.C. and utility company requirements for the installation of any type of residential service are covered. Conduit wiring methods are covered as well as all related National Electrical Code requirements. Substantial time is spent performing the mathematical calculations utilized for designing, laying out and bending conduit. Students are required to perform all tasks in a neat craftsman-like manner. Emphasis is placed on the reasons of why workmanship is important.

ELTR - 2166 Residential Wiring Lab IIA, 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 *
Corequisite(s): ELTR 1156 with D or better * and ELTR 1166 with D or better * and ELTR 1176 with D or better *
Level: Lower
Applied Learning-Practicum, Course Fee $27.00
Substantial time is spent with students working the wiring systems on actual residential homes built off campus. In lab students design, layout, and manufacture every type of bend utilized with conduit raceway systems. Conduit fill calculations are applied as well as utilizing correct methods for installing branch circuit conductors. Students are required to apply the National Electrical Code to all work done in labs and on the outside projects. Major emphasis is placed on safety, craftsmanship, circuit analysis, and troubleshooting of circuit faults. Schematic and wiring diagrams are required for each circuit and outside of lab, report and analysis writing is necessary.

ELTR - 2176 Residential Wiring Lab II B, 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 2176 with D or better *
Corequisite(s): ELTR 1156 with D or better * and ELTR 1166 with D or better * and ELTR 1176 with D or better *
Level: Lower
Applied Learning-Practicum, Course Fee $27.00
The lab emphasizes the application of the complete wiring system used for residential applications. Students will be required to complete several types of services, such as riser, mast, conduit and cable installations. Students will complete their freshman capstone project, which requires each student to redraw a two story residential home to scale. They will then perform the design work and layout all of the wiring required by the National Electrical Code and ensuring that it will meet the minimum adequacy requirements of a prospective homeowner. Students will then complete a spreadsheet containing all the components with their complete descriptions that are necessary to complete the Capstone project. Schematic and wiring diagrams are required for each circuit and outside of lab, report and analysis writing is necessary.

ELTR - 3156 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 foundational concepts of motors and motor control. Safe work practices and code compliant procedures will be reinforced. The student will be introduced 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 by industrial motor control. Students will be evaluated to assess their troubleshooting skills and techniques within the lab practices.

EMET - 5004 Instrumentation, 4.00 Credits
Prerequisite(s): PHYS 2034 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.

EMET - 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 variety of 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 such 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 include a variety of mathematics 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): ENGR 2094 with D or better
Course Fee $46.00
Level: Lower
This course covers AC circuit analysis utilizing the principles of Kirchhoff's laws, Superposition, and Thévenin's theorem. It includes the use of computational software to reinforce lecture concepts. The course materials are designed to provide a comprehensive understanding of AC circuit analysis.

ENGR - 4264 Engr Mechanics of Materials, 4.00 Credits
Prerequisite(s): BIOL 2801 with D or better and BIOL 2803 with D or better
Course Fee $46.00
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, solid waste, hazardous waste, global commons, land use, pesticides, energy, and public lands. The course will focus on the impact of environmental regulation on the economy and society, with a particular emphasis on the role of stakeholders in the regulatory process.

ENVR - 6102 Community-Economic Redevelopment, 2.00 Credits
Level: Upper
Library Arts and Science
This course is a multidisciplinary overview of redevelopment process. This course will be run as a seminar that will meet in a seminar and discussion format. Understanding the course topics will equip students with the knowledge of community economic development and regeneration project development. It will impart valuable skills for staff and leadership in consulting firms, municipalities, agencies and non-profits that do community development and community regeneration.

EPLP - EMERGING PIONR LDRSHIP PGM
EPLP - 1031 Social Change & Leadership, 1.00 Credits
Level: Lower
This first leadership development class and mentor-guided experience is designed to assist the student in learning about social change theory and their role in leading productive change. This initial stage of leadership development focuses on individual values. The mentoring relationship will provide the resources necessary to aid students in their individual, group, and community experiential growth and development. This learning experience focuses on the first 3 Cs of the Social Change Model of Leadership Development: Consciousness of Self, Congruence, and Commitment. Students will explore consciousness of self, congruence in how to become an ethical leader, and commitment to their passions as a leader.

EPLP - 2032 Servant Leadership, 2.00 Credits
Prerequisite(s): EPLP 1031 with D or better
Level: Lower
This second of three Emerging Pioneers Leadership Program development classes is designed to expose students to the next three Cs of the Social Change Theory: Collaboration, Common Purpose and Controversy with Civility. The learning takes place in a variety of classroom and team-based settings, focusing on self-identified civic engagement passions that the group shares. Through practical application (i.e., service learning), students gain experience that is directly applicable to employment after college. The course will focus on a greater awareness of community needs and societal issues. Students will work with faculty, student affairs educators, and other students. Civic Engagement Intensive (CEI) sections exist.

FDSR - FOOD SERVICE
FDSR - 1143 Menu Planning, 3.00 Credits
Level: Lower
This is an introductory course that will teach proper 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.

FILM - FILM STUDIES
FILM - 3113 History of Italian Cinema, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better
Level: Lower
Gen Ed - The 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 - 1013 Art Appreciation, 3.00 Credits
Level: Lower
Gen Ed - The 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 art throughout the ages, as well as the cultural themes by which they developed and became skilled. 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 - The 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 - The 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 Baroque 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 - The 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 Eclecticism, 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 - The 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-ceremonial times of the prehistoric era through Eclecticism. 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 - 2333 Survey of Design, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better
Level: Lower
Gen Ed - The 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, 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.

FNAT - 2423 3D Design/Color, 3.00 Credits
Gen Ed - The 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 interrelationship 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.

FNAT - 2433 Figure and Motion, 3.00 Credits
Level: Lower
Gen Ed - The 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.

FNAT - 2443 Intro to Digital Photography, 3.00 Credits
Level: Lower
Gen Ed - The 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 become visible when shooting digital images as they developed and become skilled. 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 - 2453 Drawing on Location: Art of Tr, 3.00 Credits
Level: Lower
Applied Learning-Int'n'l 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 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 beginning artists to break the ice with drawing from real life and on location.

FNAT - 2900 Directed Study, 1.00 TO 4.00 Credits
Level: Lower
Gen Ed - The Arts, Liberal Arts and Science
This may be an independent study arrangement with an instructor. The student must submit a plan acceptable to the instructor, and the department chair. 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.

FNAT - 3413 Music of Western Cultures II, 3.00 Credits
Level: Lower
Gen Ed - The 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 that 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 an experience discussing how art is created and what it means.

FNAT - 3413 Music of Western Cultures II NA, 3.00 Credits
Level: Lower
Liberal Arts and Science
This course addresses the study of the origin of the development that modern architecture and urban development globally from the mid-nineteenth century to the present. Lecture topics will proceed chronologically from the early roots of modernism in the second half of the 19th century, to the advent of the International Style on a worldwide scale during the mid-20th century, and will continue with a discussion of post-modern architecture and its cultural context in the present. The course ends with a series of discussions on current topics to the profession, such as gender in architecture and the role of the technical in the production of architecture. The scope of the course shall attempt to bring a global perspective of the development of modern culture, approaching discussions such as colonialism and its impact on architecture and urban planning, architecture of developing nations, the contributions of developing nations in the narrative of modern and postmodern architecture, as well as multicultural and multinational practices. Activities shall encompass class presentations and student-led discussions that can incorporate technological media such as three-dimensional renderings and models, virtual tours and graphic presentations.

FRSC - FINE ARTS

FRSC - 1001 Intro to Forncsc Science Tech I, 1.00 Credit
Level: Lower
Forensic Science 1001 is an introductory expository course designed for forensic science technology majors. Students are introduced to the requirements and expectations for success in the forensic science program as well as various technical disciplines and skills commonly brought to bear during a criminal investigation. Students are required to demonstrate written and oral communication skills by completing a project in a topic relevant to the class material.

FRSC - 1103 Forensic Science Concepts, 3.00 Credits
Level: Lower
This course provides an overview of forensic science concepts and techniques as they relate to a criminal investigation. Topics covered range from a historical perspective of forensic science within the criminal justice system to specific methodologies often performed by a first responder or crime scene investigator. The proper identification, collection, and preservation of various types of physical evidence is presented. In addition, an introduction to the field and laboratory tests that may be performed on physical evidence is discussed. This course is intended for non-forensic science technology majors. Students cannot receive credit for FRSC 1103 if they are in the Forensic Science or Biological Sciences curricula.
FRSC - 2001 Intro to Frnsc Science Tech II, 1.00 Credit
Prerequisite(s): FRSC 1001 with C or better
Level: Lower
Forensic Science 2001 is the continuation of a required two-semester sequence for forensic science technology majors. It is an introductory expository course designed for forensic science technology majors to complete during their second semester of enrollment in the program. Students are introduced to further technical disciplines and skills commonly brought to bear during a criminal investigation as well as current topics relevant to the field of forensic science and hold in-class debate style presentations to discuss these topics. Each student participates in one debate style presentation during the semester. Each student is responsible for the introduction of the topic, selecting a point of view to debate regarding the topic, and encouraging the class to offer comments and ask questions. Topics for discussion may be directly related to material discussed during other curriculum coursework or may originate from current media sources, as long as the students have established familiarity with the topics.

FRSC - 3013 Forensic Pathology, 3.00 Credits
Prerequisite(s): BIOL 1154 with C or better or BIOL 2303 with C or better or BIOL 1404 with C or better
Level: Lower
This course provides an overview of forensic pathology and the medicolegal death investigation system in the United States. Students will be introduced to the role and jurisdiction of the Medical Examiner as they relate to the determinations of cause, manner, and mechanism of death. Specific patterns of injury, types of casework, relating to the Medical Examiner, postmortem decompositional changes, and special topics of interest in death investigation will be discussed.

FRSC - 4001 Topics in Forensic Science II, 1.00 Credit
Prerequisite(s): FRSC 3001 with C or better
Level: Lower
The focus of this course is to explore various topics of concern in the field of forensic science and hold in-class debate style presentations to discuss these topics. Each student participates in one debate style presentation during the semester. Each student is responsible for the introduction of the topic, selecting a point of view to debate regarding the topic, and encouraging the class to offer comments and ask questions. Topics for discussion may be directly related to material discussed during other curriculum coursework or may originate from current media sources, as long as the students have established familiarity with the topics.

FRSC - 6214 Microscopy and Criminalistics, 4.00 Credits
Prerequisite(s): CHEM 4524 with C or better
Level: Upper
Applied Learning Practicum, Course Fee $53.00
This course is an exploration of the basic theory and practice of traditional criminalistics and microscopic techniques commonly performed in forensic science. Topics covered include: crime scene investigation; evidence collection and handling; microscopic theory and techniques; analysis of trace evidence to include hair, fiber, paint, soil, and glass evidence; analysis of fingerprint evidence; analysis of firearms and ammunition; analysis of gunshot residue evidence; and analysis of impression and toolmark evidence.

FRSC - 7214 Forensic Chemistry, 4.00 Credits
Prerequisite(s): FRSC 6214 with C or better and CHEM 6614 with C or better
Level: Upper
Applied Learning Practicum, Course Fee $100.00
This course is an exploration of the basic theory and practice of commonly performed examinations on chemical evidence in forensic science. Topics covered include: principles of various chemical and instrumental separation techniques; sampling plans and uncertainty in measurements; an introduction to quality control and quality assurance concepts; principles and techniques of controlled substance examinations; principles and techniques of forensic toxicology; principles and techniques of fire debris and explosive evidence examinations; and principles and techniques of material analysis to include inks, dyes, colors, colorants and polymers.

FRSC - 8111 Forensic Science Tech Capstone, 1.00 Credit
Prerequisite(s): FRSC 7214 with C or better
Corequisite(s): FRSC 7214 with C or better
Level: Applied Learning-Creative Work
This course is intended for students to complete during the eighth and final semester of their enrollment in the forensic science technology program. It is to be taken concurrently with FRSC 8113. The course is designed to prepare the student to enter the workforce and/or continue their education at the graduate level. Students complete a capstone project requiring the analysis of physical evidence in a simulated casework setting, and may also apply the fundamentals of proper forensic laboratory report writing by producing a professional quality laboratory report suitable for admission into a court of law that communicates their findings. In addition, students are required to prepare and deliver expert witness testimony in a simulated mock courtroom setting.

FRSC - 8113 Forensic Scie Tech Prof Prep, 3.00 Credits
Prerequisite(s): FRSC 7214 with C or better
Corequisite(s): FRSC 7214 with C or better
Level: Upper
This course is intended for students to complete during the eighth and final semester of their enrollment in the forensic science technology program. It is to be taken concurrently with FRSC 8111. The course is designed to prepare the student to enter the workforce and/or continue their education at the graduate level. Students learn the details of topics such as research and cover letter preparation as well as job interview success. The importance of ethical behavior in the field of forensic science is discussed through both theoretical and applicative presentations. Quality control, quality assurance, and standard operating procedures are presented to help students address issues and legal concerns, challenging the validity of scientific testing procedures commonly performed in forensic laboratories. The course culminates with a curriculum cumulative final examination.
**COURSE DESCRIPTIONS**

**FSMA - 7023 Estate Planning, 3.00 Credits**
Prerequisite(s): BUAD 4003 with D or better or BUAD 7023 with D or better
Level: Upper
This course is designed to expose students to the estate planning process. It explores the many issues to consider when assisting people to enhance and maintain their financial welfare. Emphasis is not only on the arrangements for the disposition of property at death, but also on steps that can be taken to increase overall family wealth and security while still alive. Topics include, but are not limited to wills, trusts, property ownership, future interests, long-term care planning, fraudulent conveyances, as well as gift and estate taxation.

**FSMA - 7103 Money & Banking, 3.00 Credits**
Prerequisite(s): ECON 1013 with D or better and ECON 2023 with D or better
Level: Upper
This course is an exploration of the role and importance of money in effective monetary policy as a solution for inflation and unemployment. The operation, function, and structure of the banking system and the functions of the central banking system will be the focus. The role of monetary theories, money management, and monetary policy will also be studied. The theoretical foundations of commercial and central banking will be discussed within the context of general economic activity.

**FSMA - 7123 Persosn Finan Planning Capstone, 3.00 Credits**
Prerequisite(s): BUAD 4003 with D or better and BUAD 4193 with D or better and BUAD 5033 with D or better and FSMA 7023 with D or better and FSMA 5003 with D or better and FSMA 5103 with D or better
Level: Upper
Applied Learning-Other
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 with regard to the client’s 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, exam questions, and case studies 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
Students complete 15 weeks of supervised field work in a selected financial service provider setting. The student must engage 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-Intl/Dom Trvl, Liberal Arts and Science
This 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 Apennines mountain chain and Campanian 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 midterm and final written exams, a presentation and graphical exercises.

**GEOL - 1233 Volcanology, 3.00 Credits**
Level: Lower
Applied Learning-Intl/Dom Trvl, Liberal Arts and Science
The course is an introduction to the main elements of geological sciences including stratigraphy laws, the main types of rocks, and an understanding of faults and folds. These elements will be used to understand Plate Tectonics theory. Using this theory, different kinds of volcanoes will be analyzed, examining different magmatic compositions, igneous and pyroclastic rocks and their geodynamic environments. The role of geologic and geomorphologic processes will be analyzed in reference to volcanic risk. This course will also study landslides in volcanic soils (the case of Sarno mountains) and groundwater flow in volcanic aquifers and exploitation of thermal waters (the case of Ischia).

**GLST - GLOBAL STUDIES**

**GLST - 2113 Global Perspectives:Spec Topic, 3.00 Credits**
Level: Lower
Gen Ed - Other World Civ, Liberal Arts and Science
This course will introduce students to the important role of general education and the interaction with their lives. Students will investigate their own values and decision making. Students will consider the extent to which values shape behavior and ethical decisions. The student will recognize 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 about, social and cultural issues on both a local and global level. Through a collection of readings, discussion, 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 features of Western Civilization from the early modern period to the twenty-first century. It also considers the relationship between Europe and the United States, and between Europe and the wider world. Finally, the course discusses contemporary Europe.

**HIST - 1123 History of the Mafia, 3.00 Credits**
Level: Lower
Liberal Arts and Science
This course examines the history of the Mafia from its origins to the present day. How the Mafia works and has succeeded as well as approaches, including those by civil society, organizations, to combat the Mafia. Attention is paid to examples of Mafia enterprises, its past and present role in politics, and its evolution from a regional organization to one with an international reach. A research project, with both a paper and an oral presentation, is required.

**HIST - 1143 Surv of American History I, 3.00 Credits**
Level: Lower
Gen Ed - American History, Liberal Arts and Science
This course is an introductory survey of American history from the early Native Americans and European colonization through the Civil War and Reconstruction. Topics include native cultures, European heritage, the colonial experience, revolution and the new republic. Emphasis will be placed on the formation of the constitution, reform movements and political compromises. Special attention will be paid to the common institutions in American society and their affects on different groups.

**HIST - 1333 Mediterranean Culture & History, 3.00 Credits**
Level: Lower
Liberal Arts and Science
This introductory course examines the historical, cultural and religious evolution of the people within the Mediterranean region, including the major civilizations (Greece, Rome, Germanics, and Byzantines); its major religions (Judaism, Christianity, Islam); the relationships between and among the Mediterranean countries; and competing approaches to family forms; and the regional challenges and opportunities created by globalization.

**HIST - 2153 Surv of American History II, 3.00 Credits**
Level: Lower
Gen Ed - American History, Liberal Arts and Science
This is an introductory survey of American History from the Civil War and Reconstruction to the present. Topics include western migration, the impact of industrialization and urbanization, the rise of organized labor and the rise of interest groups and political parties. The course will cover the social, political, cultural and economic life of the people of the United States, with a special focus on unity and diversity during the 19th and 20th centuries.

**HIST - 3003 World History I, 3.00 Credits**
Level: Lower
Gen Ed - Other World Civ, Liberal Arts and Science
This course is designed to give the student a broad outline of world history. The students will study topics from the earliest humans through the classical world and beyond to the age of cross-cultural interaction and trade in the early 1500 CE. The student will be exposed to the traditions and cultures of the world to aid in weaving the story of human civilization. Early civilizations covered in this course include Mesopotamia, China, Mexico, Persia, Greek, Roman, Mesoamerican, European, as well as Islamic. Artistic and intellectual achievements and technological breakthroughs will be discussed throughout the course.

**HIST - 5003 World History II, 3.00 Credits**
Prerequisite(s): HIST 3003 with D or better or HIST 1113 with D or better
Level: Upper
Gen Ed - Other World Civ, Liberal Arts and Science
This course introduces students to the relationship between Western countries and sub-Saharan Africa over the last five centuries and today. Particular attention will be paid to the political, economic, and cultural links established between Europe and Africa, including the imperialist occupation and exploitation of Africa by Europeans. Historical topics covered will include the slave trade; European exploration of Africa; the diaspora of Africans in the West, and of Europeans in Africa; racial attitudes; patterns of economic development and impoverishment; the political evolution of European colonial regimes in Africa; and the process of decolonization, including its political, economic, and social consequences. Contemporary topics covered will include political instability and poverty in Africa; the AIDS crisis; the legacy of colonialism and white settlement; the democratization of African political systems, and competing approaches to African development.

**HIST - 6133 The World at War: 20th Century, 3.00 Credits**
Prerequisite(s): HIST 1113 with D or better or PLSC 1053 with D or better
Level: Upper
Liberal Arts and Science
This class surveys global military history during the 20th century, with particular emphasis on World War I, World War II, and the Cold War. It examines the origins of major and minor conflicts, the development of military tactics, logistics, intelligence, battlefield technology, and other salient features of warfare; the contributions of political leaders and major military commanders; and the effects of modern warfare on soldiers and civilians. This class will feature student presentations and a research paper.

**HIST - 6133 The World at War: 20th Century, 3.00 Credits**
Prerequisite(s): HIST 1113 with D or better or PLSC 1053 with D or better
Level: Upper
Liberal Arts and Science
This course gives the students a broad outline of world history, from 1500 C.E. to the modern era. Emphasis will be on the transition from traditional cultures to modern cultures. The effect of modernization on different areas of the world will be examined. Colonialism, period of revolutions, industrialization, and the rise of the modern nation state will be covered. Artistic and intellectual achievements as well as technological breakthroughs will be discussed throughout the course. Student will complete a research paper.

**HIST - 5133 Africa and the West, 3.00 Credits**
Prerequisite(s): HIST 1113 with D or better
Level: Upper
Gen Ed - Other World Civ, Liberal Arts and Science
This course will introduce students to the relationship between Western countries and sub-Saharan Africa over the last five centuries and today. Particular attention will be paid to the political, economic, and cultural links established between Europe and Africa, including the imperialist occupation and exploitation of Africa by Europeans. Historical topics covered will include the slave trade; European exploration of Africa; the diaspora of Africans in the West, and of Europeans in Africa; racial attitudes; patterns of economic development and impoverishment; the political evolution of European colonial regimes in Africa; and the process of decolonization, including its political, economic, and social consequences. Contemporary topics covered will include political instability and poverty in Africa; the AIDS crisis; the legacy of colonialism and white settlement; the democratization of African political systems, and competing approaches to African development.

**HIST - 6133 The World at War: 20th Century, 3.00 Credits**
Prerequisite(s): HIST 1113 with D or better or PLSC 1053 with D or better
Level: Upper
Liberal Arts and Science
This class surveys global military history during the 20th century, with particular emphasis on World War I, World War II, and the Cold War. It examines the origins of major and minor conflicts, the development of military tactics, logistics, intelligence, battlefield technology, and other salient features of warfare; the contributions of political leaders and major military commanders; and the effects of modern warfare on soldiers and civilians. This class will feature student presentations and a research paper.
This course is an introduction to the laws and ethics that affect healthcare decisions, relationships among professionals and patients, and the management aspects of healthcare delivery. It provides students with the knowledge and skills necessary to recognize legal and ethical issues that arise in healthcare practice, to be prepared to evaluate situations that may have legal or ethical implications, to know when to seek legal or ethical committee counsel, and to have an understanding of the implications of healthcare law on their own decision making. By the end of the course, students will have been exposed to many management ideas, theories and applications of healthcare law and ethics. Students will have a working knowledge of pertinent law and ethical procedures and how to apply them in healthcare arena.

HLTH - 5433 Healthcare Marketing, 3.00 Credits
Level: Upper
Applied Learning-Other
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 key 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 - 5900 Directed Study, 1.00 TO 6.00 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.

HLTH - 6113 Diet and Disease, 3.00 Credits
Prerequisite(s): 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
This internet based course offers 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.

HLTH - 8713 Prof Internship Hlth Sciences, 3.00 Credits
Prerequisite(s): BIOL 8823 with C or better
Level: Upper
Applied Learning-Internship
This course is intended for a student 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 onsite 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.

HPED - HEALTH & PHYSICAL EDUC

HPED - 1031 Volleyball, 1.00 Credit
Level: Lower
To develop the skills of passing, serving, spiking, and blocking.

HPED - 1111 Health and Wellness, 1.00 Credit
Level: Lower
To provide students with a better understanding of the human body and concepts, attitudes and practices concerning Health and Wellness. This course focuses on all the dimensions of Wellness.

HPED - 1121 Basketball, 1.00 Credit
Level: Lower
This course is designed to expose the student to the many basketball skills and types of playing.

HPED - 1131 Indoor Soccer, 1.00 Credit
Level: Lower
To develop skills, knowledge, and proper fitness levels pertaining to soccer.

HPED - 1171 Aerobics, 1.00 Credit
Level: Lower
Aerobics to music where the student will learn sound lifetime habits of fitness.

HPED - 1603 Prin of Org PE & Athletics, 3.00 Credits
Level: Lower
A course to provide each student with a workable frame of reference concerning the principles, organization, and philosophical aspects of physical education and athletics.

HPED - 3003 Coaching Sports, 3.00 Credits
Level: Lower
This course is a lecture course designed to serve as a foundation for future coaching experiences. This course will enhance students knowledge and understanding of concepts and techniques of coaching and their application to achieving important objectives in working with athletes. The class will help students develop an understanding of coaching philosophy and essential techniques including practice planning, program organization, coaching roles and instruction. This course will combine sport science theory and research with the practical knowledge and methods of expert coaches.
COURSE DESCRIPTIONS

HPED - 3061 Physical Fitness, 1.00 Credits
Level: Lower
Pass/Fail
To learn the basic principles of conditioning. The student will be provided an individualized fitness program designed to improve muscular strength and endurance, cardiovascular wellness, flexibility, and body composition.

HPED - 4103 Personal Health, 3.00 Credits
Level: Lower
This course provides students the opportunity to develop sound concepts in health and health-related areas in order to better understand the environment in which they live. Strong emphasis will be placed on current health issues in the area of human sexuality, mental and emotional health, drug and substance abuse, and the development of sound health practices for the individual in today's society.

HUMN - HUMANITIES

HUMN - 2114 Culture of Italy in Context, 4.00 Credits
Prerequisite(s): COMP 1503 with C or better and ( LTR 2033 with D or better or LTR 2343 with D or better or LTR 2503 with D or better or LITR 2603 with D or better or LITR 2703 with D or better or LTR 2813 with D or better or LTR 2900 with D or better or LTR 2903 with D or better or LTR 2913 with D or better or LTR 3523 with D or better or LTR 4333 with D or better or LTR 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 items of excellence influenced 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.

HUSR - HUMAN SERVICES

HUSR - 1074 Practicum in Human Services, 4.00 Credits
Prerequisite(s): HUSR 1074 with B or better
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 5203 with C or better or 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 5003 with C or better and HUSR 5203 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 5003 with C or better and HUSR 5203 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 )
Level: Upper
Applied Learning-Practicum
This seminar course is taken concurrently with a structured, supervised work experience in a human service agency. Students must successfully complete a minimum of 400 clock hours of work in human services management at an approved human services agency. In addition, students participate in the weekly seminar that synthesizes theoretical knowledge and didactic learning with the acquired skills, knowledge, and experience that the students have obtained through their field experience. The internship may be at distant locations. Faculty supervision and communication may be through various technologies that students must utilize. A complete list of practicum requirements is in Human Services Management program description in the college catalog.

IDST - INTERDISCIPLINARY STUDIES

IDST - 4102 Individual Studies Capstone, 2.00 Credits
Prerequisite(s): COMP 1503 with D or better
Level: Lower
In this seminar, students will investigate their concentration including current field entrance requirements, necessary skills and job opportunities. Students will create a capstone artifact demonstrating their knowledge and skill in their chosen concentration. Students will demonstrate their technology proficiency by creating an online portfolio, which will also include a resume and cover letter. Students will identify their educational and career goals considering assessments related to their career interest, 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 ecological systems. Students will design and implement a proposal and plan that demonstrates critical thinking strategies and will promote positive civic outcomes.

IDST - 5001 Interdisc Studies Capstone Des, 1.00 Credit
Prerequisite(s): COMP 1503 with D or better
Level: Upper
A capstone seminar in which students design an individual project demonstrating their plan for integrating their individual lower level core coursework with their upper level area(s) of concentration. The design phase will include a projection of the concentration(s) of interest along with a 4-semester registration plan, justification, and collection of supporting documentation. Plans must be approved by the student's project supervisor/advisor.

IDST - 5002 Interdisc Studies Capstone Des, 2.00 Credits
Prerequisite(s): COMP 1503 with D or better
Level: Upper
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, 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 for completion in IDST. Students will present these designs to the student's project supervisor/advisor.

IDST - 5900 Directed Study, 1.00 TO 4.00 Credits
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 progress of the study. A capstone such as an internship may be selected.

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
This course provides students the basis for a research study including an opportunity to form foundational knowledge and expand existing knowledge of research methods via survey of research language, research methods and ethical challenges in research. Students will apply an interdisciplinary approach integrating at least two disciplines using information literacy techniques to their work as they create an introduction to the problem, a substantial review of the literature and development of 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.
ITAL - 5113 Contemporary Italian Literature
3.00 Credits
Prerequisite(s): ITAL 5703 with D or better and IDST 5002 with D or better
Level: Upper
This 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.

ITAL - 7002 Interdisc. Studies Capstone Prj, 2.00 Credits
Prerequisite(s): COMP 5703 with D or better and IDST 5001 with D or better
Level: Upper
This capstone course will focus on developing the student's ability to speak with fluency and spontaneity. The students will be able to express themselves fluently and spontaneously and use language flexibly and effectively for social, academic, and professional purposes. The students will be expected to produce clear and detailed text on complex subjects, and they will be expected to show control of use of organizational patterns, connectors, and cohesive devices.

ITAL - 5333 Medieval Italian Literature I, 3.00 Credits
Prerequisite(s): ITAL 4303 with D or better
Level: Upper
Liberal Arts and Science
Dante Alighieri's La Divina Commedia (The Divine Comedy) and some of his minor works such as La Vita Nuova (The New Life) and Il Convito (The Banquet). Attention will be given to the Epistolae a Cancranda della Scala (Letter to Cangrande della Scala) which is believed to be Alighieri’s letter to his foremost patron. The course will allow students to examine these internationally renowned literary texts in their original language. Students will read from these author's works and engage in a historical, literary, and rhetorical analysis of them while determining techniques of composition. Students will be expected to actively participate and contribute to class discussion. The course will be conducted in Italian; participants will do all written and oral work in Italian. A research paper will be required.

ITAL - 5443 Medieval Italian Literature II, 3.00 Credits
Prerequisite(s): ITAL 4303 with D or better
Level: Upper
Liberal Arts and Science
Students will study Italian literature from the 14th to the 16th Century. Students will read and critically analyze internationally renowned literary texts in their original language. Authors include Francesco Petrarca (Petrarch), Giovanni Boccaccio, Ludovico Ariosto, Torquato Tasso, Niccolo Machiavelli, and others. Students will read from these author's works and engage in a historical, literary, and rhetorical analysis of texts while determining techniques of composition. Students will also learn about the lives and historical context of the authors; they will critically determine how the author's lives influenced the masterpieces that they created. Students will be expected to actively participate and contribute to class discussion. The course will be conducted in Italian; participants will do all written and oral work in Italian. A research paper will be required.

ITAL - 1303 Italian I, 3.00 Credits
Level: Lower
Gen Ed - Foreign Languages, 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 for 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 Languages, Liberal Arts and Science
This course focuses on developing the student's ability to understand Italian sentences and familiar everyday expressions. Authors will 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 related 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 students 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
Students will study Italian literature of the 20th century. Students will critically analyze internationally renowned literary texts in the Italian language. Authors include Luigi Pirandello, Filippo Tommaso Marinetti, Gabriele D'Annunzio, Primo Levi, Salvatore Quasimodo, Giuseppe Ungaretti, Eugenio Montale, Pier Paolo Pasolini, Umberto Eco, and others. Students will read from these authors' works and engage in a historical, literary, and rhetorical analysis of them while determining techniques of composition. Students will be expected to actively participate and contribute to class discussion. The course will be conducted in Italian; participants will do all written and oral work in Italian. A research paper will be required.

ITAL - 5223 Modern Italian Literature, 3.00 Credits
Prerequisite(s): ITAL 4303 with D or better
Level: Upper
Liberal Arts and Science
Students will study Italian literature from the 17th to the 19th century. Students will critically analyze internationally renowned literary texts in the Italian language. Authors include Galilei Galilei, Carlo Goldoni, Giuseppe Parini, Ugo Foscolo, Giacomo Leopardi, Alessandro Manzoni, Giovanni Verga, and others. Students will read from these author's works and engage in a historical, literary, and rhetorical analysis of them while determining techniques of composition. Students will be expected to actively participate and contribute to class discussion. The course will be conducted in Italian; participants will do all written and oral work in Italian. A research paper will be required.

ITAL - 5303 Italian V, 3.00 Credits
Prerequisite(s): ITAL 4303 with D or better
Level: Upper
Liberal Arts and Science
This advanced course will focus on developing the student's ability to understand a wide range of demanding, longer texts and recognize implicit meaning; the students will be able to express themselves fluently and spontaneously and use language flexibly and effectively for social, academic, and professional purposes. The students will be expected to produce clear and detailed text on complex subjects, and they will be expected to show control of use of organizational patterns, connectors, and cohesive devices.

JAPN - JAPANESE
JAPN - 1203 Japanese I, 3.00 Credits
Level: Lower
Gen Ed - Foreign Languages, Liberal Arts and Science
This course is an introduction to the spoken and written Japanese language and focuses on developing 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 - 2003 Japanese II, 3.00 Credits
Prerequisite(s): JAPN 1203 with D or better
Level: Lower
Gen Ed - Foreign Languages, Liberal Arts and Science
This course is designed as a continuation of JAPN 1203; 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.

LITR - LITERATURE
LITR - 2033 The Short Story, 3.00 Credits
Prerequisite(s): COMP 5303 with D or better
Level: Lower
Gen Ed - Humanities, Liberal Arts and Science
The Short Story introduces the student to the study and appreciation of the short story as an art form. Reading selections will include stories by such masters as Joyce, Lawrence, Faulkner, Hemingway, and O'Connor, as well as recent works by Olton, Paley, and Barthome. Writing is continued in assignments related to readings, class discussions, and lectures. This course also provides students with the ability to communicate in their pursuit of travel, business, academic endeavors, and personal pleasure.

LITR - 2343 Children's Literature, 3.00 Credits
Prerequisite(s): COMP 5303 with D or better
Level: Lower
Applied Learning-Service-Learn, Gen Ed - Humanities, Liberal Arts and Science
Children's Literature covers a broad range of literature for children from preschool to age twelve, as they encounter it through the home, the library, and the school. Picture books, the classics, folk and fairy tales, novels, and plays for children are presented in a critical context. Writing is continued in assignments related to readings, class discussions, and lectures. A required component of this course is a Service-Learning project.
This course focuses on literature, thought, and language. Writing is continued in assignments related to readings, class discussions, and lectures. Selections include novels, short stories, poems, and plays.

LITR - 2703 Sci Fi in the 20th Century, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better
Level: Lower
Gen Ed - Humanities, Liberal Arts and Science

Major representative works of science fiction are read and discussed. Works selected contain the major themes present in science fiction in the 20th century. Readings, class discussion, and lectures are the basis for oral reports and written assignments which continue training in composition and encourage a broadening of interest in science and technology. Writing is continued in assignments related to readings, class discussions, and lectures.

LITR - 2813 Introduction to Film, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better
Level: Lower
Gen Ed - Humanities, Liberal Arts and Science

This course focuses on film, thought, and language through the viewing and analysis of representative fiction films. Writing is continued in assignments related to film viewing, class discussions, and lectures. From readings and lectures, the student will become acquainted with basic technical terms and film theory, thus facilitating analysis of the more complex aspects of film history and production. Permission of the instructor may supersede prerequisite. Writing is continued in assignments related to readings, class discussions, and lectures.

LITR - 2900 Directed Study, 1.00 TO 4.00 Credits
Level: Lower
Gen Ed - Humanities, Liberal Arts and Science

The 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 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.

LITR - 2913 Introduction to Poetry, 3.00 Credits
Prerequisite(s): COMP 1503 with C or better
Level: Lower
Gen Ed - Humanities, Liberal Arts and Science

This course focuses on a survey of the principles of poetry, the literary traditions of poetry, and the critical terminology to understand, to define, and to analyze poetry. Special attention is given to the poetry written during the twentieth century. Class discussions and exercises will provide examples of the successes and strategies of other writers. Class time will be spent discussing the writer's craft and the assigned readings, and critiquing student writing in a workshop setting.

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 presents 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 - 4900 Directed Study, 1.00 TO 4.00 Credits
Level: Lower
Gen Ed - Humanities, Liberal Arts and Science

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 the department chairperson. The instructor and student will confer regularly regarding the process of the study.
MATH - 1214 Statway II, 4.00 Credits  
Prerequisite(s): MATH 1024 with C or better  
Level: Lower  
Gen Ed - Math, Liberal Arts and Science  
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. Both 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 - Math, 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 - 1423 Explorations in Geometry, 3.00 Credits  
Prerequisite(s): MATH 1014 with D or better  
Level: Lower  
Gen Ed - Math, Liberal Arts and Science  
The content of this course will apply geometrical truths in a variety of contexts, including knots, tessellations and symmetry, fractals, and computer imagery. In this course students will develop competency with the power of 2- and 3-dimensional objects and patterns. AutoCAD and 2- and 3-dimensional modeling tools will be used extensively to enhance spatial intelligence skills and awareness of properties. Students will learn to analyze designs by identifying their geometric component parts and create designs by combining geometric shapes. They will identify the rules used in creating the design and will create new designs by varying some of those rules.

MATH - 2043 College Trigonometry, 3.00 Credits  
Prerequisite(s): MATH 1033 with C or better or MATH 1034 with C or better  
Level: Lower  
Gen Ed - Math, Liberal Arts and Science  
Topics of this course include trigonometric functions and their properties with the study of identities, formulas, equations, and graphs. Also included are the study of right and oblique triangles using the law of sines and cosines with emphasis placed on contextual applications and problem solving. Exponential and logarithmic functions with related problem solving are included. A graphing calculator is required. Students cannot receive credit for MATH 2043 if they have credit for MATH 1054, MATH 1063, MATH 1084, or any course for which MATH 1063 or MATH 1084 are prerequisites.

MATH - 2074 Technical Calculus II, 4.00 Credits  
Prerequisite(s): MATH 1063 with D or better or MATH 1084 with D or better  
Level: Lower  
Gen Ed - Math, Liberal Arts and Science  
A continuation of MATH 1063 with further study in differentiation and integration of both the algebraic and transcendental functions. Applications will be included in each topic. An introduction to Matrix Algebra may be included. Graphing Calculator required. Student cannot receive credit for MATH 2074 if they have received credit for MATH 1084.

MATH - 2094 Calculus II, 4.00 Credits  
Prerequisite(s): MATH 1084 with D or better  
Level: Lower  
Gen Ed - Math, Liberal Arts and Science  
This course is designed as a continuation of MATH 1084 with a concentrated study of integration techniques and applications. Applications include but are not limited to area, volumes, and arc length. The course involves the methods of integration and applications as they apply to both the algebraic and transcendental functions. Infinite series and Taylor series will be included. A graphing calculator is required. Student cannot receive credit for both MATH 2094 and MATH 2074.

MATH - 2124 Statistical Methods & Analysis, 4.00 Credits  
Prerequisite(s): MATH 1033 with C or better or MATH 1034 with C or better  
Level: Lower  
Gen Ed - Math, 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 distributions, normal approximation to the binomial, central limit theorem, confidence intervals, hypothesis testing, and nonparametric statistics.

MATH - 2133 Statistics II, 3.00 Credits  
Prerequisite(s): MATH 1123 with C or better or MATH 1204 with C or better  
Level: Lower  
Gen Ed - Math, Liberal Arts and Science  
This is a continuation of MATH 1123 emphasizing probability distributions with the predictive and inferential aspects of statistics. The normal distribution with applications and the Central Limit Theorem are covered or reviewed. Inferential statistics are introduced with confidence intervals, and hypothesis testing as applied to the mean, standard deviation, proportion. Use of calculators and computer statistical packages for analysis is introduced.

MATH - 2163 Discrete Mathematics, 3.00 Credits  
Prerequisite(s): MATH 1033 with C or better or MATH 1034 with C or better  
Level: Lower  
Gen Ed - Math, 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 and sets, logic, counting methods, methods of proof, network graphs and trees, algorithmic analysis, complexity and computability, and matrices. A graphing calculator is required.

MATH - 2900 Directed Study, 1.00 TO 4.00 Credits  
Level: Lower  
Liberal Arts and Science  
A student may contract for one to four credit hours of independent study in mathematics through arrangement with an instructor of mathematics. The student and instructor will develop a course of study which must be approved by the department chairperson and the school dean. The instructor and the student will confer regularly regarding the student's progress.

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 - Math, 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 - 4900 Directed Study, 1.00 TO 6.00 Credits  
Level: Lower  
Liberal Arts and Science  
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 chair. The instructor and student will confer regularly regarding the process of the study.

MATH - 5023 Math Foundations Cryptography, 3.00 Credits  
Prerequisite(s): MATH 1084 with D or better  
Level: Upper  
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 1084 or permission from instructor.

MATH - 6104 Multivariate & Vector Calculus, 4.00 Credits  
Prerequisite(s): MATH 2094 with D or better or MATH 2074 with D or better or MATH 6114 with D or better  
Level: Upper  
Gen Ed - Math, Liberal Arts and Science  
This course is designed as a continuation of Integral Calculus. Topics will include: parametric equations, polar, cylindrical and spherical coordinate systems, vectors and vector valued functions, functions of several variables, partial derivatives and applications, multiple integrals, and vector analysis, including Greens' theorem, Stokes' theorem, and Gausss' theorem. The course will include several major projects outside of class.

MATH - 6114 Differential Equations, 4.00 Credits  
Prerequisite(s): MATH 2094 with D or better or MATH 2074 with D or better  
Level: Upper  
Gen Ed - Math, Liberal Arts and Science  
This is the beginning study of the solution of differential equations with emphasis on both analytic and numerical solutions. Topics include first and second order differential equations and their solutions, series solutions, Laplace transforms, linear equations of higher order, numerical solutions or ordinary differential equations using Euler's method, and the use of Eigenvalue methods to solve linear systems. In addition, this course emphasizes the development of differential equations as mathematical models for a variety of practical applications. The course will include several major projects outside of class.

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 - Math, 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.

MATH - 7123 Statistics for Engr Tech & Sci, 3.00 Credits  
Prerequisite(s): MATH 2074 with D or better or MATH 2094 with D or better  
Level: Upper  
Gen Ed - Math, Liberal Arts and Science  
This course covers 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 - 1014 Industrial Machining I, 4.00 Credits  
Level: Lower  
Course Fee $106.00  
This introductory course is designed to instill safe shop methods and procedures along with 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 - 1014 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 - 1024 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 student will be instructed in advanced lathe operations and procedures. These will include precision turning, maintaining closer tolerances, and gage threading with the use of carbide tool cutters. The student will demonstrate the various skills required by producing assigned advanced level projects.

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 machining of vertical milling machines, the plates and spindles, and various operations (i.e. dovetail and t-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 the information that is contained in the mating RFs.

MATT - 1723 Reading Engineering Drwgs 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.

MATH - 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 unit conversions will be covered. The student will be able to solve applied problems that are commonly encountered by the machinist.

MATH - 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.

MATH - 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 symbols referenced in the specific interpretation section is presented.

MATH - 3005 Intro to CNC Machine Program, 5.00 Credits
Level: Lower
Course Fee $106.00
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.

MATH - 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.

MATH - 3025 CNC Industrial Machining II, 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.

MATH - 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 completion of the project will occur with 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.

MATH - 4005 CNC Industrial Machining III, 5.00 Credits
Level: Lower
Applied Learning-Practicum
An industry-accepted CAD/CAM system to generate CNC programs will be used throughout this module. The students 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. Proper fixtureing and setup of rough material will be presented.

MATH - 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 students will learn to correct errors and will produce a finished part within the tolerance of the print and be geometrically correct. The concepts of fixtureing and machining will be related using geometric dimensioning and tolerancing.

MATH - 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.

MECH - MECHANICAL ENGR TECH

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 designs and 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, strength, 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. Students will learn to correct flaws and will produce a finished part within the tolerance of the print and be geometrically correct. The concepts of fixtureing and machining will be related using geometric dimensioning and tolerancing.

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, 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 topics of basic C.G., 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
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
This course is a study of Computer Aided Manufacturing (CAM) using software, programming languages and methods such as Computer Aided Manufacturing (CNC) machine programming. 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 protocols is also studied.

MECH - 3223 Mechanical Design Principles, 3.00 Credits
Prerequisite(s): MECH 1603 with D or better or ( MECH 1012 with D or better and MECH 1022 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 laboratory experiences in 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 manufacturers 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 importance of problem-solving techniques 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 techniques, 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
Prerequisite(s): MECH 1603 with D or better or ( MECH 1012 with D or better and MECH 1022 with D or better )
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 the 3D world and have a "design intent" plan for each part in which they will design. This 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 ( MATH 2603 with D or better or MATH 3113 with D or better or MATH 3334 with D or better or ENGR 3213 with D or better )
Level: Lower
Applied Learning-Other
This 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, shock and yoke and the principles of force, torque, velocity, acceleration, inertia and friction. The course will use the principals of Equilibrium, Work-Energy and Impulse-Momentum along with Newton's Second Law to examine a variety of problems.

MECH - 4224 Mechanical Systems Design, 4.00 Credits
Prerequisite(s): MECH 3204 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, column support and lifting on the equilibrium of particles and rigid bodies in two and three dimensions. Additional topics will include extensive use of online database information, standards and manufacturers specifications, and manufacturing for assembly. At all times in this class, the design and development for manufacturability will be paramount. This class includes several applied laboratory experiences.

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: AUTOCAD (Automatically Programmed Tools) programming, additional CNC machine programming, solid modeling and Reverse Engineering Projects using a Coordinate Measurement Machine/System (CMM).

MECH - 4523 Control System Fundamentals, 3.00 Credits
Prerequisite(s): MATH 1043 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 2003 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
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 - 4554 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 address 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: 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 progress of the study.

MECH - 5334 Mechanics of Materials, 4.00 Credits
Prerequisite(s): MATH 2074 with D or better and MATH 3334 with D or better
Level: Upper
Applied Learning-Practicum, Course Fee $15.00
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 deformable elements in statics by using algebraic and trigonometric computations.

MECH - 5900 Directed Study, 1.00 To 6.00 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 progress of the study.

MECH - 6334 Fluid Mechanics, 4.00 Credits
Prerequisite(s): MATH 2074 with D or better
Level: Upper
Applied Learning-Practicum
This course is an introduction to the theory and application of continuum fluid mechanics. Fluid properties and state relations are studied. Compressible flow and gas dynamics, boundary layers and shock waves 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. 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 deformable elements in statics by using algebraic and trigonometric computations.

Level: Upper
This course covers the basics of thermodynamics including property evaluation of ideal gases and compressible substances. Theory and application of the first and second laws of thermodynamics relating 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.

COURSE DESCRIPTIONS
databases, and registries. Reporting of data, healthcare report generation, presentation of

This is a lecture and lab-based online course that includes a study of clinical classification systems (e.g., ICD-10-CM and ICD-10-PCS) and reimbursement methodologies. Topics of study include the use and maintenance of electronic applications and work processes that support clinical classification and coding; assignment of diagnosis and procedure codes using current procedural terminology (CPT)-based coding manuals and encoder software; ensuring the accuracy of diagnostic and procedural groupings (e.g., DRGs, MS-DRGs); interpretation of regulations and coding guidelines; validation of coding accuracy by using clinical information located in the health record; and use of clinical data for reimbursement and prospective payment systems.

Prerequisite(s): MEDR 1114 with C or better and MEDR 1132 with C or better and ( BIOL 2214 with C or better or BIOL 2504 with C or better ) and BIOL 4403 with C or better *

Level: Lower

This is a lecture- and lab-based online course that includes study of the CPT and HCPCS level II clinical classification systems and outpatient and physician office reimbursement methodologies. Topics of study include the use and maintenance of electronic applications and work processes that support clinical classification and coding; assignment of procedure codes using current nomenclature; ensuring the accuracy of procedural groupings (e.g., ambulatory payment classifications, Medicare physician fee schedule); interpretation of regulations and coding guidelines; validation of coding accuracy by using clinical information located in the health record; and use of clinical data for reimbursement and prospective payment systems.

Prerequisite(s): MEDR 1114 with C or better and MEDR 1132 with C or better and ( BIOL 2214 with C or better or BIOL 2504 with C or better ) and BIOL 4403 with C or better *

Level: Lower

This is a lecture- and lab-based online course that includes the completeness, reliability, accuracy, and validity of electronic health records and electronic secondary data sources according to organizational policies, external regulations and health information management standards. Legal, regulatory, departmental, and organizational policies and procedures for data/information standards for internal and external use, exchange, confidentiality, privacy and security measures, access and disclosure, retention and destruction of patient protected electronic health information. The use of software in the completion of HIM processes. A review of the processes used in the selection and implementation of electronic health information management systems including project management methodologies and vendor/contract management. Health information analytics and report generation technologies to facilitate decision-making and support enterprise-wide decision support for strategic planning, the current issues and future directions in health information technology.

Prerequisite(s): MEDR 1114 with C or better and MEDR 1223 with C or better and MEDR 1234 with C or better and MEDR 4214 with C or better and MEDR 4514 with C or better and MEDR 4312 with C or better * and MEDR 4322 with C or better *

Level: Lower

This is a lecture-based online course that includes content new to the health information management (HIM) profession and to which students did not receive instruction in previous courses. Examples of such content includes, but is not limited to, new and revised coding classification systems, federal and state statutes (laws) and regulations, information technology initiatives, and so forth. The Registered Health Information Technology (RHIT) exam is integrated throughout the course, during which students will complete practice exams in HIM content areas and interact with the instructor(s) in discussion board forums to receive clarification about concepts and study techniques. This course will be offered in the student's last semester of study.

Prerequisite(s): MEDR 3414 with C or better and MEDR 4514 with C or better *

Level: Lower

This is a lecture-based online course that covers the study of leadership topics specific to health information technology including team leadership; change management; work processes and goals; utilization of data in management roles; labor regulations; resource requirements; training and development methodology, cultural issues affecting health, healthcare quality, cost, and programs; and policies that support a culture of diversity.
COURSE DESCRIPTIONS

MEDR - 4214 Insurance&Reimbursemt Processang, 4.00 Credits
Prerequisite(s): MEDR 1114 with C or better and MEDR 1244 with C or better and MEDR 1234 with C or better
Level: Lower
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 encounters as well as a review of inpatient and outpatient coding to identify issues of fraud and abuse.
Level: Lower
Applied Learning-Practicum, Clinical Liability Insurance
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 1244 with C or better and MEDR 1234 with C or better and MEDR 4214 with C 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
This course will cover systems for alternate health care (e.g., DSM-5, ICD-O-3, SNOMED-CT), alternate healthcare management (HIM) consulting, cancer registry management, healthcare information (HIM) consulting, and health information technician (HIM) certification. Course Fee $129.00
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.G. welders, plasma cutters, metal breaks, and metal sheers.
MOTO - 1051 Welding & Fabrication, 5.00 Credits
Level: Lower
Applied Learning-Practicum, Course Fee $129.00
This course will cover starting and charging systems used on all types of motorcycles and power sports vehicles. Topics covered include: Component identification, hydraulic principals 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 suspension and steering systems used on all types of motorcycles and power sports vehicles. Topics covered include: Component identification, operation of suspension and steering systems; wheel alignment principals, 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 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.G. welders, plasma cutters, metal breaks, and metal sheers.
MOTO - 2005 Starting & Charging Systems, 5.00 Credits
Level: Lower
Applied Learning-Practicum
This course will cover suspension and steering systems used on all types of motorcycles and power sports vehicles. Topics covered include: Component identification, operation of suspension and steering systems; wheel alignment principals, 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 suspension and steering systems used on all types of motorcycles and power sports vehicles. Topics covered include: Component identification, operation of suspension and steering systems; wheel alignment principals, measurement, and adjustments; diagnosis of steering and suspension concerns; steering and suspension component removal and replacement.
nurse, concepts of mental health, therapeutic communication and aesop 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 - 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 the nursing process concepts, and role of the nurse. Classroom discussions, observations of actual nursing classes 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 NURS Seminar-Conceptual Skill Building I, which enhances concept-based learning in nursing. Its content represents concepts of critical thinking, observational, listening, and psychomotor skills. Emphasis is placed on individual self-development, caring and team skill building. The students will develop an individual portfolio to assist in meeting personal goals and reflection of accomplishments. Engagement in the college culture will be explored through participation in campus events, presentations, and through off-site cultural engagement. The students will implement stress reduction exercises, Conceptual skill building, self-development skills, and team building will promote student transition into a healthy lifestyle and reduce stress while participating in the Nursing Program.

**NURS - 2201 Trans to Assoc Degree Nursing, 1.00 Credit**
Level: Lower
This course orients the student to the philosophy, objectives and curriculum design of the Nursing Program and focuses on the nursing process, therapeutic communication, nursing skills, and computer competency. This course is required for the transfer student who successfully challenges or receives transfer credit for Nursing 1109 or Nursing 2029 and seeks advanced placement in the Nursing Program.

**NURS - 2208 Nursing II, 8.00 Credits**
Prerequisite(s): NURS 1108 with C or better or NURS 1109 with C or better
Level: Lower
Applied Learning-Clinical Plcm, Clinical Liability Insurance, Course Fee $14.00
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 - 3310 Nursing III, 10.00 Credits**
Prerequisite(s): ( NURS 2208 with C or better or NURS 2209 with C or better ) and ( BIOL 4254 with C+ or better * or BIOL 5254 with C+ or better *)
Level: Lower
Applied Learning-Clinical Plcm, Clinical Liability Insurance, Course Fee $23.00
In Nursing III, the student applies the nursing process to assess/analyze, plan, implement, and evaluate care for two or more clients with chronic and/or critical health concerns. The student further develops their role as a teacher by formulating and implementing teaching based upon a client's individual needs. Major health concerns include but are not limited to: psychiatric, blood disorders, immunological, musculoskeletal disorders, cancer, genitourinary, gynecological problems, neurological disorders, and acute cardiac problems. The student considers some of the major health problems of children. The student begins to care for clients in more complex situations in the clinical setting incorporating therapeutic verbal and nonverbal communication skills.

**NURS - 4001 Decision-Making in Nursing, 1.00 Credit**
Prerequisite(s): S NURS 3311 with C+ or better
Co-requisite(s): S NURS 3311 with C+ or better
Level: Lower
This one credit elective course focuses on decision making in nursing using evidence based practice as guidelines to assist the graduate in nursing practice. The primary focus of the course will be prioritization, evaluation of care relative to quality improvement, delegation, and performance based evaluation. National Council Licensure Examination for Registered Nurses (NCLEX-RN) test plan and administrative processes are emphasized throughout the course. Stress reduction techniques are integrated throughout the course to enhance coping mechanisms. Employment seeking strategies are also incorporated into the course to augment professional transition into the professional workforce of nursing.

**NURS - 4410 Nursing IV, 10.00 Credits**
Prerequisite(s): ( NURS 3311 with C or better or NURS 3310 with C+ or better ) and ( BIOL 4254 with C+ or better or BIOL 5254 with C+ or better )
Level: Lower
Applied Learning-Clinical Plcm, Clinical Liability Insurance, Course Fee $12.00
In Nursing IV, the student increases skills in applying the nursing process to a group of clients with chronic and/or critical health problems. The student develops his/her professional role as a leader and manager and prepares for the transition from student to graduate. Nursing IV involves the student in specialty areas such as the Emergency Department, Intensive Care Unit and Community Agencies. Major health areas which are investigated include, but are not limited: Diabetes, Endocrine, Neurology, Cardiac, Respiratory, Obstetrical and Trauma Emergencies. To develop the role as a professional, the student participates in a group leader rotation. Clinical experiences include a variety of settings. A pediatric experience and a two day preceptorship are included. Students continue to focus on prevention and health education in the clinical and community setting. In the clinical lab, the student cares for a group of clients with more critical and complex situations.
 COURSE DESCRIPTIONS

NURS - 5003 Ethical Issues in Health Care, 3.00 Credits
Prerequisite(s): NURS 2209 with C or better or NURS 2208 with C or better
Level: Upper
This course examines ethical positions arising from the advancement of modern medicine.
Emphasis is placed on ethical theories and principles that guide decision-making in healthcare.
Critical reasoning skills are used to analyze ethical issues and to help students understand how to make action oriented decisions for controversial healthcare questions.
Aspects of inquiry and ways of knowing are explored, relative to selected ethical dilemmas or issues.

NURS - 5023 Contemporary Nursing, 3.00 Credits
Prerequisite(s): NURS 2209 with C or better or NURS 2208 with C or better
Level: Upper
This course focuses on issues and trends in nursing and healthcare delivery to achieve a broad professional perspective for the expanded role of the baccalaureate prepared nurse.
Selected issues and concepts will also be analyzed with depth to determine the impact on rural healthcare delivery. The course also focuses on principles related to critical reasoning and decision-making processes to help the student to better understand the challenges and opportunities in the political, social, and healthcare environment.
In addition, issues related to workforce and workplace quality of the profession, and advocacy will be addressed. Lastly, the concept of social justice will be explored relative to undeserved and/or vulnerable populations. Students will present information on the importance of

NURS - 6003 Nursing Leadership/Management, 3.00 Credits
Prerequisite(s): NURS 5003 with C or better and NURS 8003 with C or better
Level: Upper
Applied Learning-Clinical Plcm, Clinical Liability Insurance
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 concepts, change, leadership, management, theoretical 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. Finally, applied leadership is implemented with an in-person immersion with a nursing leader to explore the nursing leadership role.

NURS - 6413 Health Asmt & Promotion Across, 3.00 Credits
Prerequisite(s): NURS 2209 with C or better or NURS 2208 with C or better
Level: Upper
This course focuses on a wholistic 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.
Socio-cultural 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 C or better ) and ( NURS 2209 with C or better or NURS 2208 with C or better ) and NURS 5003 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 steps of the research process will have sufficient depth covered to allow for a beginning appreciation of scholarly inquiry and evaluation of selected nursing research studies.
Student groups will present a topical research literature review.

NURS - 7004 Population Focused Care in Comm, 4.00 Credits
Level: Upper
Applied Learning-Fld Study, Clinical Liability Insurance
Current RN licensure is required for this course. Students will focus on the role of the nurse in the evaluation of current public health issues and population-focused healthcare 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 impact on populations, with an emphasis on specific needs of populations.
A forty-five hour preceptor guided community health immersion experience will provide an opportunity for the student to utilize the public health nursing model to participate in community assessment, identify 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 C or better and NURS 8003 with C 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 healthcare system and society. Using historical research methods, students will explore historical 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 should 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 5003 with C or better and NURS 8003 with C or better
Level: Upper
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, historical and spiritual perspective and within a family and community environment.
Emphasis in the course is on 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.

NURS - 8003 Informtcs&Tech App in Hlthcare, 3.00 Credits
Prerequisite(s): NURS 2209 with C or better or NURS 2208 with C or better
Level: Upper
This course will focus on informatics and technology applications in the healthcare setting.
The course covers the use of information systems and technologies such as telehealth, electronic health record (EHR), distance and e-learning, use of secondary data, and databases. In addition, the course will explore the use of portable and personal devices such as smart phones, tablets, laptop and other mobile platforms in the healthcare setting.
The course will also address the integration of topics related to legal, ethical, and policy issues affecting information management and technology in healthcare delivery.
Finally, the course will explore information management as they relate to workflow and redesign in various healthcare settings to improve client outcomes.

NURS - 8013 Professional Capstone, 3.00 Credits
Prerequisite(s): NURS 5003 with C or better and NURS 6413 with C or better and NURS 7003 with C or better
Level: Upper
Applied Learning-Creative Work
Current RN licensure is required for this course. This capstone course continues to expand and explore content to prepare the student for an autonomous role as a baccalaureate-prepared practitioner in health care.
Course activities help the student identify a health care need in a rural setting to design and implement a project to address the selected concern.
In addition the course content allows the student to further develop a personal philosophy through the culminating socialization process to the expanded and autonomous role.

NURS - 8043 Politics & Economics in Nursin, 3.00 Credits
Prerequisite(s): NURS 5003 with C or better and NURS 8003 with C or better
Level: Upper
This course is designed to provide the student with a knowledge base and develop skills in influencing policy in today's changing health care environment.
The course focuses on the politics of health policy in terms of legislative and executive processes at the local, state, and federal level.
The course also explores economic, social, ethical and political factors of healthcare delivery systems. In addition, political aspects are explored relative to individuals or groups of importance, including special interest groups, lobbyists, the press, elected officials, legislative staff, and public agencies.
Students will produce an analysis of healthcare systems and policies of elected countries, compared to the U.S. healthcare system and policy making.

PHIL - PHILOSOPHY

PHIL - 1073 Problems of Philosophy, 3.00 Credits
Level: Lower
Gen Ed - Humanities, Liberal Arts and Science
Problems in Philosophy examines some of the fundamental questions, controversial issues, and problems faced by people in relationship to the world. It also focuses on some of the methods for inquiry and problem-solving that people have devised to make their world more comprehensible.
The course is designed, through readings and class discussions, to promote critical thinking and to develop effective techniques of systematic inquiry.

PHIL - 2013 Critical Thinking, 3.00 Credits
Level: Lower
Gen Ed - Humanities, Liberal Arts and Science
This course has a three part focus:
1. Logical reasoning: Logical roots, critical thinking is the ability to reason; to think logically.
Students will learn core concepts such as validity, soundness, logical form, and informal fallacies.
2. Applied Argument Construction: Students will learn to construct and critique ordinary and scientific arguments, both in written and oral form, using the logical principles learned in the Logic component of the course.
3. Alternative Reasoning Methods: Students will be encouraged to identify and examine arguments based on cultural background, gender, religious convictions, requirements of classical logic.
Students will be encouraged to identify and examine such arguments.
The purpose of this examination is not to validate or endorse alternative reasoning methods, but to encourage students to talk with each other about the difference and similarities in the ways they make judgments and other factors.
Writing is continued in assignments related to readings, class discussions, and lectures.

PHIL - 2173 Ethics, 3.00 Credits
Level: Lower
Gen Ed - Humanities, Liberal Arts and Science
Ethics is a course designed to inquire into the nature of values and how we acquire them.
It studies some major ethical systems derived from such values that have been used to evaluate man's conduct.
It encourages students to discuss theories as applied to existing moral dilemmas.
Writing is continued in assignments related to readings, class discussions, and lectures.

PHIL - 6003 Professional Ethics, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better and LITR 2603 with D or better or LITR 2813 with D or better or LITR 3333 with D or better or LITR 3333 with D or better or LITR 4333 with D or better or LITR 4333 with D or better or LITR 7003 with D or better or LITR 7013 with D or better
Level: Upper
Liberal Arts and Science
This course will introduce students to historical ethical foundations that will serve as frameworks for discussion, activities, and projects.
Students will examine how to manage relationships both internally and external to the workplace, determining how best to manage those relationships despite challenges such as privacy and conflict of interest.
In addition to determining how to resolve workplace conflict ethically and justly, students will assess the ethics and conflicts the students that may arise between individuality and workplace standards.
Through engagement with practical ethical problems, students will also learn to recognize, analyze, and apply environmental, cultural, and corporate social responsibilities.
Course knowledge will culminate in students development of a statement of professional ethics.
This project will function as an ethical cornerstone in each student's career path.

PHYS - PHYSICS

PHYS - 1014 Introductory Physics, 4.00 Credits
Level: Lower
Gen Ed - Natural Sciences, Liberal Arts and Science
This course is appropriate for students not majoring in a field requiring a strong math and science background and will develop physical concepts in the classroom in a highly interactive laboratory.
The laboratory portion of the course will include traditional and conceptual physics experiments, computer work and time dependent physics problem solving. Considerable attention will be paid to problem solving and the development of problem analysis skills.
PHYS - 1024 General Physics I, 4.00 Credits
Level: Lower
Gen Ed - Natural Sciences, Liberal Arts and Science
This is the first semester of a one-year course designed for students in Engineering Technology. The course covers the fundamentals of mechanics and thermodynamics. Topics include motion, forces, work, energy, power, momentum, circular motion, and the dynamics of rotational motion. Students will conduct laboratory work covering some of these topics.

PHYS - 1044 College Physics I, 4.00 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 1084 with D or better
Level: Lower
Applied Learning-Other, Gen Ed - Natural Sciences, Liberal Arts and Science
This is the first semester 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, forces, energy, power, momentum, circular motion, and the dynamics of rotational motion. The course includes laboratory work covering some of these topics.

PHYS - 1064 Physics for Engr & Science I, 4.00 Credits
Prerequisite(s): MATH 1084 with D or better
Level: Lower
Gen Ed - Natural Sciences, Liberal Arts and Science
This course is the first of two calculus-based courses intended to cover elementary classical physics for those students who are planning to transfer into a four-year program in engineering, mathematics, or one of the natural sciences. The topics covered include: measurement, vectors, kinematics, dynamics, work and energy, impulse and momentum, rotational mechanics and dynamics, including energy and momentum, waves, multiple particle systems including rigid bodies. In addition to the laboratory component of this course, students will work on individual projects that will develop their understanding of the concepts being covered.

PHYS - 2023 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 the second course in introductory physics for engineering students. 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 is a continuation of PHYS 1044. It is necessary for a Liberal Arts or technical student who plans to complete a four-year degree. The topics covered include: simple harmonic motion, waves, heat, light, electricity and magnetism. Problem solving is stressed. The course includes a weekly lab covering the topics listed for this course and a comprehensive final. Hands-on lab activities require students to design experiments, make appropriate measurements, perform data analysis, and present results in such a way as to demonstrate their understanding of the subject matter.

PHYS - 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, waves, heat, light, electricity and magnetism. Problem solving is stressed. The course covers the topics related to the wave behavior of light, sound, and heat. Students will conduct laboratory work covering some of these topics.

PHYS - 1024 General Physics I, 4.00 Credits
Prerequisite(s): PHYS 2023 with D or better or PHYS 2044 with D or better or PHYS 2064 with D or better and MATH 2094 with D or better or MATH 2074 with D or better
Level: Upper
Applied Learning-Other, Gen Ed - Natural Sciences, Liberal Arts and Science
This course covers the problems of human adjustment using the psychoanalytic, social-learning, and humanistic perspectives. The course also focuses on stress, its effects and management. The third area of study concerns interpersonal and social aspects of adjustment.

PSYC - 1063 Basic Helping Skills, 3.00 Credits
Prerequisite(s): PSYC 1013 with D or better
Level: Lower
Applied Learning-Practicum, Gen Ed - Social Sciences, Liberal Arts and Science
This course is designed to assist the student in developing the helping skills necessary to conduct a productive, helping session. Helping models, ethical considerations, and interview methods will be examined, particularly as they apply to the human services field.

PSYC - 2035 Adolescent Development, 3.00 Credits
Prerequisite(s): PSYC 1013 with D or better
Level: Lower
Gen Ed - Social Sciences, 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 biopsychosocial, the psychological, and the behaviorism model as they apply to the causes and treatment of the behavioral disorders. Newer developments in therapy are analyzed which treat mental disorders as problems of living rather than specific diseases.

PSYC - 2900 Directed Study, 1.00 TO 4.00 Credits
Level: Lower
Liberal Arts and Science
This course allows students who have successfully completed a previous course in psychology to continue study in that subject. A student may contract for one to four credit hours. Directed study may be contracted by a student only with the approval of the directing instructor and the department chairperson.

PSYC - 5013 Counseling Theory, 3.00 Credits
Prerequisite(s): PSYC 1013 with D or better
Level: Upper
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 - 5093 Health Psychology, 3.00 Credits
Prerequisite(s): PSYC 1013 with D or better
Level: Upper
Liberal Arts and Science
In this course, students will study various health determinants, the impact of socio-economic and cultural influences on health-related behaviors, the physiology of stress and effective ways to manage or reduce its negative consequences and how to evaluate research in health-related fields. In addition, students will critically examine global health concerns from a health systems and health policy perspective. Topics such as the global impact of disease, theories of health-related behavior change, stress, coping, communicable and chronic diseases including cancer, cardiovascular disease, HIV, chronic pain management and the placebo effect will be covered. Strategies for individual and community health advocacy will also be discussed.
PSYC - 5103 Industrial/Organizational Psychology, 3.00 Credits
Prerequisite(s): PSYC 1013 with D or better
Level: Upper
Liberal Arts and Science
This course examines the psychological factors that are unique to mass murderers and serial killers. This course will examine what accounts for that violent rage that is unleashed against other human beings who are simply in the wrong place at the wrong time. To what extent might lethal forms of violence be caused by genetics or a victim-blaming society? At what point in the psychological evolution of a killer might that person be considered "criminally insane?" Using a case study approach drawn from readings, films, and television, students will explore the "dark side" of human psychology in order to understand why these killers kill.

PSYC - 7103 The Psychology of Killers, 3.00 Credits
Prerequisite(s): PSYC 1013 with C or better
Level: Upper
Liberal Arts and Science
This course examines the psychological factors that are unique to mass murderers and serial killers. This course will examine what accounts for that violent rage that is unleashed against other human beings who are simply in the wrong place at the wrong time. To what extent might lethal forms of violence be caused by genetics or a victim-blaming society? At what point in the psychological evolution of a killer might that person be considered "criminally insane?" Using a case study approach drawn from readings, films, and television, students will explore the "dark side" of human psychology in order to understand why these killers kill.

RADT - 2041 Radiology Clinical I, 1.00 Credit
Prerequisite(s): RADT 1003 with C or better and RADT 2014 with C or better * and RADT 2004 with C or better * Level: Lower
Applied Learning-Practicum
This course introduces the many advanced imaging modalities that are included in the radiology department. Computer tomography (CT) including sectional anatomy. Essential concepts of tomography and CT including multi-slice spiral CT will allow for proficiency in performing advanced imaging procedures. This course will allow for the continued progression of skills in the clinical setting. Procedural competence and the acquisition of additional proficiencies in radiography is the focus of this clinical experience. Continued assessment of learning and proficiency is conducted using summative competencies and intermediate level learning objectives during the clinical rotation. This clinical experience consists of 480 hours, which will be completed 60 hours per week for 12 weeks.

RADT - 2044 Radiology Clinical II, 4.00 Credits
Prerequisite(s): RADT 2003 with C or better and RADT 2014 with C or better and RADT 2041 with C or better
Level: Lower
Applied Learning-Practicum
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 radiography is the focus of this clinical experience. Continued assessment of learning and proficiency is conducted using summative competencies and intermediate level learning objectives during the clinical rotation. This clinical experience consists of 480 hours, which will be completed 60 hours per week for 12 weeks.

RADT - 3023 Diagnostic Imaging I, 3.00 Credits
Prerequisite(s): RADT 2004 with C or better and RADT 3043 with C or better * Level: Lower
This course provides an overview of the specialized imaging systems used in the radiology department including the interventional and diagnostic modalities used in the radiology department.

RADT - 3024 Radiology Clinical III, 3.00 Credits
Prerequisite(s): RADT 2044 with C or better and RADT 3041 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 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 during the clinical rotation. This clinical experience consists of 360 hours, which will be completed 24 hours per week for 15 weeks.

RADT - 4003 Intro to Adv Diagnostic Imag, 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 departmental 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 intervention radiology 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 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 an overview of the functional imaging equipment components, operational principles and clinical applications of conventional and digital fluoroscopy systems. Emphasis will be given to dynamic imaging of various body systems and its use in advanced and intervention procedures. Image quality assurance and quality control procedures are also introduced as each relates to imaging equipment and patient safety.
RADT - 4043 Radiology Clinical IV, 3.00 Credits
Prerequisite(s): RADT 3014 with C or better and RADT 3023 with C or better and RADT 3043 with C or better
Level: Lower
Applied Learning-Clinical Plom, Clinical Liability Insurance
This course is designed to allow for expanded experience in radiology by implementing advanced proficiencies in the 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 radiologic technology or obtain extended clinical opportunities. A student may contract for one credit hour of independent study with the clinical coordinator, who agrees to direct such a study. Enrollment is limited by clinical site participation.

SOCI - SOCIOLOGY

SOCI - 1163 General Sociology, 3.00 Credits
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 a new policy to deal with the social problem. Students will discuss and critically analyze policies that address social topics discussed in class.

SOCI - 1193 Marriage & Family Acrs Wrt Clt, 3.00 Credits
Prerequisite(s): SOCI 1163 with D or better
Level: Lower
Gen Ed - Other World Civ, Gen Ed - Social Sciences, Liberal Arts and Science
This course provides students with the knowledge and family values necessary for helping 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 multiple hierarchies defined by class, race/ethnicity, gender, and sexuality and the consequences of one's location in them. Students will learn intersectionality theory and its use in 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, sonographic artifacts will be analyzed.

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 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 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, sonographic artifacts will be analyzed.

SONO - SONOGRAPHY

SONO - 1003 Fundamentals Sonography/Pl Care, 3.00 Credits
Level: Lower
This course is designed to provide a general overview of the study of diagnostic medical sonography and the role it serves in the health care delivery system. Several key topics in imaging modalities including introductory topics in sonography, discipline terminology, sonography specialties and careers in the profession will be explored. The course will also include a critical consideration of 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 basic sectional anatomy of the human body. Fundamental principles are 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 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 population. The course will also provide students with the opportunity to explore their views and attitudes on aging.

SONO - 2024 Sonography Procedures I, 4.00 Credits
Level: Lower
Prerequisite(s): SONO 2024 with C+ or better
Applied Learning-Clinical Plom, Clinical Liability Insurance
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 population. The course will also provide students with the opportunity to explore their views and attitudes on aging.

SONO - 3013 US Physics & Instrument II, 3.00 Credits
Level: Lower
This course is designed to provide a critical thinking skills to evaluate diagnostic quality of the images obtained in the laboratory.

SONO - 3024 Sonography Procedures II, 4.00 Credits
Level: Lower
Prerequisite(s): SONO 3020 with D or better
Applied Learning-Clinical Plom, Clinical Liability Insurance
This course 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 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, sonographic artifacts will be analyzed.

SONO - 3030 Sonography Procedures II, 4.00 Credits
Level: Lower
Prerequisite(s): SONO 3030 with D or better
Applied Learning-Clinical Plom, Clinical Liability Insurance
This course 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 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, sonographic artifacts will be analyzed.

SONO - 3040 Sonography Procedures II, 4.00 Credits
Level: Lower
Prerequisite(s): SONO 3040 with D or better
Applied Learning-Clinical Plom, Clinical Liability Insurance
This course 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 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, sonographic artifacts will be analyzed.

SONO - 3050 Sonography Procedures II, 4.00 Credits
Level: Lower
Prerequisite(s): SONO 3050 with D or better
Applied Learning-Clinical Plom, Clinical Liability Insurance
This course 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 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, sonographic artifacts will be analyzed.

SONO - 3060 Sonography Clinical I, 6.00 Credits
Prerequisite(s): SONO 2024 with C or better
Level: Lower
Prerequisite(s): SONO 2024 with C or better
Applied Learning-Clinical Plom, Clinical Liability Insurance
This course is designed to provide the tools necessary to understand basic sectional anatomy of the human body. Fundamental principles are 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 - 3070 Sonography Clinical II, 6.00 Credits
Prerequisite(s): SONO 3070 with C or better
Level: Lower
Prerequisite(s): SONO 3070 with C or better
Applied Learning-Clinical Plom, Clinical Liability Insurance
This course is designed to provide the tools necessary to understand basic sectional anatomy of the human body. Fundamental principles are 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.
COURSE DESCRIPTIONS

SONO - 3024 Sonography Clinical II, 4.00 Credits
Prerequisite(s): SONO 3016 with C or better
Level: Lower
Applied Learning-Clinical Practicum, Clinical Liability Insurance
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. 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 - 3034 Sonographic Procedures II, 4.00 Credits
Level: Lower
Applied Learning-Clinic
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 advanced and mastery level learning objectives during the clinical rotation. This clinical experience consists of 360 hours, which will be completed 40 hours per week for 9 weeks.

SONO - 4003 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 - 4024 Sonography Clinical III, 4.00 Credits
Prerequisite(s): SONO 3024 with C or better
Level: Lower
Applied Learning-Clinical Practicum, 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 is the focus of this clinical experience. Continued assessment of learning and proficiency is conducted using summative competencies and advanced and mastery level learning objectives during the clinical rotation. This clinical experience consists of 360 hours, which will be completed 40 hours per week for 9 weeks.

SONO - 4034 Sonographic Procedures III, 4.00 Credits
Level: Lower
Applied Learning-Clinic
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 Breast; Thyroid; Scrotum; 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 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 - 4900 Directed Study, 1.00 Credit
Prerequisite(s): SONO 3024 with D or better
Level: Lower
This course is an elective course designed to allow students to pursue advanced work in sonography or obtain 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.

SPAN - SPANISH
SPAN - 1203 Spanish I, 3.00 Credits
Level: Lower
Gen Ed - Foreign Languages, Liberal Arts and Science
This course focuses on developing the student’s ability to speak, 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 Languages, 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-COMP1503/SPCH1083, Gen Ed - BC-COMP3503/SPCH3083, Liberal Arts and Science
This course deals with preparing, presenting, and criticizing 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 intrapersonal and interpersonal 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 - 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-COMP1503/SPCH5083, Gen Ed - BC-COMP3503/SPCH3083, Liberal Arts and Science
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
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 investigation of 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 sports administration with an emphasis on management principles and career opportunities. 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 sporting opportunity and sporting behavior, including sport ethics, resulting from the influence of society will be covered.

SPMG - 2013 Sport in Europe Soc Study Abrd, 3.00 Credits
Level: Lower
This course provides an in-depth examination of sport in society, globalization of sporting culture, and an understanding of the European model of sport. A review of the role of sport participants, spectators, and media on society is included. Various organizational levels of sporting opportunity and sporting 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 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 - 3013 Sport Communication, 3.00 Credits
Prerequisite(s): COMP 1503 with D or better and BUAD 2033 with D or better and SPMG 1123 with D or better
Level: Lower
This course is an introduction to the study of policies and procedures utilized in dealing with communication issues occurring within the sports industry, including print and electronic media, the internal and external constituencies 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 - 4001 Field Experience II, 1.00 Credit
Prerequisite(s): SPMG 1123 with D 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 - 4003 Sport Law, 3.00 Credits
Prerequisite(s): SPMG 1123 with D or better and ( BUAD 3043 with D or better or BUAD 7023 with D or better )
Level: Lower
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 - 4123 Sport Facility Management, 3.00 Credits
Prerequisite(s): SPMG 1123 with D 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.

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
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 - 5013 Sport Communication, 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 constituencies to be served, and the development of specific forms of communication approaches. High 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 - 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, sponsor 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 7023 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 a focus 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 - 7013 Sport Management Capstone, 3.00 Credits
Prerequisite(s): SPMG 1123 with D or better and BUAD 3153 with D or better
Level: Upper
This course is a study of the administrative structure of sport organizations including those operating at a local, national, and international level. Emphasis will be placed on existing and how best to function within each to accomplish objectives.

SPMG - 8112 Internship, 12.00 Credits
Level: Upper
Applied Learning-Internship, Pass/Fail
A work experience 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 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.

TMGT - 7003 Managing Tech & Innovation Cap, 3.00 Credits
Prerequisite(s): TMGT 7153 with D or better or BUAD 3153 with D or better
Level: Upper
Applied Learning-Practicum
This course is an application of theoretical approaches to technology management and innovation applied through running a simulated business. Major concepts, tools, and processes will be explored through lecture, readings, team activities, and case study applications. Major topics include technology innovation, the assessment of technology and the importance of technology forecasts. Students will learn how to manage innovation strategies, technological evolution, and organizational context for technology management. Additional topics will also include strategic actions required by business, developing a firm's organizational innovation capabilities, creating and implementing a development strategy, new product development, and challenges to managing innovation.

TMGT - 7153 Principles of Management, 3.00 Credits
Level: Upper
This course deals with understanding management concepts and functions of encouraging employee's enthusiasm and creativity; finding shared vision, norms, and values, sharing information and power; and encouraging teamwork and participation. The concepts of planning, organizing, leading, and controlling are explored to show how these basic principles can be used to create a healthy and thriving environment in today's global environment of business and technology.

TMGT - 8006 Technology Management Internship, 6.00 Credits
Level: Upper
Applied Learning-Internship, Pass/Fail
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, or 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, as well as self and supervisor evaluations are required. Evaluation will be based on the quality of experiences gained from the internship and student work performance.
VETS - 1203 Technology Management Internship, 3.00 Credits
Level: Upper
Applied Learning-Internship
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, or 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.

VETS - 1206 Technology Management Internship, 6.00 Credits
Level: Upper
Applied Learning-Internship, Pass/Fail
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, or 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.

VETS - 1207 Internship, 12.00 Credits
Level: Upper
Applied Learning-Internship, Pass/Fail
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, or 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.

VETS - 1214 Anatomy & Physiology of Animals I, 4.00 Credits
Level: Lower
Applied Learning-Other, Liberal Arts and Science
This course focuses on 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 in an integrated lecture and laboratory approach. Prosected 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, kochiarches 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.

VETS - 2014 Anatomy & Physiology of Animals II, 4.00 Credits
Prerequisite(s): VETS 1214 with D or better and VETS 1203 with C or better
Level: Lower
Applied Learning-Other, Liberal Arts and Science
Anatomy and Physiology of Animals II is a continuation of the study of anatomy and physiology which began using the organ system in VETS 1214 - Anatomy and Physiology of Animals I. This course uses Domestic and Exotic animal species as the models on which we complete the discussion of the normal anatomy and physiologic function of animals. This course provides a functional integration of basic science and clinical information as it relates to the healthy animal in an integrated lecture and laboratory approach. Histological slides, kochiarches, and radiographs will also be utilized in reinforcing the relationship and understanding of organ function. The course 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.

VETS - 2010 Pathophysiology of Anatomical Disease, 4.00 Credits
Prerequisite(s): VETS 1214 with D or better and VETS 2014 with C or better
Level: Lower
Pathophysiology of Animal Disease is a course which provides a multidisciplinary approach to the understanding of basic science and clinical information as it relates to health and disease in domestic animals. Utilizing a body systems approach, students will receive in-depth exposure to the most common diseases of domestic animals. They will build on their foundation in anatomy and physiology from previous courses to learn how disease affects normal anatomy and physiology. They will learn their role in the diagnosis, management, and prevention of disease in domestic animals.

VETS - 2333 Domestic Animal Behavior, 3.00 Credits
Level: Lower
This course is designed to further develop an understanding of domestic animal behavior for students in the Veterinary Technology Program. It will help the student to work as a veterinary technician with a strong understanding of the behaviors they see and to help educate clients when behavior issues arise. In addition to the text the students will be viewing videos and images of domestic animal behavior. This course may include interactions with live domestic animals (primarily dogs and cats) and behavior modification related to handling issues that commonly arise in the clinic (nail trimming, blood draws, etc.).

VETS - 3003 Animal Health Care, 3.00 Credits
Prerequisite(s): VETS 1203 with C or better and ( VETS 1214 with D or better or ANSC 2114 with C or better )
Level: Lower
Applied Learning-Practicum, Course Fee $33.00
This course is designed to give first year students intensive animal handling skills and familiarity with basic procedures such as injections, venipuncture, bandaging, and dosage and feeding calculations. Students will also develop skills to perform proficient physical examination of animals. Common outpatient diagnostic tests used for eye, ear, and skin disease will be mastered. Urinalysis and collection of urine samples will be practiced and students will also learn how to measure packed cell volumes and plasma protein levels in blood samples. Dentistry prophylaxis, recognition of dental abnormalities, and dental charting using both anatomic and Triadent systems will also be covered thoroughly. Students will also visit the local Humane Society to perform technician-related duties.

VETS - 3004 Anesthesia & Surgical Nursing, 4.00 Credits
Prerequisite(s): VETS 2014 with C or better and VETS 3003 with C or better and VETS 3023 with C or better
Level: Lower
Applied Learning-Practicum, Course Fee $33.00
This course is designed to prepare the second year Veterinary Technology student to become the individual who can induce, maintain and recover small animal surgical patients. The student will also prepare the animals for surgery and assist in the surgical procedures. Upon course completion, the student will possess an understanding of all procedures done in vet practice with anesthesia and surgical nursing.

VETS - 3013 Animal Parasitology, 3.00 Credits
Prerequisite(s): VETS 1214 with D or better and VETS 1203 with C or better
Level: Lower
Applied Learning-Practicum, Course Fee $33.00
Parasitology is a multidisciplinary approach to the study of internal and external parasites of companion, exotic and farm animals. This course will integrate the student's knowledge of anatomy and pharmacology while providing the student the opportunity to understand life cycles, diagnostic protocol, control and treatment of the most common internal and external parasites. The course will also develop the students' understanding of how to appropriately provide both verbal and written communications for the client concerning management, prevention and potential zoonosis of the common parasites. The laboratory will emphasize the common techniques used to identify the parasites of companion, laboratory and farm animals.

VETS - 3022 Intro to Anesthesia & Surg Nurs, 2.00 Credits
Prerequisite(s): VETS 2014 with C or better and VETS 3003 with C or better and VETS 3013 with C or better
Level: Lower
This course will provide the student the opportunity to gain an initial understanding of the principles of veterinary anesthesia and veterinary surgical nursing. The students will be introduced to the currently used veterinary anesthetic drugs and their effect on the animal by utilizing their knowledge of the normal anatomy, physiology as a basis for understanding. In the laboratory the student will be given an introduction to the technical skills needed to preanesthetize, anesthetize, monitor, and recover the animal patient, by utilizing current appropriate anesthetic agents, equipment, and protocols. The student will also learn to use critical thinking skills in gaining an understanding of how anesthetic monitoring equipment will be used to evaluate the surgical patient during the anesthetic period. The students will also be introduced to surgical and anesthetic skills including preoperative management of surgical patients, assisting veterinary surgeons, prepping surgical patients, learning and practicing aseptic techniques, IV fluid support, analgesia, and providing postoperative patient and incision care. The dog and the rabbit will be the surgical patients providing educational support in this course. Students will also perform pre- and postoperative assessments of surgical patients outside of class time as well as one week of assigned kernel duty.
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.

WELD - 1204 SMAW I, Carbon Arc Cutting & Gouging, 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. Carbon arc skills will include cutting and gouging of mild steel.

WELD - 1205 Shielded Metal Arc Weld I, 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.

WELD - 1715 Gas Weld, Cutting & Plasma Cut, 5.00 Credits Level: Lower Applied Learning-Practicum Basic mathematical functions used by the welder in the performance of their duties will be the subject of this course. Mathematical operations such as manipulation of fractions, decimals and unitarily converting between the two and into the metric measurement system along with calculating perimeter, volumes, weight and bend calculations will be taught in this course.

WELD - 1724 Gas Wldng/Cutng & Plasma Cutng, 4.00 Credits Level: Lower Applied Learning-Practicum, Course Fee $112.00 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, component identification, equipment set up, minor repairs, process variables, and manual and automatic performance exercises. Laboratory exercises emphasize technique and skill development.

WELD - 1728 ArcWldng, Crbn Arc Clnng Gaugng, 8.00 Credits Level: Lower Applied Learning-Practicum This course provides the student with a thorough technical understanding of shielded metal arc welding, carbon arc cutting, welding and cutting safety, power sources, and electrodes. Hands-on technical training will develop skills necessary to make quality arc welds on mild steel, in all positions and on varying plate thickness. Carbon arc skills will include cutting, gouging, and weld washing of mild steel.

WELD - 1733 Blueprint Readng, Insp & Test, 3.00 Credits Level: Lower Course Fee $16.00 This course provides the student with 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 weld testing techniques; both destructive and non-destructive.

WELD - 2715 Shld Mtl Arc & Fix Crd Arc Wld, 5.00 Credits Level: Lower Applied Learning-Practicum, Course Fee $112.00 This course provides instruction on the welding processes used in industry that are in high demand, including flux cored arc welding and shielded metal arc welding. All processes, positions, and joint types studied will be in accordance with the American Welding Society specifications.

WELD - 2725 Gas Metal Arc Welding I, 5.00 Credits Level: Lower Applied Learning-Practicum This course presents one of the most popular welding processes in industry today. Gas metal arc processes 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 all tolerances that may apply. These tolerances include utilitarian, 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, welding 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.
COURSE DESCRIPTIONS

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 $112.00
This course covers the safety inspections and preparation of shielded metal arc welding (SMAW II). Students will learn the OSHA standards. SMAW II theory will also be covered.

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 covers the safety inspections and preparation for welding carbon steel pipe and tubing. Students will learn the various methods of testing and inspection of welds. All position qualification testing will prepare students for welder certification testing (AWS EG3.0-96).

WELD - 3025 Gas Tungsten Arc Welding II, 5.00 Credits
Prerequisite(s): WELD 2725 with D or better
Level: Lower
Applied Learning-Practicum
Students will learn setup and operating procedures, gas cylinder handling, flow meter and torch operations for welding carbon steel pipe and tubing. The course will also cover the various methods of testing and inspection of welds. All position qualification testing will prepare students for welder certification testing (AWS EG3.0-96).

WELD - 4013 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 welding. The student will be required to identify a need for a new product or improvement on an existing product. After identification, the completion of the project will occur with minimal instructor guidance. This will allow the student to demonstrate their ability to perform independently. Upon completion, the student will demonstrate the functionality of the project in the form of a formal presentation. This will be a functional model of the student's own design.

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, Course Fee $112.00
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. Students will be able to make external repairs to the equipment and accessories. Students will also learn set up and operation of the GTAW equipment for stainless steel pipe/tubing. Students will execute corrective actions to repair surface flaws on welds and base metals and perform 2G and 5G performance qualification tests on 300 series stainless steel pipe/tubing using stainless steel fillers. Pipe welding using GTAW process will be stressed. Students will be required to take the exams for Level II AWS certification.

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 setup 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 industry 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.
SUNY Distinguished Professors

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

BRADY T. ADAMS (2017) - Instructor, Building Trades

NICOLE AGOSTA (2017) - Assistant Professor, Physical and Life Sciences
AS, BS - SUNY College of Technology at Alfred
MS - Syracuse University

SUE AKIYAMA (2017) - Assistant Professor, Architecture and Design
BA - Miami University - Oxford
MA - University of California - Los Angeles

DR. MURAT AL (2016) - Assistant Professor, Mechanical and Electrical Engineering Technology
BS - Middle East Technical University
MS - Rutgers University - Newark
PhD - Middle East Technical University

ERIC A. ALGER (2014) - Senior Counselor, Health and Wellness Services
AAS - SUNY College of Technology at Alfred
BA, MSEd - Alfred University

DR. JILL AMATI (2012) - Associate Professor and Chair, Social and Behavioral Sciences
BA - University of Washington
MA - Oregon State University
MPA, PhD - Syracuse University

MOLLY E. ANDRUS (2008) - Senior Staff Assistant, Marketing Communications
BA - Plattsburgh State University

COLLEEN H. ARGENTIERI (1988) - Director, Alumni Relations, Institutional Advancement
AAS - SUNY College of Technology at Alfred

TRAVIS ARMISON (2011) - Instructional Support Assistant, Agriculture and Veterinary Technology
BT - SUNY Cobleskill

MICHAEL ARMSTRONG (2017) - Head Baseball Coach, Athletics
BA - Ithaca College

RUTHANNE ASHWORTH (2017) - Assistant Professor, Nursing
AS - SUNY College of Technology at Alfred
BS - SUNY College at Brockport
MS - SUNY College at Binghamton

DR. KARLA M. BACK (2004) - Professor, Business
BA - University of Houston-University Park
MA - University of Houston-Clear Lake
PhD - Texas A&M University

ANN BALDWIN (2006) - Admissions Assistant, Admissions
BA - Wilmington College
SUNY Chancellor’s Award for Excellence in Professional Service, 2002-03

ZACHARY BARBIS (2014) - Residence Hall Director, Residential Services
AS - Broome Community College
BA - SUNY College at Binghamton
MS - SUNY College at Albany

ANDREW J. BAYUS (1986) - Director of College Housing, Residential Services
BS, MAEd - Edinboro University

WAYNE BENSLEY (2007) - Associate Professor and Chair, Physical and Life Sciences
BA - Syracuse University
MSFS - University of Alabama at Birmingham

ALEC BERENBAUM (2013) - Assistant Professor, Computer and Information Technology
BS, MS - Rochester Institute of Technology

CURTIS BERLEUE (2015) - Senior Staff Assistant, Technology Services
AAS, BT - SUNY College of Technology at Alfred

KRISTOFER BIANCHI (2012) - University Police Officer II
BS - SUNY College at Oneonta

KYLIE K. BIERMAN (2017) - Staff Assistant, Athletics
BS - Alfred University

SCOTT BINGHAM (2006) - University Police Officer II
AAS - Finger Lakes Community College
SUNY Chancellor’s Award for Excellence in Classified Service, 2015-16

DR. ALEX BITTERMAN (2014) - Professor and Chair, Architecture and Design
BS - SUNY Buffalo State
MArch, PhD - University at Buffalo
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Years</th>
<th>Education</th>
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<tbody>
<tr>
<td>Melissa Blake</td>
<td>Associate Professor, Business</td>
<td>2005</td>
<td>AAS, BBA - SUNY College of Technology at Alfred</td>
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<td></td>
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<td>MBA - SUNY Institute of Technology at Utica-Rome</td>
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<tr>
<td>Kathleen Bliss</td>
<td>Assistant Professor, Agriculture and Veterinary Technology</td>
<td>2001</td>
<td>AAS - SUNY College of Technology at Alfred</td>
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<td>AS, LVT, NYS - Medaille College</td>
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<td>BS - Purdue University</td>
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<td>MALS - Excelsior College</td>
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<td>SUNY Chancellor’s Award for Excellence in Teaching, 2014-15</td>
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<tr>
<td>Mark Bloxom</td>
<td>Assistant Professor, Business</td>
<td>2015</td>
<td>BS - University of Maryland</td>
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<td>BS - University of North Carolina at Charlotte</td>
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<td>MA - University of California-Irvine</td>
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<tr>
<td>Dr. Timothy Bocchi</td>
<td>Assistant Professor, Mathematics and Physics</td>
<td>2005</td>
<td>BS - Purchase College</td>
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<td>PhD - CUNY Graduate Center</td>
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<td>Jeremy Boorman</td>
<td>University Police Officer</td>
<td>2016</td>
<td>AS - SUNY College of Technology at Alfred</td>
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<td>AS - Genesee Community College</td>
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<tr>
<td>Danel Bowen</td>
<td>Instructor, Electrical Trades</td>
<td>2016</td>
<td>AOS - SUNY College of Technology at Alfred</td>
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<tr>
<td>Regina Boyd</td>
<td>Staff Associate, Athletics; Women’s Basketball Coach</td>
<td>1990</td>
<td>AAS - Cayuga Community College</td>
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<td>BSE - SUNY Cortland</td>
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<td>MS - The College at Brockport</td>
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<tr>
<td>Lisa Boyle</td>
<td>Instructor, Physical and Life Sciences</td>
<td>2013</td>
<td>AAS - SUNY College of Technology at Alfred</td>
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<tr>
<td>Tammy Brackett</td>
<td>Assistant Professor and Chair, Digital Media and Animation</td>
<td>2008</td>
<td>BA, MFA - Alfred University</td>
</tr>
<tr>
<td>Robert E. Bretzin</td>
<td>Assistant Professor, Computerized Design and Manufacturing</td>
<td>1991</td>
<td>AOS - SUNY College of Technology at Alfred</td>
</tr>
<tr>
<td>Destiny Brito</td>
<td>Admissions Counselor, Admissions</td>
<td>2017</td>
<td>AAS, BS - SUNY College of Technology at Alfred</td>
</tr>
<tr>
<td>Dr. Adam R. Brown</td>
<td>Assistant Professor, Physical and Life Sciences</td>
<td>2018</td>
<td>AAS - Pennsylvania College of Technology</td>
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<td>BS - Lycoming College</td>
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<td>MS - University of Hawaii at Manoa</td>
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<td>PhD - University of North Carolina</td>
</tr>
<tr>
<td>Kaitlyn Brown</td>
<td>Associate Director, Annual Giving and Alumni Relations</td>
<td>2016</td>
<td>BBA - SUNY College of Technology at Alfred</td>
</tr>
<tr>
<td>Denise Brownell</td>
<td>Director of Dining Services, Auxiliary Campus Enterprises and Services</td>
<td>1991</td>
<td>AS - SUNY College of Technology at Alfred</td>
</tr>
<tr>
<td>Glenn Brubaker</td>
<td>Senior Director, Facilities Operations</td>
<td>2004</td>
<td>AOS - SUNY College of Technology at Alfred</td>
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<td></td>
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<td>BPS - SUNY Empire State College</td>
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<td>Certified OSHA Outreach Trainer</td>
</tr>
<tr>
<td>Aric Bryant</td>
<td>Assistant Professor, Mechanical and Electrical Engineering Technology</td>
<td>2016</td>
<td>AS, BS - SUNY College of Technology at Alfred</td>
</tr>
<tr>
<td></td>
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<td>MS - SUNY at Binghamton</td>
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<tr>
<td>Victoria Bryant</td>
<td>Accountant, Business Affairs</td>
<td>2005</td>
<td>BS - Lockhaven State University</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>MBA - St. Bonaventure University</td>
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<tr>
<td>Leslie Buckley</td>
<td>Academic Adviser, Student Success Center</td>
<td>2015</td>
<td>BS - Houghton College</td>
</tr>
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<td>MSED - Alfred University</td>
</tr>
<tr>
<td>Dr. James Buell</td>
<td>Professor, Mathematics and Physics</td>
<td>2004</td>
<td>MS, PhD - University of Oklahoma</td>
</tr>
<tr>
<td>Dr. Elizabeth P. Bullock</td>
<td>Assistant Professor, Social and Behavioral Sciences</td>
<td>2018</td>
<td>BA - The Evergreen State College</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>MA - The University of Chicago</td>
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<td>PhD - The Graduate Center, CUNY</td>
</tr>
<tr>
<td>Debra Burch</td>
<td>Associate Professor and Chair, Culinary Arts</td>
<td>1998</td>
<td>AOS - SUNY College of Technology at Alfred</td>
</tr>
<tr>
<td>Dr. John Burke</td>
<td>Assistant Professor, Computer and Information Technology</td>
<td>2012</td>
<td>MBA - Indiana University-Bloomington</td>
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<td></td>
<td></td>
<td>PhD - University of Illinois at Urbana-Champaign</td>
</tr>
</tbody>
</table>
DALE BURNS (2000) - Senior Network Manager, Technology Services
AAS, BS - SUNY College of Technology at Alfred

DR. YVONNE BUSTAMANTE (2016) - Assistant Professor, Social and Behavioral Sciences
BA - Keuka College
MS - Nova Southeastern University

DAVID CARLI (2007) - Associate Professor, Architecture and Design
AAS - Geneseo Community College
BS, MFA - 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

MICHAEL CASE (2002) - Director, Technology Services
AAS - SUNY College of Technology at Alfred
BS - Rochester Institute of Technology

DONALD W. CATINO (1985) - Professor, Automotive Trades
AOS - SUNY College of Technology at Alfred
ASE Master Certification, Auto

VIRGINIA CHAMBERLAIN (2013) - Manager, College Farm
BS - University of New Hampshire

CATHERINE CHAMBERS (2014) - Director, Print and Mail Services
AS - Motlow State Community College
BA - Covenant College
MEd - Penn State University Park

DEBORAH CLAIRE (1989) - Senior Programmer/Analyst, Technology Services
BA - SUNY Geneseo
SUNY Chancellor’s Award for Excellence in Professional Service, 2009-10

DIANNE CLARK (2004) - Associate Professor, Business
AS, BS, MBA - SUNY Empire State College

SARAH CLAUD (2016) - Instructional Support Assistant, Physical and Life Sciences
AS - Jefferson Community College
AAS - Upstate Medical University

DR. CARSON W. CLEMENTS (2018) - Assistant Professor, Business
BS, MA - SUNY College at Brockport
JD - Syracuse University
PhD - Miami University, Oxford

ELIZABETH COATS (2016) - Assistant Professor, Nursing
AAS - SUNY College of Technology at Alfred
BS - SUNY College at Brockport
MS - Western Governors University

BRENT COBIN (1998) - Senior Staff Assistant, Print and Mail Services

TIMOTHY J. COCHRAN (1999) - Professor, Mechanical and Electrical Engineering Technology
MS - University of Wisconsin - Madison

ADRIAN COGSWELL (2013) - Lead Programmer/Analyst, Technology Services
BT - SUNY College of Technology at Alfred

JEFFERY COLE (2014) - Community Relations Associate, Marketing Communications
AA - SUNY College of Technology at Alfred
BA - St. Bonaventure University

MICHAEL A. COLOMAIO (2002) - Assistant Professor, Social and Behavioral Sciences
BA - SUNY Geneseo
MS - Alfred University

DR. 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

GORDON COOK (1989) - Instructional Support Assistant, School of Applied Technology

JUSTIN CORNELIUS (2013) - Staff Associate, Health and Wellness Services
BA - SUNY College at Buffalo
MSE - Alfred University

CYAN CORWINE (2016) - Senior Staff Assistant, Coordinator of International Student Services
BA - SUNY College at New Paltz

CASEY COWBURN (2012) - Staff Associate, Student Success Center
BA, MED - University of Massachusetts-Lowell

MARK CRAGG (2006) - Instructional Support Assistant, College Farm
AAS - SUNY College of Technology at Alfred
RAWLE CRAWFORD (2014) - Staff Assistant, Technology Services
AAS, BT - SUNY College of Technology at Alfred

STEPHEN H. CROUCH (2018) - University Police Officer I
AAS - Corning Community College

CHARLES CUTLER (2014) - Senior Staff Assistant, Technology Services
AAS - Rochester Institute of Technology

NATALIA DANIELS (2016) - Academic Adviser, Student Success Center
BS - Ohio State University
MSED - Bloomsburg University of Pennsylvania

THOMAS DANIELS (2016) - Staff Assistant, Coordinator of Intercultural Student Support
BS - SUNY College of Technology at Alfred

JAMIE D'ARCY (2013) - Assistant to the Director, Facilities Operations - Environmental Manager
BA - Alfred University

MARK D'ARCY (2004) - Assistant Professor, Mathematics and Physics
BA, MSED - Alfred University
MS - Clemson University

MARY LOUISE DAVIS (2011) - Academic Advisement Assistant, EOP, Student Success Center
BA, MSW - University at Buffalo

DANIEL DAVISON (2006) - Instructional Support Associate, Automotive Trades

WILLIAM DEAN (2000) - Professor, Architecture and Design
AAS - SUNY College of Technology at Alfred
BPS, MArch - University at Buffalo
Registered Architect - New York

BRIAN J. DECKER (2009) - Instructor, Culinary Arts
AOS - SUNY College of Technology at Alfred

SUSAN DENILLO (2016) - Head Softball Coach, Athletics
BS - Clarion University of Pennsylvania
MS - California University of Pennsylvania

TIMOTHY DICKERSON (2014) - Assistant Professor, Computerized Design and Manufacturing
AOS - SUNY College of Technology at Alfred

MATTHEW DIRADO (2018) - Assistant Professor, Architecture and Design
BS - SUNY College of Technology at Alfred
MA - Syracuse University

EUGENE 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

DANIEL DRAKE (2015) - Instructor, Building Trades

WENDY DRESSER-RECKTENWALD (2000) - Senior Director, Center for Community Education and Training and Human Resources
BA - SUNY Geneseo
MS - St. John Fisher College

NANCY DRISCOLL (2000) - Assistant Director, Admissions
BA, MS - Buffalo State College
SUNY Chancellor's Award for Excellence in Professional Service, 2014-15

STEPHEN DUDLEY (2011) - Senior Programmer/Analyst, Technology Services
MBA - Canisius College

DENNIS DUENO (2016) - Admissions Counselor, Admissions
AAS, BS - SUNY College of Technology at Alfred

MARY DUEX (2014) - Residence Hall Director, Residential Services
BS - SUNY College of Technology at Alfred

SCOTT DUMOND (2016) - Assistant Professor, Business
MS - American College
BA - SUNY College at Geneseo

DR. KATHLEEN CASEY EBER (1993) - Associate Vice President, Academic Services, Academic Affairs
AA - SUNY College of Technology at Alfred
BA - Alfred University
MA, PhD - University at Buffalo

KERI EDSALL (2016) - Financial Aid Assistant, Student Records and Financial Services
BS - Mansfield University of Pennsylvania
TAMMY EDWARDS (2003) - Senior Staff Assistant, Center for Community Education and Training  
AA - SUNY College of Technology at Alfred  
BA - Alfred 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) - Assistant Athletic Director/Compliance Coordinator, Athletics  
MS - Alfred University

DR. DORTHEA FITZSIMMONS (2002) - Assistant Professor and Coordinator of Animal Science, Agriculture and Veterinary Technology  
BS, DVM - Cornell University  
MS - University of Wisconsin

MICHIELE FRANCISCO (1998) - Staff Associate, Business Affairs  
AAS - SUNY College of Technology at Alfred  
BA - St. Bonaventure University

JOHN M. GARIPPA (1994) - Associate Professor, Automotive Trades  
AOS - SUNY College of Technology at Alfred  
ASE Master Certification, Auto  
ASE Advance Level Certification  
ASE Alternative Fuels Certification

KANDI GEIBEL (1995) - Senior Associate Director, Admissions  
AA - SUNY College of Technology at Alfred  
BA, MS - Alfred University  
SUNY Chancellor’s Award for Excellence in Professional Service, 2006-07

LAURA GEORGE (2014) - Financial Aid Adviser, Student Records and Financial Services  
AAS, BS - SUNY College of Technology at Alfred

DILAN GILLULY (2014) - Staff Assistant, Help Desk/Client Services, Technology Services  
AOS - SUNY College of Technology at Alfred

DENNY GLASS (2015) - Staff Assistant, Facilities Services  
AAS - SUNY College of Technology at Alfred

RAY GLEASON (2003) - Instructional Support Technician, School of Architecture, Management and Engineering Technology  
AAS - SUNY College of Technology at Alfred

KEITH GLOVER (2015) - Assistant Professor, Culinary Arts  
AOS - SUNY College of Technology at Alfred

JAMES L. GRAHAM (1994) - Instructional Support Associate, Computerized Design and Manufacturing  
AOS - SUNY College of Technology at Alfred

GARTH M. GRANTIER (1993) - Academic Adviser, Student Success Center  
BS, MS - Alfred University

VINCENT GRAVANDA (2014) - Residence Hall Director, Residential Services  
BA, MSED - Alfred University

CLINTON J. GRAY (2017) - Instructor, Building Trades  
AS - Pennsylvania College of Technology

DANIELLE GREEN (2011) - Assistant Professor, Business  
AAS, BBA - SUNY College of Technology at Alfred

JOSEPH GREENTHAL (2010) - Controller, Business Affairs  
BBA - SUNY College of Technology at Alfred

BARBARA J. GREL (1977) - Librarian, Hinkle Memorial Library  
BA - Carnegie Mellon University  
MLS - Rutgers University  
SUNY Chancellor’s Award for Excellence in Librarianship, 1998-99

CASEY GROSS (2000) - Staff Associate, Judicial Affairs  
BA - SUNY Fredonia

VINCENT GROTTANELLI (2016) - Instructor, Building Trades

JENNIFER GUTHRICE (2016) - Instructional Support Associate, Nursing  
AA - Jamestown Community College

PATRICIA HAGGERTY (2015) - Director of Annual Giving, Institutional Advancement  
BA - SUNY Geneseo

MICHAEL HALETA (2017) - Assistant Professor, Digital Media and Animation  
BFA - Maryland Institute College of Art  
MFA - Alfred University

ROBERT HALEY (2004) - Staff Associate, Facilities Services  
AAS - SUNY College of Technology at Alfred
<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Position</th>
<th>Institution</th>
<th>Years</th>
</tr>
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<tbody>
<tr>
<td>DR. HOLLIE M. HALL</td>
<td>Director of Counseling, Health and Wellness Services</td>
<td>Alfred University, St. John Fisher College</td>
<td>2007</td>
</tr>
<tr>
<td>ROBIN HARRINGTON</td>
<td>Senior Financial Aid Adviser, Student Records and Financial Services</td>
<td>St. Bonaventure University</td>
<td>1990</td>
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<tr>
<td>BROOK HART</td>
<td>Admissions Counselor, Admissions</td>
<td>SUNY College of Technology at Alfred</td>
<td>2017</td>
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<tr>
<td>SARAH HASKINS</td>
<td>Assistant Professor, Mathematics and Physics</td>
<td>SUNY Cortland</td>
<td>2013</td>
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<tr>
<td>TIMOTHY HAUBER</td>
<td>Senior Staff Assistant, Technology Services</td>
<td>Corning Community College</td>
<td>2011</td>
</tr>
<tr>
<td>MATTHEW HELLER</td>
<td>Chief of Police</td>
<td>Finger Lakes Community College</td>
<td>1996</td>
</tr>
<tr>
<td>JEFFREY B. HELWIG</td>
<td>Associate Professor, Computerized Design and Manufacturing</td>
<td>Rochester Institute of Technology</td>
<td>1998</td>
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<tr>
<td>CODY HERMAN</td>
<td>Assistant Director, Residential Services</td>
<td>SUNY College of Technology at Alfred</td>
<td>2015</td>
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<tr>
<td>NIKKIE HERMAN</td>
<td>Chief Diversity Officer and Title IX Coordinator</td>
<td>SUNY College of Technology at Alfred</td>
<td>1998</td>
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<tr>
<td>JONATHAN HILSHER</td>
<td>Director, Office of Civic Engagement</td>
<td>Eastern University</td>
<td>2012</td>
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<tr>
<td>JOSEPH R. HISTED</td>
<td>University Police Officer I</td>
<td>SUNY College at Brockport</td>
<td>2017</td>
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<tr>
<td>TARA HISTED, RN, MSN</td>
<td>Assistant Professor, Nursing</td>
<td>SUNY College at Brockport</td>
<td>2017</td>
</tr>
<tr>
<td>ALEXANDRA C. HOFFMAN</td>
<td>Senior Assistant Librarian, Hinkle Library</td>
<td>California State University</td>
<td>2017</td>
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<tr>
<td>DR. JESSICA HOFFMAN</td>
<td>Assistant Professor, Social and Behavioral Science</td>
<td>University at Buffalo</td>
<td>2017</td>
</tr>
<tr>
<td>C. DAVID HOLMES</td>
<td>Senior Staff Assistant, Technology Services</td>
<td>SUNY College of Technology at Alfred</td>
<td>2005</td>
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<tr>
<td>ANNE HOLMOK</td>
<td>Head Coach, Athletics</td>
<td>Alfred University</td>
<td>2007</td>
</tr>
<tr>
<td>JONATHAN HOOVER</td>
<td>Head Men's Soccer/Lacrosse Coach, Athletics</td>
<td>Wheeling Jesuit University</td>
<td>2015</td>
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<tr>
<td>STEPHANIE M. HOYER</td>
<td>Senior Staff Assistant, Marketing Communications</td>
<td>SUNY College of Technology at Alfred</td>
<td>2006</td>
</tr>
<tr>
<td>DAVID HUNT</td>
<td>Associate Professor, Mechanical and Electrical Engineering Technology</td>
<td>Alfred University, SUNY College of Technology at Alfred</td>
<td>1997</td>
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<tr>
<td>JESSICA HUTCHISON</td>
<td>Lecturer, Agriculture and Veterinary Technology</td>
<td>University of Georgia</td>
<td>2010</td>
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<tr>
<td>DR. GERALD IANOVICI</td>
<td>Assistant Professor, English and Humanities</td>
<td>New York University, University of Kentucky</td>
<td>2014</td>
</tr>
<tr>
<td>DANIEL JARDINE</td>
<td>Senior Staff Associate, Accreditation and Professional Development</td>
<td>St. Bonaventure University, SUNY College at Binghampton</td>
<td>2015</td>
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<tr>
<td>DR. KYUNG YON JHI</td>
<td>Assistant Professor, Social and Behavioral Sciences</td>
<td>Korea University, Michigan State University, Sam Houston State University</td>
<td>2017</td>
</tr>
<tr>
<td>KENT JOHNSON</td>
<td>Associate Professor, Automotive Trades</td>
<td>ASE Master Certification, Auto ASE Truck Certification</td>
<td>1993</td>
</tr>
</tbody>
</table>
R. Jack Jones (2010) - Associate Professor and Department Chair, Building Trades
BA - Mansfield University

Jeremy Joseph (2014) - Instructor, Computerized Design and Manufacturing
AOS - SUNY College of Technology at Alfred

Jerry Jusianiec (1999) - Senior Staff Assistant, Men's Basketball Coach, Facilities and Equipment Manager, Athletics
BS - Elmira College

Dr. Daniel Katz (2018) - Dean, School of Arts and Sciences
BA, MA - University of Wisconsin
PhD - Rutgers University

Jason S. Kellogg (2017) - Instructor, Automotive Trades
AAS - Monroe Community College

Karen Kelly (2008) - Lecturer, Mathematics and Physics
MA - Cornell University

Dr. David Kendall (2004) - Associate Professor, Mathematics and Physics
BS - Lamar University
MS - Rice University
PhD - University of Massachusetts

Debra Kerr (2004) - Senior Staff Assistant, Technology Services
AAS - SUNY College of Technology at Alfred

Stephen Kielar (2007) - Instructor, Electrical Trades
AOS - SUNY College of Technology at Alfred

Lori King (2013) - Assistant Director, Residential Services
BS - Keystone University
MS - Kaplan University

Jamin Kuhn (2018) - Assistant Professor, Digital Media and Animation
MFA - Washington State University

William A. Laubert (1990) - Professor, English and Humanities
AA - East Central College
BS - Southwest Baptist University
MA - Central Missouri State University

David Law (1989) - Associate Professor, Computer and Information Technology
AAS - Community College of the Air Force
BS - SUNY Plattsburgh
MS - Canisius College

Dr. Matthew Lawrence (2007) - Professor and Chair, Mechanical and Electrical Engineering Technology
BS, MS, PhD - Penn State University

Dr. Alison Levitch (2016) - Assistant Professor, Social and Behavioral Sciences
BS - University of Maryland-College Park
MA - University of Connecticut
PhD - University of Missouri-Columbia

Dr. Kathryn Link (2008) - Associate Professor, Physical and Life Sciences
PhD - University of Manitoba

Dawn M. Linke (1980) - Instructional Support Specialist, Manager, Instructional Technologies
BA - SUNY Fredonia

Scott Linn (2018) - Executive Head Football Coach, Athletics
BA - Albion College
MSE - Alfred University

Jessica Lippa (2015) - Assistant Professor, Nursing
BS - SUNY College at Brockport
BS - University of Rochester
MS - St. John Fisher College

John Phillip Liseck (2015) - Assistant Professor, Business
MS, BS - Miami University-Oxford

Jeff Lokey (2016) - Coordinator of Assessment and Accreditation, Institutional Research

Christina Loper (1991) - Manager, Cash Operations, Auxiliary Campus Enterprises and Services
AOS - SUNY College of Technology at Alfred

Joseph Mariotti (2015) - Instructor, Building Trades
AAS - SUNY College of Technology at Alfred

Kera A. Mariotti (2008) - Assistant Professor, Civil Engineering Technology
BS - SUNY College of Technology at Alfred
MGIS - Pennsylvania State University
KATHRYN A. MARKEL (1990) - Senior Associate Director, Admissions
AAS - SUNY College of Technology at Alfred
BS - Nazareth College
MS - SUNY Fredonia
SUNY Chancellor’s Award for Excellence in Professional Service, 2002-03

JEFFREY K. MARSHALL (1998) - Associate Professor, Civil Engineering Technology
AAS - SUNY College of Technology at Alfred
BSCE - University at Buffalo
MBA - Rochester Institute of Technology
PE - New York

TRACEY MARTIN (2003) - Instructional Support Technician, Agriculture and Veterinary Technology
AAS, LVT - NYS - SUNY Delhi
BS - SUNY Empire State College

STEVEN J. MARTINELLI (1991) - Professor, Mechanical and Electrical Engineering Technology
AOS - SUNY College of Technology at Alfred
BS - SUNY Empire State College
ME - Pittsburgh State University
SUNY Chancellor's Award for Excellence in Teaching, 2005-06

ERICA S. MATTESON (2009) - Assistant Professor, Physical and Life Sciences
BPS - SUNY Polytechnic Institute

DR. TRAVIS W. MATTESON (2018) - Assistant Professor, English and Humanities
BA - Indiana Wesleyan University
MA - St. Bonaventure University
PhD - SUNY University at Buffalo

DEBRA A. MAYES (2000) - Computer Specialist, Technology Services
AAS - Northern Virginia Community College
Comptia A+ Certified Technician

BRIDGETT MAYORGA (2015) - Assistant Professor, Physical and Life Sciences
AAS - SUNY College of Technology at Alfred
BS - SUNY College at Brockport
MSED - Capella University

CALISTA A. MCBRIDE (2002) - Professor, English and Humanities
BA, MA - Kansas State University
SUNY Chancellor's Award for Excellence in Teaching, 2006-07

MICHELLE MCCARTHY (2015) - Director, Procurement and Payment Services, Business Affairs
AAS - SUNY College of Technology at Alfred
BBA - St. Bonaventure University

SEAN MCCARTHY (2015) - Residence Hall Director, Residential Services
BFA - SUNY College at Oswego

PETER MCCLAIN (2005) - Administrative Coordinator, Business Affairs
BA - Alfred University

SEAN MCDONOUGH (1993) - General Manager, Campus Stores, Auxiliary Campus Enterprises and Services
AS - SUNY College of Technology at Alfred
BS - University at Buffalo

MARTHA MCGEE (2007) - Bursar, Student Records and Financial Services
AAS - SUNY College of Technology at Alfred
BS - Alfred University

LUKE MCINTOSH (2011) - Instructor, Automotive Trades
AOS - SUNY College of Technology at Alfred

GEORGE J. MERRY (2009) - Assistant Professor, Computerized Design and Manufacturing

AMY MILLER (2015) - Residence Hall Director, Residential Services
BS - SUNY College at Brockport

MALLORY MOREHOUSE (2013) - Coordinator of Orientation and Family Programming, Student Engagement
BA - Syracuse University

TROY MOREHOUSE (2011) - Director, Student Engagement
MA - Lewis University

ELAINE MORSMAN (2002) - Director of Career Planning, Career Development
BA, MA - St. Bonaventure University

SHAWN L. MURAT (2017) - Instructional Support Assistant, Electrical Trades
AOS - SUNY College of Technology at Alfred

MICHAEL T. MURRAY (1990) - Assistant Director of Dining, Auxiliary Campus Enterprises and Services
AS - SUNY College of Technology at Alfred

DR. MARYAM NASRI (2016) - Assistant Professor, Mechanical and Electrical Engineering Technology
BS - Shahid Beheshti University
MS - University of British Columbia
PhD - Simon Fraser University
CHARLES V. NEAL (1977) - Associate Vice President for Academic Affairs
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

LAWRENCE NEUBERGER (2002) - Associate Professor, Digital Media and Animation
BFA - Kutztown University
MFA - Rochester Institute of Technology

JON NICKERSON (2016) - Staff Assistant, 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 Trades
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

RUSSELL NUNLEY (2016) - Chief Marketing Officer, Marketing Communications
BS - University of Tennessee

DANYELLE O’BRIEN (2015) - Senior Staff Associate, Center for Online Learning
BS, MS - Niagara University

SCOTT O’CONNOR (2011) - Associate Professor, Computer and Information Technology
BS, MS - Clarkson University

CALVIN H. O’DELL (1996) - Instructional Support Assistant, Outside Project Supervisor, Electrical Trades
AOS, AOS - SUNY College of Technology at Alfred

Marilyn Oggeri (2017) - Assistant Professor, Nursing
BS - SUNY College of Technology at Utica/Rome
MS - Keuka College

KIMBERLY OGORZALEK (2003) - Computer Specialist, Technology Services
AAS - SUNY College of Technology at Alfred
BS - Rochester Institute of Technology

DR. REX OLSON (2001) - Assistant Professor, Social and Behavioral Sciences
BA - University of California
MA, MPhil, PhD - Syracuse University
MA, PhD - Duquesne University

DR. JON OWEJAN (2013) - Associate Professor, Mechanical and Electrical Engineering Technology
BS, MS - Rochester Institute of Technology
PhD - University of Tennessee
SUNY Chancellor’s Award for Excellence in Scholarship and Creative Activities, 2017-18

DR. EARL PACKARD (2003) - Assistant Professor and Chair, Mathematics and Physics
BS - Mansfield State College
BSE - Mansfield University
PhD - Tulane University

JAIME L. PALMATIER (2007) - Staff Assistant, Health and Wellness Services
AAS - SUNY College of Technology at Alfred

TERRY PALMITER (1999) - Assistant Professor, Architecture and Design
BArch - Virginia Polytechnic University
MArch - University of Colorado

LINDA PANTER, RN (1993) - Professor and Chair, Nursing
AS - SUNY College of Technology at Alfred
BSN - SUNY College at Brockport
MS - FNP - SUNY at Binghamton

ALEXE PASK (2012) - Senior Staff Assistant/Head Athletic Trainer, Athletics
BS, MS - Daemen College

MARK PAYNE (2007) - Assistant Professor, Building Trades

SPENCER PEAVEY (2006) - Assistant Vice President, Student Affairs
BA - University of Massachusetts at Lowell
MSED - St. Bonaventure University

CONSTANCE PENNISI (2000) - Instructor, Digital Media and Animation
BFA - NYS College of Ceramics at Alfred University
MSED - Alfred University
SUNY Chancellor’s Award for Excellence in Scholarship and Creative Activities, 2006-07

KRISTAL PERLMAN (2012) - Staff Assistant, Technology Services
BT - SUNY College of Technology at Alfred
DR. JOSEPH PETRICK (2000) - Associate Director of Libraries, Hinkle Memorial Library
BA - Hobart College
MLS - Clarion University
PhD - SUNY College at Buffalo
SUNY Chancellor's Award for Excellence in Librarianship, 2006-07

DAVID PHILLIPS (2012) - Staff Assistant, Technology Services
AOS - SUNY College of Technology at Alfred

DR. DOUGLAS J. PIERSON (2009) - Assistant Professor, Agriculture and Veterinary Technology
DVM - University of Pennsylvania
SUNY Chancellor's Award for Excellence in Faculty Service, 2017-18

TIMOTHY J. PIOTROWSKI (2008) - Professor, Civil Engineering Technology
MS - University at Buffalo
SUNY Chancellor's Award for Excellence in Teaching, 2016-17

REGINA POLLARD (1997) - Professor, Social and Behavioral Sciences
BS - Juniata College
MS - Drake University
SUNY Chancellor's Award for Excellence in Teaching, 2000-01

NICHOLE PRESTON (2006) - Instructional Support Associate, Physical and Life Sciences
AAS - SUNY College of Technology at Alfred

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) - Assistant 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) - Assistant Professor, Mathematics and Physics
BA - Alfred University
MAT - Binghamton University

DR. AMY RAMA (2016) - Assistant Professor, Nursing
BA, BS, MS, DNP - University of Rochester

DR. REZA RASHIDI (2016) - Assistant Professor, Mechanical and Electrical Engineering Technology
BS - Sharif University of Technology
MS - University of Tehran
PhD - University of British Columbia

STEPHEN B. RICHARD (2004) - Associate Professor, Building Trades
BS - Cheyney University

JEANINE S. ROSE (2008) - Counselor, Health and Wellness Services
MSE - St. Bonaventure University
JULIE A. ROSE (2018) - Senior Director, Student Records and Financial Services
BA - SUNY Geneseo
MA - SUNY Polytechnic Institute

MELINDA ROUNDS (2003) - University Police Officer I
AAS - Jamestown Community College

ANTHONY RUDEL (2017) - Admissions Counselor, Admissions
BS - Medaille College

DR. STEPHANIE RUGG (2016) - Assistant Professor, Physical and Life Sciences
BS - Rochester Institute of Technology
MS, PhD - University of Rochester

MATTHEW RYAN (2002) - Senior Director of Residential Services and Student Leadership Programs
BA - SUNY Cortland
MPA - SUNY College at Brockport
SUNY Chancellor's Award for Excellence in Professional Service, 2015-16

MELANIE RYAN (2002) - Academic Adviser, Student Success Center
BS, MS - SUNY Cortland

DR. PHILIP SCHROEDER (2010) - Associate Professor and Chair, Agriculture and Veterinary Technology
PhD - University of Georgia

WILLIAM H. SCHULTZE (1997) - Instructional Support Associate, Instructional Technologies
BS - Alfred University

ASHLEY SCHWEITZER (2017) - Counselor, Health and Wellness Services
BS - Nazareth College
ME - Alfred University

DAVID SENGSTOCK (1980) - Executive Director, Auxiliary Campus Enterprises and Services
BS - Niagara University

DR. ASHLEY SHALOO (2016) - Assistant Professor, Physical and Life Sciences
BS - Georgian Court University
PhD - Uniformed Services University of Health Science

MAUREEN SIBLE (2002) - Senior Career Planning and Development Associate, Career Development
BS - The College at Brockport
MSED - Alfred University

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

MICHAEL SMITH (2009) - Staff Associate, Technology Services
BA - SUNY College of Technology at Alfred

PATRICK SMITH (2011) - Assistant Director of College Housing, Residential Services
BA - SUNY College of Technology at Alfred

RACHEL SMITH (2011) - Instructional Support Assistant, College Farm
AAS - SUNY College of Technology at Alfred

ZACHARY SMITH (2016) - Academic Tutor, Student Success Center
BS - SUNY College at Brockport

JEREMY SPEED SCHWARTZ (2011) - Associate Professor, Digital Media and Animation
MFA - California Institute of the Arts

CHRISTOPHER M. STABA (1997) - Associate 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

MARIA VANESSA STACHOWSKI (1990) - Nurse II, Health and Wellness Services
AAS - SUNY College of Technology at Alfred
RNC - Certification in College Health Nursing
SUNY Chancellor's Award for Excellence in Classified Service, 2016-17

JANICE L. STAFFORD (2002) - Lecturer, English and Humanities
MA - Ohio State University

CHRISTINA STANKIEWICZ (2017) - Assistant Librarian, Hinkle Library
BA - St. Bonaventure University
MS - St. John's University

JEFFREY S. STEVENS (2002) - Interim Dean, School of Applied Technology
AOS, AOS - SUNY College of Technology at Alfred
SUNY Chancellor's Award for Excellence in Faculty Service, 2011-12
CAROL W. STEWART (1991) - Assistant Professor, Mathematics and Physics  
BS - Clarkson College of Technology  
MS - Canisius College

CRISTIN STEWART (2017) - Assistant Director of Procurement & Payment Services, Business Affairs  
BS - Houghton College

THOMAS E. STOLBERG (1988) - Associate Professor, Business  
AAS - SUNY College of Technology at Alfred  
BBA, MBA - St. Bonaventure University  
CPA

REBECCA M. STRAUB (2017) - Staff Assistant, Athletics  
BS, MA - Gannon University

CRAIG STURDEVANT (2000) - Telecommunications Manager, Auxiliary Campus Enterprises and Services  
AOS - SUNY College of Technology at Alfred

DR. TAKAO TAKEUCHI (1983) - Professor, Mathematics and Physics  
BS - Nagoya University (Japan)  
MS - Kanazawa University  
PhD - University of North Carolina at Chapel Hill

BRETT H. TALBOT (2015) - Assistant Director, Center for Community Education and Training and Human Resources  
AAS - SUNY College of Technology at Alfred  
BSEd - Mansfield University  
MSEd - Alfred University

DR. ALICE TARUN (2013) - Assistant Professor, Physical and Life Sciences  
PhD - University of California-Berkeley

BRADLEY J. THOMPSON (1997) - Assistant Professor and Chair, Electrical Trades; Interim Chair, Computerized Design and Manufacturing  
AOS - SUNY College of Technology at Alfred

W. SCOTT TILLEY (2017) - Staff Assistant, Technology Services  
BS - SUNY College of Technology at Alfred

CHRISTOPHER TOMASI (2000) - Professor, Mechanical and Electrical Engineering Technology  
AAS - Niagara CCC  
BSIE, MSEd - Buffalo State College  
MS - Pittsburgh State University  
SUNY Chancellor's Award for Excellence in Teaching, 2008-09

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

BETTY TORRELL (2017) - Assistant Professor, Architecture and Design  
BFA, MA - University of Washington - Seattle

GREGORY H. D. TRAUGH (2017) - Instructor, Automotive Trades  
AOS – SUNY College of Technology at Alfred State

CHRISTOPHER TREMPER (2017) - Lecturer, Automotive Trades  
AAS - SUNY College of Technology at Alfred

LIBBY TISBULSKY (2013) - Counselor, Health and Wellness Services  
BA, MS - Alfred University

KEVIN TUCKER (2014) - Instructional Support Associate, Architecture and Design  
BA - University at Buffalo

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 Assistant, Digital Media and Animation  
BFA - Arizona State University  
MFA - California State University at Long Beach

CHRISTIAN A. VERNAM (2008) - Assistant Director of Financial Aid, Student Records and Financial Services  
BS - The College at Brockport

ERIN VITALE (2001) - Professor and Chair, Civil Engineering Technology  
BS - University of California, Riverside  
MSCE - Stanford University

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

MARY WEIMER (2016) - Staff Assistant, School of Arts and Sciences
AA - Jamestown Community College
BS - Indiana University of Pennsylvania
MS - Alfred University

PAUL WELKER (2001) - Senior Staff Assistant, Sports Information, Athletics
AS - Finger Lakes Community College
BA - Mercyhurst College

TAMMY WELLINGTON (1997) - Staff Associate, Student Records and Financial Services
BS - SUNY Geneseo

AMY L. WERNER (2006) - Instructional Support Technician, Physical and Life Sciences
AAS - SUNY College of Technology at Alfred

RAYMOND WESTON (2014) - Senior Staff Assistant, Athletics
BS - Nazareth College

JASON WHITE (1998) - Senior Staff Assistant, Student Records and Financial Services
BS - LeMoyne College

DANIELLE M. WHITE (2009) - Executive Director, Institutional Advancement
MBA - University of Phoenix

JAIME WHITE (2017) - Instructional Support Assistant, Physical and Life Sciences
AA - Niagara University
AAS - SUNY College of Technology at Alfred
BA - Alfred University

SIMON WHITEHOUSE (2008) - Lecturer, Mathematics and Physics
MA - University at Buffalo

DR. MARK WHITMAN (2013) - Assistant Professor, Social and Behavioral Sciences
BAS - Florida Atlantic University
MPS - Alfred University
PhD - Capella University

MATTHEW B. WHITNEY (2017) - University Police Officer I
AAS - Genesee Community College

JEFFREY WILCOX (2011) - University Police Officer II
BS - SUNY Brockport

ROGER WILCOX (2005) - Instructional Support Assistant, Electrical Trades

JAMES J. WILDER (2018) - Major Gifts Development Officer, Institutional Advancement
AAS - SUNY College of Technology at Alfred
BS - Purdue University
JD - SUNY at Buffalo

ERIC WILMOT (2005) - Assistant Professor and Chair, Automotive Trades
AOS - SUNY College of Technology at Alfred

PATRICK WOODWORTH (2004) - Computer Specialist, Technology Services
BS - SUNY College of Technology at Alfred

DANIEL WOOLSTON (2014) - Staff Associate, Health and Wellness Services
AAS - SUNY College of Technology at Alfred

DR. M. REZA YADOULLAH (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

JO E. YORK (2000) - Instructional Support Assistant, Health and Wellness Services
AAS - SUNY College of Technology at Alfred

BRITTANY J. YOUNG (2017) - Staff Assistant, Student Records and Financial Services
BS - SUNY College of Technology at Alfred

CHRISTINE L. YOUNG (1984) - Instructional Support Associate, Mathematics and Physics

KAREN K. YOUNG (1993) - Associate Professor, Computerized Design and Manufacturing
AOS - SUNY College of Technology at Alfred

LOUIS ZVER (2010) - Lecturer, Building Trades
President's Council

**DR. SKIP SULLIVAN** (2014) - President
BA - Tennessee Temple University
MS - Fort Valley State University
EdD - University of Georgia

**TAMMY B. CONRAD** (2004) - Executive Assistant to the President
Olean Business Institute

**DR. CRAIG R. CLARK** (1989) - Vice President for Economic Development
AS - Jamestown Community College
BS - University of Colorado
MS, PhD - North Carolina State University

**JOSEPH GREENTHAL** (2010) - Controller, Business Affairs
BBA - SUNY College of Technology at Alfred

**NIKKIE HERMAN** (2014) - Chief Diversity Officer and Title IX Coordinator,
Equity Inclusion and Title IX
AA - SUNY College of Technology at Alfred
BS - SUNY Fredonia
MA - Empire State

**DR. DANIEL KATZ** (2018) - Dean, School of Arts and Sciences
BA, MA - University of Wisconsin
PhD - Rutgers University

**VALERIE NIXON** (1987) - Executive Vice President
BS - SUNY Fredonia
MPS - Alfred University
SUNY Chancellor’s Award for Excellence in Professional Service, 1994-95

**DR. EARL PACKARD** (2003) - Assistant Professor and Department Chair,
Mathematics and Physics
BS - Mansfield State College
BSE - Mansfield University
PhD - Tulane University

**SPENCER PEAVEY** (2006) - Assistant Vice President, Student Affairs
BA - University of Massachusetts at Lowell
MSEd - St. Bonaventure University

**DR. KRISTIN POPPO** (2014) - Provost, Office for Academic Affairs
BA - Colgate University
MS - Antioch-New England Graduate School
MDiv - Harvard Divinity School
PhD - University of North Carolina

**GREG SAMMONS** (1996) - Vice President for Student Affairs
AAS - Finger Lakes Community College
BS - Houghton College
MSC - Norwich University
SUNY Chancellor’s Award for Excellence in Professional Service, 2011-12

**JEFFREY S. STEVENS** (2002) - Interim Dean, School of Applied Technology
AOS, AOS - SUNY College of Technology at Alfred
SUNY Chancellor’s Award for Excellence in Faculty Service, 2011-12

**DANIELLE M. WHITE** (2009) - Executive Director, Institutional Advancement
MBA - University of Phoenix

**DR. JOHN C. WILLIAMS** (2002) - Dean, School of Architecture, Management
and Engineering Technology
BS, MS, PhD - Clarkson University