



### AAS DEGREE - CODE #1554

Stephen Bauer, Program Coordinator  
Email address: [bauersm@alfredstate.edu](mailto:bauersm@alfredstate.edu)

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

### ADVANTAGES

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

### DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAMS

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

### CONTINUING EDUCATION OPPORTUNITIES

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

### OCCUPATIONAL OPPORTUNITIES

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

### EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 0 percent are employed; 100 percent continued their education.

### RELATED PROGRAMS

[Forensic Science Technology \(BS\)](#)  
[Health Sciences \(BS\)](#)

### ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry, Algebra 2, Biology, Chemistry

### REQUIRED COURSE PREREQUISITES

If students do not place into MATH 1033 College Algebra, MATH 1084 Calculus I, MATH 1323 Quantitative Reasoning, MATH 1034 College Algebra of Functions, MATH 1054 Precalculus, or MATH 2124 Statistical Methods & Analysis, then MATH 1014 Algebra Concepts is a required prerequisite for completion of the major.

If students do not place into PHYS 1024 General Physics I or PHYS 1044 College Physics I, then PHYS 1014 Introductory Physics is a required prerequisite for completion of this major.

### OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email

at [oas@alfredstate.edu](mailto:oas@alfredstate.edu) or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

### TECHNICAL STANDARDS

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

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

### GRADUATION REQUIREMENTS

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

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

### REQUIRED EQUIPMENT

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

### BIOLOGICAL SCIENCE - AAS DEGREE

#### TYPICAL FOUR-SEMESTER PROGRAM

First			
BIOL	1101	Topics in General Biology	1
BIOL	1104	General Biology I	4
CHEM	1984	Chemical Principles I	4
COMP	1503	Writing Studies	3
MATH	xxxx	Math Elective (MATH 1033 or greater)	3-4
			15-16
Second			
BIOL	2204	General Biology II	4
LITR	xxx3	Literature Elective	3
CHEM	2984	Chemical Principles II	4
XXXX	xxx3	Technical Elective	2-4
GLST	2113	Global & Diverse Perspectives	3
			16-18
Third			
BIOL	5254	Principles of Microbiology	4
CHEM	3514	Organic Chemistry I	4
SPCH	1083	Public Speaking	3
XXXX	xxx3	Technical Elective	3
MATH	xxxx	Math Elective	3-4
			17-18
Fourth			
BIOL	6534	Genetics	4
CHEM	4524	Organic Chemistry II	4
BIOL	2111	Biological Sciences Seminar	1
XXXX	xxx3	Technical Elective	3-4
XXXX	xxx3	Open Elective	3-4
			15-17

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

**Technical Electives:**

AGPS	1103	Soils	3
AGPS	1104	Soils	4
AGPS	5003	Integrated Pest Management	3
AGRI	2013	Organic & Sustainable Ag Tech	3
ANTH	5333	Medical Anthropology	3
BIOL	1013	Essentials of Exercise Physiol	3
BIOL	1113	Biology of Human Sexuality	3
BIOL	1223	Introduction to Forestry	3
BIOL	1304	Botany	4
BIOL	1313	Nutrition	3
BIOL	1404	Anatomy & Physiology I	4
BIOL	2504	Anatomy & Physiology II	4
BIOL	2633	Histotechniques	3
BIOL	2803	Environmental Science	3
BIOL	2801	Environmental Sciences Lab	1
BIOL	4403	Pathophysiology	3
BIOL	4900	Directed Study	1
BIOL	5003	Genomics	3
BIOL	5013	Biotechniques	3
BIOL	5104	Kinesiology	4
BIOL	5223	Ecology	3
BIOL	5503	Virology	3
BIOL	5900	Directed Study	1
BIOL	6003	Molecular and Cell Biology	3
CHEM	4900	Directed Study	1
CHEM	5414	Analytical Principles	4
CHEM	5900	Directed Study	1
CHEM	6614	Instrumental Analysis	4
CHEM	7784	Biochemistry	4
COMP	5703	Technical Writing II	3
ENVR	4424	Environmntl Chem & Microbiology	4
FRSC	3113	Forensic Pathology	3
HLTH	5113	Complementary & Altv Medicine	3
HLTH	5233	The Culture of Healthcare	3
MATH	1084	Calculus I	4
MATH	2124	Statistical Methods & Analysis	4
MEDR	1132	Essentials of Pharmacology	2
MEDR	1133	Medical Terminology	3
PHYS	1044	College Physics I	4
PHYS	2044	College Physics II	4