



BS DEGREE - CODE #2564

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The Bachelor of Science in health sciences program is a rigorous four-year baccalaureate degree in biological sciences designed to satisfy requirements for students entering health care professions or graduate-level biomedical research. Students in the program will be exposed to a rich offering of liberal arts courses and will advance from basic biology, chemistry, and physics courses to upper-level courses in biology, chemistry, health care, and research. The program further provides opportunities to select from a wide range of health-related technical electives to enhance and broaden the student's expertise. These will prepare the graduate for working with future colleagues from the health care professions and the diverse population that will require their services. In addition, this program will prepare the graduate to seek transfer options to graduate-level or initial professional degree programs.

ADVANTAGES

- Students will build a solid foundation in biology and chemistry courses.
- Students will be able to internally and seamlessly transfer from Alfred State's biological science (AAS) degree.
- Students will further advance knowledge and skills in biology, chemistry, health care, and research through courses, including microbiology, genetics, bio-techniques, molecular and cellular biology, biochemistry, culture of health care, ethical issues in health care, and research methods.
- Students will have the opportunity to enhance and broaden their training by selecting from a list of approved health-related technical electives such as advanced pharmacology, complementary and alternative medicine, genomics, instrumental analysis, medical anthropology, and more.
- Students will conceptualize and implement their knowledge and skills through a directed research experience or professional internship.

OCCUPATIONAL OPPORTUNITIES

- Laboratory assistant
- Pharmaceutical sales representative
- Environmental health safety officer
- Food scientist
- Biomedical researcher
- Public health worker

FUTURE EDUCATIONAL OPPORTUNITIES

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

LECOM EARLY ACCEPTANCE PROGRAM

Alfred State's health sciences program has an affiliation agreement with Lake Erie College of Osteopathic Medicine (LECOM).

As a high school senior you can apply to both Alfred State College and LECOM's Early acceptance Program (EAP) for the College of Osteopathic Medicine or the College of Pharmacy.

Current Alfred State health science students with at least two years remaining can also apply to LECOM's EAP.

Through this 4+4 program, students who earn a BS in health sciences at Alfred State College will continue their education at LECOM. For more information visit <https://lecom.edu/academics/early-acceptance-program/>.

EMPLOYMENT STATISTICS

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

RELATED PROGRAMS

[Biological Science](#)
[Forensic Science Technology](#)

INTERNSHIP OPPORTUNITIES

- Academic or industrial research laboratory
- Health care or clinical laboratory
- Pharmacy
- Health care practitioner's office

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Specific high school course requirements and recommendations are:

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

Recommended: Physics

OFFICE OF ACCESSIBILITY SERVICES

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

TECHNICAL STANDARDS

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

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

In addition, this degree program requires students to complete either an off-campus internship experience or a research project. Students in this degree program are expected to meet the following professional standards:

- Maintain confidentiality in professional workplace settings.
- Maintain professional composure at all times.

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

GRADUATION REQUIREMENTS

- 124 total semester credit hours
- Completion of at least one course from seven of the 10 SUNY Gen Ed categories.
- Minimum of 30 semester credit hours of general education courses.
- Minimum of 60 semester credit hours of Liberal Arts & Science credit hours.
- 48 upper-division credit hours
- 42 upper-division credit hours in the major
- Minimum of 30 upper-division credit hours in residence
- 3 credit hours of research or internship
- 2.0 cumulative grade point average
- Grade of "C" or higher in core courses with BIOL, CHEM, HLSC, and HLTH prefixes
- Approval of department faculty

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

REQUIRED EQUIPMENT

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

HEALTH SCIENCES – BS DEGREE

TYPICAL EIGHT-SEMESTER PROGRAM

First

BIOL	1104	General Biology I	4
CHEM	1984	Chemical Principles I	4
MATH	xxx3	Math Elective (MATH 1033 or higher)	3
COMP	1503	Freshman Composition	3
HLSC	1101	Introduction to Health Science	1
		OR	
BIOL	1101	Topics in General Biology	1
			15

Second

BIOL	2204	General Biology II	4
CHEM	2984	Chemical Principles II	4
GLST	2113	Global Perspectives: Spcl Topic	3
SPCH	1083	Effective Speaking	3
			14

Third

BIOL	5254	Principles of Microbiology	4
CHEM	3514	Organic Chemistry I	4
PSYC	1013	General Psychology	3
XXXX	xxx3	Open Elective	3
LITR	xxx3	Literature Elective	3
			17

Fourth

BIOL	6534	Genetics	4
CHEM	4524	Organic Chemistry II	4
MATH	2124	Statistical Methods & Analysis	4
XXXX	xxx3	General Education Elective	3
HLSC	2111	Health Sciences Seminar	1
		OR	
BIOL	2111	Biological Sciences Seminar	1
			16

Fifth

CHEM	7784	Biochemistry	4
HLTH	5233	The Culture of Healthcare	3
PHYS	1044	College Physics I	4
BIOL	7723	Research Methods in Health Sci	3
COMP	5703	Technical Writing II	3
			17

Sixth

NURS	5003	Ethical Issues in Health Care	3
PHYS	2044	College Physics II	4
XXXX	xxx3	Open Elective	3
XXXX	xxx3	Open Elective	3
XXXX	xxx3	Technical Elective Upper	3
			16

Seventh

BIOL	6003	Molecular and Cell Biology	3
XXXX	xxx3	Open Elective	3
XXXX	xxx3	Technical Elective	3
XXXX	xxx3	Technical Elective Upper	3
XXXX	xxx3	Technical Elective	3
			15

Eighth

XXXX	xxx3	Open Elective Upper	3
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XXXX	xxx3	Technical Elective Upper	3
XXXX	xxx3	Technical Elective Upper	3
BIOL	5013	Biotechniques	3
HLSC	8703	Senior Research Project	3
		OR	
HLSC	8713	Prof Internship in Health Sci	3
			15

LOWER LEVEL TECHNICAL ELECTIVES:

BIOL	1013	Essentials of Exercise Physiol	3
BIOL	1113	Biology of Human Sexuality	3
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	4403	Pathophysiology	3
ENVR	4413	Environmental Law	3
ENVR	4424	Environmntl Chem & Microbiology	4
HLSC	4900	Directed Study	1
MATH	1084	Calculus I	4
MATH	2094	Calculus II	4
MEDR	1132	Essentials of Pharmacology	2
MEDR	1133	Medical Terminology	3
PSYC	1023	Human Development	3
PSYC	2093	Abnormal Psychology	3
SOCI	1233	Gerontology	3

UPPER LEVEL TECHNICAL ELECTIVES:

ANTH	5333	Medical Anthropology	3
BIOL	5003	Genomics	3
BIOL	5104	Kinesiology	4
BIOL	6113	Diet and Disease	3
BIOL	6403	Advanced Pathophysiology	3
CHEM	5414	Analytical Principles	4
CHEM	6614	Instrumental Analysis	4
CHEM	6854	Physical Chemistry	4
FRSC	7214	Forensic Chemistry	4
FRSC	8213	Forensic Biology	3
HLTH	5113	Complementary & Altv Medicine	3
HLTH	5203	End of Life Dilemmas	3
HLSC	5900	Directed Study	1
MATH	6104	Multivariate & Vector Calculus	4
MATH	6114	Differential Equations	4
NURS	6403	Adv Phrmclgy, Herbal Ther, Nut	3
NURS	7033	Healthy Aging in Rural Areas	3
NURS	8003	Informtcs&Tech App in Hlthcare	3
PSYC	5093	Health Psychology	3
PSYC	7003	Working w/Diverse Populations	3