

Biology – Life Science Track

School of Arts and Sciences



The life science track offers students majoring in biology more autonomy in selecting their undergraduate course of study. Within certain guidelines students may opt for a sequence of courses that provides a broad survey of the biological sciences or one that provides a more focused approach in, for example, the health sciences. In addition, the greater flexibility of this track accommodates the student wishing to pursue two majors, such as biology and education, thereby enhancing future career opportunities.

Students in the life science track are likely to enter the workforce shortly after graduation; however, if course choices are made judiciously either during or after being granted the Bachelor of Arts in Biology, the same broad array of graduate and professional programs remains available.

Life Science Track

Required Coursework

Prerequisites

CH 103/L General Chemistry I (or higher)*	3/1
CH 104/L General Chemistry II (or higher)*	3/1
MAT 125 Quantitative Reasoning (or higher)*	3

Biology Fundamentals

BI 200/L Introductory Biology - Biodiversity, Form, Function and Ecology	3/1
BI 205/L Introductory Biology - Cells, Genetics, Energy Transfer and Evolution**	3/1

Upper Level Requirements***

Environmental Biology (Choose One)

BI 206/L Principles of Plant Biology	3/1
or 313/L Field Biology	2/2
or 325/L Ecology	2/2
or 333/L Environmental Microbiology	3/1

Organismal Biology (Choose One)

BI 206/L Principles of Plant Biology	3/1
or 207/L Principles of Animal Biology	3/1
or 214/L Anatomy and Physiology I	3/1
and 215/L Anatomy and Physiology II	3/1
or 320/L Developmental Biology	3/1
or 380 Advanced Physiology and Immunology	3

Cellular Biology (Choose One)

BI 232/L Clinical Microbiology	3/1
or 333/L Environmental Microbiology	3/1
or 380 Advanced Physiology and Immunology	3
or 430/L Cellular and Biochemical Processes	3/1
or 435/L Genetics	3/1
or 420 Molecular Biology	3

Additional Requirements

BI 400 Service Learning	1
BI 451 Departmental Seminar: Evolution	3
11 credits at the BI 300/400 level	11

TOTAL CREDITS	44/46
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*Subject to departmental approval

**Prerequisite: 1 semester of college chemistry

***Only 8 credits of 200 level courses may be used to satisfy these requirements. In addition, these courses may have additional prerequisites.

Medical Technology Option

Medical technology is a rapidly expanding field that encompasses utilization of modern laboratory technology to assist with improving patient health. Techniques include clinical applications of molecular biology, cytology, cytogenetics, serology, urinalysis, hematology, microbiology and chemistry. Careers for medical technologists expand beyond the laboratory include researchers, management, consultants and lobbyists, to name a few.

Through an affiliation program with Cleveland Clinic School of Medical Technology, Ursuline juniors who are in the Biology Department Life Science major with the medical technology concentration may apply for admission to Cleveland Clinic School of Medical Technology. Any student applying to Cleveland Clinic School of Medical Technology from Ursuline College must have completed at least 96 semester hours, completed the Ursuline Studies requirements and have finished her/his junior year upon entry into the program. Students admitted to Cleveland Clinic School of Medical Technology in this manner will be awarded a Bachelor of Arts degree in Biology from Ursuline College after successful completion of Cleveland Clinic School of Medical Technology program.

Students considering pursuing medical technology course of study are urged to contact one of several advisors in the Ursuline College Biology Department as early as is feasible in their freshman or sophomore years.

Courses in biology, chemistry, math and physics are required as the science prerequisites to qualify for admission to Cleveland Clinic School of Medical Technology. Contact Cleveland Clinic School of Medical Technology for specific course requirements and application procedures.

Career Opportunities

Graduates of the Biology program pursue their interests in a variety of careers. Some obtain entry-level jobs to gain experience and develop their work skills; others seek additional education to enter specialized professional programs. Technologists must obtain clinical experience and become licensed to practice as professional audiologists, dietitians, occupational and physical therapists, perfusionists and as medical records technologists/administrators. Research biologists may work in academia, in government or in private research laboratories; industries also hire biologists to conduct research, do product development and testing. Similar post-graduate training enables individuals concentrating in environmental studies to obtain employment as environmental engineers, environmental attorneys and as health-safety analysts and inspectors. Often additional education and/or experience enables biology graduates to obtain more responsible positions with better compensation. Opportunities for biologists in education are as varied as those in technology and research. Teachers of biology are commonly employed in various educational institutions at the pre-college and college levels; museums, botanical gardens, aquariums, zoos, science centers and outdoor education programs offer the biology graduate many opportunities. Biologists are also employed by private corporations as training specialists to provide instruction and curriculum development as well as technical competence.



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