

BIOLOGY/SECONDARY EDUCATION MAJOR

Biology, B.S.

(Licensure: Massachusetts Department of Elementary and Secondary Education)

The licensure program in Biology/Secondary Education consists of a biology major combined with appropriate education courses. Students are required to take the Bay Path University core, a biological sciences core, and a secondary education core.

This program has been approved by the Massachusetts Department of Elementary and Secondary Education. Upon completion, students earn an initial license in biology, grades 8-12, issued by the Massachusetts Department of Elementary and Secondary Education. The teaching license qualifies for equivalency with states that participate in the Interstate Agreement and endorse similar licensure. This allows Bay Path University education graduates to teach in states other than Massachusetts, pending meeting specific requirements of the state.

Student Learning Outcomes

- Prepare students to meet the Massachusetts Department of Elementary and Secondary Education Subject Matter standards in secondary biology.
- Prepare students to meet the Massachusetts Department of Elementary and Secondary Professional Standards for Teachers Curriculum, Planning, and Assessment standard.
- Prepare students to meet the Massachusetts Department of Elementary and Secondary Professional Standards for Teachers Teaching All Students standard.
- Prepare students to meet the Massachusetts Department of Elementary and Secondary Professional Standards for Teachers Professional Culture standard.
- Demonstrate effective oral and written communication skills through in-class assignments and presentations, to be applied in the teaching-learning process.
- Prepare students to meet the Massachusetts Department of Elementary and Secondary Education Professional Standards for Teachers: plans curriculum and instruction, delivers effective instruction, manages classroom climate and operations, promotes equity, and meets professional responsibilities.
- Prepare students to pass both components of the MTEL (Massachusetts Tests of Educator Licensure): Communication & Literacy and a subject test in Biology.
- Build familiarity and usage of the Massachusetts Curriculum Framework in Science and Technology/Engineering.
- Prepare students to excel in the Candidate Assessment of Performance (CAP), developed by the Massachusetts Department of Elementary and Secondary Education, and used to assess practicum (student teaching).
- Prepare students to become lifelong learners who reflect upon teaching and learning, and seek new content knowledge and skills to improve the teaching-learning process.

To accomplish the Biology/Secondary Education program goals, a Bay Path student is provided with:

- A strong knowledge base in the biological sciences (with work in the physical sciences and mathematics) to provide the basis of subject matter knowledge for the license.
- A sequential, well-designed grouping of education courses that address the pedagogical component of best practices in teaching.
- Courses that address human interactions and diversity (e.g., Adult and Adolescent Development, Special Education), necessary for the development of nondiscriminatory and caring teachers.
- Structured experiences in schools, ranging from observations, to assisting the classroom teacher, to full practicum (student teaching). These in-school experiences address the content, pedagogical and humanistic development of a teacher.
- Education courses that utilize the Massachusetts Curriculum Frameworks as a required text and embed school curriculum in coursework.
- Opportunities to engage in inquiry, research, and reflection in coursework and in the schools.

The Massachusetts Tests for Educator Licensure (MTEL)

Effective February 21, 1998, candidates applying for a teaching credential will be required to pass **The Massachusetts Tests for Educator Licensure (MTEL)**. The purpose of the Massachusetts Tests for Educator Licensure (MTEL) is to help ensure that a licensed educator has the knowledge and skills essential to teach in Massachusetts public schools. *Bay Path education students must pass the entire MTEL prior to entering their senior year.*

Massachusetts regulations for initial licensure in Secondary Biology, grades 8-12, require candidates to pass two exams:

1. Communication and Literacy (a test of reading and writing),
2. A subject test in biology, grades 8-12

Students who wish to become certified in states outside of Massachusetts must also pass any additional examinations given by that state.

It is the student's responsibility to register for the MTEL and to be aware of registration deadlines and rules of test participation. It is the student's responsibility to submit all necessary documentation for alternative testing arrangements should they feel they are warranted. Decisions on alternative testing arrangements are made by the MTEL, not Bay Path University.

Post-Baccalaureate Degree Admission

The Biology/Secondary Education major at Bay Path University earns a student a Bachelor of Science in Biology. A student already holding a Bachelor of Science degree with an undergraduate biology major who seeks initial licensure is advised to pursue an appropriate master's degree in the field.

A student holding a baccalaureate degree from Bay Path University who has fulfilled all of the biology and education program requirements, but who was not able or allowed to enroll in the pre-practicum or practicum, might have the option to return to Bay Path University under special conditions. They must pass the MTEL and meet any additional academic requirements not in place during the time of previous enrollment in order to fulfill the current requirements for initial licensure if a student is allowed to return to complete this option.

Additional Information

For Program Experiences, Exit from the Education Program, Teaching in States Outside of Massachusetts, Title II of Higher Education Act, and MTEL pass rates of students who completed their licensure requirement during the most recent year reviewed, please review the Bachelor of Arts in Liberal Studies (Education Majors) (<https://catalog.baypath.edu/traditional-undergraduate/academic-programs/liberal-studies-education/>) section.

Degree requirements for the Biology/Secondary Education major are as follows:

Code	Title	Hours
<i>University Core</i>		
BIO 110	Biology I for Science Majors	3
BIO 110L	Biology I for Science Majors Lab	1
BUS 204	Financial Wellness	1
EDU 130	Education, Schools, and Culture	3
EDU 250	Introduction to Special Education	3
ENG 114	Critical Reading and Response	3
ENG 134	Literary Genres	3
Humanities Electives		9
MAT 120	Statistics	3
PSY 101	Introduction to Psychology I	3
Science Elective		3
WEL 100	Empowered as Learners and Leaders	3
	or WEL 220 Empowered as Learners and Leaders	
WEL 350	Strategies for Career and Personal Growth	2
<i>Major Requirements</i>		
BIO 112	Biology II for Science Majors	3
BIO 112L	Biology II for Science Majors Lab	1
BIO 150	Anatomy and Physiology I	3
BIO 150L	Anatomy and Physiology I Lab	1
BIO 151	Anatomy and Physiology II	3
BIO 151L	Anatomy and Physiology II Lab	1
BIO 210	Genetics	3
BIO 210L	Genetics Lab	1
BIO 260	Microbiology	3
BIO 260L	Microbiology Lab	1
BIO 314	Botany	3
BIO 320	Cell and Molecular Biology	3
BIO 320L	Cell and Molecular Biology Lab	1
BIO 410	Evolution	3
CHE 120	Chemistry I	3
CHE 120L	Chemistry I Lab	1
CHE 121	Chemistry II	3
CHE 121L	Chemistry II Lab	1
EDU 331	Fundamentals of Instruction and Classroom Mgmt. for Secondary Ed.	3
EDU 348	Reading and Language for English Language Learners	3
EDU 351	Curriculum Development for Secondary Education	3
EDU 441R	Pre-Practicum in Secondary Biology	1
EDU 492	Pre-Practicum Seminar: Secondary	1

EDU 493	Practicum Seminar: Secondary	1
EDU 494	Practicum in Secondary Biology	12
ENG 124	Research and Writing in the Disciplines	3
MAT 130	Pre-Calculus	3
PHS 201	University Physics I for Science Majors	3
PHS 201L	University Physics I for Science Majors Lab	1
PSY 206	Adolescent and Adult Development	3
SCI 200	History and Philosophy of Science	3
Science Elective		1
<i>General Electives</i>		
General Electives		1
<i>Total Credits Required</i>		120