BIOLOGY (BIOL)

Courses

BIOL 5990. Special Topics. 1-18 Credits.
See Schedule of Courses for specific titles.

BIOL 6000. Professional Skills and Ethics. 2 Credits.
Seminar topics include mentor-mentee relationships, finding funding, grant writing, preparing posters and seminars, communicating how to be a successful teacher, Curriculum Vitae preparation, job finding and interviewing. Prerequisite: Life Sciences Graduate student.

BIOL 6005. Graduate Seminar. 1 Credit.
Weekly departmental seminar attended by all faculty and graduate students. Graduate students practice giving scientific talks, presenting annual research-in-progress updates and receiving feedback from their peers and faculty. Prerequisite: Life sciences Graduate student.

BIOL 6010. Biology Seminar. 1 Credit.
Expert speakers are invited from within and outside UVM to present their research in the diverse fields of biology including cell, molecular and developmental biology, ecology, evolution, behavior and neuroscience. Prerequisite: Life sciences Graduate student.

BIOL 6015. Scientific Writing in Life Sci. 2 Credits.
Assignments and discussions help students understand the scientific method and develop strategies for writing well. By the end of the semester, thesis students will have a complete proposal for their graduate research project. Non-thesis students will generate a review article. Prerequisite: Life sciences Graduate student.

BIOL 6020. Foundations in Eco & Evo. 1 Credit.
Seminar focused on reading and discussing foundational papers in ecology and evolution. Specific topics will vary by instructor. Prerequisite: Life Sciences Graduate student.

BIOL 6025. Foundations in Cell & Dev. 1 Credit.
Seminar focused on reading and discussing foundational papers in cell and developmental biology. Specific topics will vary by instructor. Prerequisite: Life sciences Graduate student.

BIOL 6100. Computational Biology. 4 Credits.
Basic programming methods in R, including functions, data types, graphics, file input and output; computational tools for reproducible research, including regular expressions, markdown, git, github, and shell commands; and advanced topics, including batch processing, structured programming, functional programming, and randomization tests. Prerequisite: Graduate student.

BIOL 6200. Ecological Genomics. 4 Credits.
An exploration of the merger of ecology and genomics to address the genetic basis of adaptive variation in natural populations. Emphasis on integrating quantitative approaches and hands-on analysis of large genomic and ecological data sets. Pre/co-requisites: BCOR 2300, BCOR 2100, or STAT 1410; basic knowledge of statistics, probability, genetics, and evolution required; familiarity with programming in R or bash is recommended. Cross-listed with: PBIO 6800.

BIOL 6210. Foundations Quant Reasoning. 4 Credits.
Provides the knowledge and competencies needed to tackle complex problems in data analysis using first principles of evolutionary theory. As part of this process, students will work to develop a comprehensive analysis toolbox to conduct highly reproducible quantitative research in high-performance computation (HPC) environments. These topics will be pivotal to ensure success in the student's graduate careers in data-intensive fields. Prerequisite: Graduate student.

BIOL 6215. BiLDS Seminar. 1 Credit.
Professional development via discussion panels and other activities. Prerequisite: Life sciences Graduate student.

BIOL 6391. Master's Thesis Research. 1-18 Credits.
Research for the Master's Thesis.

BIOL 6990. Special Topics. 1-18 Credits.
Readings with conferences, small seminar groups, or laboratories intended to contribute to the programs of Graduate students in Biology or related disciplines for which formal courses are not available. Prerequisite: An undergraduate major in life science.

BIOL 6991. Internship. 1-18 Credits.
On-site supervised work experience combined with a structured academic learning plan directed by a faculty member or a faculty-staff team in which a faculty member is the instructor of record, for which academic credit is awarded. Offered at department discretion.

BIOL 6993. Independent Study. 1-18 Credits.
A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

BIOL 6994. Teaching Assistantship. 1-3 Credits.
Student service as a teaching assistant, usually in an introductory-level course in the discipline, for which credit is awarded. Offered at department discretion. Prerequisite: Instructor permission.

BIOL 6995. Graduate Independent Research. 1-18 Credits.
Graduate student work on individual or small team research projects under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.

BIOL 7491. Doctoral Dissertation Research. 1-18 Credits.
Research for the Doctoral Dissertation.

BIOL 7990. Special Topics. 1-18 Credits.
See Schedule of Courses for specific titles.

BIOL 7993. Independent Study. 1-18 Credits.
A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion. Prerequisite: Instructor permission.