BIOLOGY

Phillips 330
715-836-4166
Department Website (https://www.uwec.edu/academics/college-arts-sciences/departments-programs/biology)

The Biology Department offers graduate-level course work, but no graduate degree programs.

Graduate Faculty

Julie Anderson, Ph.D.
Winnifred Bryant, Ph.D.
Bradley Carter, Ph.D.
Crystal Del Valle, Ph.D.
Derek Gingerich, Ph.D.
Daniel Herman, Ph.D.
Daniel Janik, Ph.D.
Mel Kantor, Ph.D.
Michelle Kettler, Ph.D.
Paula Kleintjes Neff, Ph.D. (Chair)
Tali Lee, Ph.D.
David Lonzarich, Ph.D.
Jamie Lyman Gingerich, Ph.D.
Nora Mitchell, Ph.D.
Sasha Showsh, Ph.D.
Evan Weiher, Ph.D.
Todd Wellnitz, Ph.D.

No graduate degree program offered.

All 500- and 600-level graduate courses include requirements or assignments which differentiate them from their companionate 300- and 400-level undergraduate offerings. Students who have taken a course at the 300- or 400-level may not include that course at the 500- or 600-level in a graduate program, except in the case of special topics courses when the topic is not the same as that taken at the undergraduate level.

Biology

BIOL 505 Molecular and Cell Biology (4 crs)
Prerequisite: Grades of C or above in BIOL 221, BIOL 222, and BIOL 223; and CHEM 104 or CHEM 109 or CHEM 115 or consent of instructor

Current concepts in molecular/cell biology including structure/function of cells and cell organelles, gene function/regulation, and cell signaling.

Grading Basis: A-F Grades Only
Lecture/Discussion Hours: 4
Lab/Studio Hours: 0

BIOL 506 Infectious Disease Ecology (3 crs)
Prerequisite: BIOL 11 or BIOL 211; and CHEM 104 or CHEM 109 or CHEM 115.

• Cross-listed with BIOL 306. Credit may not be earned in both courses.

Introduction to the realities of microbial pathogens in our lives and their relationship to hosts, reservoirs, and environmental factors. Discussion of emerging and re-emerging diseases.

Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

BIOL 511 General Entomology (4 crs)
Prerequisite: BIOL 100 or BIOL 211 or grades of C or above in BIOL 222 and BIOL 223.

• Cross-listed with BIOL 311. Credit may not be earned in both courses.

Introduction to the realities of microbial pathogens in our lives and their relationship to hosts, reservoirs, and environmental factors. Discussion of emerging and re-emerging diseases.

Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

BIOL 515 Reproductive Physiology (3 crs)
Prerequisite: BIOL 222 and BIOL 223.

• Cross-listed with BIOL 315. Credit may not be earned in both courses.

Examination of the principles and mechanisms of reproduction in human. Social aspects of reproduction, including reproductive biotechnologies and reproductive health will also be discussed.

Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

BIOL 523 Genetics (3 crs)
Prerequisite: No credit if taken after BIOL 300/500

• Cross-listed with BIOL 323. Credit may not be earned in both courses.

Basic principles of heredity and variation; genetic systems, structure and roles of nucleic acids, mutation, allelism, genes in development, genes in populations, and genetics in human life; genetic engineering and genomics.

Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

BIOL 528 Genomics (3 crs)
Prerequisite: BIOL 306 or BIOL 506

• Cross-listed with BIOL 328. Credit may not be earned in both courses.

Basic principles of heredity and variation; genetic systems, structure and roles of nucleic acids, mutation, allelism, genes in development, genes in populations, and genetics in human life; genetic engineering and genomics.

Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

BIOL 530 Evolutionary Biology (3 crs)
Prerequisite: BIOL 222 and BIOL 223.

• Cross-listed with BIOL 330. Credit may not be earned in both courses.

Examination of the principles and mechanisms of reproduction in human. Social aspects of reproduction, including reproductive biotechnologies and reproductive health will also be discussed.

Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

BIOL 550 Animal Behavior (3 crs)
Prerequisite: BIOL 100 or BIOL 211 or BIOL 222 and BIOL 223.

• Cross-listed with BIOL 350. Credit may not be earned in both courses.

Examination of the principles and mechanisms of reproduction in human. Social aspects of reproduction, including reproductive biotechnologies and reproductive health will also be discussed.

Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

BIOL 570 Environmental Science (3 crs)
Prerequisite: BIOL 222 and BIOL 223.

• Cross-listed with BIOL 370. Credit may not be earned in both courses.

Examination of the principles and mechanisms of reproduction in human. Social aspects of reproduction, including reproductive biotechnologies and reproductive health will also be discussed.

Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

BIOL 599 Independent Study (1-6 crs)
Prerequisite: Consent of department and instructor

Independent study under the supervision of a faculty member in the Biology Department.

Grading Basis: A-F Grades Only
Lecture/Discussion Hours: 0
Lab/Studio Hours: 0

BIOL 600 Thesis (1-6 crs)
Prerequisite: Consent of department and instructor

Thesis under the direction of a faculty member in the Biology Department.

Grading Basis: A-F Grades Only
Lecture/Discussion Hours: 0
Lab/Studio Hours: 0

BIOL 601 Directed Research (1-6 crs)
Prerequisite: Consent of department and instructor

Directed research under the supervision of a faculty member in the Biology Department.

Grading Basis: A-F Grades Only
Lecture/Discussion Hours: 0
Lab/Studio Hours: 0
BIOL 561 Biology of Microorganisms (5 crs)
Prerequisite: BIOL 111 or BIOL 221, and one year of chemistry. No credit if taken after credit earned in BIOL 250.
- Cross-listed with BIOL 361. Credit may not be earned in both courses.
Study of microbial taxonomy, physiology, genetics, ecology, and morphology with environmental, industrial, agricultural, and medical applications.
Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 3
Lab/Studio Hours: 4

BIOL 580 Endocrinology (4 crs)
Prerequisite: BIOL 211 or grades of C or above in BIOL 222 and BIOL 223; CHEM 104 or CHEM 109 or CHEM 115.
- Cross-listed with BIOL 380. Credit may not be earned in both courses.
Study of the relationships between histophysiology, chemistry, and disorders of the endocrine system; its interrelationships with the nervous system and how both contribute to bodily homeostasis.
Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 3
Lab/Studio Hours: 3

BIOL 600 Medical Microbiology (3 crs)
Prerequisite: BIOL 361/561
An introduction to microorganisms that cause disease. Topics will include the biology and ecology of medically important fungi, parasites, viruses and bacteria; mechanisms of disease; host responses to microbial infections; treatment and prevention of various disease.
Grading Basis: A-F Grades Only
Lecture/Discussion Hours: 3
Lab/Studio Hours: 0

BIOL 602 Current Topics in Virology and Immunology (4 crs)
Prerequisite: BIOL 361/561
- Cross-listed with BIOL 402. Credit may not be earned in both courses.
Lectures and readings in immunology and virology. Emphasis on the mode of thinking and reasoning that led to earlier solutions. Discussions of current advances in the fields.
Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 4
Lab/Studio Hours: 0

BIOL 704 Research Techniques (2 crs)
Consent: Instructor Consent Required
Emphasis on experimental design and specific techniques appropriate to the various subdisciplines in biology.
Repeat: Course may be repeated for a maximum of 6 credits
Grading Basis: No S/U Grade Option
Lecture/Discussion Hours: 2
Lab/Studio Hours: 0

BIOL 791 Directed Studies (1-3 crs)
Consent: Instructor Consent Required
Lectures, laboratory, or field study covering specific areas not normally included in regular classes, and of special interest to students and/or faculty.
Repeat: Course may be repeated for a maximum of 7 credits
Grading Basis: No S/U Grade Option

BIOL 797 Independent Study (1-3 crs)
Consent: Department Consent Required
Independent study projects under direction of a faculty member.
Repeat: Course may be repeated for a maximum of 6 credits
Grading Basis: No S/U Grade Option

BIOL 799 Thesis (1-6 crs)
- Full-time equivalent.
A description of acceptable topics and the precise nature of the thesis requirement is provided in the departmental program descriptions.
Repeat: Course may be repeated for a maximum of 6 credits
Grading Basis: PR Only Grade Basis

Courses Offered at the Gulf Coast Research Laboratory (GCRL), Ocean Springs, Mississippi
The University of Wisconsin-Eau Claire maintains a formal affiliation arrangement with the Gulf Coast Research Laboratory (GCRL) in Ocean Springs, Mississippi. Through this arrangement, students may take field courses at the graduate level in the marine sciences. Graduate credits for these courses are awarded through the University of Southern Mississippi and will be accepted as transfer credit at UW-Eau Claire.

Students may obtain more information about GCRL and admission to the summer program by contacting Dr. David Lonzarich, On-Campus Affiliate Coordinator, UW-Eau Claire Department of Biology or by writing the Office of Student Services, Department of Coastal Sciences, Gulf Coast Research Laboratory, Ocean Springs, MS 39564. Phone: 228-872-4200; or visit the website at www.usm.edu/gcrl (http://www.usm.edu/gcrl).