Department of Biology
College of Arts and Sciences

Faculty

(2006). Professor of Biology and Department Chair. B.A., Hanover College; Ph.D., University of North Carolina.

(1992). Assistant Professor of Biology Laboratories. B.S., Union University; M.A., Western Kentucky University; Additional study, Boston University, Portland State University and University of Memphis.

(1987). University Professor of Biology, and Director of the Center for Scientific Studies. B.S.A. and M.S., Arkansas State University; Ph.D., University of Memphis; Additional study, University of Tennessee at Memphis, Mid-America Baptist Theological Seminary, and University of Memphis.

(2004). Assistant Professor of Biology. B.S. and M.S., Murray State University; Ph.D., University of Tennessee.

(2002). Associate Professor of Biology. B.S., University of Tennessee; M.S., University of Kentucky; Ph.D., Kansas State University.

(1980). University Professor of Biology. B.S. and M.S., University of Mississippi; Ph.D., Louisiana State University.

(1962). Associate Professor of Biology. B.S., Union University; M.S., University of Illinois; Additional study in Radiation Biology, University of Tennessee at Memphis.

(1998). Associate Professor of Biology. B.S., Union University; M.S., University of Missouri–St. Louis; Ph.D., St. Louis University.

(1987). Professor of Biology. B.S., Union University; M.S. and Ph.D., Texas A & M University.

Curriculum

The curriculum in biology is designed to acquaint students with living organisms as whole, functioning entities that, in their diversity, share many common features. In addition to providing the scientific background required of all educated citizens, the courses provide a foundation upon which the student may build a graduate program, undertake training in health-related professions, or prepare for secondary-level science teaching. Students may participate in independent research as well as specific courses.

Because contemporary biology leans heavily on mathematics and physical sciences, students majoring in biology should include mathematics and chemistry in the freshman year. In the beginning course BIO 112, students will build a foundation for study of biological processes. Students can proceed to the first 200-level biology course during the second semester of the freshman year. In the sophomore year, students will continue the survey of the kingdoms of life by taking additional 200-level biology courses. Students should strengthen their understanding of mathematics and obtain a background in organic chemistry during that year. Biology courses at the 300-400 level should be taken during the junior and senior years, with seminar reserved for the senior year. Students will examine in detail how organisms function and interact with their environment and each other. Biology majors are encouraged to minor in chemistry.

Upper-level students may enroll in marine biology courses by cooperative agreement with the Gulf Coast Research Laboratory and the Au Sable Institute of Environmental Studies. For information, see the Department Chair.

A. Core: BIO 112, 302, 425, 426, 427, 498—8 hours
B. General Biology Concentration
   1. BIO 211, 213, 214, 215, 315
   2. BIO 3-300 level BIO; or BIO 221, 222, & 2-300 level BIO
C. Zoology Concentration
   1. BIO 213, 214; 200 or 211
   2. BIO 316, 4-300 level BIO excluding BIO 322 and 337
D. Cell Biology Concentration
   1. BIO 211; 214 or 215
   2. BIO 315, 317, 320, 323, 325
   3. BIO 316 or 321
   4. Must minor in Chemistry to include CHE 329

Prerequisites: CHE 111, 112; PHY 213, MAT 116, 211, 208
A. BIO 112, 200, 213, 214, 215, 235—23 hours
B. BIO 302, 315, 318, 335, 336, 337—19 hours
C. BIO 425, 426, 427, 498—4 hours
D. BIO Elective—3 or 4 hours

A. Major requirements as shown above with General Biology Concentration (I.A.&B) to include 221, 222, and 318.
B. Additional requirements: PHY 112; PHY 213 & 214 (or 231 & 232)
C. Professional Education: EDU 150, 250, 326, 418, 433; PSY 213, 318; SE 225
D. Completion of applicable portions of the Praxis II.
E. For additional information, see the Assistant Dean for Teacher Education and Accreditation.

A. BIO 112
B. Two 200-level BIO courses
C. Three 300-level BIO courses

Prerequisites: BIO 100 or 112.
Biological concepts involved in fisheries and wildlife biology, their application in practice, and exploration of contemporary issues facing the organisms, habitats, and human consumers. Three hours of lecture and 3 hours of laboratory / week.

Prerequisite: CHE 105 or 111, or PHY 111 and BIO 112. Nursing students must meet requirements of nursing program.
Classification, morphology, physiology, and ecology of bacteria and viruses, with spe

Prerequisite: 12 BIO hours, excluding 221-2. Zoology is recommended.
A study of development in organisms, including both classical, descriptive embryology and contemporary investigations of processes involved in morphogenesis and differentiation.

Prerequisite: 12 hours of biology, excluding 221-22.
A study of the interactions between organisms and their biological and physical environments. Three hours of lecture and 3 hours of laboratory / week.

Prerequisite: BIO 211, CHE 314, and 8 additional BIO hours, excluding BIO 221-2.
A fundamental course dealing with principles of immunity and the mechanism of the immune response. Laboratory emphasis is on serology and transplantation immunology. Three hours of lecture and 3 hours of laboratory / week.

Prerequisites: 12 hours of BIO, excluding 221-2, and CHE 111-2.
A comprehensive overview of the ecological consequences of environmental pollution, the effects of toxic substances on the ecosystem as a whole and on individuals with that ecosystem, and the methodology of assessing pollutant damage. Three hours of lecture and 3 hours of laboratory / week.

Prerequisite: BIO 221 & 222 or 214 or 312.
Cadaver anatomy and dissection for nursing, preprofessional, and physical education students to enhance understanding of anatomy and prepare for work on living humans.

Prerequisites: 12 BIO hours excluding BIO 221-2.

Prerequisite: BIO 426, minimum BIO GPA of 2.0.
Presentation of results of 426 as a publishable manuscript and oral presentation.

Prerequisite: 28 hours toward BIO major, a minimum BIO GPA of 2.0, senior standing.
Written and oral presentation of a library research paper and weekly discussions of current biological research. May be modified at the discretion of the department.

All courses and their applications must be defined and approved prior to registering.

All courses and their application must be defined and approved prior to travel.

Lower-level group studies that do not appear in the regular departmental offerings.

Upper-level group studies that do not appear in the regular departmental offerings.

Individual research under the guidance of a faculty member(s).