Want To Pursue A Medical Career?

BIOLOGY
Pre-Medicine, Pre-Veterinarian, Pre-Dentistry Option

Get Academic Solutions at Mercer

For Further Information Contact:
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To prepare students to transfer into a four-year program in biology.

Majoring in biology can lead to vocations in such fields as medicine, dentistry, veterinary science, physician assisting, biotechnology, microbiology, molecular biology, genetic or biochemical engineering, pharmacy, and physical therapy.
3. APPROVED BIOLOGY ELECTIVES: Student must select two of these

2. APPROVED GENERAL EDUCATION ELECTIVES: Electives should be

1. ENGLISH COMPOSITION: Initial course determined by placement.

Course Descriptions

BIO 201 - Microbiology* (4 credits)
Prerequisite: BIO 101 or BIO 103 with a minimum C grade or permission of coordinator.
Explores morphology, taxonomy, and metabolism of microorganisms with emphasis on fungi, protozoa, helminths, viruses, and bacteria. Covers the role of microbes in nature, including the impact of applications and medical importance; human defense mechanisms; and immunology. The lab develops techniques, reinforces certain lecture content, and introduces new material. 3 lecture/3 laboratory hours

BIO 202 - Woody Plants (4 credits)
Prerequisite: BIO 101 or permission of course coordinator.
Designed for ornamental horticulture, plant science, and biology majors. The lab consists of field studies stressing identification of both native and ornamental species. Covers the uses of keys, as time permits. 3 lecture/3 laboratory hours

BIO 203 - Entomology (4 credits)
Prerequisite: BIO 101 or BIO 102 or permission of course coordinator.
Intensive survey of the orders of insects, covering comparative anatomy, life cycles, physiology and economic importance. Includes management, preservation and identification methods. 3 lecture/3 laboratory hours

BIO 204 - Ecology (4 credits)
Prerequisite: BIO 101 with a minimum C grade.
Fundamental concepts, theoretical principles, and practical applications of modern ecology with emphasis on the study of the interactions of organisms with each other and with their environment. Lab fieldwork experiences involve the New Jersey Pinelands, a wastewater treatment facility, an electric generating station, botanical gardens, municipal ecology facilities, a wildlife preserve, and marshlands in the region. 3 lecture/3 laboratory hours

BIO 208 - Genetics* (4 credits)
Prerequisite: BIO 102 with a minimum C grade or consent of instructor.
Explores gene activity at the molecular and organismal levels. Topics include inheritance, chromosome structure and function, gene mapping, genomics, prokaryotic and eukaryotic gene expression, molecular biology, and population genetics. Includes lab exercises in biotechnology, bioinformatics, and classical genetics. 3 lecture/3 laboratory hours

BIO 293 - Honors Research in Biology I (2 credits)
Prerequisite: BIO 102 and CHE 102, minimum 3.0 GPA in biology and chemistry courses, and faculty approval
Under the guidance of an area sponsor in an industrial or academic environment, students participate in a biology research project. Requires a written and oral presentation to students and faculty. (Fulfills a technical elective requirement in the Biology and Chemistry programs. Be taken with CHE 201 or Biology program option as extra credits. 6 laboratory hours per week

BIO 294 - Honors Research in Biology II (2 credits)
Prerequisite: BIO 293.
Continuation of BIO 293 for students who are participating in a second semester of research at a cooperating academic or industrial laboratory. Requires a written report and oral presentation to students and faculty. (Fulfills a technical elective requirement in the Biology and Chemistry programs. May be taken with this Biology program option as extra credits. 6 laboratory hours per week

CHE 201 - Organic Chemistry I (5 credits)
Prerequisite: CHE 102 with a minimum C grade
Theoretical principles of reaction mechanisms and the synthesis of important classes of organic compounds. Topics include stereoisomerism; alcoholic ethers; nucleophilic substitution; elimination reactions; and instrumental methods.
Lab work introduces the synthesis, purification, separation and identification of organic compounds. 3 lecture/4 laboratory hours

CHE 202 - Organic Chemistry II (5 credits)
Prerequisite: CHE 201 with a minimum C grade
Follows CHE 201 with increased emphasis on spectroscopy and mechanisms. Topics include aromatic compounds; electrophilic substitution reactions; carbonyl chemistry; carboxylic acid derivatives; amines, carbohydrates and proteins.
Lab work includes methods of synthesis, purification, and spectroscopic identification of organic compounds. 3 lecture/4 laboratory hours

Che 291 - Current Topics in Chemistry (1 credit)
Fulfills a technical stepping stone, he said. The professors are really interested in helping him succeed. "Mercer is grateful that Mercer introduced him to laboratory science, which prepared him well when he transferred.

"I hadn't really thought about doing research until I came to Mercer. I got experience in a medical diagnostic lab," he said. "He credits Mercer's small class sizes and individual attention with helping him succeed. "Mercer was an excellent stepping stone," he said. "The professors are really great."

MaryJane Harris, a 2007 graduate of MCCC, took advantage of honors research opportunities, opportunities, where she excelled. She served as student speaker at commencement ceremonies. A former pilot and member of the U.S. Airforce Reserve, she has been accepted to The University of Medicine and Dentistry of New Jersey, School of Osteopathic Medicine. Her goal is to specialize either in neurology or infectious disease.

"Although I already had a bachelor's degree before attending Mercer, I took all of my medical school prerequisites courses there. I was invited to interview at 12 different medical schools, and I was accepted by four of the five schools whose interviews I attended. I canceled the rest after being accepted at my top choice. I hope my success will help dispave the rumor among pre-med students that "medical schools won't accept prerequisites from community college."

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