Outdoor Conservation

The Outdoor Conservation major offers three tracks to the bachelor's degree: a natural resources track, a law enforcement track, and a general studies track. All three provide coursework for students who wish to pursue careers in parks, natural resources, environmental education, or outdoor careers. The curriculum includes courses in fundamentals of the natural world, conservation of resources, communication, and analytical thinking.

Students in this major acquire knowledge that enables them, for example, to: analyze environmental problems from various viewpoints; employ various methodologies and equipment for sampling terrestrial and aquatic environments; and use computers to present scientific information.

See the Graduate section (http://catalog.mtmercy.edu/graduateprograms/) of this *Catalog* for more information on Graduate programs offered at Mount Mercy.

Outdoor Conservation Major

Natural Resources Track:

Required:		
GS 145	Introduction to Sustainability	3
BI 125	Foundations of Biology & Scientific Inquiry I	3
BI 125L	Biostatistics and Scientific Investigation I	1.5
BI 126	Foundations of Biology & Scientific Inquiry II	4.5
or MA 135	Basic Statistics	
BI 127	Foundations of Biology & Scientific Inquiry III	4.5
BI 310	Ecology	4.5
Choose Three of the Following:		**11 - 12.5**
BI 220	Tropical Ecosystems	
BI 225	Global Environmental Issues	
BI 242	Iowa Natural History	
BI 305	Evolution	
BI 357	Animal Behavior	
Choose One of the Following:		**3**
AAS in Parks and Recreation from Kirkwood Community College		
BI 440	Biology Internship	
An approved course at a field station		
Total Hours		**35-36.5**

Law Enforcement Track:

Required:		
GS 145	Introduction to Sustainability	3
BI 125	Foundations of Biology & Scientific Inquiry I	3
BI 125L	Biostatistics and Scientific Investigation I	1.5
BI 126	Foundations of Biology & Scientific Inquiry II	4.5
or MA 135	Basic Statistics	
BI 127	Foundations of Biology & Scientific Inquiry III	4.5
BI 225	Global Environmental Issues	4.5
BI 242	Iowa Natural History	4.5
CJ 101	Introduction To Criminal Justice	3
CJ 203	Policing	3
CJ 355	Criminal Procedure [1]	3
Choose One of the Following:		**3**
AAS in Parks and Recreation from Kirkwood Community College		
BI 440	Biology Internship	
An approved course at a field station		
Total Hours		**37.5**

General Studies Track:

Required:		
GS 145	Introduction to Sustainability	3
PH 115	Introduction To Earth Science	4
BI 125 & 125L	Foundations of Biology & Scientific Inquiry I and Biostatistics and Scientific Investigation I	4.5
or BI 123	Biology of Human Concern	
BI 225	Global Environmental Issues	4.5
BI 242	Iowa Natural History	4.5
MA 135	Basic Statistics	3
Choose Four of the Following. At least three must be from 200 level courses or above.		**12**
BC 202	Accounting: Information for Decisions	
BN 204	Principles Of Management	
EN 123	Professional Writing	
HI 278	History Of US Environmentalism	
MA 132	Basic Mathematical Modeling	
PL 141	Logic	
PO 326	Politics and Public Policy	
PO 301	Constitutional Law I: Structure of Government	
or PO 302	Constitutional Law II: Civil Rights and Liberties	
SW 265	Diversity in America	
Choose One of the Following:		**3**
AAS in Parks and Natural Resources from Kirkwood Community College		
BI 440	Biology Internship	
An approved course at a field station		
Total Hours		**38.5**

[1] 9 hours of Criminal Justice courses must be taken at Mount Mercy. If a student transfers these courses other CJ courses can be selected.

Academic Requirements

A grade of C or higher (C- does not count) in all Mount Mercy University major courses and a cumulative major GPA of 2.25 or higher is required for graduation.

BI Courses

BI 110 Discovering Biology Laboratory: 1 semester hour
Students will perform a variety of biology-based laboratory experiments. Students will learn how to apply the scientific methods as they define problems clearly, analyze data properly and draw appropriate conclusions. This laboratory fulfills the requirement of the Natural World domain for students who have taken a non-laboratory natural science course before transferring or while at Mount Mercy. For traditional students, this course is typically offered during the winter term. For accelerated students, this course is offered online during block 5. (For the online block 5 section, students must order an at-home lab kit estimated cost $150, lab fee waived). (Traditional students must get permission of the instructor to enroll in the online block 5 version).

BI 120 Forensic Anthropology: 3 semester hours
In this course students will learn how forensic anthropologists use skeletal analyses and other techniques to identify human remains and to discern information about life histories and the manner of death. Students will also learn about the applications of these techniques to individual legal contexts (criminal and missing person cases) as well as international human rights work. Topics to be covered in this class include human skeletal and dental anatomy, skeletal growth and development, excavation and recovery techniques for human remains, as well as postmortem changes to the body. In addition to skeletal analyses, students will also learn about other means of biological identification and crime scene/ burial place investigation including DNA analyses, blood tying, stable and radiogenic isotope analyses, and microbiome and nercobiome studies.

BI 123 Biology of Human Concern: 4 semester hours
For non-science majors. Study of the broad general principles of biology and of current environmental and ethical problems arising as our knowledge and technological competencies increase. Three hours of lecture and one two-hour laboratory per week. (Cannot be taken by Biology majors after successful completion of BI 125). This course fulfills the Natural World Domain requirement for non-major students. (Offered fall and spring semesters).

BI 125 Foundations of Biology & Scientific Inquiry I: 3 semester hours
An introduction to the unifying principles of modern biology with an emphasis on the introductions to the chemistry, structure, function, energy processing, molecular genetics, and reproduction of the cell; as well as Mendelian and non-Mendelian inheritance. No prerequisites. Three hours of lecture per week. Biology majors/minors, medical laboratory science, outdoor conservation, chemistry, exercise science, and education majors should take BI 125 lecture concurrently with BI 125L lab. This course fulfills the Natural World Domain requirement when taken with the BI 125L lab. (Offered fall and spring semesters).

BI 125L Biostatistics and Scientific Investigation I: 1.5 semester hour
A laboratory course designed to reinforce BI 125 through experimentation, data analysis, inquiry, discussion of readings, and communication. The course will include fundamentals of interpretation of scientific writing, introduction to scientific writing, and the foundations of statistical analysis. One three-hour laboratory per week. Students enrolled in BI 125 are not required to take BI 125L, but students enrolled in the laboratory must take BI 125 concurrently or get permission of the instructor to enroll. (Offered fall semester).

BI 126 Foundations of Biology & Scientific Inquiry II: 4.5 semester hours
A laboratory course designed to reinforce BI 125 that focuses on additional topics in inheritance, population genetics, speciation and classification, introduction to ecosystems, and evolution of prokaryotes, protistans, and fungi. Additional topics in statistics and scientific communication will also be integral to the course. Three hours lecture and three hours of laboratory per week. Prerequisite: A grade of C or better in BI 125 and BI 125L. (Offered spring semester).

BI 127 Foundations of Biology & Scientific Inquiry III: 4.5 semester hours
The evolution of plants and animals will be surveyed focusing on physiological and anatomical adaptations. Additional topics in statistics and scientific communication will also be integral to the course. Three hours of each lecture and laboratory per week. Prerequisite: A grade of C or better in BI 125 and the BI 125 lab (C- does not count). (Offered fall semester).

BI 150 Basic Microbiology: 4.5 semester hours
Introduction to the study of microorganisms, with special emphasis on medically important bacteria, viruses, and fungi; includes practical applications for control of pathogens, epidemiology and diagnosis, mechanisms of infection and host resistance. Three hours of lecture and one three- hour laboratory. Prerequisite: A grade of C or above (C- does not count) in BI 125, NU 120, or permission of instructor, not for major/minor credit in biology or medical technology and may not substitute for BI 315. This course fulfills the Natural World Domain requirement for nursing majors. (Offered spring semester).

BI 210 Biology And Human Culture: 3 semester hours
This course will explore the interaction between culture and biology from a variety of perspectives. The customs and belief systems of different societies are often determined by and/or affected by biological factors in addition to environmental constraints and historical interactions. We will study aspects of human culture and social structure in both non-Western and Western cultures from evolutionary and historical perspectives in order to better understand and appreciate different cultural practices and beliefs, how they evolved, and what implications they have for the contemporary world and future civilizations. This course will not count for major/ minor biology credit. Prerequisites: One course selected from a core curriculum writing courses, sophomore standing. This course fulfills the Global Awareness Domain requirement. (Offered fall semester in odd years).

BI 220 Tropical Ecosystems: 3 semester hours
This course examines the adaptations and dynamics in tropical ecosystems. Tropical ecosystems hold a vast percentage of total biodiversity, which often includes species with unique adaptations and dynamics to survive in the tropical climate. Both human and natural disturbances are deteriorating tropical ecosystems. Students will study examined these impacts in a systematic manner. This course includes a three weeks trip to a foreign tropical country, which will serve as an on-hands experience studying tropical ecosystems. Prerequisite: A grade of C or better in BI 126 or BI 127 or permission of the instructor.

BI 222 Human Anatomy Fundamentals: 3 semester hours
A lecture-based course designed to give students an understanding of the normal structure, function and development of the human body. A regional approach to anatomy is used with a focus on functional anatomy and the relationship between different tissue types.

BI 225 Global Environmental Issues: 4.5 semester hours
This course examines the human impacts on the global environment in a lecture, discussion and applied approach. Current research will be studied on the causes and effects of environmental change and environmental conservation. Three hours of lecture and one three-hour laboratory per week. Prerequisites: A grade of C or better in BI 125 or BI 123 or equivalent or permission of instructor. (Offered spring semester in even years).

BI 242 Iowa Natural History: 4.5 semester hours
A survey of the natural history of Iowa focusing on geological forces, plant communities, and animal communities, and the impact of early humans, the first European settlers and present residents. The lab will focus on identification of skills. Weekend field trips will be an important component of the course. Three hours of lecture and one three-hour laboratory per week. Prerequisites: A grade of C or better in BI 123, or BI 125 and BI 127, or permission of instructor. (Offered fall semester in even years).

BI 243 Immunology: 3 semester hours
This course introduces students to the major basic concepts operating in the functioning of the immune system and the immunopathologies that arise due to the hyperfunction, hypofunction, or malfunction of this system. Major topics to be covered include non-specific immunity, specific immunity (cellular and humoral) hypersensitivities, immunologic deficiencies, tolerance, enhancement, immunogenetics, autoimmunity, cancer immunology, and transplantation. This introductory course gives students a basic understanding of the system as well as some basic concepts and terminology on which to build further knowledge in this area. Prerequisites: A grade of C or better in BI 125 and BI 126; or BI 125 and BI 150.(Offered winter term in odd years).

BI 273 Human Anatomy: 4.5 semester hours
This is a lecture and laboratory course designed to provide a detailed understanding of the normal structure and development of the human body. A functional anatomical and regional approach is taken in both lecture and laboratory sections. Dissection and examination of preserved human cadavers is a required part of the laboratory portion of the class. Students will be tested over anatomical function and relationships as well as structure identification in a laboratory setting. Three one-hour lectures and one three-hour lab per week. Prerequisite: A grade of C or above (C- does not count) in BI 125 or NU 120. (Offered spring semester).

BI 274 Human Physiology: 3 semester hours
A lecture course designed to introduce students to the physiological systems of the human body. Emphasis is given to the interactive nature of these systems that result in normal physiological function. The medical implication of abnormalities and failure of these systems is also briefly covered. Three hours of lecture per week. Prerequisite: A grade of C or above (C- does not count) in BI 125 or NU 120. (Offered fall semester).".

BI 276 Human Anatomy Laboratory Review: 1.5 semester hour
This is a laboratory course in human anatomy intended for students who have completed previous anatomy coursework in a lecture-based setting. This course is designed to provide a detailed understanding of the normal structure and development of the human body. In this course, a functional anatomical and regional approach is taken and students will use a variety of educational materials and platforms to complete weekly laboratory activities. Students will be tested over structure identification and anatomical relationships. One three-hour lab per week. Prerequisite: A grade of C or better in an approved anatomy lecture course and consent of the instructor.

BI 303 Genetics: 4.5 semester hours
This class is an exploration of heredity: Mendelian (classical), and molecular genetics. Mendelian genetics examines how genes and genetic traits are passed from generation to generation. Molecular genetics probes the structure, function, and regulation of genes. Three hours of lecture and one three-hour laboratory per week. Prerequisites: A grade of a C or better in BI 125 and BI 126, or BI 125 and or BI 127. (Offered spring semester).

BI 305 Evolution: 3 semester hours
This course is an exploration of the evolution of life on earth. In this course students will learn the history of evolutionary thought, the origin and history of life on earth from fossil and molecular evidence, principles of heredity and biological descent, the evidence of organic evolution provided by the various subdisciplines of biology, and the history of animal evolution leading to human evolution. Prerequisites: A grade of C or better in BI 125 and BI 126; or BI 125 and BI 127; or permission of instructor. (Offered winter term in odd years).

BI 310 Ecology: 4.5 semester hours
This course explores a study of the relationships of organisms to each other and to their environment from an evolutionary perspective. Aquatic and terrestrial ecosystems will be studied form the perspective of the individual, the population, and the community. Three hours of lecture and one three-hour laboratory per week. Prerequisite: A grade of C or better in BI 126 or BI 127 or permission of the instructor. Statistics is recommended as is senior status.(Offered spring semester).

BI 315 General Microbiology: 4.5 semester hours
This course studies the diversity and adaptive capabilities of all forms of microbial life, with an emphasis on bacteriology. Topics include bacterial cell structure, metabolism, genetics, ecology, pathogenesis and various biotechnological/diagnostic techniques. Three hours of lecture and one three-hour laboratory per week. Prerequisites: A grade of C or better in BI 125 and BI 126. (Offered each fall semester).

BI 357 Animal Behavior: 4.5 semester hours
This course is a comparative study of the evolution of animal behavior centering on the principles and mechanisms of behavior. Three hours lecture and one three-hour laboratory per week. Prerequisites: A grade of C or better in BI 125 and BI 126, or PS 101 or permission of instructor. (Offered fall semester in odd years).

BI 370 Cell and Molecular Biology: 5 semester hours
This course studies the cell structure and functions common to all eukaryotic organisms including: metabolism, organelle activity, gene expression, cell growth and division, and cell communication. The laboratory component will include learning to use various equipment and protocols scientists use to manipulate and visualize DNA, RNA, and protein in and from cells for research experiments. Three hours of lecture and one four hour of laboratory per week. Prerequisites: A grade of a C or better in BI 125 and BI 127 or permission of instructor. (Offered spring semester in even years).

BI 374 Integrated Physiology: 4.5 semester hours
This lecture-lab course provides science majors with a scientific foundation in human physiology, the study of biological functions and how they work together to keep the body healthy and alive. Topics covered include the function of cells, tissues, organs and organ systems with an emphasis on mechanisms. Students will have an opportunity to apply what he or she has learned in the laboratory with hands-on experiments. Three hours of lecture and one three-hour laboratory each week. Prerequisite: A grade of C or better in BI 125, BI 125L and BI 126, or BI 125, BI 125L and BI 127 (Offered fall semester).

BI 405 Directed Readings in Biology: 3 semester hours
A course initiated by a student, a group of students, or an instructor based upon a topic of interest or a special need. The course will involve readings on the topic, discussion, and projects based upon the topic. Library research and internet research may also be a component along with written summaries of research and/or projects. Under ordinary circumstances this course cannot be used as one of the required electives for the biology major or minor. Prerequisites: Junior or Senior status, grades of C or better in appropriate background courses, and permission of instructor.

BI 440 Biology Internship: 3 semester hours
This is a directed educational experience in employment situations under joint sponsorship by a faculty member and an employer. This course cannot be used as one of the three upper division electives.

BI 445 Independent Study: 3 semester hours
This can be fulfilled by readings and/or research. The course to be designed by the student in consultation with the instructor on a subject of special interest to the student. This course cannot be used as one of the three upper division electives.

BI 450 Independent Research: 3 semester hours
Independent research conducted at Mount Mercy or another recognized institution or research facility. Students will be responsible for collection, analysis, and presentation of original data. Presentation will be in both oral and written format, with the oral portion to be given at a recognized state or national scientific meeting. This course cannot be used as one of the three upper division electives.

CJ Courses

CJ 101 Introduction To Criminal Justice: 3 semester hours
This course is a review of the delivery of criminal justice services in the United States. Particular attention will be devoted to a modeling of the criminal process, the control of discretion within the various sub-processes, and the role of criminal justice in a democratic social order that emphasizes public accountability and the rule of law.

CJ 154 Criminology: 3 semester hours
This course is the study of the causes of crime in society, along with the implications for the United States criminal justice system. Students will evaluate research in the field, like biological developments related to DNA, and studies correlating social factors and crime. The underlying theoretical assumptions of criminal justice policies and organizations will also be analyzed.

CJ 203 Policing: 3 semester hours
This course includes an examination of the role of police in a free society. The course also reviews current research on policing, the concept of the rule of law, police behavior and subcultures, the historical evolution of the police, police selection and training, and the management and administration of police.

CJ 228 Juvenile Justice: 3 semester hours
This course includes an examination of juvenile delinquency and the juvenile justice process. The study includes an analysis of the evolution of parens patriae, and case law of the juvenile process from taking into custody through disposition.

CJ 242 Crime and Culture in America: 3 semester hours
This course explores the history of crime and the relationships between crime and culture in America. Major topics include the historical perspectives of crime and culture, cultural influences on crime and justice throughout history, and historical changes in the interpretation of crime.

CJ 244 Corrections: 3 semester hours
This course is the study of the history, philosophy, and practice of corrections. This course will include an analysis of corrections history and philosophy along with an examination of jails, prisons, probation, intermediate sanctions, and parole. The course will also cover legal developments in corrections, correctional trends, management and treatment of correctional populations, and problems facing correctional systems.

CJ 246 Criminal Investigation: 3 semester hours
This course includes a survey of the theory of scientific crime detection, investigation, interrogation, case presentation, and problems in criminal investigation. The content will include coverage of recent developments in forensic investigation such as DNA fingerprinting.

CJ 297 Criminal Law: 3 semester hours
This course introduces criminal law in the United States. The course examines the purposes and historical development of criminal law, and includes a discussion of the Constitutional limits on what behaviors can be criminalized. Students study the legal elements that must be proven to convict an individual. The course also considers parties to a crime, like accomplices and accessories, attempted crimes, and defenses to a crime (e.g., self-defense, insanity). Students will use the “case method,” requiring them to critically analyze real-life legal cases.

CJ 299 Criminal Justice Information, Communication and Ethics: 3 semester hours
This course provides an opportunity for students to improve and apply reasoning skills in a criminal justice context, establishing a foundation for upper-level coursework. The course requires students to refine their communication and information research skills. Students will become adept at finding, evaluating, and properly citing research materials for the field of criminal justice. Special attention will also be given to ethical issues in criminal justice. For criminal justice majors, CJ 299 is a prerequisite for all 300- and 400-level criminal justice courses. Prerequisite: Grade of at least C- in core curriculum writing course.

CJ 302 Criminal Justice Research Methods: 3 semester hours
This course is an exploration of research in the field of criminal justice. Specifically, the course includes learning about research design, validity and reliability, data collection, secondary data analysis, levels of measurement, and hypothesis testing. Students will also learn how to analyze data and interpret statistical output. Prerequisites: CJ 299. A course in basic statistics is also suggested, but not required.

CJ 305 White Collar Crime: 3 semester hours
This course is a general survey reviewing both the nature and scope of white-collar crime. This course will explore crimes upon which society has placed little focus, yet at the same time have significant physical, fiscal, and social costs. Special emphasis is placed on the complexities of corporate crime and its effects on society. Prerequisite CJ 299.

CJ 350 Trial Evidence: 3 semester hours
This course is a study of the law governing the presentation of evidence at trial. Focus will be upon the various types of evidence, questions of competency, relevancy, and materiality, with special emphasis on the hearsay rule and its exceptions. The content will include the role of evidence in striking a theoretical balance between the defendant and the state in the pre-trial and trial adversary process. Prerequisites: CJ 297, CJ 299 and suggest CJ 355.

CJ 355 Criminal Procedure: 3 semester hours
This course is an examination of constitutional criminal procedure related to police stops, arrest, search and seizure, and interrogations. Emphasis is placed upon the role of criminal procedure in controlling police discretion in a democratic society. The fourth, fifth, and sixth amendments to the Bill of Rights are explored in-depth. Miranda warnings and the exclusionary rule are also studied. Prerequisite: CJ 299, suggest CJ 297.

CJ 365 Diversity and the Criminal Justice System: 3 semester hours
This course explores relationships between society and the criminal justice system. Particular attention is given to both past and contemporary relationships between the criminal justice system and historically marginalized groups. Issues of dissent and divergent perspectives on the role of the criminal justice system will also be examined. Prerequisite: CJ 299.

CJ 380 Sex Offenders: 3 semester hours
This course is a seminar on the contemporary topic of sex offenders. We will explore what constitutes a sex offense, examine different types of sex offenders, and study how society responds to these acts, victims, and offenders. Prerequisite: CJ 299.

CJ 390 Special Topics in Criminal Justice: 3 semester hours
This course provides the opportunity for a study of a significant topic, problem, or issue in criminal justice. This course may be repeated once for credit when content varies. Prerequisite: CJ 299.

CJ 410 Senior Seminar: 3 semester hours
This course is a study of select and highly contemporary criminal justice issues. The course format allows students to draw upon and integrate knowledge gained from previous courses and apply it in an area of individual, intensive research. The content will vary. Prerequisites: CJ 154, CJ 299, CJ 302.

CJ 426 Media and Crime: 3 semester hours
This course will focus on the interrelationships among media, crime, and the criminal justice system. Particular attention will be given to the construction of crime in the news and entertainment media, and how those constructions affect citizens' perception of the crime and the criminal justice system. Policy and legal implications of these perceptions will also be considered. Prerequisite: CJ 299.

CJ 428 Internship: 3 semester hours
This is an academically oriented practical experience gained through supervised work assignments with various governmental and private criminal justice-related agencies. The student will have the opportunity to contrast theory and practice. The internship is open to criminal justice majors of junior or senior status and with the consent of the internship coordinator. A student may enroll in and complete a maximum of six (6) semester hours for CJ 428 although only three (3) semester hours may be counted toward the major. The application deadlines are February 15 for summer internships, April 15 for fall internships, and September 15 for spring internships. Prerequisites: CJ 299, junior or senior in good standing, approved application, and consent of the internship coordinator. (1-6 semester hours).

CJ 445 Independent Study: 3 semester hours
Independent study courses are specially designed by the student and the instructor. This allows criminal justice majors to pursue research and/or study of a specific area of interest in criminal justice. Prerequisite: CJ 299 and instructor permission.