

# 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/archives/2018-19/graduateprograms>) of this *Catalog* for more information on Graduate programs offered at Mount Mercy.

## Major

### Natural Resources Track:

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
Select three of the following:		9
BI 225	Global Environmental Issues	
BI 242	Iowa Natural History	
BI 305	Evolution	
BI 357	Animal Behavior	
Select 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		30

### Law Enforcement Track:

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 <sup>1</sup>	3
Select 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 34.5

### General Studies Track:

PH 115	Introduction To Earth Science	4
BI 225	Global Environmental Issues	4.5
BI 242	Iowa Natural History	4.5
1 credit hour Independent Study		1
BI 445	Independent Study	
MA 135	Basic Statistics	3
Choose 5 Electives. Suggested Courses:		15
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	
or MA 142	Mathematics 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	
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 35

<sup>1</sup> 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 Natural World Domain Laboratory: 1 semester hour**

A laboratory that fulfills the requirement of the Natural World domain for transfer students who have taken a non-laboratory based non-major course before transferring into Mount Mercy. This course is only offered to this group of students. (Offered winter term on a temporary basis as long as needed).

### **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 lab 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.

**BI 125 Foundations of Biology & Scientific Inquiry I: 3 semester hours**

An introduction to the unifying principles of modern biology with an emphasis on introductions to the interrelationships of cell physiology and anatomy, biochemistry, genetics, evolution, and development. No prerequisites. Three hours of lecture per week. Biology majors/minors, medical laboratory science majors, outdoor conservation majors and education majors must concurrently enroll in the BI 125 lab. This course fulfills the Natural World Domain requirement when taken with the BI 125 lab.

**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. 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 each 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, protists, and fungi. Additional topics in statistics and scientific communication will also be integral to the course. Prerequisite: A grade of C or better in BI 125 and BI 125L. Three hours lecture and three hours of laboratory per week.

**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. Prerequisite: A grade of C or better in BI 125 and the BI 125 lab (C- does not count). Three hours of each lecture and laboratory per week.

**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. Weekly 3 hours lecture and 3 hours laboratory. Prerequisite: A grade of C or above (C- does not count) in BI 125 or permission for 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.

**BI 210 Biology And Human Culture: 3 semester hours**

The course will explore the interaction between culture, evolution, and biology from a variety of perspectives in a seminar format. The customs of different cultures are often determined by and/or affected by biological factors. These will be studied from a proximate and ultimate (evolutionary) standpoint in a comparison of both non-Western and Western culture to better understand and appreciate different cultural practices and beliefs, how they evolved, and what implications they have for the world. Students also will investigate a custom of their choice to ascertain the biological and cultural origins and significance of the custom. 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.

**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. Prerequisites: A grade of C or better in BI 125 or BI 123 or equivalent or permission of instructor. Three hours of lecture and one three-hour lab per week.

**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. Prerequisites: A grade of C or better in BI 125, BI 127, or permission of instructor. Three hours of lecture and one three-hour lab per week.

**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.

**BI 260 Professional Development for the Sciences: 1 semester hour**

A seminar course designed to prepare future graduate and professional school science majors during early in their junior year. Students will learn about different career choices, how to prepare for standardized exams, the timing of application, interview skill, post-graduate admissions expectations, cover letters, and how to develop a resume to present.

**BI 273 Human Anatomy: 4.5 semester hours**

A lecture and laboratory course designed to give basic information for understanding normal structure and development of the human body. A regional approach to anatomy is used, complimented with dissection and examination of preserved human cadavers, practical applications, and discussions of basic concepts. Three hours of lecture and one three-hour lab per week, plus 45 hours of supervised dissection per term. Prerequisite: A grade of C or better in BI 125 for Biology majors, and a D- or better for other majors.

**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. A non-required option is BI 274, Basic Human Physiology Lab in which Biology majors may concurrently enroll. Prerequisite: A grade of C or better in BI 125 for Biology and Medical Technology major, and a grade of D- or better for other majors.

**BI 274L Human Physiology Laboratory: 1.5 semester hour**

A laboratory course designed to provide demonstrations, experiments, and discussion to reinforce and supplement BI 274. Biology majors, especially those who intend to pursue medically-oriented programs, graduate programs, or education should take this laboratory concurrently with BI 274. Students enrolled in BI 274 are not required to take the laboratory, but students enrolled in the laboratory must take BI 274 concurrently or get permission from the instructor to enroll. This course is a three-hour weekly laboratory. (Offered each spring semester).

**BI 303 Genetics: 4.5 semester hours**

This class is an exploration of the three main branches of heredity: transmission (classical), molecular, and population genetics. Transmission genetics examines how genes and genetic traits are passed from generation to generation. Molecular genetics probes the structure, function, and regulation of genes, while population genetics investigates through mathematical models and the distribution and behavior of genes in populations. Three hours of each lecture and laboratory each week. Prerequisites: A grade of a C or better in BI 125 and BI 126, or BI 125 and or BI 127.

**BI 305 Evolution: 3 semester hours**

Analysis of the theory of evolution, evidences of organic evolution provided by the various subdisciplines of biology and its mechanism and results. Three hours per week. Prerequisites: A grade of C or better in BI 125 and BI 126; or BI 125 and BI 127; or permission of instructor.

**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 from the perspective of the individual, the population, and the community. Three hours of each lecture and 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.

**BI 315 General Microbiology: 4.5 semester hours**

This course studies the major fields of microbiology with an emphasis on bacteria and viruses. Topics include bacterial cell structure, metabolism, genetics, ecology and pathogenesis. Three hours of each lecture and laboratory per week. Prerequisites: A grade of C or better in BI 125, BI 126, CH 111, and CH 112.

**BI 355 Exercise Physiology and Biomechanics: 3 semester hours**

This course is designed to introduce fundamentals of exercise physiology and biomechanics. Topics explored include: application of basic physiology knowledge to athletic training and exercise, review of nutrition for athletes, and concepts of physics as they relate to movement. Prerequisites: PH 151, BI 274 or permission of instructor. Recommend BI 273 and either a course in Evolution or a basic background.

**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 lab per week. Prerequisites: A grade of C or better in BI 125 and BI 126, or PS 101 or permission of instructor.

**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 an additional four hours of laboratory per week. Prerequisites: A grade of a C or better in BI 125 and BI 127 or permission of instructor.

**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 each of lecture and 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.

**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 experiences 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 Criminal Justice Theory: 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 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. All majors, including transfer students must receive a grade of at least C- in this course before taking criminal justice courses at the 300 level or above. 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 340 Crime & Punishment in England 1550-1875: 3 semester hours**

The course explores crime, policing, and punishment in England, 1550-1875. Major topics include the use of public shame, professionalization of police, obstacles to prosecution, and the evolving use of prisons. Changes in penal culture are studied in relation to England's transformation from a rural kingdom into an urbanized and industrial center. Cross-listed with HI 340.

**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 372 Drugs and Crime: 3 semester hours**

This is a course which focuses on the relationship between legal and illegal drugs and crime. This includes an examination of different perspectives on drug use and an examination of the historical characterization of legal and illegal drugs. Students will also examine how illegal drugs, legal and illegal drug use and crime are correlated. The extent of drug use, including types of drugs and patterns of drug use within the constructs of criminal offending will also be covered in the course. Students will also learn about the enforcement of drugs and the control of drug users including correctional programs offered within the criminal justice system, specifically for drug offenders and drug users. 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 420 Victims of Crime: 3 semester hours***

This course focuses on the study of crime victims including the types, extent, patterns, and consequences of victimization. This will include an introduction to victimology and the victim right's movement. Students will learn about the role(s) of the victim in the criminal justice process and policies and programs designed to address the needs of crime victims. This will include a focus on local victim service agencies. Special attention will be paid to "special classes" of victims of domestic violence, sexual assault, and hate crimes. Prerequisite: CJ 299.

***CJ 422 Women and Crime: 3 semester hours***

This course is the study of women as criminal offenders, victims of crime, and workers in the criminal justice system. The course content will include an examination of female offending patterns and explanations for those offending patterns, along with an examination of the treatment of female offenders and female crime victims by the criminal justice system. The course will also focus on women as criminal justice professionals working in law enforcement, the courts, and corrections. Prerequisite: CJ 299.

***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.