SUSTAINABILITY MANAGEMENT

Sustainability Management Minor

Students must select from the following list to satisfy the requirements for the minor in Sustainability Management.

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*Required
**Non EEES students only
***Required approval by Sustainability Management minor coordinators

GUIDELINES AND STIPULATIONS
Course offerings are subject to change.
EES. EARTH AND ENVIRONMENTAL SCIENCES

EES-198/298/398. TOPICS IN EES
Credits: Varies with topic
Departmental courses on topics of special interest, not extensively treated in regularly scheduled offerings, will be presented under this course number on an occasional basis. May be repeated for credit. Click here for fee for courses with a lab.

Pre-Requisites
Varies with topic studied.

EES-105. PLANET EARTH
Credits: 3
The nature of our planet and how it works are examined in the context of Earth as a constantly changing dynamic system. An emphasis on global scale processes and the interaction of humans and their physical environment is coupled with in-depth coverage of how science is done and the scientific principles that influence our planet, its rocks, mountains, rivers, atmosphere, and oceans. Major sub-topical areas in the Planet Earth series may include geology (Forces of Geologic Change), oceanography (The Restless Ocean), astronomy (The Cosmic Perspective), geography (Global Regions and Geography), and the relationship between people and their physical surroundings (The Global Environment). Intended for students who are not majoring in science, engineering, pre-pharmacy, nursing, or B.S. programs in mathematics or computer science. Two hours of lecture and two hours of lab per week. Click here for course fees.

Pre-Requisites
No previous background in science or college-level mathematics is required.

EES-201. ENVIRONMENTAL ETHICS AND SUSTAINABILITY
Credits: 1
This course entails an examination of the central topics of environmental ethics and sustainability as viewed from the perspectives of science. Ethical and sustainability paradigms that all environmental scientists should be aware of will be studied. Course is delivered online.

Pre-Requisites
[[EES-240]] or permission of the instructor.

EES-210. GLOBAL CLIMATE CHANGE
Credits: 3
The nature and function of earth's global climate are examined from a unified system perspective. Major questions focus on scientific versus public understanding of trends in global temperature, precipitation, and sea level. The course emphasizes negative and positive feedback processes that force key changes in the earth's climate system: past, present, and future. Topics include fundamentals of global and regional heat and water balance, the role of elemental cycles in controlling climate (e.g., the carbon cycle), descriptive climate classification, long-term, short-term, and catastrophic climatic change (e.g., ice ages and bolide impacts), and human effects on climate (e.g., enhanced greenhouse, rising sea level). This course integrates a scientific understanding of climatic change and explores contemporary social and economic policy responses to change scenarios. Three hours of lecture per week.

EES-213. CLIMATE MODELING
Credits: 1
Students will utilize software to construct basic models of Earth Systems. No prior knowledge of the software is assumed or required. Weekly assignments will consist of computer-based modeling exercises, each progressively building upon previous assignments. Specifically, students will utilize software to construct relatively simple models of world population growth, fossil fuel consumption, the global carbon cycle, and the Earth’s energy balance. The final modeling exercise couples the population growth, carbon cycle, and Earth energy balance assignments in an effort to explore the effect of future population growth and carbon dioxide emissions on global mean temperature. Two hours of lab per week.

Co-Requisites
[[EES-210]]

EES-218. ENVIRONMENTAL ETHICS
Credits: 3
An examination of the central problems of environmental ethics as viewed from the perspectives of science and of philosophy. The value of nature and ‘natural objects,’ differing attitudes toward wildlife and the land itself, implications of anthropocentrism, individualism, ecocentrism, and ecofeminism, bases for land and water conservation, and other topics will be examined within a framework of moral and scientific argument. Cross-listed with [[PHL-218]].

Pre-Requisites
[[PHL-101]] or [[EES-240]] or permission of the instructor.

EES-230. OCEAN SCIENCE
Credits: 4
An interdisciplinary approach to the study of the fundamentals of oceanography emphasizing physical, chemical, and biological interrelationships. Three hours of lecture and three hours of lab.

Requirements: For CS, Engineering, Math, and Science majors only
Click here for course fees.

EES-240. PRINCIPLES OF ENVIRONMENTAL ENGINEERING & SCIENCE
Credits: 4
A study of physical, chemical, and biological components of environmental systems and a discussion of processes involved in water quality management, air quality management, waste management, and sustainability. Three hours of lecture and three hours of lab per week.

Click here for course fees.

Pre-Requisites
[[MTH-111]] or [[EES-240]] or permission of the instructor. Requirements For CS, Engineering, Math, and Science majors only.

EES-242. ENVIRONMENTAL HEALTH
Credits: 3
To provide students with an understanding of man’s impact on the environment and how those impacts can be controlled or mitigated. Students completing this course should be able to recognize environmental problems and understand control and preventative measures. Three hours of lecture.

Pre-Requisites
Introductory physics and chemistry. Students who have taken [[EES-240]] will be admitted only with the consent of the instructor.
EES-251. SYNOPTIC METEOROLOGY  
**Credits:** 4  
Topics include surface and upper air weather systems, weather phenomena, climate, and local weather influences. Synoptic map analysis and interpretation are emphasized. Three hours of lecture and three hours of lab per week. Requirements: For CS, Engineering, Math, and Science majors only  
Click here for course fees.

EES-261. REGIONAL GEOGRAPHY  
**Credits:** 3  
Topics covered include maps and charts and basic elements of physical, cultural, historical, and economic geography as applied to specific geographic regions. Three hours of lecture per week.

EES-271. ENVIRONMENTAL MAPPING I: INTRODUCTION TO GPS AND GIS  
**Credits:** 3  
Information Systems (GIS), and environmental mapping concepts and applications. Topics include coordinate systems, reference ellipsoids, geodetic datums, map projections, history of GIS, relational database management, quality control, GIS as a decision support tool, and data manipulation, processing, and analysis. Practical field use of GPS is emphasized within the context of understanding system components, satellite signal processing, selective availability, base station differential correction, and data export to GIS. Geospatial data science is discussed within the context of real-world locational phenomena. Two hours of lecture and two hours of lab per week.  
Click here for course fees.

EES-272. ENVIRONMENTAL MAPPING II: ADVANCED GIS AND REMOTES SENSING  
**Credits:** 3  
**Terms Offered:** Spring  
An advanced course on Geographic Information Systems (GIS) and Remote Sensing. GIS topics build upon introductory-level coursework in EES 271, and introduce more advanced applications of GIS software such as density mapping and interpolation of point data (geostatistical methods), surface analysis and 3D modeling of environmental data, open source alternatives to ArcGIS, and web map development and design. Remote sensing topics include aerial and satellite visual imagery, digital image processing, photogrammetry, Light Detection and Ranging (LiDAR), and multispectral remote sensing systems and theory. The course will also include case studies of remote sensing and GIS techniques applied in environmental studies. Field use of GPS is emphasized, in addition to the use of small Unmanned Aerial Systems (sUAS) to capture aerial digital imagery. Laboratory component emphasizes practical skills and tools in achieving desired results in processing geospatial data, particularly raster data types. Two hours of lecture and three hours of lab per week.  
Pre-Requisites: EES 271 or permission of the instructor.  
Click here for course fees.

EES-280. PRINCIPLES OF ASTRONOMY  
**Credits:** 4  
Topics include orbital mechanics, results of planetary probes, spectra and stellar evolution, and cosmology. Three hours of lecture and three hours of lab per week. Requirements: For Science majors only  
Click here for course fees.

EES-302. SCIENCE RESEARCH AND COMMUNICATION  
**Credits:** 1  
The aim for this course is to provide students with the necessary foundation to think critically about scientific research and communication. The course introduces students to the (1) philosophy of science, (2) design, execution, and evaluation of scientific projects, (3) exploration, evaluation, and management of scientific literature, (4) methods and ethics of scientific communication, and (5) proposal design for a project to be continued into Senior Project (EES/GEO 391/392) that includes a literature review, definition of research questions, objectives, or testable hypotheses, and the methods used to carry out the project. The broader social and political context in which scientific research is situated and must respond to and interact with is also explored. More than that, this course explores the important connections between research design and communication by having students focus on the application of learned theory and skills to projects with Senior Project advisor.

Pre-Requisites  
Junior standing.

EES-304. ENVIRONMENTAL DATA ANALYSIS  
**Credits:** 2  
To acquaint students majoring in earth and environmental sciences with the techniques and methods of data acquisition and analysis, including environmental sampling methodology and data management. Emphasis will be placed on examination of real data sets from various areas of the earth and environmental sciences with particular emphasis placed on using and applying graphical and statistical procedures used in EES 391-392 (Senior Projects). Two hours of lecture per week.

Pre-Requisites  
[[MTH-150]] and Junior standing or permission of the instructor.

EES-340. CONSERVATION BIOLOGY  
**Credits:** 3  
This course will cover the major topics of conservation biology including an introduction to biodiversity, threats to biodiversity, and solutions to diminish extinctions and population declines. Lecture: three hours per week. Cross-listed with [[BIO-340]].

Pre-Requisites  
BIO 121-122, BIO 225-226 or permission of the instructor.

EES-341. FRESHWATER ECOSYSTEMS  
**Credits:** 3  
A study of the biological and ecological aspects of streams, lakes, and wetlands from a watershed perspective. An initial introduction to physical, chemical, and geological principles of limnology is followed by a focus on freshwater biology. Laboratories include field-based watershed investigations and lake management assessments using geographic information systems techniques. Cross-listed with [[BIO-341]]. Two hours of lecture and three hours of lab per week. Offered in alternate years.  
Click here for course fees.

Pre-Requisites  
[[GEO-211]] or [[EES-240]] or [[BIO-121]],-122 or permission of the instructor.
EES-343. MARINE ECOLOGY  
**Credits:** 3  
An examination of the biology of marine life within the context of modern ecological principles. The structure and physiology of marine organisms will be studied from the perspectives of adaptation to the ocean as habitat, biological productivity, and interspecific relationships. Emphasis will be placed on life in intertidal zones, estuaries, surface waters, and the deep sea. Two hours of lecture and three hours of lab per week. Cross-listed with [[BIO-343]]. Offered in alternate years.  
[Click here for course fees.]

**Pre-Requisites**  
[[EES-230]] and [[BIO-121]]-122 or permission of the instructor.

EES-344. ECOLOGY  
**Credits:** 4  
Ecology examines contemporary ecological thinking as it pertains to the interrelationships of organisms and their environments. Interactions at the populations and community level are emphasized. Two hours of lecture and three hours of lab per week. Cross-listed with [[BIO-344]]. Offered in alternate years.  
[Click here for course fees.]

**Pre-Requisites**  
[[BIO-121]]-122, 223-224, or permission of the instructor.

EES-366. FIELD BOTANY  
**Credits:** 3  
This is a specialized summertime field course, which emphasizes a taxonomic, phylogenetic, and ecological survey of higher plants indigenous to Northeastern Pennsylvania. Due to the extensive field work, enrollment is somewhat more restricted than in other courses; therefore, written permission from the instructor is the primary prerequisite for those upperclassmen who wish to register for the course. Cross-listed with [[BIO-366]]. Offered in alternate years.  
[Click here for course fees.]

**Pre-Requisites**  
[[BIO-121]]-122, 223-224, or permission of the instructor.

EES-390. ENVIRONMENTAL SCIENCE SEMINAR  
**Credits:** 3  
This course is presented seminar-style, focusing on Environmental Science topics relevant to current problems, trends, and news. The course serves as an open and constructive venue where students will have an opportunity to delve into themed topics and more holistically discuss environmental science issues. The theme of the course will change each term, but will remain within the Environmental Sciences: ecology, environmental chemistry, sustainability, climate change, hazardous waste, etc. Students are required to read and actively discuss scientific literature, assemble and analyze relevant data, formulate and criticize quantitative/qualitative theories, and explore case studies. Three hours of seminar per week. Requirement: students with senior standing only.  
[Click here for course fees.]

EES-391. SENIOR PROJECTS I  
**Credits:** 1  
Design and development of selected projects in earth and environmental sciences and other related fields under the direction of a staff member. Technical as well as economical factors will be considered in the design. A professional paper and detailed progress report are required. Requirements: Senior standing in Earth and Environmental Sciences and department permission. (See the department for more details about the department permission.)  
[Click here for course fees.]

**Pre-Requisites**  
Department permission.

EES-392. SENIOR PROJECTS II  
**Credits:** 2  
Design and development of selected projects in earth and environmental sciences and other related fields under the direction of a staff member. Technical as well as economical factors will be considered in the design. A professional paper to be presented and discussed in an open forum is required.  
[Click here for course fees.]

**Pre-Requisites**  
[[EES-391]] or department permission. (See the department for more details about the department permission.)

EES-394. FIELD STUDY  
**Credits:** 1-3  
On-site study of an earth or environmental problem or situation incorporating field documentation and investigative techniques. May be repeated for credit when no duplication of experience results. One hour of lecture, plus field trips.  
[Click here for course fees.]

**Pre-Requisites**  
[[EES-211]] and [[EES-240]].

EES-395. AND 396. INDEPENDENT RESEARCH  
**Credits:** Varies with topic 1-3 credits.  
Independent study or research of specific earth or environmental science topic at an advanced level under the direction of a departmental faculty member.  
[Click here for course fees.]

**Pre-Requisites**  
Upper class standing and approval of academic advisor, research advisor, and department chairperson.

EES-399. COOPERATIVE EDUCATION  
**Credits:** 1-6  
Professional cooperative education placement in a private or public organization related to the student’s academic objectives and career goals. In addition to their work experience, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student’s discipline. See the Cooperative Education section of this bulletin for placement procedures.  
[Click here for course fees.]

**Pre-Requisites**  
Sophomore standing; minimum 2.0 cumulative GPA; consent of the academic advisor; and approval of placement by the department chairperson.
EES-498. TOPICS
Credits: Varies with topic
Departmental courses on advanced topics of special interest, not extensively treated in regularly scheduled offerings, will be presented under this course number on an occasional basis. Available for either undergraduate or graduate credit. May be repeated for credit.
Click here for fee for courses with a lab.

Pre-Requisites
Senior or graduate standing

ENV. ENVIRONMENTAL ENGINEERING

ENV-198/298/398. TOPICS IN ENV
Credits: Varies with topic
Selected topics in the field of engineering and related areas. The may include the following topics: mechanical engineering; civil engineering; engineering management; geotechnology; and radiation.
Click here for fee for courses with a lab.

Pre-Requisites
Permission of the instructor.

ENV-201. ENVIRONMENTAL ENGINEERING SYSTEMS I: CHEMICAL KINETICS AND STATISTICAL METHODS
Credits: 1
This course focuses on understanding the factors that control species behavior in environmental systems and provides the foundation for estimating pollutant concentrations and their fate in the environment. This course also provides an introduction of central ideas of probability and statistics and their application in the analysis of environmental data and information. One hour of lecture and one hour of discussion per week.

Pre-Requisites
[CHM-113], [CHM-115], [MTH-111] or instructor's permission.

ENV-202. ENVIRONMENTAL ENGINEERING SYSTEMS II: ANALYTICAL AND COMPUTATIONAL ANALYSIS
Credits: 2
This course focuses on basic methods for obtaining numerical solutions of algebraic and transcendental equations, simultaneous linear equations, and curve fitting techniques; examples provided are relevant to environmental engineering processes; will include an introduction to problem-solving using Excel and MATLAB. Two hours of lab per week.

Pre-Requisites
[MTH-111], [MTH-112] or instructor's permission.

ENV-205. ENVIRONMENTAL MICROBIOLOGY
Credits: 3
The foundation concepts in microbiology that are important in environmental systems will be explored in this course. This will include the function and formation of cellular components starting from basic molecules (carbohydrates, fatty acids, amino acids, nucleotides) to the cellular structures that are formed (membranes, proteins, and the nucleic acids RNA & DNA); carbon, energy, and nutrient sources required for cellular growth; and the metabolic pathways for substrates common in environmental systems will be shown. Biodegradation and growth kinetic models will be introduced. Global cycles of major elements (i.e. carbon, nitrogen, oxygen, phosphorus, etc.) will be explored.

ENV-298. TOPICS
Credits: Varies with topic
Selected topics in the field of engineering and related areas. The may include the following topics: mechanical engineering; civil engineering; engineering management; geotechnology; and radiation.
Click here course fee.

Pre-Requisites
Permission of the instructor.

ENV-301. ENVIRONMENTAL ENGINEERING SYSTEMS III: ADVANCED UNIT OPERATIONS AND PROCESSES
Credits: 1
Examination of unit operations and processes encountered in the environmental engineering field that will assist in the design and operation of advanced water, wastewater, and waste management treatment systems. One hour of lecture and one hour discussion per week.

Pre-Requisites
[[EES-240]]
Co-Requisites
[[ENV-305]], [[ENV-351]] or instructor's permission.

ENV-305. SOLID WASTE MANAGEMENT
Credits: 3
Assessment of the scope of the solid waste problem and engineering and management strategies. Lecture topics include the following: solid waste sources; characterization and generation rates; collection and transportation technologies and management options; sanitary landfill design and operation; and recycling strategies and technologies. Three hours of lecture per week.

Pre-Requisites
[[EES-240]] and [[CHM-116]] or [[ENV-201]] or instructor's permission.

ENV-315. SOILS
Credits: 3
Study of the structure, properties, and classification of soils. Fundamental concepts of soils science are applied to the environmental management of terrestrial ecosystems. Topics include soil genesis, the classification, and physical properties of soils, soil chemistry, and soil moisture relationships. Two hours of lecture and three hours of lab per week.

Pre-Requisites
[[GEO-211]] and [[CHM-116]] or [[ENV-201]].
Sustainability Management Minor

ENV-321. HYDROLOGY
Credits: 4
A quantitative analysis of the physical elements and processes that constitute the hydrologic cycle. Topics include precipitation, infiltration, evaporation, runoff, streamflow, and ground water flow. Ground water modeling and advanced treatment of Darcy’s Law is presented within the context of migration of ground water pollutants. Three hours of lecture and three hours of lab per week.
[Click here for course fees.]

Pre-Requisites
[[GEO-211]], [[MTH-111]] and [[ENV-201]] or [[MTH-150]].

ENV-322. WATER RESOURCES ENGINEERING
Credits: 3
Design and development of selected projects in the various fields of engineering under the direction of a staff member. Technical as well as economic factors will be considered in the design. A detailed progress report is required. Three hours of lecture per week.

Pre-Requisites
[[ENV-321]].

ENV-330. WATER QUALITY
Credits: 4
The physical, chemical, and biological processes that affect the quality of water in the natural environment. The measurement of water quality parameters in water and wastes. The behavior of contaminants in ground and surface water. Three hours of lecture and three hours of lab per week.
[Click here for course fees.]

Pre-Requisites
[[EES-240]], [[ENV-201]].

ENV-332. AIR QUALITY
Credits: 3
Study of atmospheric pollutants, their sources and effects; measurement and monitoring techniques for air pollutants; atmospheric chemical transformations; regulatory control of air pollution; meteorology of air pollution; transport and dispersion of air pollutants; and introduction to indoor air pollution. Lab work includes both problem-oriented and hands-on exercises. Exercises include basic gas concepts, volume measuring devices, flow, velocity, and pressure measuring devices, calibration of such devices, and various sampling techniques. Two hours of lecture and three hours of lab per week.
[Click here for course fees.]

Pre-Requisites
[[EES-240]], [[ENV-201]].

ENV-351. WATER AND WASTEWATER TREATMENT
Credits: 4
Design of water and wastewater treatment systems. Estimation of demands. Physical, chemical, biological, and land-based treatment processes. Sludge handling and disposal. Three hours of lecture and three hours of lab per week.
[Click here for course fees.]

Pre-Requisites
[[ENV-330]].

ENV-352. HYDRAULIC ENGINEERING
Credits: 3
Water distribution, sewage collections, pipe network models, piping materials, pumps and pumping stations, valves and tanks. Design and operation. Three hours of lecture per week.

Pre-Requisites
[[ME-321]].

ENV-353. AIR POLLUTION CONTROL
Credits: 3
This course provides the philosophy and procedures for design of air pollution control systems. Methods used for controlling air-borne emissions of gases, aerosols, and organic vapors are covered. Designs are carried out based on data for typical systems. Evaluations of alternatives with cost comparisons are also presented. Three hours of lecture per week.

Pre-Requisites
[[ENV-332]] or [[ME-321]].

ENV-354. HAZARDOUS WASTE MANAGEMENT
Credits: 3
An overview and application of engineering principles to management of hazardous wastes and the remediation of contaminated sites. Introduction to regulatory compliance and environmental laws. Three hours of lecture per week.

Pre-Requisites
[[ENV-351]] or permission of the instructor.

ENV-356. PHYSICAL/CHEMICAL TREATMENT PROCESSES
Credits: 2
Design of physical/chemical processes in aqueous treatment systems. Focus will be on the drinking water treatment processes, but industrial treatment processes will be included as well. Estimation of demand and sludge disposal will also be addressed.

Pre-Requisites
[[ENV-330]].

ENV-357. BIOLOGICAL TREATMENT PROCESSES
Credits: 3
Design of biological processes in aqueous treatment systems. Topics will include typical municipal wastewater treatment as well as industrial treatment processes. Generation of biogas will be addressed as well as sludge handling and disposal.

Pre-Requisites
[[ENV-330]].
**ENV-373. OCCUPATIONAL HEALTH**  
**Credits:** 3  
Appraisal of environmental health hazards, sampling techniques, instrumentation and analytic methods. Principles of substitution, enclosure, and isolation for the control of hazardous operations in industry. Three hours of lecture and demonstration per week. Requirement: Junior or senior standing in engineering.

**ENV-390. JUNIOR SEMINAR**  
**Credits:** 1  
Course will focus on project management, design concepts and constraints, literature review and preliminary data collection for senior projects course.

**ENV-391. SENIOR PROJECTS I**  
**Credits:** 1  
Design and development of selected projects in the various fields of engineering under the direction of a staff member. Technical as well as economic factors will be considered in the design. A professional paper and detailed progress report are required. Requirement: Senior standing and department permission. (See the department for more details about the department permission.)  
Click here for course fees.

**ENV-392. SENIOR PROJECTS II**  
**Credits:** 2  
Design and development of selected projects in the field of engineering under the direction of a staff member. Technical as well as economic factors will be considered in the design. This is a continuation of [[ENV-391]]. A professional paper to be presented and discussed in an open forum is required.  
Click here for course fees.

**Pre-Requisites**  
[[ENV-391]].

**ENV-395. AND 396. INDEPENDENT RESEARCH**  
**Credits:** Varies with topic; 1-3 credits.  
Independent study or research for advanced students in the field of their major under the direction of a departmental faculty member.  
Click here for course fees.

**Pre-Requisites**  
Approval of department chair and academic advisor.

**ENV-397. SEMINAR**  
**Credits:** 1-3  
Presentations and discussions of selected topics and projects. Requirement: Senior standing in environmental engineering.

**ENV-398. TOPICS**  
**Credits:** Varies with topic  
Selected topics in the field of engineering and related areas. The may include the following topics: mechanical engineering; civil engineering; engineering management; geotechnology; and radiation.  
Click here course fee.

**Pre-Requisites**  
Permission of the instructor.

**ENV-399. COOPERATIVE EDUCATION**  
**Credits:** 1-6  
Professional cooperative education placement in a private or public organization related to the student’s academic objectives and career goals. In addition to their work experiences, students are required to submit weekly reaction papers and an academic project to a Faculty Coordinator in the student’s discipline. See the Cooperative Education section of this bulletin for placement procedures.

**Pre-Requisites**  
Sophomore standing; minimum 2.0 cumulative GPA; consent of the academic advisor; and approval of placement by the department chairperson.

**MGT. MANAGEMENT**

**MGT-209. BUSINESS CORRESPONDENCE AND REPORTS**  
**Credits:** 3  
An emphasis on written communications: practice in writing major classification of business letters; persuasive requests and refusals; and inquiry, order, sales, application, credit, collection, and goodwill letters. Investigative techniques of research and analytical report writing.

**MGT-251. MANAGEMENT OF ORGANIZATIONS AND PEOPLE**  
**Credits:** 3  
Introduction to the theory and practice of managing organizations, including planning, organizing, and controlling. Interdisciplinary in nature, social and ethical dimensions of managing are examined.

**Pre-Requisites**  
Either ACC, BA, ENT 151 or BA 153

**MGT-257. MANAGEMENT INFORMATION SYSTEMS**  
**Credits:** 3  
This course introduces the fundamental concepts underlying the design, implementation, control, and evaluation of business-oriented computer based information systems, office automation, information reporting, and decision making.

**Pre-Requisites**  
[[ACC-162]], [[BA-119]], [[FIN-240]]

**MGT-352. PRODUCTION AND OPERATIONS MANAGEMENT**  
**Credits:** 3  
**Terms Offered:** Spring  
Principles of decision-making, systems design, introduction to quantitative tools of analysis, and fundamentals of production, inventory, financial, and distribution management.

**Pre-Requisites**  
[[BA-319]] and [[MGT-251]].
MGT-353. HUMAN RESOURCE MANAGEMENT  
Credits: 3  
Terms Offered: Fall  
This course focuses on introducing the student to the theories, practices, problems, and legislation relevant to attracting, selecting, developing, compensating, and effectively using human resources in organizations.  
Pre-Requisites  
[[MGT-251]].  

MGT-354. ORGANIZATIONAL BEHAVIOR  
Credits: 3  
A behavioral science approach to understanding individual, formal, and informal group behavior, macro- and micro-organizational structures, motivation and leadership theories, group influences, conflicts, decision-making, and communication, with emphasis on behavioral science applications in developing organizational effectiveness.  
Pre-Requisites  
[[MGT-251]].  

MGT-356. THE SOCIAL RESPONSIBILITY OF BUSINESS  
Credits: 3  
A course dealing with the problems faced by managers in responding to issues such as the kinds and extent of social responsibility to be assumed by businesses, employee rights, consumerism, and the balance of public and private interests.  
Pre-Requisites  
[[MGT-251]] and junior standing.  

MGT-357. BUSINESS TRANSFORMATIONS IN THE DIGITAL ECONOMY  
Credits: 3  
This course is designed to help students understand how the digital economy forces companies to rethink their business strategies—and architect processes, products, and information differently. Topics will allow for the development of problem solving abilities using business analytics and intellectual curiosity using radical openness in the workplace. The course content will incorporate cases in business, and it will seek to create an understanding of big data, culture and ubiquitous technologies. Students will also understand how to thinking critically and to make decisions using internal and external sources of data.  
Pre-Requisites  
[[ACC-162]], [[BA-119]], [[FIN-240]]  

MGT-358. INTERNATIONAL BUSINESS  
Credits: 3  
An introduction to the field of international business. Topics include the empirical dimensions of the world economy, business enterprise in international trade, trade channels, effects of economic, political, and social environment on international management problems of international operations, and the role of government in fostering international business. A substantial amount of writing is required.  
Pre-Requisites  
[[MGT-251]] and senior standing.  

MGT-397. SEMINAR  
Credits: 1-3  

SM. SM  

SM-201. INTRODUCTION TO SPORTS MANAGEMENT  
Credits: 3  
Terms Offered: Fall, Spring, Summer  
This course is an introduction to the field of sport management. The course examines the historical development, current trends, best practices, and future trends of sport management.  
Pre-Requisites  
[[BA-152]] or [[BA-153]] with a minimum grade of 2.0.  

SM-261. SPORT PSYCHOLOGY  
Credits: 3  
Terms Offered: Spring  
Sport Psychology course is designed to help students learn the theoretical concepts, research and intervention skills in the psychology of sport and exercise. Students will learn different approaches to understand and evaluate psychological aspects of sport performance.  
Pre-Requisites  
[[SM-201]] with a minimum grade of 2.0  

SM-325. SPORT MARKETING  
Credits: 3  
Terms Offered: Fall  
Sport Marketing course is designed to provide students with a broad and contemporary overview of the sport marketing field. This course will compare and contrast the field of sport and entertainment marketing with the practices and applications of mainstream marketing.  
Pre-Requisites  
[[SM-201]] with a minimum grade of 2.0  

SM-341. SPORT FINANCE AND ECONOMICS  
Credits: 3  
Terms Offered: Spring  
Sport Finance and Economics course provides a comprehensive synopsis of the application of financial and economic management used in the sport organization decision making context from both a macro and micro level.  
Pre-Requisites  
[[SM-201]] or [[SOC-261]] with a minimum grade of 2.0  

SM-355. FACILITY MANAGEMENT  
Credits: 3  
Terms Offered: Fall  
Facility Management course is designed to provide students the opportunity to learn multiple aspects of sport facilities and the management of events held at these facilities. Students will gain an understanding of the breadth and complexity of facility planning issues in sport, and the tools necessary to effectively plan and manage sport facilities through hands on, experiential exercises coupled with classroom lectures, discussions, and guest speakers.  
Pre-Requisites  
[[SM-201]] with a minimum grade of 2.0
SM-461. CAPSTONE IN SPORT MANAGEMENT
Credits: 3
Terms Offered: Fall, Spring
This capstone class is the final course in the degree sequence for students majoring in Sports Management. Students will review, assess, and apply the concepts they have learned during undergraduate studies through the creation of a customized graduation portfolio.

Pre-Requisites
[[SM-325]] with a minimum grade of 2.0

SM-462. SPORTS MANAGEMENT INTERNSHIP
Credits: 3
Terms Offered: Fall, Spring, Summer
This course is designed to help students gain practical, hands-on experience in the sport management field. Students will work directly with sport management professionals applying curricular theory and principles to real life situations.

Pre-Requisites
[[SM-201]] with a minimum grade of 2.0

SM-466. ADVANCED SPORTS MANAGEMENT INTERNSHIP
Credits: 3
Terms Offered: Fall, Spring, Summer
This course is designed to help students gain practical, hands-on experience in the field of sports. Students will work directly with sport management professionals at a sport organization.

Pre-Requisites
[[SM-341]] with a minimum grade of 2.0