

Courses with Sustainability Content at Black Hills State University

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Courses indicated by active professors for the 2013-2014 academic year.

Undergraduate - 78

AIS 490 - Seminar

Common Course Number & Description

A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

AIS 377 - Ethnobotany of the Northern Plains

Unique Course

A scientific study of the history, identification and use of native plants by indigenous cultures. A focus on the interactions among people, cultures and plants, with a particular emphasis given to the use of plants by the Lakota people.

AIS 422 - Issues in Contemporary Indian Life

Common Course Number & Description

An analysis of current American Indian life including inquiry into government policies, economics, and social adjustment to non-Indian society, and cultural changes as these relate to Indian citizens on and off the reservation.

AIS 454 - Indian Community Organization & Development

Unique Course

This will be a study of the theory and process of community development in Indian communities.

ANTH 210 - Cultural Anthropology

Common Course Number & Description

Introduces the nature of human culture as an adaptive ecological and evolutionary system, emphasizing basic anthropological concepts, principles and problems. Draws data from both traditional and industrial cultures to cover such concepts as values & beliefs, social organization, economic and political order, science, technology, and aesthetic expression.

BIOL 101 - Biology Survey I

Common Course Number & Description

Study of the nature, diversity, and classification of life, ecology, cells and cell cycles, Mendelian and modern genetics evolution and evolution theory. Intended for those not majoring in biology.

BIOL 101L - Biology Survey I Lab

Common Course Number & Description
Laboratory experience that accompanies BIOL 101.

BIOL 103 - Biology Survey II

Common Course Number & Description
Study of energetics; plant growth; development and reproduction; animal structure and function. Intended for those not majoring in biology.

BIOL 103L - Biology Survey II Lab

Common Course Number & Description
Laboratory experience that accompanies BIOL 103.

BIOL 151 - General Biology I

Common Course Number & Description
The introductory course for those majoring in biology and microbiology. Presents the concepts of cell biology, evolution, heredity, molecular genetics and ecology.

BIOL 151L - General Biology I Lab

Common Course Number & Description
Laboratory experience that accompanies BIOL 151.

BIOL 153 - General Biology II

Common Course Number & Description
A continuation of BIOL 151, the introductory course for those majoring in biology and microbiology. Presents the concepts of animal and plant structure and function, energetics, and reproduction.

BIOL 153L - General Biology II Lab

Common Course Number & Description
Laboratory experience that accompanies BIOL 153.

BIOL 231 - General Microbiology

Common Course Number & Description
Principles of basic and applied microbiology.

BIOL 231L - General Microbiology Lab

Common Course Number & Description
Laboratory experience that accompanies BIOL 231.

BIOL 301 - Plant Systematics

Common Course Number & Description
Principles of phylogeny, classification, nomenclature, evolution; demonstrations, field study and laboratory practice in collection, preserving, and identifying plants.

BIOL 301L - Plant Systematics Lab

Common Course Number & Description

Laboratory experience that accompanies BIOL 301.

BIOL 311 - Principles of Ecology

Common Course Number & Description

Basic principles of ecology including the sub disciplines of physiological ecology, population ecology, community ecology, evolutionary ecology, and ecosystems ecology from both a theoretical and applied aspect.

BIOL 311L - Principles of Ecology Lab

Common Course Number & Description

Laboratory experience that accompanies BIOL 311.

BIOL 321 - Conservation of Natural Resources

Unique Course

This is a study of the history of the exploitation of our renewable and non-renewable resources, and the contemporary practices used in their conservation.

BIOL 355 - Mammalogy

Unique Course

Identification of game, fur bearing, and small mammals; taxonomy of these groups, life histories and habits, preparation of study skins and skeletons; special reference to those occurring in Northern Great Plains area.

BIOL 355L - Mammalogy Lab

Unique Course

Laboratory experience that accompanies BIOL 355.

BIOL 371 - Genetics

Common Course Number & Description

Principles governing the nature, transmission and function of hereditary material with application to plants, animals, humans, and microorganisms.

BIOL 371L - Genetics Lab

Common Course Number & Description

Laboratory experience that accompanies BIOL 371

BIOL 373 - Evolution

Common Course Number & Description

Surveys evidence for biological evolution and the historical development of evolutionary theory, and examines genetic and other mechanisms responsible for life's diversity.

BIOL 373L - Evolution Lab

Unique Course

Laboratory experiences to complement the lectures and discussions in BIOL 373 make up this course.

BIOL 434 - Herpetology

Common Course Number & Description

This course is a study of reptiles and amphibians including their life history, ecology, reproductive habits, physiology, systematics, and world-wide distribution.

BIOL 434L - Herpetology Laboratory

Common Course

This course complements BIOL 434, and will emphasize identification of, and field experiences with, the reptiles and amphibians of western South Dakota.

BIOL 460 - Evolutionary and Ecological Plant Physiology

Unique Course

This is an interdisciplinary course that focuses on the evolution of physiological traits that are important to wild plants in their interactions with other organisms and the environment.

BIOL 460L - Evolutionary and Ecological Plant Physiology

Unique Course

The entire class conducts a semester-long research project that supports lectures.

BIOL 462 - Dendrology

Unique Course

The study of woody plants, including practical skills in identifying trees and shrubs. Natural history interpretation, natural resources management, and practical aspects of forestry will be covered as well as woody plant anatomy. Students will conceive, design, execute, and write a report on a research project.

BIOL 462L - Dendrology Lab

Unique Course

They study of woody plants, including practical skills in identifying trees and shrubs. Natural history interpretation, natural resources management, and practical aspects of forestry will be covered as well as woody plant anatomy. Students will conceive, design, execute, and write a report on a research project.

BIOL 474 - Ecological Genomics

Unique Course

Genomics is the study of all or a large part of an organism's DNA sequences. The course focuses on the identification of genes and understanding gene function in biologically meaningful (ecological) contexts using microarrays, SAGE, and cDNA subtraction techniques.

BIOL 474L - Ecological Genomics Laboratory

Unique Course

To complement lectures, a semester-long class research project will be conducted on gene expression in an ecological context involving wild relatives of model organisms.

BIOL 490 - Seminar

Common Course Number & Description

A highly focused, and topical course. The format includes student presentations and discussions of reports based on literature, practices, problems, and research. Seminars may be conducted over electronic media such as internet and are at the upper division or graduate levels. Enrollment is generally limited to fewer than 20 students.

BADM 292 - Topics

Common Course Number & Description

Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

BADM 320 - Quantitative Decision Analysis

Unique Course

Markovation of quantitative techniques to business situations. Among the techniques included are: rate-of-change analysis of revenue and cost functions, linear programming, transportation algorithm, PERT/CPM analysis, Markov Chain, Monte Carlo simulation, exponential smoothing, time-series trend analysis and queuing theory.

BADM 360 - Organization and Management

Common Course Number & Description

This course is a study of management, including the planning, direction, controlling and coordinating of the various activities involved in operating a business enterprise.

BADM 457 - Business Ethics

Common Course Number & Description

This course is a study of the ethical implications of managerial decisions. Topics covered include the responsibility of the organization to the individual and society, the role of the individual within the organization, and ethical systems for American business. The course provides an examination and assessment of current American business practices.

CHEM 106 - Chemistry Survey

Common Course Number & Description

A one-semester survey of chemistry. Not intended for those needing an extensive chemistry background. Introduction to the properties of matter, atomic structure, bonding, stoichiometry, kinetics, equilibrium, states of matter, solutions, and acid-base concepts.

CHEM 106L - Chemistry Survey Lab

Common Course Number & Description
Laboratory designed to accompany CHEM 106.

CHEM 342L - Physical Chemistry I Lab

Common Course Number & Description
A study of the fundamental principles governing the behavior of chemical systems. Topics covered in the two-semester sequence include thermodynamics, chemical kinetics, quantum mechanics, and statistical mechanics. Laboratory designed to accompany CHEM-342.

CHEM 355 - Field Environmental Chemistry

Unique Course
Assessment of water quality and the origin of pollutants in a watershed are investigated in this interdisciplinary course. Geology and land use are examined and used as the basis for student designed sampling schemes. Biological, chemical, and physical methods are employed to characterize samples both in the field and in the laboratory. Results and conclusions of student projects are presented orally and in written form.

CHEM 355L - Field Environmental Chemistry Laboratory

Unique Course
Laboratory designed to accompany CHEM 355.

CHEM 452 - Inorganic Chemistry

Common Course Number & Description
Theoretical and periodic aspects of inorganic chemistry.

CHEM 452L - Inorganic Chemistry Lab

Common Course Number & Description
Synthesis and characterization of inorganic compounds.

ECON 201 - Principles of Microeconomics

Common Course Number & Description
Principles of microeconomics studies basic economic concepts as they relate to consumer, worker, and business decisions. Emphasis is given to satisfaction maximizing behavior by individuals and profit maximization by firms. Market structures are thoroughly analyzed regarding their effect on price, output, and competitiveness.

ECON 202 - Principles of Macroeconomics

Common Course Number & Description
Principles of macroeconomics considers the economy as a whole, how its sectors interact, and how monetary and fiscal policy can influence output, inflation, interest rates, unemployment, poverty, debt, and other factors.

ELED 303 - Earth and Physical Science for Elem Teachers

Common Course Number & Description

A non-methods course that presents major concepts and theories in astronomy, geology, meteorology, chemistry, and physics. Scientific concepts and theories for elementary teachers working with K-8 students.

ENGL 101 - Composition I

Common Course Number & Description

Practice in the skills, research, and documentation needed for the effective academic writing. Analysis of a variety of academic and non-academic texts, rhetorical structures, critical thinking, and audience will be included.

ENGL 201 - Composition II

Common Course Number & Description

Study of and practice in writing persuasive prose, with the aim to improve writing skills in all disciplines.

ENGL 256 - Literature of American West

Common Course Number & Description

A study of the literature produced in our region, centered on the Great Plains, including that of Native Americans, both oral and written; of pioneers; immigrants; and farmers; Western literature, and current writers.

GEOG 101 - Introduction to Geography

Common Course Number & Description

The course presents a broad, introductory overview of geographic concepts, themes, and elements designed to help students better understand and analyze the world from a geographic perspective. It provides a background to Earth's physical and human elements and systems. It also emphasizes the unique quality of world regions, and the spatial interaction of people, elements, and regions, as well as major global and regional problems and prospects.

GEOG 210 - World Regional Geography

Common Course Number & Description

A survey of the Earth from a broad global framework through the differentiation of the world in terms of both natural and human environmental features and characteristics on a regional basis.

GEOG 319 - World Environmental History

Unique Course

Examines the history of interactions between human cultures and the natural world, from early humans to the present day.

GEOG 400 - Cultural Geography

Common Course Number & Description

A detailed analysis of the concept of culture in a geographical context, including such

applications as culture and nature, cultural growth and change, cultural universals, culture and economy, cultural relativity, cultural landscape, culture region, and cultural conflict.

GEOL 321 - Conservation of Natural Resources

Unique Course

This is a study of the history of the exploitation of our renewable and nonrenewable resources, and the contemporary practices used in their conservation.

HLTH 315 - Human Nutrition

Common Course Number & Description

A study of the science of food and nutrients relative to health, disease, and human performance. Areas of emphasis include nutrient chemistry, function, and interactions; energy consumption and metabolism; and resources for nutrition education.

HIST 319 - World Environmental History

Unique Course

Examines the history of interactions between human cultures and the natural world, from early humans to the present day.

OE 292 - Topics

Unique Course

Includes Current Topics, Advanced Topics, and Special Topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student-teacher involvement.

OE 310 - Outdoor Education Programs

Unique Course

This course provides training in several nationally known environmental and outdoor education programs. The use of these programs in designing a comprehensive outdoor education curriculum and how these programs meet state curriculum standards will be discussed. Programs such as Project Wild, Project Learning Tree, Project Wet, Project Adventure, Leave No Trace, Beyond Fair Chase, The Leopold Project and others will be taught.

OE 350 - Environmental Interpretation

Unique Course

This course provides front line interpretive skills. Oral presentations utilizing these skills and hands on props, visual aids, and power point will be emphasized. Nationally recognized interpretive certification programs will be introduced. The end of the course requires membership in the National Association for Interpretation.

PHYS 113 - Introduction to Physics II

Common Course Number & Description

This course is the second course in a two semester algebra-level sequence, covering fundamental concepts of physics. Topics include electricity and magnetism, sound, light, optics, and some modern physics concepts.

PHYS 213 - University Physics II

Common Course Number & Description

This course is the second course in a two semester calculus-level sequence, covering fundamental concepts of physics. This is the preferred sequence for students majoring in physical science or engineering. Topics include electricity and magnetism, sound, light, and optics.

POLS 320 - Public Administration

Common Course Number & Description

This course uses simulations and public management cases, as well as contemporary public administration literature, to introduce students to the theory and practice of public administration. Students work in teams to resolve issues and problems common to the public service environment.

PSYC 492 - Topics

Common Course Number & Description

Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

SCI 388 - Global Positioning & Geographical Information Systems

Unique Course

The course will allow a student to learn the basics of two new information gathering and processing systems. Global Positioning Systems (GPS) allow a student to learn to determine their position as well as precisely record the location of any attribute anywhere in the world. The Geographic Information System (GIS) component will allow the student to create maps by using GPS, or by importing and modifying maps from data bases. Students will participate in a field project.

SOC 100 - Introduction to Sociology

Common Course Number & Description

Comprehensive study of society, with analysis of group life, and other forces shaping human behavior.

SOC 150 - Social Problems

Common Course Number & Description

A study of present day problems in contemporary societies, such as racism, sexism, ageism, alcoholism, drug addiction, physical and mental health, war and environmental issues - their significance and current policies and action.

SOC 380 - Sociology of Life Cycles

Unique Course

This course is a study of the different stages of the life cycles of humankind with particular emphasis on adulthood and aging.

SOC 403 - Sociological Theory

Common Course Number & Description

This is an introduction to the classics in social theory, various schools of social thought, and modern developments in the discipline. It also covers the major ideas of the classical and modern theorists, the social environment in which they wrote, and the implications of their contributions.

SOC 440 - Urban Sociology

Common Course Number & Description

A study of the urban community, focusing on its development, social structures and institutional patterns.

SOC 492 - Topics

Common Course Number & Description

Includes current topics, advanced topics and special topics. A course devoted to a particular issue in a specified field. Course content is not wholly included in the regular curriculum. Guest artists or experts may serve as instructors. Enrollments are usually of 10 or fewer students with significant one-on-one student/teacher involvement.

SOC 463 - Environmental Sociology

Unique Course

This course examines how population growth, technology, and social organizations affect the natural environment and how the natural environment affects humans and their systems.

TECH 120 - Smart Buildings

Unique Course

The course introduces the student to the basic principles of Building Technology Integration (BTI). Formerly known as "Smart Homes," the course will provide the student with an awareness of cabling, local area networks (LANs), audio/video systems, telecommunications, lighting control, HVAC, and security systems.

TECH 220 - Smart Building Design

Unique Course

The course is a continuation of TECH 120. An advanced application of design, documentation, and installation of building technology systems will be covered. Includes laboratory activities.

TECH 362 - Energy, Power & Transportation

Unique Course
(was TECH 262)

This course provides an understanding of the principles of energy, power, transportation, and applied technology. Topics, among others, include technological literacy, history, and industrial uses of energy, power, and transportation, including the theory, application, conservation, and control of these resources. Basic methods of research and experimentation are also included.

THM 401 - Ecotourism

Unique Course

This course provides a comprehensive analysis of ecological aspects of tourism activities through readings and case analysis of ecotourism research. The class will focus on the foundations of ecotourism; ecotourism behavior; impacts of natural environments; and marketing, management, development, and policy issues.

Graduate - 8

THM 504 - Ecotourism

This provides a comprehensive analysis of ecological aspects of tourism activities through readings and case analysis of ecotourism research. The class will focus on the foundations of ecotourism; ecotourism behavior; impacts of natural environments; and marketing, management, development, and policy issues.

BIOL 534 - Herpetology

This course is an advanced study of reptiles and amphibians, including their life history, ecology, reproductive habits, physiology, systematics, and biogeography.

SUST 510 Fundamentals of Sustainability

This course will examine the multifaceted dimensions of sustainability. Natural, social and economic systems will be explored for key relationships, factors and elements of sustainability. Students will acquire the necessary knowledge and tools needed to be change agents for a sustainable future.

SUST 520 Science for Sustainability

Science for Sustainability is a course designed to take a systems approach to analyze important science topics (solid and air pollution, the carbon cycle, water, energy, etc.) and their role in a sustainable future. Students enrolled in this course will develop a deeper understanding and an ability to describe in detail the scientific connections in each system and between different systems, in addition to the various economic and social factors that play important roles in working with these systems.

SUST 710 Human Dimensions in Sustainability

This course will explore both the individual and societal aspects of sustainability. It will examine the influence that human thought, action and technology has on a sustainable way of life. It will examine population trends, global consumption patterns, belief systems, social organizations, social norms, and social identities.

SUST 730 - Environmental Law and Policy

The course will provide a framework for understanding the background and development of significant legal and policy decisions affecting the environmental regulation in the United States. Participants will gain an understanding of the core features of US environmental laws and regulations, developments in regulatory policy-making, the relationship between the national and state governments regarding environmental regulation, and the roles of key political interests in the policy-making process.

SUST 750 Quantitative Methods in Sustainability

Quantitative Methods in Sustainability will introduce students to analytical methods for sustainability (carbon footprint, polling and demographic analysis, etc.). In this class the students will gain the knowledge of various methods for the collection and analysis of data. The student will gain proficiency in these methods as well as the ability to communicate and utilize the results.

SUST 760 - Global Climate Change

This course emphasizes the current status of climate change science and the impacts climate change is having on human society and biodiversity on a global scale. Participants will explore the cultural and societal implications of climate change, the impact that climate change has on biological diversity, as well as discuss why biological diversity is important to human culture and society. The different attitudes and responses to climate change will be explored, as well as how to discuss the topic with people from a wide range of opinions on the subject.