

Asian Studies Courses

AS 101 Introduction to Asia (3 credits)

The civilizations of India, China, and Japan are presented in historical perspective. Korea, selected cultures of Southeast Asia, and the Islamic world are also included. The course is not designed as an attempt at a comprehensive survey, but rather as a series of more intensive investigations into a selected number of interrelated themes, ideas, and developments in Asia. The first term will be devoted to the traditional period and will include studies of artistic, religious, literary, philosophical, and political achievements and challenges.

AS 102 Introduction to Asia (3 credits)

The second term will examine the modern period, from Western contacts to the present, emphasizing the same interdisciplinary perspectives. Original texts, guest speakers, and multimedia materials will be utilized whenever possible.

Biology Courses

BIO 101 Introductory Topics in Biology (4 credits)

This course explores basic principles of biology that relate scientific literacy to the non-scientist. (Three hours of laboratory and three hours of lecture per week.) Fall, Spring.

BIO 201 Concepts in Biology I (4 credits)

A concept-oriented course in biology that introduces students to rudimentary principles of biological building blocks and macromolecules, cellular organization and reproduction, evolution, Mendelian Genetics. (Three hours of laboratory and three hours of lecture per week.) Fall. This course satisfies the Natural Sciences breadth, but is intended for science majors.

BIO 204 Concepts in Biology II (4 credits)

Second semester course in introductory biology, with emphasis on the evolution and ecology of different groups of organisms. (Three hours of lecture and 3 hours of laboratory per week) Spring.

BIO 221 Human Anatomy and Physiology I (4 credit hours)

This course is an introduction to the structure and function of the major organ systems of the human body. The first semester course will focus on the following systems: integument, skeletal, muscular, nervous, endocrine, and reproductive. Particular emphasis will be placed upon the integrative action of these systems. The lab is devoted to exploring these concepts through experimentation, dissections, and computer simulations. (Three hours of lecture and three hours of lab per week.) Fall.

BIO 222 Human Anatomy and Physiology II (4 credit hours)

This is the second semester course exploring the structure and function of the major organ systems of the human body. This course will focus on the following systems: cardiovascular, lymphatic, respiratory, digestive, and renal. Particular emphasis will be placed upon the integrative action of these systems. The lab is devoted to exploring these concepts through experimentation, dissections, and computer simulations. (Three hours of lecture and three hours of lab per week.) Spring. Prerequisite: BIO 221.

BIO 291 Current Topics in Biology (3 credits)

This course allows for an in-depth exploration of a current biological topic of interest. Examples of potential topics include the environment, biotechnology, or cancer. The class will consist of extensive study through the literature and the Internet. Regular discussion of at least one paper per week by students and professors is expected. (Three hours of lecture per week.) Prerequisites: BIO 201, 204 and at least sophomore standing.

BIO 307 Ecology (4 credits)

A survey of the basic concepts, principles and methods of ecology; the subdiscipline of biology dealing with organisms, their interactions with the physical environment and other organisms, and the results of such interactions over time. Ecology is a math-intensive discipline; students will collect data, create and analyze graphs, and do word problems. (Three hours of laboratory and three hours of lecture per week.) Prerequisites: BIO 204, MAT 205 or 221 or permission of instructor. Spring.

BIO 310 Genetics (3 credits)

Genetics is the study of heredity, studied from different, yet integrated, perspectives. The first is a more historical approach (Mendelian Genetics), the second is the heredity of environmental dynamics over time (population genetics), and the last examine genetics at a more molecular level (molecular genetics). Additionally, the class offers opportunities to examine the effects that current genetic discoveries are having on individuals, society, and decision-making. (Three hours of lecture per week.) Prerequisite: BIO 204. Fall.

BIO 340 Plant Diversity (4 credits)

A systematic survey of the divisions of photosynthetic organisms with an emphasis on evolutionary history and relationships in terms of morphology, anatomy, ecology, and reproductive diversity. Major evolutionary trends will be addressed. (Three hours of laboratory and three hours of lecture per week.) Prerequisite: BIO 204. Fall, alternate years.

BIO 348 Molecular Techniques (5 credits)

This course offers a hands-on approach to techniques commonly employed within a research laboratory. Molecular techniques, through biotechnology, impact areas of life as diverse as agriculture, human health and medicine, and the environment. Emphasis will be on the applications and limitations of molecular techniques in the context of current and historical research. (Seven hours of lecture/laboratory per week.) Prerequisites: BIO 327, CHE 215 or 220. A lab fee is assessed with this course. Spring, alternate years.

BIO 349 Botany (4 credits)

This course is a thorough, one-semester introduction to the study of plant biology, presented in an evolutionary context and emphasizing the structural and functional diversity of Kingdom Plantae. Morphology, anatomy, physiology, photosynthesis, growth and development will be treated in detail. Structural and functional diversity of Kingdom Fungi as well as photosynthesizing protists will also be covered. (Three hours of lecture and three hours of lab per week.) Prerequisites: BIO 204. Spring.

BIO 353 Zoology (4 credits)

Zoology is a systematic study of animals with emphasis on evolution, ecology and comparative physiology. The laboratory is devoted to systematic, field, and experimental studies. (Three hours of laboratory and three hours of lecture per week.) Prerequisite: BIO 204. Spring, alternate years.

BIO 354: Mammalian Physiology (4 credit hours)

Physiology is the study of the how the body functions through the integrated activity of organ systems. This course will provide an in-depth examination of the major physiological systems, drawing on established principles in physics, chemistry, and cellular biology. (Three hours of lecture and three hours of laboratory per week.) Prerequisite: BIO 204. Spring, alternate years.

BIO 355 Animal Behavior (4 credits)

Animal behavior is a broad discipline of biology integrating mechanisms of behavior with the ecological and evolutionary consequences of behavior. The course will introduce principles of neurophysiology, endocrinology, and development, which control and influence the expression of behaviors. The ecological aspects of behaviors will be considered, especially those that influence reproduction and foraging such as communication, territoriality and migration. A major focus will be on the evolutionary implications of animal behaviors with a strong emphasis on the concepts of sociobiology. Laboratories will involve both experiments and field observations. (Three hours of laboratory and three hours of lecture per week.) Prerequisite BIO 204. Fall, alternate years.

BIO 365 Microbiology (4 credits)

Microbiology is the study of unicellular microscopic organisms. In particular, this course considers the form, structure, reproduction, physiology, metabolism, and identification of microorganisms. This course also includes the study of microorganisms' distribution in nature, their effects on humans, and the physical and chemical changes they make in their environment. (Three hours of laboratory and three hours of lecture per week.) Prerequisite: BIO 204. Fall, alternate years.

BIO 380 Junior Seminar (1 credit)

In this course, which is required of all Biology Majors, students will learn how to search for and apply to employment, graduate school, or professional schools in the biological sciences. (Open to students with junior standing). Fall.

BIO 452 Cell Biology (3 credits)

Cell biology is an in-depth investigation of the structural components of cells and their functions, down to the molecular level. Although the major emphasis will be on structure-function relationships common to most cells, functions of certain specialized cells, such as neurons and endocrine cells, will also be discussed. (Three hours of lecture per week.) Prerequisites: BIO 204 and CHE 215 or CHE 220. A chemistry course at the 300-level or above is recommended. Spring, alternate years.

BIO 460 Molecular Biology (4 credits)

From medicine to criminology, to engineering of plants and animals, humans are increasingly able to manipulate DNA and its expressed protein products. This course will cover the methods behind gene cloning, restriction digest and analysis, PCR, DNA synthesis, regulation of gene expression, methods of gene delivery, and introduce students to genomics and proteomics. (Three hours of laboratory and three hours of lecture.) Prerequisite: Chem 365 Biomolecules.