BIOLOGICAL SCIENCES (BSC)

BSC 110. Paleobiology - Dinosaurs & Their World. 3 Credit Hours.
The term "paleobiology" encompasses the study of any ancient life, but this course focuses on a single group, the dinosaurs, an incredibly diverse assemblage of animals that dominated the ancient landscape for over 130 million years. The public appreciation and fascination with dinosaurs has grown steadily in the 180 years following their modern discovery. This course uses dinosaurs as a vehicle for a broader investigation of the biological and physical systems that comprise planet Earth, and the inter-related nature of these systems as they relate to the evolution and extinction of Earth's inhabitants over the vastness of geologic time. Does not carry biology major credit.

BSC 111. Ecology and the Environment. 3 Credit Hours.
This course focuses on basic ecological principles, especially the effects of human activities on our life-supporting environment. No prerequisite. Three hours lecture/ week. Does not carry biology major credit. This course may not be taken by biology majors as a free elective. Minors should consult with the department chair.

BSC 114. Survival of the Fitness. 3 Credit Hours.
This course will broadly examine the role of food, nutrition and exercise on the body. Current issues such as diabetes and obesity will be addressed from the lens of physical fitness and food intake. Students will survey their own fitness and participate in activities investigating the effects of physical activity on the body. Some class periods will be held in the recreation center. Does not carry biology major credit.

BSC 115. Hormones and Your Health. 3 Credit Hours.
This course for non-science majors, designed to fulfill the core science requirement, will introduce students to the importance of appropriate hormone function to their health. Students will learn basic concepts of hormone production, release, circulation throughout the body, and how hormones are required for proper body function. Alterations of normal hormone function by environmental toxins, one's health status and common medications will also be discussed. Three hours of lecture per week. Does not carry biology major credit.

BSC 129. Global Ecosystems: North America. 3 Credit Hours.
This introductory level field course will offer students the opportunity to study the fundamentals of ecosystem and earth science, with specific reference to North America. This study will involve travel for two weekends in the Adirondacks and for an extended weekend to northern Arizona. Field-based learning activities will examine the geological and ecological processes that determine the structure and function of these two systems. Does not carry Biology major credit. Satisfies Core science requirement.
Cross-listed Courses: ESS 129

BSC 135. Bodyworks: The Human Body. 3 Credit Hours.
This one semester course provides a study of the human body from combined anatomical and physiological perspectives. This course will include a "hands on" experiential component in order for students to engage in the scientific process. Such activities as measurement of physiological responses, and study of both dissected specimens and three dimensional models of human organ systems will enhance student learning. Does not carry biology major credit. Satisfies Core Science requirement.

BSC 201. Human Anatomy & Physiology I. 4 Credit Hours.
This course is the first in a two-semester sequence providing a study of anatomy and physiology in the human body. Initial portions of the course will include terminology, cell biology, biological chemistry, and tissues. Body systems covered include the skeletal, muscle, nervous, and integumentary. The cat is the primary dissection specimen in the laboratory. Dissection required. Pre-requisites: none. Three hours of lecture and two hours of laboratory per week. Does not carry biology major credit.

BSC 202. Human Anatomy & Physiology II. 4 Credit Hours.
This course is the second in a two-semester sequence providing a study of anatomy and physiology in the human body. Topics covered include the special senses, and the endocrine, circulatory, immune, respiratory, digestive, urinary and reproductive systems. Dissection required. Pre-requisites: a grade of C or better in BSC 201. Three hours of lecture and two hours of laboratory per week. Does not carry biology major credit.

BSC 203. Nutrition. 3 Credit Hours.
This course is designed to reinforce anatomy and physiology principles to further the understanding of nutrition's effect across the life cycle. It includes the study of nutrition as it relates to growth, development, general health, and disease conditions. It will include basic biological functions, classes of nutrients, and the key role nutrition plays in the prevention and treatment of disease.
Prerequisites: BSC 201 and BSC 202.

BSC 205. Basic Microbiology. 4 Credit Hours.
This course is a survey of microbial life with special emphasis on those organisms of clinical interest. Laboratory exercises emphasize the isolation, identification and control of microorganisms. Three hours of lecture and two hours laboratory per week. Prerequisite or corequisite: BSC 201 and BSC 202. Does not carry biology major credit.

BSC 310. Bugged: Insects in Human History. 3 Credit Hours.
Insect species make up over 50% of all animal species known on this planet. Successful in every habitat on earth, they dominate the land and the air. They have evolved amazing adaptations, including external skeletons, the ability to communicate using light, sound and sight, the ability to fly and to survive freezing, mimicry, complex symbiotic relationships with other organisms...the list goes on and on. This course is an exploration of this diversity as described by science and how various insects have impacted humans throughout history, whether for good or ill, using historical and relgious writings, myths and folktales, plays, film and contemporary media. We will examine topics as diverse as why scarabs were sacred to the ancient Egyptians, how plague spread throughout the world in two major pandemics, and why dragonflies are termed "devil's darning needles." While lecture will be used to present some of the material, discussion and group work based on material read or seen will be a major component of the course. (NOTE: THIS COURSE DOES NOT FULFILL THE CORE REQUIREMENT FOR A NATURAL SCIENCE COURSE.) Fulfills Core Requirement(s):Interdisciplinary Studies (IDS). Prerequisite: COR 100 and Junior Standing.

BSC 330. The History of Cancer in Science and Medicine. 3 Credit Hours.
Cancer is a complex disease arising in a cell's DNA and characterized by uncontrolled cell divison. Biological research in this field is aimed at explaining the events leading to the development and progression of human cancers. Medicine, in turn, relies heavily upon such scientific research to improve strategies to prevent and treat the disease. Advancement on either front requires cancer biologists and oncologists to be historians in their own right by using a rich history of discovery to make progress possible. From black bile to oncogenes as explanations for carcinogenesis or from radical mastectomies to immunotherapy as hopes for "the cure", the history of cancer is filled with centuries of visionaries, toppled dogma, seredipity, failure, and hope that have laid the cornerstones for our current understanding. This course introduces students from all majors to the basic cancer biology and medicine. This will be accomplished with the use of a histroical narrative that highlights the many individuals and the key contributions which forged our current understanding of the disease, its treatment and perhaps its end. Junior standing required. (NOTE: THIS COURSE DOES NOT FULFILL THE CORE REQUIREMENT FOR A NATURAL SCIENCE COURSE.) Fulfills Core Requirement(s):Interdisciplinary Studies(IDS).

BSC 340. Brain and Behavior. 3 Credit Hours.
A study of the relationship of the brain and body to behavior. Emphasis is on the central nervous system. Topics include neuroanatomy, neural cell processes, hemispheric functions, hormonal regulation of behavior, physiological mechanisms involved in attention, arousal and sleep, and the neural bases of emotions learning and memory and psychological disorders. Does not carry biology major credit.
Prerequisites: PSY 101 or permission of the instructor.

Cross-listed Courses: PSY 340

BSC 345. Pathophysiology. 3 Credit Hours.
This course is a comprehensive coverage of the basic pathophysiological mechanisms and specific diseases and disorders affecting all of the major organ systems of the human body. The concepts of pathophysiology, especially for the most commonly encountered diseases and disorders, are covered in detail, including such topics as genetics/heredity, immune system problems, inflammation and infection, endocrinology, and malignant processes. The etiology and progression of disease and disorder states are examined from the micro (cellular) and macro (organ) level. Does not carry biology major credit.Registration for this course is limited to nursing majors, except by permission from the Chair of Nursing.
Prerequisites: BSC 201, BSC 202 and BSC 205.

BSC 356. Nature: An Introduction to Wonder. 3 Credit Hours.
In a world obsessed with "connectivity," many people are, paradoxically, becoming less connected with nature, that is, with the entire natural world in which they live. This course endeavors to raise students' awareness and appreciation of the natural world of which we are all a part, using experiential, scientific, and humanistic approaches. Students will be challenged to assess and improve their own familiarity with nature and to discover or re-discover wonder, both in their own experiences of nature and in the writings and scientific studies of others. While lecture will be used to present some of the material, discussion based on material read or observations of nature will be a major component of the course, as will field experiences in nature. Junior standing required. (NOTE: THIS COURSE DOES NOT FULFILL THE CORE REQUIREMENT FOR A NATURAL SCIENCE COURSE.)
Prerequisite: COR 100.

Fulfills Core Requirement(s): Interdisciplinary Studies (IDS).

Cross-listed Courses: ENG 356