BIOL: BIOLOGY (UNDERGRADUATE)

BIOL 1000 Survey of Biology (4 Credits)
This course is a one term survey of theories, principles, and concepts of the biological sciences. The topics covered include cell structure and function; energy and metabolism; mechanisms and patterns of inheritance; DNA and gene function; evolution; natural history; and the functions of biological communities, and ecosystems. Note: This course is intended for general education and it does not meet the guidelines for Biology concentrations.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 1002 Human Biology (4 Credits)
This course provides an introduction to the theories, principles, and concepts of the biological sciences with an emphasis on human systems. The topics covered include the scientific method, basic biochemistry, cell structure and function; tissue organization; homeostasis and feedback systems; the structure and function of body systems; genetics and inheritance; and evolutionary theory.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 1004 Human Nutrition (4 Credits)
This course provides an introduction to the theories, principles, and concepts underlying the use of nutrients by the human body. The topics covered include micro and macronutrients; the digestive tract; nutrient digestion, absorption, and metabolism; energy balance; the relationship of the diet to fitness, health, and life span; and essentials of food and diet analysis.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 1006 Genomics & You (4 Credits)
This introductory level course provides the student with knowledge of the principles and application of human genomics, which addresses all genes and their interrelationships in order to identify their combined influence on the growth and development of the human organism. The course introduces the basics of molecular genetics and the principles of heredity and goes on to identify chromosomal disorders and gene mutations associated with human diseases. Students will explore the role of health professionals in genomics, including obtaining health histories, constructing pedigrees, and providing genetic counseling. Other topics include population genetics, newborn screening, perinatal genetics, pharmacogenomics, and ethical concerns.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 1200 Biology I with Lab (4 Credits)
Biology I with Lab is the first course of the two-term sequence in general biology for science concentrations. This course serves as an introduction to the basic principles of biology, primarily in the domain of cellular and molecular biology. Themes include: basic biochemistry; cell structure; membrane structure and function; cellular respiration and photosynthesis; cell communication; the cell cycle; meiosis; the chromosomal and molecular basis of inheritance; gene expression; the biology of viruses; and biotechnology. The importance of the scientific method, definitions and characteristics of life, and evolutionary principles will be emphasized. Students will gain experience in basic laboratory techniques. This course uses a mandatory hands-on lab kit to provide students an authentic laboratory experience. The kit (in addition to the textbook) will add an additional cost to the Course Materials. See the Learning Contract/Syllabus for specific details.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 1201 Biology II with Lab (4 Credits)
Biology II with Lab is the second course of the two-term sequence in general biology for science concentrations. This course serves as an introduction to the basic principles of biology, primarily in the domain of microbial, plant and animal biology. Themes explored include: the biological diversity of bacteria, archaea, protists, and fungi; plant form and function, including plant structure, growth, development, and transport; animal form and function, including digestion, respiration, immune responses, excretion, endocrinology, reproduction, and neurology. The study of life forms is presented in the context of the principles of evolution and ecology and emphasizes the importance of interactions among organisms. This course uses a mandatory hands-on lab kit to provide students an authentic laboratory experience. The kit (in addition to the textbook) will add an additional cost to the Course Materials. See the Learning Contract/Syllabus for specific details.
Prerequisites: Biology I with Lab (BIOL 1200) or equivalent.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 1204 Introduction to Cell Biology & Genetics (4 Credits)
This course provides an introduction to the theories, principles, and concepts underlying cell structure and function, and transmission and expression genetics. It is the first of a sequence of three introductory studies which prepares students for advanced level study in Biology. The topics covered include the biological macromolecules; cell membranes and cell organization; energetics; respiration; photosynthesis; cell division; modes of inheritance; structure and replication of DNA; and gene expression. Note: Students should select either Introduction to Cell Biology and Genetics (BIOL 1204) or Biology I with Lab (BIOL 1200).
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 1205 Introduction to Organismal Biology (4 Credits)
This course provides an introduction to the theories, principles, and concepts underlying the structure and function of organ systems in animals and plants. It is part of a sequence of three introductory studies which prepares students for advanced level study in Biology. In animals, the topics covered include circulation; respiration; digestion; excretion; immune responses; the endocrine, nervous, and musculoskeletal systems; reproduction; and development. Plant form and function; reproduction; and sensory systems are also covered. Highly Recommended (not required): Students will benefit from having taken either Introduction to Cell Biology and Genetics (BIOL 1204), or Biology I with Lab . Note: Students should select the two term sequence of Introduction to Organismal Biology (BIOL 1205) and Introduction to Population Biology (BIOL 1206), or Biology II with Lab (BIOL 1201).
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 1206 Introduction to Population Biology (4 Credits)
This course provides an introduction to the theories, principles, and concepts related to evolution, natural history, and ecology. It is part of a sequence of three introductory studies which prepares students for advanced level study in Biology. The topics covered include evolution and speciation; the history of life; systematics and a survey of prokaryotes, protists, fungi, plants, and animals; and the functions of biological populations, communities, ecosystems, and biomes. Note: Students should select the two term sequence of Introduction to Organismal Biology (BIOL 1205) and Introduction to Population Biology (BIOL 1206), or Biology II with Lab (BIOL 1201).
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 1210 Biology I: Lecture (3 Credits)
Biology I is the first course of a two-term sequence in general biology for science concentrations. This three-credit course covers the lecture and not the laboratory component of the sequence, which is offered as a separate course. Students will learn the basic principles of cellular and molecular biology, importance of the scientific method, definitions and characteristics of life, and evolutionary principles. Lecture topics include: basic biochemistry; cell structure; membrane structure and function; cellular respiration and photosynthesis; cell communication; the cell cycle; meiosis; the chromosomal and molecular basis of inheritance; gene expression; the biology of viruses; and biotechnology. This lecture course complements the lab component covered in Biology I Laboratory, but it is not a co-requisite to the lab.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 1211 Biology I: Laboratory (1 Credits)
This is a one-credit laboratory course that supports the Biology I course. Students will learn basic knowledge of cellular and molecular biology through laboratory exercises. Laboratory topics include: chemical investigations involving organic biological macromolecules, diffusion and osmosis, cellular respiration, and photosynthesis; microscopic examination of cellular structures and the processes of mitosis and meiosis; solution of Mendelian genetics problems using Punnett squares; analysis of DNA and RNA molecules and the processes of transcription and translation; and observation of various types of viruses. This laboratory course complements the lecture component covered in Biology I, but it is not a co-requisite to the lecture. This course uses a mandatory hands-on lab kit to provide students an authentic laboratory experience. The kit (in addition to the textbook) will add an additional cost to the Course Materials. See the Learning Contract/Syllabus for specific details.
Attributes: Liberal

BIOL 1212 Biology II: Lecture (3 Credits)
Biology II is the second course of a two-term sequence in general biology for science concentrations. This three-credit course covers the lecture and not the laboratory component of the sequence, which is offered as a separate course. Students will learn the basic principles of biology, primarily in the domain of microbial, plant and animal biology. Lecture topics include: biological diversity; plant form and function; animal form and function, including digestion, respiration, immune responses, excretion, endocrinology, reproduction, and neurology.
The study of life forms is presented in the context of the principles of evolution and ecology and emphasizes the importance of interactions among organisms. This lecture course complements the lab component covered in Biology II Laboratory, but it is not a co-requisite to the lab.
Prerequisites: Biology I (BIOL 1210) or equivalent.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 1213 Biology II: Laboratory (1 Credits)
This is a one-credit laboratory course that supports the Biology II course. Students will learn basic knowledge of microbiology and plant and animal biology through laboratory exercises. Dissection techniques are explained and used to compare a variety of life forms and their internal anatomy. Laboratory topics include: the biological diversity of bacteria, archaea, protists, and fungi; plant form and function; and animal form and function. Life forms are compared and contrasted in the context of the principles of evolutionary adaptation. This laboratory course complements the lecture component covered in Biology II, but it is not a co-requisite to the lecture. This course uses a mandatory hands-on lab kit to provide students an authentic laboratory experience. The kit (in addition to the textbook) will add an additional cost to the Course Materials. See the Learning Contract/Syllabus for specific details.
Prerequisites: Biology I (BIOL 1210) or equivalent.
Attributes: Liberal

BIOL 1300 Anatomy & Physiology I (4 Credits)
This course is a survey of the structure and function of body systems. It is the first of two introductory studies of Anatomy and Physiology. The topics covered include anatomical organization; homeostasis; cell and tissue organization; metabolism; the integumentary system; the skeletal and muscular systems; the central and peripheral nervous systems; and the endocrine system. This study includes a project component to be determined by the instructor. Note: This study is intended for students in Health related concentrations.
Attributes: Liberal

BIOL 1301 Anatomy & Physiology II (4 Credits)
This study is a survey of the structure and function of body systems. It is the second of two introductory studies of Anatomy and Physiology. The topics covered include the cardiovascular system and blood; the lymphatic, digestive, respiratory, and excretory systems; water and acid/base balance; reproduction and development. This study includes a project component to be determined by the instructor. Prerequisite (must complete before registering): Anatomy and Physiology I (BIOL 1300)
Note: This study is intended for students in health-related concentrations.
This course was previously SMT-272734.
Attributes: Liberal

BIOL 1304 Anatomy & Physiology I with Lab (4 Credits)
This course is a survey of the structure and function of body systems. It is the first of two introductory studies of Anatomy and Physiology. The topics covered include anatomical organization; homeostasis; cell and tissue organization; metabolism; the integumentary system; the skeletal and muscular systems; the central and peripheral nervous systems; and the endocrine system. Notes: This course uses a mandatory hands-on lab kit to provide students an authentic laboratory experience. The kit (in addition to the textbook) will add an additional cost to the Course Materials. See the Learning Contract/Syllabus for specific details.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 1305 Anatomy & Physiology II with Lab (4 Credits)
This course is a survey of the structure and function of body systems. It is the second of two introductory studies of Anatomy and Physiology. The topics covered include the cardiovascular system and blood; the lymphatic, digestive, respiratory, and excretory systems; water and acid/base balance; reproduction and development. Note: This course uses a mandatory hands-on lab kit to provide students an authentic laboratory experience. The kit (in addition to the textbook) will add an additional cost to the Course Materials. See the Learning Contract/Syllabus for specific details. Prerequisites: Anatomy and Physiology I with Lab (BIOL 1304) or equivalent.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 1310 Anatomy and Physiology I: Lecture (3 Credits)
Anatomy and Physiology I is the first course of a two-term sequence in general Anatomy and Physiology for science concentrations. This three-credit course covers the lecture and not the laboratory component of the sequence, which is offered as a separate course. Students will explore anatomical organization; homeostasis; cell and tissue organization; metabolism; the integumentary system; the skeletal and muscular systems; the central and peripheral nervous systems; and the endocrine system. Notes: This lecture course complements the lab component covered in Anatomy and Physiology I Laboratory, but it is not a co-requisite to the lab.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 1311 Anatomy & Physiology I: Laboratory (1 Credits)
This is a one-credit laboratory course that supports the Anatomy and Physiology I course. Students will learn basic knowledge of the general principles of Anatomy and Physiology through laboratory exercises. Students will practice dissection and laboratory techniques using laboratory equipment and preserved specimens. This course uses a mandatory hands-on lab kit to provide students an authentic laboratory experience. The kit (in addition to the textbook) will add an additional cost to the Course Materials. See the Learning Contract/Syllabus for specific details. Notes: This laboratory course complements the lecture component covered in Anatomy and Physiology I, but it is not a co-requisite to the lecture.
Attributes: Liberal

BIOL 1312 Anatomy & Physiology II: Lecture (3 Credits)
Anatomy and Physiology II is the second course of a two-term sequence in general Anatomy and Physiology for science concentrations. This three-credit course covers the lecture and not the laboratory component of the sequence, which is offered as a separate course. Students will explore the cardiovascular system and blood; the lymphatic, digestive, respiratory, and excretory systems; water and acid/base balance; reproduction and development. This lecture course complements the lab component covered in Anatomy and Physiology II Laboratory, but it is not a co-requisite to the lab. Note: This lecture course complements the lab component covered in Anatomy and Physiology II Laboratory, but it is not a co-requisite to the lab. Prerequisites: Anatomy and Physiology I (BIOL 1310) or equivalent.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 1313 Anatomy & Physiology II: Laboratory (1 Credits)
This is a one-credit laboratory course that supports the Anatomy and Physiology II course. Students will learn basic knowledge of the general principles of Anatomy and Physiology through laboratory exercises. Students will practice dissection and laboratory techniques using laboratory equipment and preserved specimens. This course uses a mandatory hands-on lab kit to provide students an authentic laboratory experience. The kit (in addition to the textbook) will add an additional cost to the Course Materials. See the Learning Contract/Syllabus for specific details. Notes: This laboratory course complements the lecture component covered in Anatomy and Physiology II, but it is not a co-requisite to the lecture. Prerequisites: Anatomy and Physiology I (BIOL 1310) or equivalent.
Attributes: Liberal

BIOL 1400 Evolution & Ecology (4 Credits)
This course provides an introduction to the theories, principles, and concepts related to evolution, natural history, and ecology. The topics covered include Mendelian inheritance; evolution and speciation; the history of life; systematics; a survey of plants and animals; and the functions of biological populations, communities, and ecosystems. Note: This study is not intended for Biology concentrations.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 1402 Introduction to Biological Anthropology (4 Credits)
This course examines biological (or physical) anthropology, or the evolution of the human species and the nature of contemporary human variation. To establish a framework for the study of human evolutionary biology, principles of evolutionary theory, inheritance, population biology and genetics will be examined. As humans are classified within the Order Primates, we will also study the evolution, ecology, and behavior of our closest living relatives: prosimians, monkeys and apes. Fossil evidence for human evolution will then be considered through comparisons with non-human primate ecology and evolution to reconstruct prehistoric hominid evolution.
Cross-listed with ANTH 1402.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 1404 Wildlife Conservation (4 Credits)
This course is a survey of wildlife conservation and management. That means we will paint with a broad brush as we discuss a broad spectrum of topics related to wildlife conservation. Some topics could include: wildlife conservation as a social process encompassing, lay and professional activities in the use of wildlife resources, wildlife habitats, the science of wildlife conservation, as well as identify and discuss the role of government and private wildlife organizations and agencies.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 1994 Special Topics in Biology (1-8 Credits)

BIOL 1995 Special Topics in Biology (1-8 Credits)

BIOL 1996 Special Topics in Biology (1-8 Credits)
The content of this course will vary by term and section. Students may repeat this course for credit as long as the topic differs. Please refer to the Term Guide for course topic offerings.
Attributes: Liberal

BIOL 1997 Special Topics in Biology (1-8 Credits)
The content of this course will vary by term and section. Students may repeat this course for credit as long as the topic differs. Please refer to the Term Guide for course topic offerings.

BIOL 1998 Individualized Studies in Biology (BIOL) (1-8 Credits)
Students have the opportunity to develop individualized studies with their mentor in Biology (BIOL). Registration for this class must be approved by the student's mentor.

BIOL 2000 Bioethics in Modern Medicine (4 Credits)
Bioethics is an interdisciplinary field of study and a set of social and cultural practices. It examines the moral questions raised by developments in biomedicine, biotechnologies and the life sciences. Ethical issues penetrate nearly every area of the biological, health care, clinical, social and behavioral sciences and medical humanities. This public health course uses empirical and theoretically-informed case-based approaches to provide an overview of the moral, philosophical, and cultural underpinnings of ethical issues in U.S. medical care and public health research practice.
Attributes: Liberal

BIOL 2002 Populations & Diseases (4 Credits)
Diseases may manifest differently in populations; diseases may also impact populations disproportionately. What determines how a disease progresses are a combination of genetic, biological, environmental and/or social factors. Adopting a public health approach is useful to interpret and understand how diseases manifest themselves and impact populations differently. This course is based on a careful examination of several diseases that may (or may not) affect populations differently. Concepts of risk, exposure, prevention and treatment will be explored in each disease module.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 2004 Bioterrorism (2 Credits)
This course will cover the study of some biological organisms and toxins that may be used as weapons. This includes examining the type of organism (bacteria, virus, etc.) and the mechanism by which they are harmful. In the process, students will study the means by which their use can be prevented, appropriate defensive strategies and therapies that can be used to treat those who are affected by an attack. This course will focus on the biological aspects of bioterrorism, more than on the social, economic, or political aspects.
Attributes: Liberal

BIOL 2200 Microbiology with Lab (4 Credits)
This lower level course expands on topics covered in introductory biology courses and further explores the field of microbiology. Microorganisms are all around us, often unseen, generally beneficial, and occasionally harmful. This course will uncover this unseen world and study the diverse lives of microorganisms. Topics will include microbial structure and function; metabolism and growth; genetics and diversity; and disease and control. Students will gain experience in basic microbiology laboratory techniques. This course uses a mandatory hands-on lab kit to provide students an authentic laboratory experience. The kit (in addition to the textbook) will add an additional cost to the Course Materials. See the Learning Contract/Syllabus for specific details. Prerequisites: Biology I with Lab (BIOL 1200) and Biology II with Lab (BIOL 1201) or equivalents.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 2201 Tropical Ecology (4 Credits)
This course covers the ecology and biodiversity of the Neotropics. In addition to content and interaction pertaining directly to the study, the there is a travel portion of the course that is conducted in the field in Central America. Depending on the sites, we will visit a range of habitats and thus range of ecologies of the flora and fauna. Habitats will include all or some of the following: lowland wet and moist forests, lower montane forest (cloud forest), rivers and wetlands, mangrove swamps and coral reefs. At several sites, we may explore the habitat at night, which may include travel by canoe and overnight stays in the forest. We may also visit remote indigenous communities.
Attributes: Liberal

BIOL 2202 Biology of Ecosystems (4 Credits)
Biology of Ecosystems examines the fundamental themes of biology through the study of living organisms in ecosystems. This course emphasizes the importance of biodiversity and the complex interaction and interdependence between plants and animals in healthy ecosystems. A single unifying theme is central to all biology: Darwin's theory of evolution by natural selection. All living things have evolved in the context of their physical and biotic environments. This course presents a plant and insect centered perspective that examines the ways that living organisms adapt to each other and to their environment. It also discusses ecological topics of widespread public concern.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 2204 Ethnobotany (4 Credits)
Our human ancestors depended on plants for food, shelter, medicine, and clothing. Plants also had a key role in religion and mythology. Knowledge of plants and their uses was vital for survival for early peoples, and many cultures today still depend on plants for many of their resources. In this course, students will learn about plant biology and the role of plants in societies throughout the world. Ethnobotanical field methods will be introduced and students will engage in field/practical activities. Other topics for exploration and discussion will include conservation, sustainable development, bioprospecting, and intellectual property rights.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 2206 Winter Ecology (4 Credits)
Winter Ecology is a study of the organisms that occupy niches in the ecosystems of temperate climates with seasonal temperature variations. Some animals have evolved special adaptations to survive cold climates, while others simply adapt their seasonal behaviors in an attempt to survive the cold. These physiological and behavioral adaptations are a major focus of this study. Plants, too, have evolved specialized mechanisms to survive the winter. These specializations are intimately related to the weather and temperature processes inherent in a winter climate. Human responses to the cold are also studied to provide a basis for comparison with other organisms. Prerequisites: None..
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 2208 Animal Behavior (4 Credits)
The course of animal behavior has long been fascinating, yet we still know very little about the animal mind and the interactions between non-human species. To humans, most of our understanding of behavior is either subjective or alien. In this course, students will be introduced to the core conceptual, theoretical, and applied aspects in the interdisciplinary field of animal behavior. We will examine various topics in this field, including communication, mate selection, sexual selection, neuroethology, cultural transmission, learning, and personality. Note: Students taking this course should not also take the Inside the Animal Mind: Insights into Animal Behavior, Ecology, and Evolution residency course. Prerequisites: Introductory Biology or Introductory Psychology (PSYC 1005).
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 2210 Inside the Animal Mind: Insights into Animal Behavior Ecology & Evolution (4 Credits)
In this residency course, students will learn about the behavioral ecology and evolution of animals, and understand how they experience their perceptual world and navigate the ecological challenges that allowed them to survive or become extinct. Students will be introduced to the core conceptual, theoretical, and applied aspects in the interdisciplinary field of animal behavior. In particular, they will examine various topics in this field, such as communication, mate selection, sexual selection, neuroethology, cultural transmission, learning, and personality. Note: Students taking this residency course should not also take Animal Behavior (BIOL 2208). Prerequisites: Introductory Biology or Introductory Psychology (PSYC 1005).
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 2220 Microbiology: Lecture (3 Credits)
This course explores the field of Microbiology with an emphasis on diseases caused by various types of pathogens and discusses latest topics such as antibiotic resistance and vaccination. This three-credit course covers the lecture and not the laboratory component of the sequence, which is offered as a separate course. Topics covered will include: history of microbiology; cellular organization; infection and infectious diseases; microbial growth and metabolism; microbial genetics; and immunity. Notes: This lecture course complements the lab component covered in Microbiology Laboratory, but it is not a co-requisite to the lab. Prerequisites: Biology I with Lab (BIOL 1200) and Biology II with Lab (BIOL 1201) or equivalents.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 2221 Microbiology: Laboratory (1 Credits)
This is a one-credit laboratory course that supports the Microbiology course. Students will learn basic knowledge of Microbiology through laboratory exercises. This course uses a mandatory hands-on lab kit to provide students an authentic laboratory experience. The kit (in addition to the textbook) will add an additional cost to the Course Materials. See the Learning Contract/Syllabus for specific details. Notes: This laboratory course complements the lecture component covered in Microbiology, but it is not a co-requisite to the lecture. Prerequisites: Biology I with Lab (BIOL 1200) and Biology II with Lab (BIOL 1201) or equivalents.
Attributes: Liberal

BIOL 2400 Plant Biology (4 Credits)
This course is a focused introduction to plant biology and provides the foundational knowledge for advanced study of plants. Topics include the structure and function of plant cells and tissues; plant physiology and development; plant genetics and evolution; plant classification and systematics; and an introduction to plant ecology. The course also explores the economic significance of plants and the relationships between plants and people. Hands-on and/or field activities are included in the learning activities. Prerequisites: Biology I with lab (BIOL 1200) and Biology II with lab (BIOL 1201).
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 2995 Special Topics in Biology (1-8 Credits)

BIOL 2996 Special Topics in Biology (1-8 Credits)

BIOL 2998 Individualized Studies in Biology (BIOL) (1-8 Credits)
Students have the opportunity to develop individualized studies with their mentor in Biology (BIOL). Registration for this class must be approved by the student's mentor.

BIOL 3200 The Biology of Being Human (4 Credits)
This study explores human 'uniqueness' from a biological perspective, in particular examining major features of human social and sexual behavior. Insights from ethology, evolutionary biology, and neurobiology are synthesized into a picture of human nature, behavior, and history. Implications of evolutionary theories of animal social behavior and their implications to humans are considered. This course is based on the pioneering work on 'human as social animals' by Drs. Paul Bingham and Joanne Souza from Stony Brook University. Prerequisite (must complete before registering): Biology I with Lab (BIOL 1200) or Introduction to Cell Biology and Genetics (BIOL 1204) Notes: This study meets the guidelines for Biology concentrations. This course is intended for both science and non-science students
Attributes: Liberal

BIOL 3204 Genetics (4 Credits)
This advanced level course explores the field of genetics. It expands on topics covered in introductory biology courses and extends prior knowledge of molecular genetics and the basic principles of heredity. The course emphasizes the importance of the scientific method, and investigates techniques used by scientists to unravel the intricacies of genetics. Topics include the history of genetics, Mendelian genetic principles, quantitative genetics, chromosome structure and mapping, mutations, gene expression, and current genetic biotechnologies. Students will learn the underlying principles behind modern genetics laboratory techniques and discuss the ethical ramifications of recent breakthroughs in genetic research. Prerequisites: Biology I with Lab (BIOL 1200) and Biology II with Lab (BIOL 1201) or equivalents.
Attributes: Natural Science Gen Ed, *Natural Science Gen Ed, Liberal

BIOL 3206 Cell Biology (4 Credits)
This study involves a detailed analysis of eukaryotic cell structure and function. It is suitable for advanced undergraduates who are pursuing a concentration in the life sciences. The topics covered include organelle structure and function; bioenergetics; cell respiration; photosynthesis; cell membranes and membrane trafficking; cell interactions and responses; the cytoskeleton and cell motility; the organization and expression of genetic material; and cell division. Emphasis is placed on the experimental background for selected topics. Highly Recommended (not required): Organic Chemistry I (CHEM 3220) or Organic Chemistry I with Lab (CHEM 3210) and Biology II with Lab (BIOL 1201) Prerequisites: Biology I with Lab (BIOL 1200) and Chemistry I with Lab (CHEM 1205) and Chemistry II with Lab (CHEM 1206) or equivalents .
Attributes: Natural Science Gen Ed, Liberal

BIOL 3208 Molecular Biology (4 Credits)
The aim of this course is to understand the key concepts of the central dogma of molecular biology, including organization of genomes and mechanisms of replication, repair and recombination processes, transcription, RNA processing, translation, and the regulatory mechanisms that control all aforementioned processes. Students will also gain a basic understanding of experimental techniques that have shaped our understanding of these concepts through the use of digital lab simulations and case studies. Prerequisites: Biology I with Lab (BIOL 1200) and Biology II with Lab (BIOL 1201) and Chemistry I with Lab (CHEM 1205) and Chemistry II with Lab (CHEM 1206) or equivalents.
Attributes: Natural Science Gen Ed, Liberal

BIOL 3210 Biology of Microorganisms (4 Credits)
This is an advanced level course exploring of microorganisms. Topics to be explored include biochemistry and cell biology of microorganisms; growth and growth prevention of bacteria; classification of microorganisms; viral genetics and replication cycles; interactions between microbes and host (including immunology); and a survey of human diseases caused by microorganisms. Students will learn the concepts with a historical perspective. Students will also learn about important infectious diseases that affect humans and their causative agents. Prerequisite (must complete before registering): Biology I with Lab (BIOL 1200) or Introduction to Cell Biology and Genetics (BIOL 1204) Note: This course meets the guidelines for Biology concentrations. This course is intended for science students.
Attributes: Liberal

BIOL 3212 Biology of the Brain (4 Credits)
Building on underlying concepts of biology, this course explores the structure and function of the human nervous system in order to provide a biological basis for understanding such topics as sensory perception, movement and coordination, regulation of thirst, hunger and temperature, sleep and dreams, and cognition. Neuroanatomy and neurophysiology will be studied, along with investigations into biorhythms, clocks, language, learning, and memory. Emphasis is on critical interpretation of scientific literature and research, as well as the acquisition of fundamental concepts of neurobiology relevant to some health issues. Prerequisites: Biology I with Lab (BIOL 1200) and Biology II with Lab (BIOL 1201) or equivalents.
Attributes: Natural Science Gen Ed, Liberal

BIOL 3214 Human Physiology (4 Credits)
This course involves a detailed analysis of the mechanisms, integration, and regulation of body systems. The topics covered include cell and tissue structure; metabolism, metabolic controls and energy balance; homeostasis; endocrine system; central and peripheral nervous systems; muscle and control of movement; cardiovascular system and blood flow; respiratory system and gas exchange; and urinary system and fluid balance. Prerequisites: Introduction to Cell Biology and Genetics, and Introduction to Organismal Biology; or Biology I and II; or Anatomy and Physiology I and II; and General Chemistry I and II.
Attributes: Liberal

BIOL 3302 Evolution (4 Credits)
A study of current evolutionary theory, including systematics, with an examination of macroevolutionary patterns and microevolutionary processes. This course approaches evolutionary biology as a process, illustrating the interplay between theory, observation, testing and interpretation. The student will be expected to examine and evaluate biological phenomena in light of the evolutionary processes that shaped them. Specific evolutionary studies are used to illustrate the application of theory as a tool for understanding natural systems. Prerequisites: Biology I with Lab (BIOL 1200) and Biology II with Lab (BIOL 1201) or equivalents.
Attributes: Liberal

BIOL 3304 Conservation Biology (4 Credits)
Conservation Biology is a biological science which focuses on the preservation of species and the protection of habitats. In this study, students will explore the ways species, populations, and communities interact with and modify the ecosystems in which they exist. They will examine the characteristics of, and the processes operating within, natural environmental systems that influence patterns of species distribution, influence adaptation and evolutionary trends, and contribute to the diversity and resiliency of ecological communities. Students will examine a variety of conservation theories and models and consider the ways human activities can promote or hinder conservation efforts. Prerequisites: Biology I with Lab (BIOL 1200) and Biology II with Lab (BIOL 1201) or equivalents.
Attributes: Liberal

BIOL 3306 Ecology (4 Credits)
This course will examine relationships of both biotic (living) and abiotic (non-living) elements of the environment that influence the distribution and abundance of organisms. Major topics include: population regulation, competition, predation, ecosystem energetics, mathematical models, and nutrient cycling. The course covers topics in the areas of individual, population, community, and ecosystem ecology, as well as humanity's effect on natural systems. Prerequisites: Biology II with Lab (BIOL 1201) or Introduction to Population Biology (BIOL 1206) or Biology of Ecosystems (BIOL 2202) or Evolution and Ecology (BIOL 1400), and foundational knowledge in biology such as that gained in a lower level biology sequence or introductory ecology course, or equivalent.
Attributes: Natural Science Gen Ed, Liberal

BIOL 3308 Plant Ecology (4 Credits)
Plant ecology is the scientific study of interactions that determine the distribution and abundance of plants within the environment. In this course Students will learn the principles and concepts of plant ecology through an examination of plants within the environment. Topics will include: the individual plant and how it interacts with its environment; population biology; community ecology; global patterns of plant ecosystems; and the impacts of human activities on plants. Some of the subjects covered are unique to plants, such as photosynthesis and the ecology of plant-soil interactions. Prerequisites: Biology I with Lab (BIOL 1200) and Biology II with Lab (BIOL 1201) or equivalents.
Attributes: Natural Science Gen Ed, Liberal

BIOL 3310 Tropical Ecology (4 Credits)
This course covers the ecology and biodiversity of the Neotropics. In addition to content and interaction pertaining directly to the study, the there is a travel portion of the course that is conducted in the field in Central America. Depending on the sites, we will visit a range of habitats and thus range of ecologies of the flora and fauna. Habitats will include all or some of the following: lowland wet and moist forests, lower montane forest (cloud forest), rivers and wetlands, mangrove swamps and coral reefs. At several sites, we may explore the habitat at night, which may include travel by canoe and overnight stays in the forest. We may also visit remote indigenous communities. BIOL 3306 recommended Prerequisites: BIOL 1200 and BIOL 1201; or, BIOL 1204, BIOL 1205, and BIOL 1206; or, BIOL 1210, BIOL 1211, BIOL 1212, and BIOL 1213.
Attributes: Liberal

BIOL 3400 Marine Biology (4 Credits)
Marine Biology is the study of living organisms within saltwater ecosystems. This course covers the anatomy, physiology, and behavior of major groups of marine organisms and investigates the biochemistry, cell biology, genetics, and microbiology of life in the sea. Marine Biology presents an evolutionary and ecological approach that emphasizes the profound interdependence among marine organisms and their adaptations to each other and to their environment. Students will study factors responsible for the relative abundance and distribution of marine species and the factors influencing biodiversity. Students will read scientific studies, interpret data, make connections, and write about marine biology topics. Prerequisites: Biology I with Lab (BIOL 1200) and Biology II with Lab (BIOL 1201) or equivalents.
Attributes: Natural Science Gen Ed, Liberal

BIOL 3402 Comparative Vertebrate Anatomy & Physiology (4 Credits)
This course examines a number of areas in biology that focus specifically on vertebrates, such as evolution, speciation, behavior, anatomy, and physiology. The first cordate (vertebrate) organisms appeared on Earth about 542 million years ago. Vertebrate organisms evolved features that made them unique and, yet, they maintained biological characteristics that are also similar. Students will consider a comparative approach for examining life history characteristics of mammals, fish, birds, and reptiles. Throughout the term, students will also engage in dissections of vertebrate species to identify comparative anatomical features that enable species to survive in their respective environments. They will then consider the modifications in physiological processes that accompany form and function. Prerequisites (must complete before registering): Biology I with Lab (BIOL 1200) or Introduction to Cell Biology and Genetics (BIOL 1204), or equivalent, and Biology II with Lab (BIOL 1201) or the two-term sequence: Introduction to Organismal Biology (BIOL 1205) and Introduction to Population Biology (BIOL 1206), or equivalent. Corequisites: An upper level Organismal Biology course and Evolution Highly Recommended (not required): Students should have foundational knowledge gained in an introductory biology sequence, or human anatomy and physiology, and a general ecology course.
Attributes: Liberal

BIOL 3404 Primate Behavioral Ecology (4 Credits)
This course will present and discuss the social lives of the nonhuman primates. Topics may include primate evolution and taxonomy and an introduction to behavioral ecology and sociobiology. Students will then examine and discuss select groups of living primates. The course will also explore several themes in primate behavioral ecology including reproductive strategies, sexual selection, behavioral endocrinology, cooperation and conflict, cultural transmission, primate cognition and conservation as we cover the wide array of factors related to the lives of the non-human primates. Highly Recommended (not required): Biology II with Lab (BIOL 1201) or Introduction to Organismal Biology (BIOL 1205) and Introduction to Population Biology (BIOL 1206)
Attributes: Liberal

BIOL 3406 Zoonotic Diseases (2 Credits)
Historically, reports of zoonotic disease ravaged entire populations of human. To that extent, people knew very little of the likelihood that diseases could be passed from an animal to a human, and knew even less about what kinds of microbial organisms may be responsible for expressing human illness. In this study, students will learn about the kinds of microorganisms that are often hosted by animals, but have the potential to infect humans. Students will also study their life history characteristics, mechanisms for disease transmission, and the epidemiology of disease infection. Prerequisites: Biology I with Lab (BIOL 1200) or Introduction to Cell Biology and Genetics (BIOL 1204) or equivalents. Corequisites: Cell Biology (BIOL 3206) and Microbiology with Lab (BIOL 2200) and Introduction to Epidemiology (HSCI 1010).
Attributes: Liberal

BIOL 3408 Advanced Biological Anthropology (4 Credits)
Biological anthropology is a subfield of the larger discipline that studies humankind as a zoological species. As biological anthropology is firmly rooted in evolutionary theory, the evolutionary biology of humans is the central focus of the course. This is an advanced study of concepts in biological anthropology including genetics, evolutionary theory, paleontology, comparative anatomy & morphology, primate biology/behavioral ecology and hominid variability provide the foundation for understanding humanity's place in nature. Prerequisites: BIOL 1201, BIOL 1400, or BIOL 1402, or equivalent..
Cross-listed with ANTH 3408.
Attributes: Liberal

BIOL 3502 Cellular and Molecular Neuroscience (4 Credits)
In this one-semester, upper-level course, the structure and function of neurons are investigated. Students will build an understanding of how neuronal cell function determines higher brain processes, such as sensation and memory. In particular, neuronal development, neuronal activity, synapse formation and synaptic transmission will be studied in detail. Prerequisites: Biology I with lab (BIOL 1200) and Biology II with lab (BIOL 1201), or Anatomy and Physiology I with lab (BIOL 1304) and Anatomy and Physiology II with lab (BIOL 1305).
Attributes: Liberal

BIOL 3602 Phytochemistry (4 Credits)
Phytochemistry is a biology study to help students gain an understanding of how phytochemicals, the chemical compounds produced by plants, affect plant communities and the species and populations they interact with. Phytochemicals influence plant growth, predation by insects, fungal and bacterial interactions in plants and competition between plant communities. Phytochemistry is also an important component of human nutrition, pharmacognosy and human health. Human nutrition focuses on the constituents of foods and their nutritive value, including vitamins, minerals and metabolites. Pharmacognosy is the branch of science pertaining to the use of medicinal drugs derived from plants. Phytochemicals affect everyday life from the coffee we drink, to supplements we take and what foods we may utilize in our diets. Prerequisites: Plant Biology (BIOL 2400), Plant Ecology (BIOL 3308), and Chemistry I with lab (CHEM 1205)
Attributes: Liberal

BIOL 3604 Plant Physiology (4 Credits)
Plant physiology is the study of plant morphology, anatomy, function and behavior. It investigates the plant processes such as photosynthesis, metabolism, reproduction, respiration, growth, environmental stress, hormonal production and other processes that promote the survival of a given individual or species. Students will learn the function of plant parts as they pertain to growth, structural support, reproductive mechanisms and the production of defenses. Prerequisites: Plant Biology (BIOL 2400).
Attributes: Liberal

BIOL 3996 Special Topics in BIOL (1-8 Credits)
The content of this course will vary by term and section. Students may repeat this course for credit as long as the topic differs. Please refer to the Term Guide for course topic offerings.
Attributes: Liberal

BIOL 3998 Individualized Studies in Biology (BIOL) (1-8 Credits)
Students have the opportunity to develop individualized studies with their mentor in Biology (BIOL). Registration for this class must be approved by the student's mentor.

BIOL 4102 Diseases of the Brain (4 Credits)
This is a one-semester, upper-level course for science concentrations and is designed to introduce students to a broad range of neurological and neuropsychiatric diseases and disorders in order to understand how genetic and environmental perturbations can disrupt normal brain function. The primary focus will be on understanding the biological basis of nervous system dysfunction. For each disease discussed, the subject matter will be organized to explain how normal brain function is impacted, as well as the biological mechanisms underlying dysfunction and current efforts to develop effective treatments. Prerequisites: Biology I with lab (BIOL 1200) and Biology II with lab (BIOL 1201), or Anatomy and Physiology I with lab (BIOL 1304) and Anatomy and Physiology II with lab (BIOL 1305), and Biology of the Brain (BIOL 3212) or any upper-level neuroscience course (BIOL 35XX) .
Attributes: Liberal

BIOL 4200 Kinesiology (4 Credits)
This course combines the knowledge from applied biological sciences, such as anatomy and physiology, and pairs it with physical sciences, such as physics, to understand human movement. Students will learn about body movement and its impact on the human body. They will also learn ways in which they can improve movement and reduce stress on the musculoskeletal system that can cause serious pain or injury. Students will engage in self-directed exercises that enable them to identify the kind of movement that involve specific groups of muscles, bones, and accompanying physiological processes. Prerequisites: Biology I with Lab (BIOL 1200) or Introduction to Cell Biology and Genetics (BIOL 1204) and Biology II with Lab (BIOL 1201) or Introduction to Organismal Biology (BIOL 1205) and Introduction to Population Biology (BIOL 1206) or Anatomy & Physiology I with Lab (BIOL 1304) and Anatomy & Physiology II with Lab (BIOL 1305) or Anatomy & Physiology I (BIOL 1300) and Anatomy & Physiology II (BIOL 1301). Completion of an introductory biology sequence that covers the human body is required.
Attributes: Liberal

BIOL 4206 Immunology (4 Credits)
This course teaches in depth the molecular and cellular interactions of our immune system, how an immune response develops and the disorders of the immune system. The microenvironments where immune cells develop and mature are explored in detail. Signal transduction pathways that mediate ligand recognition and response by immune cell receptor complexes are described. The interplay between innate and adaptive immune responses to ensure effective neutralization of a specific pathogen are explored. The process of gene rearrangement during the development of T and B cell populations are studied. The multistep process required for the activation and proliferation of T and B lymphocytes during cell mediated and humoral immune responses are studied. Knowledge of the immune system will be utilized to understand various phases of cancer immunoediting, the role of genetics in hypersensitivity and the Biology of HIV. This course uses a mandatory hands-on lab kit to provide students an authentic laboratory experience. The kit (in addition to the textbook) will add an additional cost to the Course Materials. See the Learning Contract/Syllabus for specific details. Prerequisites: Microbiology with Lab (BIOL 2200) or Molecular Biology (BIOL 3208) or Cell Biology (BIOL 3206) or equivalent.
Attributes: Liberal

BIOL 4300 Herpetology (4 Credits)
In this course, students will learn about in-depth concepts in herpetology, the study of reptiles and amphibians. Students will study the evolution and phylogeny of herpetological groups. In addition, students will have the opportunity to engage in taxonomic identification of northeast reptiles and amphibians. They will study the anatomical structures and physiological processes across taxonomic species that are adaptive to survival across nearly all terrestrial, and some marine and aquatic, biomes. Emphasis will be on the reproductive history in reptiles and amphibians, physiological and behavioral ecology. Students will consider species conservation, and the impact of global climate change on specific reptile and amphibian species. Prerequisites: Biology I with Lab (BIOL 1200) or Introduction to Cell Biology and Genetics (BIOL 1204), or equivalent and Biology II with Lab (BIOL 1201) or Introduction to Organismal Biology (BIOL 1205) and Introduction to Population Biology (BIOL 1206) or Zoology or Ecology (BIOL 3306) or Animal Behavior(BIOL 2208), or equivalent. Completion of an introductory biology sequence, equivalent, or permission from the instructor is required.
Attributes: Liberal

BIOL 4302 Animal Learning (4 Credits)
In this course, students will examine the traditional areas in the science of learning from both a biological and psychological perspective, including current theoretical and research considerations of classical conditioning, instrumental conditioning, aversive control of behavior and discrimination learning. Students will study these topics, as demonstrated from mainly animal models; however, these principles may also be applied to humans. Students will be required to demonstrate these principles of learning by engaging in a research project of a particular topic of interest. In addition, learners will undergo standard ethics protocols for research on animals and/or humans before engaging in a term project that demonstrates a learning phenomenon discussed in the course. Prerequisites: Biology I with Lab (BIOL 1200) and Biology II with Lab (BIOL 1201) or equivalents, Introductory Psychology (PSYC 1005), Statistics (MATH 1065), and Research Methods equivalent .
Attributes: Natural Science Gen Ed, Liberal

BIOL 4304 Ornithology (4 Credits)
Ornithology explores all aspects of the biology of birds, including anatomy and physiology, evolution, and ecology. The history of ornithology is covered, as well as conservation efforts for endangered birds. In the laboratory portion of the course, the student will develop and perfect a variety of bird identification techniques, and investigate unique aspects of birds, including behavior, flight, habitats, and anatomy and physiology. The course emphasizes the importance of the scientific method and investigates techniques used by scientists to conduct research. Studies of bird populations are essential to provide information relevant to the health of our ecosystems. Prerequisites: Biology I with Lab (BIOL 1200) and Biology II with Lab (BIOL 1201) or equivalents.
Attributes: Natural Science Gen Ed, Liberal

BIOL 4306 Mammalogy (4 Credits)
In this course, students will learn about the different taxonomic species of animals that are considered mammals. They will also explore the natural history, evolution, taxonomy and systematics of mammalian species. Students will also consider the anatomic structures and physiological processes that enable mammals to survive across all biomes of the biosphere. As students learn about the various phylogenetic groups, they will further study species as models for behavioral ecology. Lastly, students will examine the factors that have led to species decline, and consider the conservation of mammals, and the strategies used in management strategies for species survival. Prerequisites: Biology I with Lab (BIOL 1200) and Biology II with Lab (BIOL 1201) or equivalents.
Attributes: Liberal

BIOL 4308 Marine Mammalogy (4 Credits)
Marine mammalogy is the scientific study of all orders of marine mammals, and their evolution, biology, ecology, and behavior. In this course, students will examine the taxonomic breadth and evolution of the marine mammal world. Students will also examine how the different anatomical structures and physiological processes across the taxa enable species to engage in ecological interactions within their immediate environment. They will investigate how different marine mammal species have adapted to select aspects of the marine habitat, including marine or aquatic systems, pelagic and inshore environments, and species found across marine biomes. Students will become familiar with the similarities and differences between closely related and distant marine species. The impact of human-animal interactions, marine mammal fisheries, and conservation has on specific species is also discussed. Prerequisites: Biology I with Lab (BIOL 1200) and Biology II with Lab (BIOL 1201) or equivalents.
Attributes: Liberal

BIOL 4310 Aquatic Biology & Ecology (4 Credits)
This course provides students with an overview of aquatic biology and ecology, including physical processes specific to freshwater systems (e.g., wetlands, ponds, lakes, streams, and rivers), aquatic biota, aquatic community interactions, ecosystem processes, and the conservation and management of freshwater ecosystems. During this course, students will engage in field-related activities to demonstrate common themes in the discipline, and conduct independent sampling of aquatic biota for species identification and to measure biodiversity. Students will conduct empirical research projects, and engage in aquatic field methods, data collection, and analysis. Thematically, students will also examine the importance of ecosystem and biota conservation, and the impact of sustainable actions on freshwater systems. Prerequisites: Ecology (BIOL 3306), Evolution (BIOL 3302), and Statistics (MATH 1065) .
Attributes: Liberal

BIOL 4400 Principles of Pharmacology (4 Credits)
Principles of Pharmacology is a one-semester, upper-level course for science concentrations. This four-credit course delves deeply into the pharmacology and pharmacokinetics of various drug classes. The molecular mechanisms of action behind the drugs and their clinical applications will be reviewed. Note: This course is intended for students in health-related or biology concentrations. Prerequisites: Organic Chemistry I with Lab (CHEM 3210) or Organic Chemistry I (CHEM 3220), and Biochemistry (CHEM 3400).
Attributes: Liberal

BIOL 4408 Molecular Biotechnology (4 Credits)
This course will examine the history, current state, and likely future of molecular biotechnology. Students will explore how research problems in fields such as health care, environmental science, industry, bioinformatics, agriculture, biodefense, and forensics can be solved with a biotechnological approach. Relevant organizations along with “real world” information on a variety of molecular techniques and regulations will be studied. The course will analyze food labeling laws, as well as gene patenting. The implications of evolutionary developmental biology (Evo Devo) and anthropology will be investigated. Ethical considerations of various biotechnologies will be discussed, along with comparisons of potential careers in the industry. Prerequisites: Genetics (BIOL 3204) and Molecular Biology (BIOL 3208) or equivalents.
Attributes: Liberal

BIOL 4410 Plant Biotechnology (4 Credits)
This course will provide students with advanced knowledge in plant breeding using recombinant DNA and tissue culture techniques. Activities such as online discussion forums, literature review, hands-on and virtual laboratory experiences and creation of a final project will enhance student learning and promote critical and analytical thinking. Topics include-Impact of Plant Biotechnology on Agriculture, Plant Breeding, Molecular Genetics, Recombinant DNA, Vector Design, Transgenic Plant Production, Regulations and Biosafety, and Field Testing of Transgenic Plants. The Laboratory portion of this course requires the purchase of a Lab Kit. Prerequisites: Plant Biology (BIOL 2400) and Molecular Biology (BIOL 3206).
Attributes: Liberal

BIOL 4700 Contemporary Topics in Biology (4 Credits)
This course offers in-depth exploration of current research in the biological sciences. Students will write papers explaining the underlying biology, methods, key results, and significance of biological research. Students should have completed advanced level courses in biology.
Attributes: Liberal

BIOL 4996 Special Topics in BIOL (1-8 Credits)
The content of this course will vary by term and section. Students may repeat this course for credit as long as the topic differs. Please refer to the Term Guide for course topic offerings.
Attributes: Liberal

BIOL 4998 Individualized Studies in Biology (BIOL) (1-8 Credits)
Students have the opportunity to develop individualized studies with their mentor in Biology (BIOL). Registration for this class must be approved by the student’s mentor.