NATURAL SCIENCE COURSES

BIO 131 FYS: Discovering self: genes, genomes, and society (3)

How does genetic information inform you about yourself? What matters most: nature, nurture, or something else? Does understanding human development help to explain who we become? Explore the role of genetics in the past, present, and future. We will look at social understanding of genetic knowledge from ancient and contemporary viewpoints to discover historical perspectives that shape modern justice issues. We will learn basic genetic principles, unpack the arguments on human cloning, and discuss the causes of genetic diseases and current methods for prenatal testing. Of particular emphasis will be reflections on future ethical implications for gene editing, human reproduction, and the applications of genomic information. Are we entering a "brave new world"? How will genetic engineering shape our future? And, most importantly, how would you address the moral and justice issues that arise from this science of self. **This course is a First Year Seminar**.

BIO 132 FYS: What makes you human? (3)

You've probably heard a company say, "It's in our DNA!" What does that really mean? What role does your genome (all of your DNA) have in your identity; making you the individual and unique person you are? Would my clone be exactly like me? Do our genomes determine our race, our ethnicity, our nationality, our social group, our economic group, our gender, or our health? What do the differences between our DNA and our closest bonobo relatives tell us about being human? This course will take an applied and discussion-based approach to these questions and examine the hopes and limitations that studying human and non-human genomes has provided us. **This course is a First Year Seminar**.

BIO 141 Human Anatomy and Physiology I (4)

First of a two-part sequence for the intended nursing major that details human anatomy and physiology from an organ system approach. This course will cover the chemical basis of cells, cell microscopy, and tissue types as well as the integumentary system, skeletal system, muscular system, and nervous system (including special senses). Course content will also include discussions about health/disease issues of concern as they pertain to the current course material. Laboratory content will include use of the scientific method as well as acquisition and application of knowledge pertaining to physiological processes as discussed in lecture. Offered fall semester for first-year intended nursing majors; three hours of lecture and three hours of lab per week. Note: \$100 lab fee applies. For nursing intended majors and exercise science intended majors who plan to pursue the B.A. Health and Fitness track.

BIO 155 Foundations of Molecular Biology (2)

A survey of foundational concepts in biology, with a focus on molecular biology. Part of the introductory Foundations of Biology courses for biology majors, but available to nonmajors as well. This course will cover an introduction to biochemistry, the organic molecules important for life, and classical Mendelian and modern genetics. A half semester course that must be taken with a lab. NOTE: \$50 lab fee applies. For biology and chemistry intended majors, and exercise science intended majors who plan to pursue the B.S. Rehabilitative Science track. Two Foundation courses must be completed to fulfill General Education learning outcomes.

BIO 156 Foundations of Ecology and Evolution (2)

A survey of foundational concepts in biology, with a focus on ecology and evolution. Part of the introductory Biology Foundations courses for biology majors, but available to non-majors as well. This course will cover how organisms interact with one another and their environment, the dynamic functioning of ecosystems, the origin and diversification of life on Earth, and the evolutionary forces that shape patterns of biodiversity within populations and across lineages. A half-semester course that must be taken with a lab. NOTE: \$50 lab fee applies. For biology and chemistry intended majors, and exercise science intended majors who plan to pursue the B.S. Rehabilitative Science track. Two Foundation courses must be completed to fulfill General Education learning outcomes.

CHEM 103 FYS: Power Up: Understanding Energy in Our Everyday Lives (3)

Energy drives everything we do, from charging our phones to fueling global economies. This course explores the fascinating world of energy in ways that are accessible and engaging for non-science majors. We'll unravel the mysteries of how energy is produced, consumed, and impacts our planet. Through real-world examples, we'll investigate topics like biological energy, renewable energy, batteries, climate change, and the ethical dimensions of energy use in society. Students will also reflect on their personal energy consumption and explore how individual choices contribute to larger societal trends. By the end of the course, students will be equipped to think critically about energy issues and their role in shaping a sustainable future. No prior science background is required —just curiosity and a willingness to explore the forces that power our modern lives. This course is a First Year Seminar.

CHEM 121 Principles of Chemistry I (4)

An introduction to chemical stoichiometry, atomic and molecular structure, and bonding. Laboratory will explore principles presented in lecture. Three-hour lecture and one three-hour laboratory. Prerequisite: high school chemistry or permission of the instructor; students must be calculus-ready. NOTE: \$100 lab fee applies. For biology, chemistry, physics, and engineering intended majors, and exercise science intended majors who plan to pursue the B.S. Rehabilitative Science track.

PHYS 111 College Physics I: Mechanics (4)

An introduction to mechanics. This is the first semester of a two-part algebra-based physics sequence. Three-hour lecture and two-hour laboratory. Prerequisite: MATH 103. NOTE: \$100 lab fee applies. Primarily for students in biology, neuroscience, speech language pathology, environmental studies, and exercise science.