SCIENCE (SC)

SC115: Principles of Nutrition
This is an introductory-level course in which students investigate the fundamental concepts of nutrition: food sources, nutrient function, digestion, absorption, and metabolism. Special attention is given to learning to apply nutritional principles to food choices in a way that encourages a healthy lifestyle. Students will learn how nutritional needs change from infancy through adulthood including pregnancy and the senior stages of life.
Quarter Credit Hours: 5 | Prerequisite: None

SC121: Human Anatomy and Physiology I
In this course, students are taught the anatomy and physiology of the human body. Topics include the various body systems, structures, cells, and tissues, and the principles of homeostasis. Students are introduced to the organization and structure of the human body. This course includes a lab component.
Quarter Credit Hours: 5 | Prerequisite: None

SC131: Human Anatomy and Physiology II
In this course, which is a continuation of SC121: Human Anatomy and Physiology I, students are taught the anatomy and physiology of the human body. Topics include, but are not limited to, the cardiopulmonary, immune, gastrointestinal, urinary, and reproductive systems. These systems will be covered on a cellular, tissue, organ, and system level. This course includes a lab component.
Quarter Credit Hours: 5 | Prerequisite: SC121

SC156: Principles of Chemistry
This course will allow you to examine the basic principles of chemistry, with an emphasis on the chemical processes that affect your life. You will learn how to apply a variety of chemical concepts, such as the states of matter and chemical properties and reactions, to better understand the natural and human-made world. No previous knowledge of chemistry is needed to enroll in this non-majors science course.
Quarter Credit Hours: 5 | Prerequisite: MM212 highly recommended

SC200: Discovering Science - Current Issues in a Changing World
This course is designed to introduce students to some of the most important concepts in science including inheritance, energy, randomness, and measurement. In addition, the course will give students a chance to explore the human aspects of science: how people put science into practice, how societies think about scientific findings, and why science depends on ethical practices. Knowledge gained in the course will help inform further study in many disciplines and will help students better understand how science affects their personal and professional lives.
Quarter Credit Hours: 5 | Prerequisite: None

SC200M1: Basic Scientific Principles and Their Limitations
Explain basic scientific principles and their limitations.
Quarter Credit Hours: 1 | Prerequisite: None

SC200M2: Scientific Concepts Across Disciplines
Compare and contrast discipline-specific scientific concepts.
Quarter Credit Hours: 1 | Prerequisite: None

SC200M3: How Science and Life Work Together
Employ appropriate scientific ideas and methods to everyday situations.
Quarter Credit Hours: 1 | Prerequisite: None

SC200M4: Technology Throughout History
Analyze how technology has driven scientific progress throughout history.
Quarter Credit Hours: 1 | Prerequisite: None

SC200M5: Applying Science Day to Day
Evaluate how science affects your personal and professional life.
Quarter Credit Hours: 1 | Prerequisite: None

SC225: Environmental Science - Ecosystems, Resources, and Carbon Footprints
This course offers students a chance to apply basic scientific principles to an exploration of the environment and the role of humans within it. The course addresses the interrelationships between natural systems and the increasingly industrial, technological societies humans create. Students will examine a variety of ethical and cultural perspectives on nature and the environment, with an eye toward giving students the skills to think critically about global challenges such as energy, food, population, and climate change. As part of this ongoing analysis, students will examine how they might be able to apply sustainable living concepts to their personal lives and reduce their own carbon footprint.
Quarter Credit Hours: 5 | Prerequisite: None

SC226: Environmental Science Lab
This lab course will accompany SC225: Environmental Science - Ecosystems, Resources, and Carbon Footprints. The lab course provides practical applications via science lab activities with interactive modules. Each unit has a discussion board and a written component; often a module has two experiments or activities. The course allows students to have first-hand experience of important scientific aspects of environmental studies including air quality, ecological concerns, waste-management issues, and energy consumption and conservation.
Quarter Credit Hours: 2 | Prerequisite: Concurrent enrollment in SC225

SC235: General Biology I - Human Perspectives
In this introduction to biology, students will explore the living world of humans. The course emphasizes the processes of life from the molecular work of genes and proteins to human organ systems. Practical applications of biology in everyday life are stressed throughout the course. No prior study of biology is required to enroll in this non-majors course.
Quarter Credit Hours: 5 | Prerequisite: None

SC235M1: Principles of Human Biology
Describe the underlying principles in the study of human biology.
Quarter Credit Hours: 1 | Prerequisite: None

SC235M2: Human Organ Systems
Describe the complexity of human organ systems.
Quarter Credit Hours: 1 | Prerequisite: None

SC235M3: The Body and the Environment
Describe how the human's senses, nervous system, and skeletal muscle system interact with the environment.
Quarter Credit Hours: 1 | Prerequisite: None

SC235M4: The Human Body and Immunity
Describe how the human body functions to protect us from pathogens and cancers.
Quarter Credit Hours: 1 | Prerequisite: None

SC235M5: DNA and Inheritance
Illustrate the role of DNA and genes in determining inherited characteristics.
Quarter Credit Hours: 1 | Prerequisite: None
SC236: General Biology I Lab
This lab course will accompany SC235: General Biology I - Human Perspectives. The lab course approaches science practically, tying interactive experiments and observations to the knowledge associated with General Biology I - Human Perspectives. Each unit has a discussion board and a written component; often a module has two experiments or activities. Specifically, this lab course includes topics such as air quality and ecology as they impact human health, an intensive lab study of the human respiratory system, and the roles of genetics and heredity in human biology.
Quarter Credit Hours: 2 | Prerequisite: Concurrent enrollment in SC235

SC246: Fundamentals of Microbiology
Fundamentals of Microbiology will review basic microbial cell structure, function, and genetics. The role of microorganisms and their effect on humans and the environment will also be explained. Aspects of medical and public health will be emphasized, as will bacterial and viral diseases, parasites, immunology, and epidemiology. Course material and labs are directly relevant to studies in health sciences, biological sciences, nursing, and genetics.
Quarter Credit Hours: 5 | Prerequisite: None

SC246M1: Introduction to Microbiology and Chemistry
Describe the anatomy of prokaryotic cells.
Quarter Credit Hours: 1 | Prerequisite: None

SC246M2: Microbial Growth and Genetics
Illustrate the challenges of controlling microbial growth.
Quarter Credit Hours: 1 | Prerequisite: None

SC246M3: Prokaryotic and Eukaryotic Microbes, Viruses, and Chemotherapy
Investigate the impact of disease-causing microorganisms on human health.
Quarter Credit Hours: 1 | Prerequisite: None

SC246M4: Epidemiology, Microbial Pathogenicity, and Immunology
Examine methods of microbe-related disease management in medical and public health.
Quarter Credit Hours: 1 | Prerequisite: None

SC246M5: Environmental Microbiology
Analyze the role of microbes in industry and the environment.
Quarter Credit Hours: 1 | Prerequisite: None

SC250: Fundamentals of Science
Fundamentals of Science is a science course that surveys the basic concepts of a range of scientific disciplines. Students are introduced to science topics including physical science, environmental science, chemistry, biology, and genetics. Within each discipline, real-world examples are used to highlight the application of science in daily life. Investigations into energy sources and impacts, forensic science, and unit conversions allow students to practice the scientific method and conduct scientific research. A focus is given to evaluating sources of scientific information for credibility, including the portrayal of science in the media.
Quarter Credit Hours: 5 | Prerequisite: None

SC328: Histology and Embryology
The studies include histological structures of various tissues of the body and the correlation to their functions at the tissue and organ level. The study of embryology focuses on stages of human development with an emphasis on factors influencing development including common developmental disorders.
Quarter Credit Hours: 6 | Prerequisite: None

SC330: Immunology
This course encompasses the study of the immune system including its development and functions. Students learn about normal immune response and immunologic disorders such as hypersensitivity, autoimmunity, and immunodeficiencies including AIDS. The applications of immunology in tumor immunology, transplantation immunology, diagnosis, therapy, and prevention of various diseases are discussed in detail.
Quarter Credit Hours: 6 | Prerequisite: None

SC335: Biochemistry
This course familiarizes students with proteins, lipids, carbohydrates, and nucleic acids, and their structure, chemical composition, and functions. Studies include chemical characteristics, nomenclature, kinetic control, and functions of enzymes.
Quarter Credit Hours: 6 | Prerequisite: SC156 recommended

SC435: Genetics
This course explores the molecular basis of genetics as applied to human health, including developmental genetics, immunogenetics, and cancer genetics. Using case studies, students learn the role of dominant and recessive genes in various diseases and the importance of genetic counseling. In addition, students will discuss gene-mapping methodologies and ethical issues in the context of clinical genetics.
Quarter Credit Hours: 6 | Prerequisite: None

SC435M1: Fundamentals of Genetics
Explain the principles of heredity.
Quarter Credit Hours: 1 | Prerequisite: None

SC435M2: Principles of Heredity
Explain the chromosomal basis of inheritance.
Quarter Credit Hours: 1 | Prerequisite: None

SC435M3: Replication, Transcription, and Translation
Examine the principles of molecular genetics.
Quarter Credit Hours: 1 | Prerequisite: None

SC435M4: Regulation of Gene Expression
Analyze the principles of genetic variation.
Quarter Credit Hours: 1 | Prerequisite: None

SC435M5: Biotechnology and Genetic Analysis
Assess the role of genetic technologies in industry.
Quarter Credit Hours: 1 | Prerequisite: None

SC435M6: Genetics and Society
Evaluate how genetic concepts affect current societal issues.
Quarter Credit Hours: 1 | Prerequisite: None