BIOLOGICAL SCIENCE (BISC)

BISC 1: Structure and Function of Organisms
3 Credits
An exploration of how cellular structures and processes contribute to life and how life displays unity even in its diversity. Students who have passed BIOL 027, 110, or 141 may not schedule this course.

Bachelor of Arts: Natural Sciences
General Education: Natural Sciences (GN)

BISC 2: Genetics, Ecology, and Evolution
3 Credits
The study of how living organisms inherit their traits, how plants and animals evolved, and how they now interact. Students who have passed BIOL 033, 133, 110, 220W, or 222 may not schedule this course.

Bachelor of Arts: Natural Sciences
General Education: Natural Sciences (GN)

BISC 3: Environmental Science
3 Credits
Kinds of environments; past and present uses and abuses of natural resources; disposal of human wastes; prospects for the future. Students who have passed BIOL 220 or any other upper-level ecology course in biology may not schedule this course. BISC 3 Environmental Science (3) (GN)(BA) This course meets the Bachelor of Arts degree requirements. BISC 3 will help the student to prepare for living in current and future society’s mixture of technology and mythology by presenting ideas and concepts about living systems and their environments. Policy makers and citizens are urgently needed who can act with an understanding of ecological principles when exercising community responsibilities to handle the environmental problems of our times, such as water use, solid waste management, global warming, energy use, conservation of irreplaceable natural resources, overpopulation, and the preservation of biodiversity. An understanding of biological and ecological principles and their application towards environmental challenges should give the student the confidence to be a trustworthy and active citizen, a conscientious steward of nature, and an agent of change for making a healthy, sustainable community and society. Regardless of the students’ field of study, as a citizen of both local and global communities some environmental issues will impact their lives. The course objectives are to enable students to: * Develop a basic understanding of how ecosystems and biological systems work, learn how economic systems depend on natural capital, biological/chemical processes, and the function of ecosystems * Develop a fundamental understanding of sustainability * Understand the scientific basis of specific environmental problems * Understand the significance of environmental legislation and the impact of increased citizen awareness on improving the quality of life we enjoy today * Further develop the ability to evaluate their contributions to shared environmental problems, identify ways to minimize their impact on the environment, and contribute to the development and maintenance of a sustainable future.

Bachelor of Arts: Natural Sciences

BISC 4: Human Body: Form and Function
3 Credits
A general survey of structure and function--from conception, through growth and reproduction, to death. Students who have passed BIOL 129 and 141 may not schedule this course. BISC 004 Human Body: Form and Function (3) (GN)(BA) This course meets the Bachelor of Arts degree requirements. This course introduces students to biological principles fundamental to understanding human life. Cell structure, biochemistry and metabolism, the structure and function of major organ systems, and human genetics are explored in the course. Special emphasis on the relationship of the functioning of the human body to human disease is also stressed. Students will be able to describe the basic biochemical, structural and functional characteristics of cells. They will learn the roles of carbohydrates, lipids, proteins and nucleic acids in cells and in the body as a whole. They will understand how these molecules are used in building cell and body structures, in energy-releasing metabolism and in the copying and use of genetic information. Students will also be able to explain how different organ systems enable the body to meet the need for support structures, oxygen, nutrients, waste elimination, internal communication, defense against infectious disease and cancer, coordination of internal activity, and reproduction. This will be accomplished through the study of the skeletal and muscular systems, the circulatory, respiratory, digestive and nervous systems as well as the endocrine and reproductive systems. The course provides support for majors such as Nursing, Psychology, Nutrition and others that touch on various aspects of human biology. However, students from any major will benefit from this course for the obvious reason that everyone should understand how their lives depend on a properly developed and functioning body.

Bachelor of Arts: Natural Sciences
General Education: Natural Sciences (GN)

BISC 4H: Human Body: Form and Function
3 Credits
A general survey of structure and function--from conception, through growth and reproduction, to death. Students who have passed BIOL 129 and 141 may not schedule this course.

Bachelor of Arts: Natural Sciences
General Education: Natural Sciences (GN) Honors