

BIO BIOLOGY

	Hr/Wk		Sem
	Lect/ Disc	Clin Lab	
Courses			
BIO.090 Foundation for Biology	2		2
Understanding science requires the ability to speak the language, skill in the scientific measuring systems as well as knowledge of the scientific method. Foundation for Biology prepares the student for college level science courses. This class teaches the essential knowledge of scientific terminology, metric system, scientific method and basic chemistry. Offered: Fall or Spring Applicable toward graduation at Sandburg where program structure permits: Degree or Certificate: Not Applicable (1.4). General Education – Not Applicable			
BIO.095 Foundation for Anatomy & Physiology	2		2
Understanding of anatomy and physiology begins with a firm grasp of cell structure and function. Foundation for Anatomy and Physiology prepares the student for college level anatomy and physiology courses by explaining the functions of cells. This class teaches the essential knowledge of cell morphology, cell physiology, membrane transport, cell division as well as basics of tissues, organ systems and anatomical regions. Offered: Fall or Spring or Summer Applicable toward graduation at Sandburg where program structure permits: Degree or Certificate: Not Applicable (1.4). General Education – Not Applicable			
BIO.101 General Biology	3	2	4
This course introduces the student to the chemical and physical principles of life especially as they relate to humans. The major topics covered include cell structure/function, the energy flow, organismic biology, evolution, genetics, and ecology. General Biology is designed to meet the laboratory science requirement of the non-major as well as providing an appropriate background for science majors. Offered: Fall or Spring or Summer Prerequisites: The appropriate placement exam score or ENG.097 with a grade of C or better. Applicable toward graduation at Sandburg where program structure permits: Degree or Certificate: AA, AS, AFA, AAS, AGS, and Certificates where applicable (1.1). <i>IAI Course No. L1 900L</i> General Education – Science Lab Science			

BIO.102 General Zoology	3	2	4
This course provides an introduction to the animal kingdom with topics covering embryonic development, morphology and physiology, behavior, ecology, and evolution. Included are surveys of the protozoans and the animal kingdom. Offered: Spring Prerequisites: BIO.101 or equivalent Applicable toward graduation at Sandburg where program structure permits: Degree or Certificate: AA, AS, AFA, AAS, AGS, and Certificates where applicable (1.1). <i>IAI Course No. L1 902L</i> General Education – Not Applicable Elective Only			
BIO.103 General Botany	3	2	4
This course provides an introduction to the plant kingdom with an emphasis on structure, basic principles of growth and development, reproductive biology, and ecology. Included will be surveys of bacteria, algae, fungi, and the plant kingdom. Offered: Spring Prerequisites: Take BIO.101 or equivalent Applicable toward graduation at Sandburg where program structure permits: Degree or Certificate: AA, AS, AFA, AAS, AGS, and Certificates where applicable (1.1). <i>IAI Course No. L1 907L</i> General Education – Not Applicable Elective Only			
BIO.108 Ecological Principles	3	2	4
This course introduces the student to the basic concepts of ecology and the interrelationships between organisms and their environment. The major topics covered will include natural cycles, energy flow, population ecology, communities and ecosystems, and biotic interactions. Ecological Principles is designed to provide an appropriate background for science majors but will also meet the laboratory science requirement of the non-major with an interest in science. It is also recommended to take BIO 102, BIO 103, and CHM 100. Offered: Fall Prerequisites: Take BIO.101 and MAT.109 with a grade of C or better. *NOTE: It is recommended to take BIO.102, BIO.103, & CHM.100. Applicable toward graduation at Sandburg where program structure permits: Degree or Certificate: AA, AS, AFA, AAS, AGS, and Certificates where applicable (1.1). General Education – Not Applicable Elective Only			
BIO.111 Anatomy & Physiology Fundamentals	4		4
This is a one-semester, general survey course intended primarily for LPN and mortuary science students. The course includes a systems approach to anatomy and physiology and many additional topics such as nutrition, metabolism, and fluid-electrolyte and acid-base balance. Offered: Fall or Spring or Summer Prerequisites: The appropriate placement exam score or ENG.097 with a grade of C or better. Applicable toward graduation at Sandburg where program structure permits: Degree or Certificate: AA, AS, AAS, AGS, and Certificates where applicable (1.1). General Education – Not Applicable Elective Only			

BIO.120 Environmental Science 3 3

This course is intended to provide an introduction to the study of food production, human cultures, energy and mineral use, economics, politics, and land usage from an environmental viewpoint. Studied are the major ecosystems on Earth (deserts, forests, etc.) and their individual characteristics. Also included will be current major problems such as global warming and ozone loss and the effects of all environmental problems on plant and animal species. Emphasis will be on actions that individuals and groups can do to reduce environmental degradation. The course is designed for non-majors.

Offered: Fall or Spring or Summer

Prerequisites: BIO.101 Recommended CHM.100 is recommended

Applicable toward graduation at Sandburg where program structure permits:

Degree or Certificate: AA, AS, AFA, AAS, AGS, and Certificates where applicable (1.1). *IAI Course No. L1 905*

General Education -- Science

BIO.200 General Microbiology 3 2 4

The purpose of this course is to provide a brief study of the morphology, physiology, cultural characteristics, isolation methods, classification methods and distribution of microbes as related to public health, agriculture, medicine and industry. In addition, recent advances in recombinant DNA research will be discussed. This course is appropriate for students planning to pursue a baccalaureate degree. Also, BIO 200 is a requirement for students enrolled either in the Associate Degree Nursing program or in the Dental Hygiene program.

Offered: Spring or Summer

Prerequisites: BIO.101 and CHM.100 or equivalent as evaluated by Biology faculty, minimum grade C

Applicable toward graduation at Sandburg where program structure permits:

Degree or Certificate: AA, AS, AAS, AGS, and Certificates where applicable (1.1).

General Education -- Not Applicable Elective Only

BIO.205 Human Biology 3 2 4

This is a one-semester course in anatomy and physiology designed to meet the needs of students who need a laboratory science course for associate degree or baccalaureate programs. The course will be an integrated systems approach emphasizing principles of homeostasis. Laboratory work will include fetal pig dissection, as well as other appropriate activities. Successful completion of one year of high school Biology and one year of high school Chemistry no longer than five years prior to enrollment is strongly recommended.

Offered: Fall or Spring or Summer

Applicable toward graduation at Sandburg where program structure permits: AA, AS, ASA, AFA and Degree or Certificate: Certificates where applicable General Education-Not Applicable, Elective Only (1.1).

General Education -- Elective Only

BIO.211 Anatomy & Physiology 1 3 2 4

This is the first of a two-course sequence in anatomy and physiology for students who are intending to pursue a baccalaureate degree. Also, Anatomy 1 & 2 are required in the Associate Degree in Nursing Program. This course will be presented as an integrated systems approach emphasizing principles of homeostasis. There will be discussion of pathophysiological and anatomical changes that occur as a result of disease.

Offered: Fall

Prerequisites: BIO.101 and CHM.100 with a grade of C or better or the equivalent as evaluated by Biology faculty

Applicable toward graduation at Sandburg where program structure permits:

Degree or Certificate: AA, AS, AFA, AAS, AGS, and Certificates where applicable (1.1).

General Education -- Not Applicable Elective Only

BIO.212 Anatomy & Physiology 2 3 2 4

This course is a continuation of BIO 211. There will be special emphasis on the cardiovascular system; fluid, electrolyte, and acid base balance; and exercise physiology. Laboratory work will include dissection of a fetal pig.

Offered: Spring

Prerequisites: BIO.211

Applicable toward graduation at Sandburg where program structure permits:

Degree or Certificate: AA, AS, AAS, AGS, and Certificates where applicable (1.1).

General Education -- Not Applicable Elective Only