

BIOLOGY (BIO)

BIO 0900 – Introductory Anatomy and Physiology

3 Credit hours

Emphasizes basic understanding of biology and chemistry topics as it applies to human anatomy and physiology. This course is for any student who feels they need to improve or refresh their foundational knowledge in these areas. This is a credit course and will be counted in student's grade point average; however, it will not count towards graduation requirements or as an elective substitute. The 'C' grade policy applies for a student in a health program.

BIO 1000 – Basic Human Structure and Function

3 Credit hours

Provides a basic understanding of the terms and concepts related to normal structure and function of the human body. The anatomy and physiology of each body system is studied and the basis for pathophysiologic changes with common health problems is integrated. This course does not have a laboratory component. The 'C' grade policy applies for a student in a health program.

Prerequisites: BIO 0900 with a 'C' or better, or any college level biology or chemistry course, or placement.

BIO 1090 – Concepts in Biology

4 Credit hours

Introduces molecular and cellular concepts, metabolism, energy, genetics, and basic comparative physiology. "C" grade policy applies for a student in a health program. All students enrolled in BIO 1090 must also sign up for a section of BIO 1090 lab.

Transfer: TM.

Prerequisites: CHM 0960, or any college level course in biology or chemistry, or placement.

Corequisites: BIO-1090L.

BIO 1110 – Anatomy and Physiology I

4 Credit hours

Studies the structure and function of the human body as an integral whole. The course begins with a brief study of inorganic chemistry, organic chemistry, and histology, then examines the following body systems: integumentary, skeletal, muscular and nervous. Laboratories include dissections, physiology experiments, and plastic model demonstrations. "C" grade policy applies for a student in a health program.

Transfer: TM.

Prerequisites: BIO 0900 with a "C" or better, or placement.

Corequisites: BIO-1110L.

BIO 1110H – Anatomy and Physiology I (Honors Component)

0 Credit hours

Provides students with an academically challenging and enriching learning experience in preparation for completing the Rhodes State College Honors Program requirements. This honors course empowers students to create their own academic experiences through the completion of an honors learning project. The honors learning project is substantial, requires several weeks to complete, and includes a minimum of 15 hours of work. The student and the instructor must sign an Honors Contract within the first two weeks of the semester. This contract outlines the plans for the student's honors learning project and the date of submission.

Prerequisites: Acceptance into the Rhodes State College Honors Program
Corequisites: BIO 1110.

BIO 1120 – Anatomy and Physiology II

4 Credit hours

Builds upon BIO 1110 by continuing the examination of human anatomy and physiology with the following body systems: endocrine, cardiovascular, lymphatic/ immune, respiratory, urinary, digestive, and reproductive. Includes additional topics of fluid and electrolyte balance, and metabolism. Laboratories include dissections, physiology experiments, and model demonstrations. The "C" grade policy applies for students in a health science program.

Transfer: TM.

Prerequisites: BIO 1110 with a "C" or better

Corequisites: BIO-1120L.

BIO 1120H – Anatomy and Physiology II (Honors Component)

0 Credit hours

Provides students with an academically challenging and enriching learning experience in preparation for completing the Rhodes State College Honors Program requirements. This honors course empowers students to create their own academic experiences through the completion of an honors learning project. The honors learning project is substantial, requires several weeks to complete, and includes a minimum of 15 hours of work. The student and the instructor must sign an Honors Contract within the first two weeks of the semester. This contract outlines the plans for the student's honors learning project and the date of submission.

Prerequisites: Acceptance into the Rhodes State College Honors Program

Corequisites: BIO 1120.

BIO 1210 – Biology I

4 Credit hours

Studies the chemical and cellular basis of life. The course will investigate a variety of topics within the fields of Biochemistry and Cell Biology such as the properties of water, macromolecules, cellular structure, cellular respiration, and the cell cycle. Laboratories will include microscopy, dissections, manipulation of variables, and working with models.

Transfer: TAG, TM

Prerequisites: CHM 0960 with a 'C' or better, any college level course in biology or chemistry, or placement.

BIO 1220 – Biology II

4 Credit hours

Studies the evolutionary, ecological, and organismal aspects of life. The course will investigate a variety of topics within the fields of Evolutionary Biology, Ecology, Botany, and Zoology such as the theory of evolution and its evidence, evolutionary processes, energy transfer within an ecosystem, and the reproductive cycles of plants and animals. Laboratories will include microscopy, dissections, manipulation of variables, and working with models.

Transfer: TAG, TM

Prerequisites: CHM 0960 with a 'C' or better, any college level course in biology or chemistry, or placement.

BIO 1310 – Environmental Science I**3 Credit hours**

Introduces current human-caused environmental problems such as air, water and soil pollution, wastes, chemicals and energy resources. Provides an introduction to science, the scientific method, basic biological and ecological concepts and applies these to current environmental issues. Students will investigate how different ecosystems function and respond to changes in various biological, chemical, and geological processes. Both historical and recent examples will be examined to illustrate how human activities impact natural systems and vice versa.

Prerequisites: (COM 0990 or placement), (MTH 0951 or MTH 0953 or placement).

BIO 1320 – Environmental Science II**3 Credit hours**

Introduces human caused environmental problems such as climate change, environmental health and toxicology, and threats to biodiversity. The course introduces environmental ethics, sustainable agriculture, conservation biology, and sustainable development. Both historical and recent examples are examined to illustrate the value of ecosystem services, soil conservation, habitat protection, risk management, and sustainability. Students will investigate sustainable solutions applicable to current human-caused environmental issues.

Prerequisites: (COM 0990 or placement), (MTH 0951 or MTH 0953 or placement).

BIO 1400 – Microbiology**4 Credit hours**

Provides an overview of microbiology to Nursing, Allied Health, and General Education students. Topics of study include: morphology, growth, reproduction, control of and diseases caused by bacteria, viruses, fungi, and protozoa. Laboratories emphasize bacterial and microbiological techniques. "C" Grade Policy applies for a student in a health program. All students enrolled in BIO- 1400 must also sign up for a section of BIO 1400 lab.

Transfer: TM.

Prerequisites: BIO 1110 and BIO 1120, or BIO 1090 "C" grade policy applies.

Corequisites: BIO-1400L.

BIO 1990 – Biology Independent Study**1-5 Credit hours**

Enables Independent Study in the Biological Sciences.

BIO 2121 – Introduction to Human Genetics**4 Credit hours**

Introduces genetics fundamentals, focusing on human genetics. Students will learn genetics history, terminology and analysis; including pedigrees, karyotypes, DNA profiling, and recombinant DNA techniques. Laboratories apply genetic analysis techniques. Designed as an elective for Associate of Science and Associate of Arts degrees.

Transfer: TM.

Prerequisites: BIO 1110 and BIO 1120 or BIO 1090 with a "C" or better.

Corequisites: BIO-2121L.

BIO 2820 – Associate of Science Capstone  **1 Credit hour**

Integrates reading from an instructor-chosen, science-related text with additional readings from other sources. The capstone project requires an oral presentation and related paper focusing upon a specific ethical issue, presenting the student's viewpoint while reasonably discussing opposing views. Should be taken during the term of scheduled graduation.

Prerequisites: COM 1110.

Corequisites: COM 2400.