

# BIOLOGY (BIOL)

## **BIOL 100 # - General Biology for Non-Majors** **Units: 3**

An introductory course emphasizing the processes of science and the fundamentals of biology. Includes a basic introduction to molecules, cells and metabolism, the flow of genetic information, evolutionary theory, and ecological processes. Connects life science concepts to the understanding of everyday concerns such as human health. Designed for the non-science major and meets UNR core curriculum science requirement; cannot be used for credit toward biology major. Three lecture hours per week and four laboratory experiences throughout the semester.

*Term Offered: ALLSEM&W*

## **BIOL 105 # - Introduction to Neuroscience** **Units: 3**

This course will provide a framework for understanding the fundamental, biological processes that are involved in human behavior and cognition. Topics surveyed will introduce basic principles of neuroscience, including: the divisions of the human nervous system, the cells of the nervous system and neural function. In addition, students will engage in discussion of how brain function supports higher-order cognitive processes and how behavior and cognition are impacted by neurological diseases. Same as PSY 105.

*Term Offered: Spring and Fall*

## **BIOL 106 # - Introduction to Evolution and Adaptation** **Units: 3**

An introductory course examining evolution and adaptation in organisms. Includes a review of history of the scientific process, Darwinian and Neo-Darwinian evolution, introduction to genetic variation, natural and artificial selection, theories on the origin of life, human evolution and genetically modified organisms (GMOs). Three hours of lecture per week and four labs per semester.

*Term Offered: Spring and Fall*

## **BIOL 110 # - Biology for Elementary/Middle Level Education** **Units: 3**

An introductory course emphasizing major concepts and pedagogical techniques in the field of biology. The course is designed for prospective teachers. It incorporates scientific methodology and content knowledge into hands-on investigation that may be used at the elementary and middle school levels. Transfers as 3 credits to UNR and meets TMCC and UNR requirements for AA and BS degrees in Elementary Education. Two hours of lecture and three hours of laboratory per week.

*Term Offered: Fall*

## **BIOL 113 # - Life in the Ocean** **Units: 3**

A survey of marine environments and their biotic communities with an emphasis on the natural history of marine organisms. This is an online course designed for non-science majors or anyone with a general interest in marine biology. Includes hands-on activities to be completed at home and virtual laboratory experiences online, including several virtual dissections. Satisfies the general education requirement in natural sciences and is transferable to UNLV as a general education course in the natural sciences.

*Term Offered: ALLSEM&W*

## **BIOL 188 # - Foundations in Scientific Literacy** **Units: 1**

This course is designed to help prepare students for the first introductory majors Biology course, BIOL 190, by reviewing basic mathematics and introducing the scientific method, basic chemistry, fundamental concepts, laboratory techniques, and study skills used in the biological sciences. The class consists of 16.5 lecture hours and six hours of lab per semester. \*

*Transferability: May not transfer towards an NSHE bachelor's degree*

*Term Offered: AS NEEDED*

## **BIOL 190 # - Introduction to Cell and Molecular Biology** **Units: 3**

An introductory cell and molecular biology course covering basics of inorganic chemistry, water, pH, biological macromolecules, cell structure, membrane physiology, cell signaling, metabolism, cell division, heredity, gene expression, and gene regulation. Both BIOL 190 & BIOL 190L are prerequisites for the following biology courses: BIOL 191, BIOL 191L, BIOL 201, and BIOL 251. BIOL 190L can be taken as a pre or co-requisite for BIOL 223. BIOL 190 is a prerequisite for BIOL 223.

*Enrollment Requirements: MATH 120 or higher as a prerequisite OR MATH 126 or higher as a corequisite AND ENG 101 or 113 as a prerequisite or corequisite; OR qualifying Accuplacer, SAT or ACT scores for these courses. MATH 126 or higher is recommended for AS degrees.*

*Term Offered: All Semesters*

## **BIOL 190L # - Introduction to Cell and Molecular Biology Laboratory** **Units: 1**

An introductory laboratory course focusing on scientific inquiry and investigation of cell and molecular biology principles, use of laboratory equipment, and metric system measurements and conversions. Both BIOL 190 & BIOL 190L are prerequisites for the following biology courses: BIOL 191, BIOL 191L, and BIOL 251. BIOL 190L can be taken as a prerequisite or co-requisite for BIOL 223. It is highly recommended that BIOL 190 be taken with or before BIOL 190L.

*Enrollment Requirements: MATH 120 or higher as a prerequisite OR MATH 126 or higher as a corequisite AND ENG 101 or 113 as a prerequisite or corequisite; OR qualifying Accuplacer, SAT or ACT scores for these courses. MATH 126 or higher is recommended for AS degrees.*

*Term Offered: All Semesters*

## **BIOL 191 # - Introduction to Organismal Biology** **Units: 3**

A comprehensive introduction to the evolution, ecology, biodiversity, structure and function of living systems. Topics include natural selection, populations and communities, characteristics of viruses, prokaryotes, protists, fungi and comparative life processes in plants and animals. Students must enroll in BIOL 191L concurrently with this course.

Note: BIOL 190/190L plus BIOL 191/191L transfers to UNR as fulfilling BIOL 190, 191 and 192.

*Enrollment Requirements: Prerequisite: BIOL 190 and BIOL 190L; Corequisite: BIOL 191L.*

*Term Offered: Spring and Fall*

## **BIOL 191L # - Intro to Organismal Biology Lab** **Units: 1**

A comprehensive laboratory introduction to the ecology, biodiversity and structure and function of living systems, with emphasis on the equipment and skills used to investigate organisms. Must be taken concurrently with BIOL 191. Note: BIOL 190/190L plus BIOL 191/191L satisfies BIOL 190, BIOL 191 and BIOL 192 at UNR.

*Enrollment Requirements: Prerequisite: BIOL 190 and BIOL 190L -- AND -- Corequisite: BIOL 191.*

*Term Offered: Spring and Fall*

## **BIOL 198 # - Special Topics in Biology** **Units: 0.5-6**

Selected topics will be presented in lecture and/or laboratory format that focus on specific areas in the biological sciences. The course may be repeated for up to six credits.

*Transferability: May not transfer towards an NSHE bachelor's degree*

*Term Offered: AS NEEDED*

## **BIOL 200 # - Elements of Human Anatomy and Physiology** **Units: 3**

A basic survey of human anatomy and physiology for medical office workers and technicians. Supports the Surgical Technology program at Western Nevada College and satisfies the general education science requirement for an AAS, AGS and Certificate of GS at TMCC.

*Term Offered: Spring*

**BIOL 202 # - General Botany****Units: 4**

An introduction to the development, anatomy, physiology, taxonomy, diversity and evolutionary relationships of the major plant groups. Topics include organization of plant cells and tissue systems, morphology, respiration and photosynthesis, genetics, growth and development, environmental factors, nutrition, ecology, and mechanisms of evolution.

*Term Offered: Spring*

**BIOL 223 # - Human Anatomy and Physiology I****Units: 4**

An intensive lecture and laboratory-based course that examines the structure and function of the human body. Basic histology is covered along with the following body systems: integumentary, skeletal, muscular and nervous, including special senses. Required for most allied health programs. Three hours of lecture and three hours of lab per week. This course transfers for four credits to UNR, UNLV, and NSC.

*Enrollment Requirements: Prerequisite: BIOL 190. Prerequisite or corequisite: BIOL 190L.*

*Term Offered: All Semesters*

**BIOL 224 # - Human Anatomy and Physiology II****Units: 4**

A continuation of BIOL 223 with increased emphasis on body chemistry. Body systems covered include circulatory, respiratory, digestive, reproductive, urinary, endocrine, lymphatic and immune. Required for most allied health programs. Three hours of lecture and three hours lab per week. May not be taken prior to or concurrently with BIOL 223. This course transfers for four credits to UNR, UNLV, and NSC.

*Enrollment Requirements: Prerequisite: A grade of 'C' or better in BIOL 223.*

*Term Offered: All Semesters*

**BIOL 251 # - General Microbiology****Units: 4**

A lecture and laboratory course emphasizing the morphology and physiology of archaea, bacteria, algae, fungi, protozoa, helminthes, and viruses; principles of infectious disease and host immune response; and skills in aseptic procedure, isolation and identification. Satisfies the general education requirements for the AS Nursing degree and is recommended for all allied health students.

*Enrollment Requirements: Prerequisite: BIOL 190 and BIOL 190L.*

*Term Offered: All Semesters*

**BIOL 273 # - Research Experience****Units: 1-6**

A research-intensive course designed to foster competency in experimental design, laboratory techniques, problem-solving ability, data collection and analysis, and communication of scientific information through open-ended investigation.

*Transferability: May not transfer towards an NSHE bachelor's degree*

*Enrollment Requirements: Prerequisite: A grade of 'B' or better in BIOL 190 and BIOL 190L and permission of the instructor.*

*Term Offered: AS NEEDED*

**BIOL 275 # - Gross Anatomy Dissection****Units: 1-3**

A laboratory-intensive course designed to expand knowledge of human anatomy through the preparation of specimens for use in TMCC anatomy and physiology classes. Students will be expected to learn and demonstrate appropriate dissection technique and to complete 40 hours of in-class dissection. This is a one-credit laboratory course.

*Transferability: May not transfer towards an NSHE bachelor's degree*

*Enrollment Requirements: Prerequisite: A grade of B or better in BIOL 223 AND permission of the instructor.*

*Term Offered: AS NEEDED*

**BIOL 290 # - Internship in Biology****Units: 1-8**

A course designed for students to apply their knowledge to on-the-job situations in a collaborative program between a company, government agency or college department under the supervision of a faculty advisor. The course is available to students who have completed all core and major requirements and have a 2.5 GPA. Contact the appropriate chairperson for the application, screening and required skills evaluation. The course may be repeated for up to 8 credits.

*Transferability: May not transfer towards an NSHE bachelor's degree*

*Enrollment Requirements: Prerequisite: Instructor Approval*

*Term Offered: AS NEEDED*

**BIOL 295 # - Current Topics in Infectious Disease****Units: 1-3**

This is a seminar type course covering current topics/issues in infectious diseases.

*Transferability: May not transfer towards an NSHE bachelor's degree*

*Enrollment Requirements: Prerequisite: BIOL 251*

*Term Offered: AS NEEDED*

**BIOL 298 # - Independent Study in Biology****Units: 1-3**

Research and/or analysis of readings in selected topics in biology. For 1-3 credits, up to a maximum of 8 credits.

*Enrollment Requirements: Prerequisite: A grade of ""B"" or better in BIOL 190 and BIOL 190L and permission of instructor.*

*Term Offered: AS NEEDED*

**BIOL 299 # - Selected Topics in Biology****Units: 1-3**

Selected topics will be presented in lecture and/or laboratory format that focus on specific areas in the biological sciences. The course may be repeated for up to four credits.

*Enrollment Requirements: Prerequisite: BIOL 100 or higher or permission of the instructor.*

*Term Offered: AS NEEDED*