BIOL - BIOLOGY

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: Spring and Fall

BIOL 100A - General Biology for Nonmajors Lecture **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.
Term Offered: All Semesters

BIOL 102 - Introduction to Wildlife Technician **Units: 1**
An introductory course to the roles and responsibilities of a career in wildlife technology including the ethical and professional responsibilities. Emphasis will be made in the exploration of wildlife careers, methods of applying for and obtaining jobs, research, volunteer, and professional training opportunities. The importance of data collection and reporting at the technician level will be underscored.
Term Offered: Fall

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: AS NEEDED

BIOL 112 - Introduction to Animal Behavior **Units: 3**
An introduction to invertebrate and vertebrate animal behavior. Topics include its description, role, genetic and evolutionary basis, physiological mechanisms, learning, communication, aggression, sexual reproduction, parental investment, mating systems, and methods of study. Laboratory exercises will focus on improving observational skills both in the lab and in the field. Designed as a general education, non-majors course. Three hours of lecture per week and four labs per semester.
Term Offered: AS NEEDED

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 course is 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: Spring and Fall

BIOL 137 - Introduction to Entomology **Units: 3**
This course will introduce students to the biology of insects with a focus on anatomy, physiology, reproduction, ecology, evolution, and biodiversity. We will also explore the role of insects in natural ecosystems and human society. The laboratory includes viewing of insect specimens and field techniques used to study and collect insects in their natural habitats.
Enrollment Requirements: Prerequisite: ENG 100 or ENG 101
Term Offered: AS NEEDED

BIOL 170 - Calling Bullshit: Reasoning in a World of Data and Misinformation **Units: 3**
The world is rampant in data and statistics, language, and other presentations intended to overwhelm or deceive us with blatant disregard for truth or logic. In other words, the world is full of bullshit. The aim of this course is to help students navigate this bullshit-rich data environment by identifying bullshit, seeing through it, and combating it with effective analysis and argument.
Term Offered: AS NEEDED

BIOL 188 - Foundations in Scientific Literacy **Units: 1**
This course is designed to help prepare students for the first introductory majors Biology course, BIOL 190A, 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 189A - Fundamentals of Life Science **Units: 3**
Survey of contemporary biology topics including major biological molecules, cell structure and function, basic physiology, cellular metabolism, and genetics. For majors who require biology as part of their professional career preparation; cannot be used as a pre-requisite for BIOL 191A. Credit allowed in only one of BIOL 189A or BIOL 190A.
Enrollment Requirements: MATH 120 as a prerequisite or MATH 124 or MATH 126 or higher as a prerequisite or co-requisite and ENG 100, 101 or ENG 113 as a prerequisite or co-requisite; MATH 126 or higher is required for AS degrees.

BIOL 190A - 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 190A & BIOL 190L are prerequisites for BIOL 251. BIOL 190L can be taken as a pre or co-requisite for BIOL 223. BIOL 190A is a prerequisite for BIOL 223.
Enrollment Requirements: MATH 120 as a prerequisite or MATH 124 or MATH 126 or higher as a prerequisite or co-requisite and ENG 100, 101 or ENG 113 as a prerequisite or co-requisite; MATH 126 or higher is required for AS degrees.
Term Offered: Spring and Fall

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 190A & BIOL 190L are prerequisites for the following biology courses: BIOL 251. BIOL 190L can be taken as a prerequisite or co-requisite for BIOL 223. It is highly recommended that BIOL 190A be taken with or before BIOL 190L.
Enrollment Requirements: MATH 120 as a prerequisite or MATH 124 or MATH 126 or higher as a prerequisite or co-requisite and ENG 100, 101 or ENG 113 as a prerequisite or co-requisite; MATH 126 or higher is required for AS degrees.
Term Offered: Spring and Fall

BIOL 191A - 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. Note: BIOL 190A,190L plus BIOL 191A,191L transfers to UNR as fulfilling BIOL 190A, 191A and BIOL 192 (Taught at other NSHE Institutions).
Enrollment Requirements: MATH 120 as a prerequisite or MATH 124 or MATH 126 or higher as a prerequisite or co-requisite and ENG 100, 101 or ENG 113 as a prerequisite or co-requisite; MATH 126 or higher is required for AS degrees.
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. Note: BIOL 190A,190L plus BIOL 191A,191L transfers to UNR as fulfilling BIOL 190A, 191A and BIOL 192 (Taught at other NSHE Institutions).
Enrollment Requirements: MATH 120 as a prerequisite or MATH 124 or MATH 126 or higher as a prerequisite or co-requisite and ENG 100, 101 or ENG 113 as a prerequisite or co-requisite; MATH 126 or higher is required for AS degrees.
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.
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: AS NEEDED

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 190A or 189A. Pre or co-requisite: BIOL 190L.
Term Offered: Spring and Fall

BIOL 224 - Human Anatomy and Physiology II **Units: 4**
A continuation of BIOL 223 with an increased emphasis on homeostatic regulation. Body systems covered include: cardiovascular, respiratory, digestive, reproductive, urinary, endocrine, lymphatic and immune. Required for most allied health programs. Three hours of lecture and three hours of 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: Prerequisites: BIOL 190A or BIOL 189A and BIOL 223 - with a grade of 'C' or better, and BIOL 190L (can be corequisite)
Term Offered: Spring and Fall

BIOL 234 - Natural History of the Great Basin **Units: 4**
This course introduces students to the natural history of the Great Basin desert with a focus on biodiversity and adaptations, ecology and climate, geography and geology, natural resources, human cultures and impacts, management, and conservation. Identification of common species inhabiting the Great Basin desert will be covered. An emphasis will be placed on discourse and course materials that integrate concepts covered in pre-requisite courses, including discussions and a capstone project. The lab portion of this course is field-oriented and culminates in a multi-day field trip.
Enrollment Requirements: Prerequisite: BIOL 191A and BIOL 191L.
Term Offered: Spring

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 procedured, 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 189A and BIOL 190L, or BIOL 190A and BIOL 190L.
Term Offered: Spring and Fall

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

BIOL 275 - Gross Anatomy Dissection **Units: 1**
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.
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. Up to eight semester hour credits may be earned on the basis of 45 hours of internship for one credit.
Enrollment Requirements: Instructor permission.
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.
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 190A 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