

SCIENCE COURSES

Teaching Credential Requirements: A Master's Degree in the discipline is preferred. A Bachelor's degree in the discipline, plus 5 years' experience teaching the specific course at the high school level, or 12 graduate-level credits in the discipline, may be considered. These credentials remain consistent throughout all disciplines unless the course is marked with the "Higher Teaching Credential" or "Additional Teaching Requirement" label

DEPARTMENT OF AGRICULTURAL SCIENCES

AGRI 109 Principles of Animal Science

(3 Credits, Fall/Spring/Summer)

The focus of this course is the scope and potential of the livestock industry and its relationship to society and food systems. Introductory scientific principles of animal science, livestock production systems, and current issues will be taught. PRE/COREQ: AGRI 109L. *(This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.)* (3 lecture hours, 0 lab hours, 3 credits)

AGRI 109L Principles of Animal Science Lab

(1 Credit, Fall/Spring/Summer)

The focus of this course is the scope and potential of the livestock industry and its relationship to society and food systems. Introductory scientific principles of animal science, livestock production systems, and current issues will be taught. PRE/COREQ: AGRI 109. *(This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.)* (0 lecture hours, 3 lab hours, 1 credits)

AGRI 289 Agricultural Markets

(3 Credits, Varies)

This course focuses on the economics of agricultural markets, processes of price discovery, factors that influence agricultural prices, and agricultural marketing. Students learn to analyze supply, demand, and elasticities for agricultural commodities and examine local, national, and international factors that cause shifts in supply and demand. The course will cover trade, market structure, connections among market participants, futures markets as a tool for price risk management, and institutional arrangements in food marketing. The concepts of the theoretical economic framework covered in this class are applied in commodities relevant to the State of Idaho and the Northwest region. PREREQ: Placement into MATH 143P. (3 lecture hours, 0 lab hours, 3 credits)

HRTC 110 Plant Science

(3 Credits, Fall)

Introduction to plant classification, anatomy, and basic plant growth processes. Emphasis on function of plant parts, reproductive structures and their application to the study of horticulture. (1 lecture hours, 4 lab hours, 3 credits)

DEPARTMENT OF BIOLOGICAL SCIENCES

BIOL 100 Concepts of Biology

(3 Credits, Fall/Spring/Summer)

This is an introductory course for non-science majors that provides a broad survey of biology by exploring the principles and processes that apply to living systems, including current biological issues. PRE/COREQ: BIOL 100L. *(This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.)* (3 lecture hours, 0 lab hours, 3 credits)

BIOL 100L Concepts of Biology Lab

(1 Credit, Fall/Spring/Summer)

This is an introductory course for non-science majors and fulfills the laboratory component of the GEM 4 Scientific Ways of Knowing requirement. Students will engage with the process of science by making observations, developing questions, using scientific apparatus to collect and analyze data, and communicate the results of scientific work. Additional fee required for lab. PRE/COREQ: BIOL 100. *(This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.)* (0 lecture hours, 3 lab hours, 1 credits)

BIOL 111 Biology I

(3 Credits, Fall/Spring/Summer)

This is an introductory biology course for science majors. It will emphasize biological principles important in understanding living organisms to include evolution, general biochemistry, cytology, and Mendelian and molecular genetics. Prior completion of CHEM 101 or CHEM 111 is strongly recommended. Students who believe they may be eligible for advanced-placement status in courses listing BIOL 111 as a prerequisite should see the Biology department chair. PRE/COREQ: BIOL 111L. *(This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.)* (3 lecture hours, 0 lab hours, 3 credits)

BIOL 111L Biology I Lab

(1 Credit, Fall/Spring/Summer)

This course fulfills the laboratory component of the GEM 4 Scientific Ways of Knowing requirement. Students will engage with the process of science by making observations, developing questions, designing experiments, using scientific apparatus to collect and analyze data, and communicating the results of scientific work. Additional fee required for lab. PRE/COREQ: BIOL 111. *(This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.)* (0 lecture hours, 3 lab hours, 1 credits)

BIOL 112 Biology II

(3 Credits, Fall/Spring/Summer)

This course is designed for science majors and provides an overview of evolution, the diversity of life, ecology, and the fundamentals of organismal structure and function. All domains and kingdoms of life are included, with the primary focus on plants and animals. Students will complete a taxonomic and comparative study of organismal anatomy, physiology, and evolutionary relationships. Concurrent enrollment in BIOL 112L is strongly recommended. PREREQ: BIOL 111 and BIOL 111L with a grade of C or higher. (3 lecture hours, 0 lab hours, 3 credits)

BIOL 112L Biology II Lab

(1 Credit, Fall/Spring/Summer)

This course is designed for science majors and provides an overview of the diversity of life with a primary emphasis on the skill-sets that scientists use to ask and answer questions. Students will design investigations, collect and analyze data, and present their findings regarding a taxonomic and/or comparative study of organismal anatomy, physiology, and/or evolutionary relationships. Concurrent enrollment in BIOL 112 is strongly recommended. PREREQ: BIOL 111 and BIOL 111L with a grade of C or higher. (0 lecture hours, 3 lab hours, 1 credits)

BIOL 127 Human Structure and Function

(3 Credits, Fall/Spring/Summer)

This is an introductory course for non-science majors on human structure and form that provides a broad survey of human biology covering eleven body systems, their major components, elementary functions, and some basic system interactions. Using these basic system interactions as foundational material, the course will address current issues in human health. PRE/COREQ: BIOL 127L. (This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.). (3 lecture hours, 0 lab hours, 3 credits)

BIOL 127L Human Structure and Function Lab

(1 Credit, Fall/Spring/Summer)

This is an introductory course for non-science majors on the structure of the human body. It fulfills the laboratory component of the GEM 4 Scientific Ways of Knowing. Students will summarize the process of science, demonstrate a knowledge of body organization, compare body systems, apply this knowledge on practical examinations, and demonstrate the synthesis and communication of scientific information. Additional fee required for lab. PRE/COREQ: BIOL 127. (This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.). (0 lecture hours, 3 lab hours, 1 credits)

BIOL 227 Human Anatomy and Physiology I

(3 Credits, Fall/Spring/Summer)

This course is the first in a two-semester sequence for students whose career objectives require a thorough study of structure (anatomy) and function (physiology) of the human body. The following systems are studied: integumentary skeletal, muscular, nervous, and endocrine. Unifying themes of homeostasis and whole body functioning are emphasized. This course conforms to guidelines established by the Human Anatomy and Physiology Society. PREREQ: BIOL 111 and BIOL 111L (with a grade of C or higher), or MMBS 111 and MMBS 111L (with a grade of C or higher). PRE/COREQ: BIOL 227L. (This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.). (3 lecture hours, 0 lab hours, 3 credits)

BIOL 227L Human Anatomy and Physiology I Lab

(1 Credit, Fall/Spring/Summer)

This course is the first in a two-semester sequence for students whose career objectives require a thorough study of structure (anatomy) and function (physiology) of the human body and fulfills the laboratory component of the GEM 4 Scientific Ways of Knowing requirement. Students will engage with the process of science by making observations, developing questions, using scientific apparatus to collect and analyze data, and communicating the results of scientific work. This course conforms to guidelines established by the Human Anatomy and Physiology Society. Additional fee required for lab. PRE/COREQ: BIOL 227 or BIOL 227P. (This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.). (0 lecture hours, 3 lab hours, 1 credits)

BIOL 228 Human Anatomy and Physiology II

(3 Credits, Fall/Spring/Summer)

This course is an introduction to the study of structure (anatomy) and function (physiology) of the human body. The following systems are studied: cardiovascular, immunity, respiratory, digestion, renal, and reproduction. Unifying themes of homeostasis and whole-body functioning are emphasized. This course conforms to guidelines established by the Human Anatomy and Physiology Society. PREREQ: BIOL 227 (or BIOL 227P) and BIOL 227L with a grade of C or higher. PRE/COREQ: BIOL 228L. (3 lecture hours, 0 lab hours, 3 credits)

BIOL 228L Human Anatomy and Physiology II Lab

(1 Credit, Fall/Spring/Summer)

This course is an introduction to the study of structure (anatomy) and function (physiology) of the human body. Students will develop skill sets that scientists use to identify, ask, and answer questions regarding the human body. The following human body systems are studied: cardiovascular, immunity, respiratory, digestion, renal, and reproduction. Unifying themes of homeostasis and whole-body functioning are emphasized. This course conforms to guidelines established by the Human Anatomy and Physiology Society. Additional fee required for lab. PREREQ: BIOL 227 (or BIOL 227P) and BIOL 227L with a grade of C or higher. PRE/COREQ: BIOL 228. (0 lecture hours, 3 lab hours, 1 credits)

ENVI 100 Environmental Science

(3 Credits, Fall/Spring/Summer)

This course is designed for non-science majors. It will consider scientific principles and their influence on environmental problems in today's society. The role of humans and our impact on these issues will be emphasized. Past, present, and future trends will be evaluated along with the possible impacts of these trends on the local and global populace. PRE/COREQ: ENVI 100L. (This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing OR the CWI Global Perspectives requirement. [It will not fulfill both requirements.]). (3 lecture hours, 0 lab hours, 3 credits)

ENVI 100L Environmental Science Lab

(1 Credit, Fall/Spring/Summer)

This course fulfills the laboratory component of the GEM 4 Scientific Ways of Knowing requirement. Students will engage with the process of science by making observations, developing questions, designing experiments, using scientific apparatus to collect and analyze data, and communicating the results of scientific work. Students enrolled in this course will be required to participate in multiple off-site field trips. Additional fee required for lab. PRE/COREQ: ENVI 100. (This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.). (0 lecture hours, 3 lab hours, 1 credits)

MMBS 111 Introductory Microbiology

(3 Credits, Fall/Spring/Summer)

This course is an introduction to the fundamental principles of microbial systems and the information generated in microbiology that has enriched all segments of biology. The course has a public health/infectious disease emphasis; however, the many dimensions of the microbial world will be discussed and will include the chemistry of macromolecules, subcellular organization and functions, basic information about life cycles, cell division, and genetics. In addition, control of microbial growth in the environment, basic epidemiology and immunology, and contemporary topics in microbiology will be covered. PRE/COREQ: MMBS 111L. (This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.). (3 lecture hours, 0 lab hours, 3 credits)

MMBS 111L Introductory Microbiology Lab

(1 Credit, Fall/Spring/Summer)

This course fulfills the laboratory component of the GEM 4 Scientific Ways of Knowing requirement. Students will engage with the process of science by making observations, developing questions, performing experiments, using scientific apparatus to collect and analyze data, and communicating the results of scientific work. Additional fee required for lab. PRE/COREQ: MMBS 111. (This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.). (0 lecture hours, 3 lab hours, 1 credits)

DEPARTMENT OF HEALTH SCIENCE

EXHA 104 Stay Active, Live Well!

(1 Credit, Varies)

This course will challenge students of all ages and activity levels to improve their personal fitness in order to enhance their overall health and wellness. It is designed for students who seek an introduction to physical fitness and wellness experiences and will focus on providing useful information to students on the topics of behavior change and exercise planning, which will be used to create a semester-long plan to improve physical fitness. This course may be repeated once for a maximum of two credits. (Pass/No Pass) (0 lecture hours, 2 lab hours, 1 credits)

EXHS 155 Health and Wellness

(3 Credits, Fall/Spring/Summer)

This course provides an overview of the domains of wellness and the impact of lifestyle choices on all aspects of personal health. The course will explore topics related to nutrition, physical fitness, stress management, substance abuse, healthy relationships, and disease as it relates to morbidity, mortality and prevention. Students will be challenged to critically analyze individual and societal issues and problems that influence psychological, social, and physical well-being, based on relevant natural and social science skills and knowledge. This course enables students to reflect critically on important historical, cultural and institutional issues in health that affect individual and societal wellness. (This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 6 - Social and Behavioral Ways of Knowing.). (3 lecture hours, 0 lab hours, 3 credits)

HLTH 101 Medical Terminology

(3 Credits, Fall/Spring/Summer)

This course introduces students to the fundamentals of medical terminology, focusing on word structure, anatomy, and physiology as they relate to medical language. Students will learn to analyze, construct, and interpret medical terms associated with body systems, medical procedures, and common pathologies. The course also emphasizes the scientific method in medical research, the application of the Subjective, Objective, Assessment, and Plan (SOAP) method in case analysis, and the critical evaluation of medical sources. Through hands-on practice, students will develop proficiency in spelling, pronunciation, and medical communication, preparing them for academic, clinical, and professional healthcare settings. (3 lecture hours, 0 lab hours, 3 credits)

HLTH 220 Fundamentals of Nutrition

(3 Credits, Fall/Spring/Summer)

This course is designed to provide a broad understanding of the scientific principles of nutrition. Students will learn the process by which the human body ingests, digests, absorbs, transports, and converts the food we eat into usable energy; and its relation to health and disease. Throughout the course, students will be exposed to cutting-edge research informing today's food conversations both in theory and in practice. Lectures, readings, activities, and discussions are designed to challenge students to examine their belief systems about what they eat, think critically about their own choices, and develop a solid scientific foundation for understanding the claims about nutrition that appear in print and the media and why what we eat matters. (This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.). (3 lecture hours, 0 lab hours, 3 credits)

DEPARTMENT OF PHYSICAL SCIENCES

CHEM 100 Concepts of Chemistry

(3 Credits, Fall/Spring)

Examination of the world of chemistry as it impacts society and the individual through the theme of forensic science. Basic concepts include structure, properties of matter, chemical changes, chemical conversions, chemical bonding, acid-base chemistry, and interactions of matter and energy. This course is intended for non-science students; very limited math skills are necessary. COREQ: CHEM 100L. (This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.). (3 lecture hours, 0 lab hours, 3 credits)

CHEM 100L Concepts of Chemistry Lab

(1 Credit, Fall/Spring)

Accompanies CHEM 100. Basic concepts include structure, properties of matter, chemical changes, chemical conversions, chemical bonding, acid-base chemistry, and interactions of matter and energy. Chemistry concepts are learned through experiments that can be done in a kitchen with household products. This course is intended for non-science students; very limited math skills are necessary. COREQ: CHEM 100. (This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.). (0 lecture hours, 2 lab hours, 1 credits)

CHEM 101 Introduction to Chemistry

(3 Credits, Fall/Spring/Summer)

This introductory chemistry course is designed for students with varying levels of prior exposure to the subject, aiming to provide an understanding of the fundamental principles governing matter and its transformations. The curriculum covers topics such as atomic structure, periodic trends, the periodic table, chemical bonding, molecular geometry, types of reactions, stoichiometry, the behavior of gases, liquids, and solids, equilibria, and nuclear chemistry. Throughout the course, there is an emphasis on the development of problem-solving skills and the practical application of theoretical concepts to real-world scenarios. PREREQ: Placement into MATH 143P. PRE/COREQ: CHEM 101L. (This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.). (3 lecture hours, 0 lab hours, 3 credits)

CHEM 101L Introduction to Chemistry Lab

(1 Credit, Fall/Spring/Summer)

This laboratory course complements the theoretical foundations established in the introductory chemistry lecture course, providing students with the opportunity to explore the practical aspects of chemistry and bridge the gap between theory and experimentation. Engaging in a variety of experiments, students reinforce and expand upon key concepts, including essential laboratory techniques, measurements, and safety procedures, laying a solid foundation for more advanced experiments in subsequent courses. Proficiency in the use of laboratory equipment and data analysis tools is a focal point of the course. Emphasis is placed on fostering critical thinking skills, meticulous record-keeping, and effective communication of experimental findings. PREREQ: Placement into MATH 143P. PRE/COREQ: CHEM 101. (This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.). (0 lecture hours, 3 lab hours, 1 credits)

CHEM 111 General Chemistry I

(3 Credits, Fall/Spring)

Explore the fundamentals and principles of chemistry, including measurement, inorganic reactions, atomic structure, stoichiometry, thermochemistry, solutions, chemical bonding, and the states of matter. In this course, we will build on your introductory chemistry knowledge beginning with the basics of the atom and its behavior, then progress to the chemical properties of matter, chemical changes, and reactions. This course will provide you with the tools to understand and appreciate many of the chemical and energetic phenomena that are visible and invisible in life. This course is designed for students majoring in chemistry, pre-medicine, pre-dentistry, engineering, or natural science. NOTE: Students may be eligible to enroll in this course without prior completion of CHEM 101 if they are concurrently enrolled in MATH 160 or MATH 170; instructor permission would be required. PREREQ: CHEM 101, MATH 160, or MATH 170 with a grade of C or higher, or a successful Chemistry placement exam score. PRE/COREQ: CHEM 111L; and MATH 143 or MATH 147. *(This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.)*. (3 lecture hours, 0 lab hours, 3 credits)

CHEM 111L General Chemistry I Lab

(1 Credit, Fall/Spring)

This lab accompanies General Chemistry I (CHEM 111 or CHEM 111P), which is a thorough study of the fundamentals and principles of chemistry. This course is designed for students majoring in chemistry, pre-medicine, pre-dentistry, engineering, or science. The lecture and laboratory will cover inorganic reactions, atomic structure, stoichiometry, thermochemistry, solutions, chemical bonding, and the states of matter. PRE/COREQ: CHEM 111 or CHEM 111P; and MATH 143 or MATH 147. *(This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.)*. (0 lecture hours, 3 lab hours, 1 credits)

PHYS 100 Survey of Physics

(3 Credits, Fall/Spring)

This course provides an introduction to the concepts of physics and their application to the world around us and beyond. The course is intended for nonscience majors; very limited math skills are necessary. Topics include the laws of motion, conservation of energy and momentum, properties of matter, heat, sound, electricity, magnetism, light, atomic and nuclear physics, and relativity. COREQ: PHYS 100L. *(This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.)*. (3 lecture hours, 0 lab hours, 3 credits)

PHYS 100L Survey of Physics Lab

(1 Credit, Fall/Spring)

This lab accompanies PHYS 100, which provides an introduction to the concepts of physics and their application to the world around us and beyond. The course is intended for non-science majors; very limited math skills are necessary. Topics include the laws of motion, conservation of energy and momentum, properties of matter, heat, sound, electricity, magnetism, light, atomic and nuclear physics, and relativity. COREQ: PHYS 100. *(This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.)*. (0 lecture hours, 2 lab hours, 1 credits)

PHYS 111 General Physics I

(3 Credits, Fall)

This course includes a general study of kinematics, Newton's Laws of Motion, universal gravitation, work, mechanical energy, motion in a plane, momentum, hydrostatics, SHM, wave motion, sound, introductory thermodynamics, and heat transfer with applications to life sciences. PREREQ: MATH 143 and MATH 144, or MATH 147 (or higher). COREQ: PHYS 111L. *(This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.)*. (3 lecture hours, 0 lab hours, 3 credits)

PHYS 111L General Physics I Lab

(1 Credit, Fall)

This required lab accompanies PHYS 111, which includes a general study of kinematics, Newton's Laws of Motion, universal gravitation, work, mechanical energy, motion in a plane, momentum, hydrostatics, SHM, wave motion, sound, introductory thermodynamics, and heat transfer with applications to life sciences. PREREQ: MATH 143 and MATH 144, or MATH 147 (or higher). COREQ: PHYS 111. *(This CWI course meets Idaho State Board of Education GEM competency requirements for GEM 4 - Scientific Ways of Knowing.)*. (0 lecture hours, 2 lab hours, 1 credits)