

CSU, Sacramento's MPT Prerequisite Course Descriptions

BIOLOGICAL SCIENCES:

Anatomy

BIO 022. Introductory Human Anatomy. Introduction to the study of the gross and microscopic structure of the human body using a systemic approach. Lecture three hours; laboratory three hours. Fee course. **Prerequisite:** BIO 001, BIO 002, BIO 010, or BIO 020. 4 units. (CAN BIOL 010)

OR

BIO 025. Human Anatomy and Physiology I. BIO 025/026 series provides an introduction to the structure and function of the major organ systems of the human body. BIO 025 offers basic terminology and concepts pertaining to the disciplines of anatomy and physiology, including structure/function relationships, homeostasis, and organizational levels; and provides an introduction to the structure and function of the muscular and nervous systems. **Note:** Not open to students who have successfully completed BIO 022 and BIO 131, or an equivalent combination of separate anatomy and physiology courses. Lecture three hours; laboratory three hours. Fee course. 4 units.

AND

BIO 026. Human Anatomy and Physiology II. BIO 025/026 series provides an introduction to the structure and function of the major organ systems of the human body. BIO 026 provides an introduction to the structure and function of the cardiovascular, respiratory, renal and digestive systems, and emphasizes homeostatic control mechanisms. **Note:** Not open to students who have successfully completed BIO 022 and BIO 131, or an equivalent combination of separate anatomy and physiology courses. Lecture three hours; laboratory three hours. Fee course. **Prerequisite:** BIO 025 or instructor permission. 4 units.

OR

BIO 122. Advanced Human Anatomy. Gross structure of the human body using a regional approach. Lecture three hours; laboratory three hours. Fee course. **Prerequisite:** BIO 022. Not offered every semester. 4 units.

Physiology

BIO 025. Human Anatomy and Physiology I. BIO 025/026 series provides an introduction to the structure and function of the major organ systems of the human body. BIO 025 offers basic terminology and concepts pertaining to the disciplines of anatomy and physiology, including structure/function relationships, homeostasis, and organizational levels; and provides an introduction to the structure and function of the muscular and nervous systems. **Note:** Not open to students who have successfully completed BIO 022 and BIO 131, or an equivalent combination of separate anatomy and physiology courses. Lecture three hours; laboratory three hours. Fee course. 4 units.

AND

BIO 026. Human Anatomy and Physiology II. BIO 025/026 series provides an introduction to the structure and function of the major organ systems of the human body. BIO 026 provides an introduction to the structure and function of the cardiovascular, respiratory, renal and digestive systems, and emphasizes homeostatic control mechanisms. **Note:** Not open to students who have successfully completed BIO 022 and BIO 131, or an equivalent combination of separate anatomy and physiology courses. Lecture three hours; laboratory three hours. Fee course. **Prerequisite:** BIO 025 or instructor permission. 4 units.

OR

BIO 131. Systemic Physiology. Physiology of organ systems with emphasis on control and integration of system function. Experiments using selected vertebrate animal models are

performed in the laboratory to illustrate functional characteristics of organ systems discussed in lecture and to provide direct experience with techniques, recording systems, and methods of data analysis commonly used in physiology and related fields. Lecture three hours; laboratory three hours. Fee course. **Prerequisite:** One year of College Chemistry and BIO 001, BIO 002, BIO 010, BIO 020 or BIO 022. 4 units.

PSYCHOLOGY:

Introductory Psychology

PSYC 001. Introductory Psychology: Basic Processes.

Physiological psychology, comparative psychology, learning, motivation, sensation and perception, and selected other topics. Requires three hours of participation as a research subject. 3 units.

OR

PSYC 005. Introductory Psychology: Individual and Social Processes. Developmental psychology, personality, social psychology, maladaptive behavior, individual differences, and selected other topics. Requires three hours of participation as a research subject. 3 units.

Upper Division Psychology

PSYC 148. Child Psychology. Examination of behavioral and physiological development during the prenatal period, and behavioral, cognitive and social development during infancy and childhood. Theories, methods and empirical research will be studied. **Prerequisite:** PSYC 001 or PSYC 005. 3 units.

OR

PSYC 150. Psychological Aspects of Aging. Developmental study of human aging emphasizing psychosocial, psychopathological, biological, intellectual and personality processes from a theoretical and research-oriented perspective. **Prerequisite:** PSYC 001 or PSYC 005. 3 units.

OR

PSYC 151. Psychological Aspects of Death and Dying.

Examination of the beliefs, attitudes, and behaviors associated with death and dying. Topics covered include children's and adults' concepts of dying and death; causes and types of death; self-destructive behavior; grief and mourning in the dying person and their survivors; euthanasia and other legal and ethical issues; cross-cultural and historical perspectives. 3 units.

OR

PSYC 168. Abnormal Psychology. Detailed consideration of behavior disorders and maladaptive behavior: theories of causation, descriptions of the disorders, and strategies of various therapies. **Prerequisite:** PSYC 005; PSYC 001 recommended. 3 units.

STATISTICS:

Statistics

STAT 001. Introduction to Statistics. Descriptive statistics, basic concepts of probability and sampling with the aim of introducing fundamental notions and techniques of statistical inference.

Prerequisite: MATH 009 or three years of high school mathematics which includes two years of algebra and one year of geometry; completion of ELM requirement and the Intermediate Algebra Diagnostic Test. 3 units. (CAN STAT 002)

OR

SWRK 110. Statistics and Research for Social Workers.

Descriptive and inferential statistics, sampling, probability distribution, introduction to research methods, relationship of

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statistics to research methods; illustrations drawn from the field of human services. 3 units.

COMMUNICATION STUDIES:

Public Speaking

COMS 004. Introduction to Public Speaking. Theory and technique of public speaking. Emphasis on organizing, supporting, and clearly stating ideas. Practice in informative and persuasive speaking. 3 units. (CAN SPCH 004)

CHEMISTRY:

General Chemistry I or Introduction to General Chemistry

CHEM 001A. General Chemistry I. Fundamental principles and concepts of chemistry, including stoichiometry, thermochemistry, atomic and molecular structure, solution chemistry, acid-base chemistry, oxidation-reduction reactions, an introduction to chemical equilibrium and chemical kinetics. Fairly mathematical and requires an ability to do arithmetic and algebraic computations. Lecture three hours, laboratory six hours. **Note:** To enroll, students must first pass a qualifying exam given prior to each semester or have passed CHEM 004 with a grade of C or better. **Prerequisite:** High school algebra (two years) and high school chemistry, or equivalent. 5 units. (CAN CHEM 002)

OR

CHEM 006A. Introduction to General Chemistry. Structure of atoms, molecules and ions; their interactions including stoichiometry, equilibria, and oxidation-reduction. Does not fulfill the requirements for more advanced study in chemistry and cannot be counted toward a major or minor in chemistry. Lecture three hours, quiz one hour, laboratory three hours. **Prerequisite:** One year high school algebra; high school chemistry strongly recommended. 5 units. (CAN CHEM 006)

General Chemistry II or Introduction to Organic and Biological Chemistry

CHEM 001B. General Chemistry II. Continuation of the development of fundamental principles of chemistry and application of principles developed in CHEM 1A. The laboratory work emphasizes applications of equilibrium principles, including some qualitative analysis, coordination chemistry and bioinorganic chemistry. Lecture three hours, laboratory six hours. Knowledge of word processing and spreadsheet software is recommended. **Prerequisite:** CHEM 001A with a passing grade of C or better. 5 units. (CAN CHEM 004)

OR

CHEM 006B. Introduction to Organic and Biological Chemistry. Introduction to the structure and properties of the major classes of organic compounds; introduction to nomenclature of organic compounds and to the fundamental concepts of reaction mechanisms and stereochemistry; the chemistry and metabolism of carbohydrates, lipids, and proteins; the latter will include enzymes. Does not fulfill the requirement for more advanced study in chemistry and cannot be counted toward a major or minor in chemistry. Lecture three hours; quiz one hour; laboratory three hours. **Prerequisite:** CHEM 001A or CHEM 006A, or a high school chemistry course and passing a qualifying exam given in the first laboratory period. 5 units. (CAN CHEM 008)

PHYSICS:

General Physics A

PHYS 005A. General Physics: Mechanics, Heat, Sound. Physics

005A-B sequence is a two-semester course in introductory physics in which fundamental concepts are emphasized including some physiological applications. These courses satisfy the requirement for pre-medical and pre-dental students and biology majors. Lecture one hour; quiz two hours; laboratory three hours. **Prerequisite:** Recently completed three years of high school algebra and geometry; and a college course in algebra and trigonometry (MATH 009 recommended) for those having an inadequate mathematics background. 4 units. (CAN PHYS 002)

General Physics B

PHYS 005B. General Physics: Light, Electricity and Magnetism, Modern Physics. Lecture one hour; quiz two hours; laboratory three hours. **Prerequisite:** PHYS 005A or instructor permission. 4 units. (CAN PHYS 004)

KINESIOLOGY:

Kinesiology or Biomechanics

KINS 151. Kinesiology. Anatomical concepts and physical laws as applied to human movement emphasizing the effects of individual and environmental variables. Includes analysis of normal and pathological gait. Lecture two hours; laboratory three hours. **Prerequisite:** BIO 022 or equivalent. 3 units.

OR

KINS 151A. Biomechanics. Introduction to fundamental mechanical concepts as they apply to human movement. A broad range of human movement will be explored including activities from sport, industrial settings, normal and pathological locomotory skills, and movements involved in manipulating the environment in which we live. Laws of physics, mechanical principles and mathematical concepts will be integrated in studying man as a biological entity. Lecture two hours; laboratory three hours. **Prerequisite:** KINS 151. 3 units.

Physiology of Exercise

KINS 152. Physiology of Exercise. Study of circulatory, respiratory and metabolic response to exercise in humans under various physiological and ambient conditions. Lecture two hours; laboratory three hours. **Prerequisite:** BIO 131 or equivalent. 3 units.

NURSING:

Pharmacology

NURS 014. Pharmacology. Basic principles of pharmacology with a focus on pharmacokinetics, pharmacodynamics and related therapeutic implications for major drug categories. May be taken by pre-nursing or non-nursing students. Lecture two hours. **Prerequisite:** BIO 131, or equivalent. 2 units.

Pathophysiology (Fall 2007 called PT 130)

NURS 130. Pathophysiology. Designed to promote the understanding and application of fundamental disease processes in clinical settings. General concepts of disease, including etiology, pathogenesis, morphology, and clinical significance are discussed. General pathophysiology concepts include: cell injury, necrosis, inflammation, wound healing, and neoplasia. These concepts are applied in a systems-oriented approach to disease processes affecting musculoskeletal, cardiopulmonary, renal, nervous, gastrointestinal, immune, hematological, and endocrine systems. Uses a problem-based approach to learning and emphasizes critical thinking skills. Two hour lecture. **Prerequisite:** BIO 022 or equivalent, BIO 131 or equivalent. 2 units.

BIOLOGICAL SCIENCES:

Advanced Human Anatomy

BIO 122. Advanced Human Anatomy. Gross structure of the human body using a regional approach. Lecture three hours; laboratory three hours. Fee course. **Prerequisite:** BIO 022. Not offered every semester. 4 units.

Neuroanatomy

BIO 123. Neuroanatomy. Gross and microscopic structures of the central, peripheral and autonomic nervous systems. The lectures are correlated with laboratory exercises and demonstrations using human prosected cadaver specimens, audio-visual slide projected materials, charts and models. Lecture two hours; laboratory three hours. Fee course. **Prerequisite:** BIO 022. Fall only. 3 units.

Neurophysiology

BIO 132. Neurophysiology. Organization and function of the nervous system will be explored. Topics include mechanisms of communication between neurons, integration of sensory and motor systems, and functional brain systems. Diseased states will be introduced, as appropriate. Lecture 3 hours. **Prerequisite:** BIO 131 or both BIO 025 and BIO 026. Spring only. 3 units.