BMD-Biomedical Sciences

Courses

BMD 150. Introduction to the Biomedical Sciences. 1 Hour.
Introduction to career paths within the Biomedical Sciences. Topics will address student needs and interests and current trends in the Biomedical Sciences. Emphasis will be placed on developing an individualized educational plan based on a student's academic and professional interests.

BMD 201. Contemporary Issues in Biomedical Sciences. 2 Hours.
A survey of current policy topics and industry trends in biomedical sciences, health, and medicine.

BMD 202. Survey of the Biomedical Sciences Literature. 1 Hour.
Techniques for searching, retrieving, reading, and analyzing the expert information used by biomedical researchers and health professions practitioners.

BMD 300. Laboratory Techniques in Biotechnology I. 2 Hours.
Basic laboratory techniques in biotechnology utilizing a lab notebook, basic lab instruments, and making solutions. Basic molecular biology and mammalian cell culture techniques used in studying gene regulation.
Prequisites: CH 117 [Min Grade: C] and (CH 118 [Min Grade: C] or CH 119 [Min Grade: C])

BMD 310. Clinical Anatomy and Histology. 4 Hours.
Exploration of the functional anatomy of the human body through gross and microscopic studies of cells, tissues, and organ systems; survey of body systems; correlations between the structures and functions of the body's various systems; association of major embryonic developmental events with functional gross anatomy.
Prequisites: BY 123 [Min Grade: C]

BMD 315. Clinical Physiology and Pharmacology for Health Professions I. 4 Hours.
Basic concepts of physiology and pharmacology related to human organ systems and drug categories; human physiological principles and their application to pharmacology; membrane physiology, muscle physiology, physiology of the autonomic nervous system and the cardiovascular system; application of physiologic principles to drug pharmacokinetic and pharmacodynamics models.
Prequisites: CH 115 [Min Grade: C] and (CH 114 [Min Grade: C] or CH 116 [Min Grade: C]) and (CH 117 [Min Grade: C] or CH 118 [Min Grade: C]) and BY 123 [Min Grade: C] and BY 124 [Min Grade: C]

BMD 317. Clinical Physiology and Pharmacology for Health Professions II. 4 Hours.
Basic concepts of physiology and pharmacology related to human organ systems and drug categories; human physiological principles and their application to pharmacology; renal, respiratory, gastrointestinal and endocrine systems; application of physiological principles to drug pharmacokinetic and pharmacodynamics models.
Prequisites: BMD 315 [Min Grade: C]
BMD 430. Clinical Immunology for Health Professions. 3 Hours.
Basic immunology and the fundamental principles relating to the immune response in normal and disease states; antigens, antibodies, cells and structures of the immune system; process of immunity, allergies, transplantation and diseases; emphasis on the genetics, mechanisms, and regulation of the immune system in human health and disease.
Prerequisites: BMD 320 [Min Grade: C]

BMD 440. Human Genetics for Health Professions. 3 Hours.
Upper level exploration of molecular basis and clinical presentations of human genetic disorders using a systems based approach; analysis relevant to clinical diagnosis and disease monitoring; ethical and moral issues associated with gathering and use of genetic information for non-medical activities; high level predictions of genetic evolution.
Prerequisites: BY 330 [Min Grade: C] or BMD 320 [Min Grade: C]

BMD 475. Capstone Experience in the Biomedical Sciences. 2-4 Hours.
Mentored capstone project to explore an area of student interest demonstrating curriculum integration. The capstone project should culminate in a formal scholarly work. Senior Standing required.
Prerequisites: BMD 315 [Min Grade: C] and BMD 317 [Min Grade: C] and BMD 320 [Min Grade: C]

BMD 478. Special Topics in Biomedical Sciences. 1-4 Hour.
Exploration of current issues in Biomedical Sciences.

BMD 490. Directed Readings in Biomedical Sciences. 1-3 Hour.
Directed readings and/or literature review under the direction of a faculty member. Approval of faculty sponsor and program director required.

BMD 495. Practicum in Biomedical Sciences. 1-6 Hour.
Course combines the practical workplace experience gained through an internship or service learning activity with a seminar component to guide reflective assessment of the total experience. Approval of faculty sponsor and program director required.

BMD 497. Directed Biomedical Sciences Research Studies. 1-6 Hour.
Students will conduct a field, laboratory, or literary study project culminating in a formal paper and/or presentation as directed by the supervising instructor. Approval of faculty sponsor and program director required.