

MEDICAL SCIENCES (BSMS)

Courses

BSMS 3000. Introduction to the Health Professions. 3 Credit Hours.

This course will introduce the student to the broad array of health occupations and professions that are essential to the provision of health care. Nursing, medicine and allied health will be reviewed and the role, function, education, licensure and scope of practice of the various health professions will be discussed. Core interprofessional health care competencies, including professionalism, safety, and interpersonal and communication skills, will be reviewed. Open for Cross Enrollment on Space Available Basis.

BSMS 3005. Medical Terminology and Professional Communication. 3 Credit Hours.

This course is designed to develop scientific and medical technical writing skills necessary to provide high-quality written communications. The tools to become proficient at writing professional goals and objectives, as well as, clinical and scientific reports will be provided, to include the appropriate use of medical terminology. Open for Cross Enrollment on Space Available Basis.

BSMS 3010. Biostatistics. 3 Credit Hours.

This course will focus on concepts and procedures for descriptive and inferential statistics for continuous and discrete data and data analysis using parametric and nonparametric statistical procedures. Computerized statistical programs, such as SPSS, will be introduced and used. Open for Cross Enrollment on Space Available Basis.

BSMS 3020. Anatomy. 4 Credit Hours.

This human anatomy course will provide students with a thorough understanding of functional and applied human anatomy. Lectures, anatomic models, and cadaver dissection will be utilized in teaching this course. The structure and function of the human body are examined topographically through laboratory dissection, lectures, and preceptorials. Open for Cross Enrollment on Space Available Basis.

BSMS 3021. Biochemistry. 3 Credit Hours.

This course will analyze of the structure, properties, functions, and metabolism of carbohydrates, lipids, and proteins. The laboratory teaches basic biochemical techniques such as centrifugation, electrophoresis, bio-molecular modeling, and bioinformatics. Students will also learn to extract, isolate and characterize a single protein. This course is designed for students in the medical technology, food science, chemistry and pre-professional health majors. Technical writing assignments, as appropriate to the discipline, are part of the course. Open for Cross Enrollment on Space Available Basis.

BSMS 3023. Pharmacology. 3 Credit Hours.

Provides a conceptual approach to understanding pharmacokinetics, pharmacodynamics and pharmacotherapeutics. Stresses scientific principles underlying pharmacological treatments. The autonomic nervous system and related drug actions, anti-inflammatory drugs, autacoids, neuropharmacology, psychopharmacology, and anesthetic/analgesic pharmacology will be reviewed. Cardiovascular, diuretic and respiratory agents, hypoglycemic agents, drugs acting on the blood and blood-forming organs, toxicology, antibiotics and cancer chemotherapeutic agents will be discussed. Pharmacotherapeutics for common acute and chronic health conditions are described. Medications used for the diagnosis and treatment of a variety of physical and psychiatric disorders and will be reviewed. Open for Cross Enrollment on Space Available Basis.

BSMS 3026. Clinical Chemistry. 3 Credit Hours.

The study of carbohydrates, enzymes, proteins, electrolytes, and other chemicals routinely analyzed in clinical chemistry laboratories. Emphasis is placed on principles of testing, methods of analysis, data interpretation, and clinical significance of results. Through case study analysis, students will be expected to correlate the laboratory results with pertinent disease states and explain how the laboratory results support the diagnosis. Aspects of the laboratory's quality assessment program will be discussed including method evaluation, determination of reference intervals, and selection of new methods. Open for Cross Enrollment on Space Available Basis.

BSMS 3028. Microbiology. 4 Credit Hours.

This course will provide a review of the general biology of infectious agents and the basic concepts and principles of immunology, including medically important microorganisms and their relationship to disease. Identification of selected groups of pathogens, epidemiology, mechanisms causing disease and the biological basis for resistance will be covered. Identification, classification, cellular structure, pathogenic mechanisms, genetics, epidemiology, serology, and prevention and treatment of disease will be described. Specimen collection and the isolation and identification of medically important bacteria will be described and mechanisms of antimicrobial activity and antibiotic susceptibility testing are discussed. Colony morphology of clinically important bacteria and procedures used in the identification of bacteria isolates, including the gram stain and various biochemical assays, will be discussed. These activities are then applied to the identification of unknown bacterial isolates found in patient specimens. Open for Cross Enrollment on Space Available Basis.

BSMS 3030. Human Physiology. 4 Credit Hours.

This course is designed to provide students with a comprehensive understanding of human physiologic function, regulation, and integration and an overview of common pathophysiology. This will serve as a basis for understanding the complex interaction of specific body systems and their relationship to disease. Open for Cross Enrollment on Space Available Basis.

BSMS 3040. Management Principles. 3 Credit Hours.

The students will learn principles of management to include planning, organizing, directing and controlling, management and evaluation of personnel and programs, motivational theory, decision making, conflict management, principles of delegation, and financial management. Open for Cross Enrollment on Space Available Basis.

BSMS 3042. Human Resources. 3 Credit Hours.

This course provides an understanding of the human relations skills required of the health systems manager in an environment filled with both federal and state legal constraints. Skills acquired include motivating and coaching employees, appraising and improving performance, dealing with disciplinary problems, and employee counseling. Open for Cross Enrollment on Space Available Basis.

BSMS 3045. Health Care Budgeting and Finance. 3 Credit Hours.

This course is designed to provide a broad introduction to the concepts contained in health care finance. These concepts include: an introduction to basic accounting such as the accounting equation, generally accepted accounting principles, financial statements and health care reimbursement. Open for Cross Enrollment on Space Available Basis.

BSMS 3047. Issues and Trends in Health Care. 3 Credit Hours.

Current issues and trends in health care are discussed. An overview of the United States health care system, its history, structure, major components and overall performance is provided, followed by a review of the interrelationships among various trends and forces that are likely to shape the roles and responsibilities of health care institutions in the future. Students become well versed in the major issues facing the health care industry and the public/private/individual roles needed to address these issues. Concepts in organizational behavior, health economics, health care finance, health care planning and marketing, and managed care are discussed. Open for Cross Enrollment on Space Available Basis.

BSMS 3048. Patient and Practitioner Education. 3 Credit Hours.

This course will review the principles of teaching and learning as they apply to patient education, public education and professional continuing education. Course goals and objectives, learning activities and evaluation will be introduced to include the use of specific teaching and evaluation methods. Open for Cross Enrollment on Space Available Basis.

BSMS 3049. Managed Care. 3 Credit Hours.

This course provides an overview of the integration of healthcare delivery and financing in the United States with an emphasis on public policy, contract negotiation, underwriting and pricing, and product and patient management. By the end of the quarter, students will be able to identify those elements important in insurance contracts, distinguish between public and private insurance plans, understand the underwriting behind an insurance plan and how the product gets priced, identify health reform initiatives and its impact on patients, providers, and insurers, and formulate cost reduction strategies. Open for Cross Enrollment on Space Available Basis.

BSMS 3050. Leadership Theory and Practice. 3 Credit Hours.

This course will provide an overview of evidence-based methods for developing and evaluating leaders and leadership. It will examine leadership theory, various management styles, and organizational behavior theory. Discussion will focus on practices and principles related to developing leadership skills. Students will enhance their self-awareness concerning strengths and development needs as they relate to their career aspirations, through activities such as multi-source feedback and reflective learning. Open for Cross Enrollment on Space Available Basis.

BSMS 3051. Immunology and Hematology. 3 Credit Hours.

Immunology The study of innate and acquired immunity, including cell-mediated and humoral immune responses. Emphasis will be placed on cells involved in the immune system, their development, their roles in specific immune responses, and their soluble mediators are discussed including immunoglobulins, cytokines, and complement. In addition, impaired or inappropriate immune function disorders and infectious diseases are described, including autoimmunity, hypersensitivity, transplant rejection and tumor immunology, and immunodeficiency. Laboratory testing for these disorders is described. **Hematology** The study of the normal and abnormal formation, function, and destruction of blood cells. Abnormal hematopoiesis will be discussed with emphasis on the mechanism of the disease and expected laboratory results in selected disease states. In addition, time will be devoted to normal hemostatic mechanisms and laboratory coagulation testing. Emphasis will also be placed on identifying normal and abnormal cell morphology, cell inclusions, and molecular abnormalities as they relate to different disease states.

BSMS 4000. Health Care Systems. 3 Credit Hours.

Health Care Systems is designed to inform students of the present structure and design of the healthcare system. This course discusses the organization and delivery of health services, the economics and financing of health care, the nation's health care workforce, access to and quality of health services, and medical insurance, billing, and reimbursement. The course explores topics that address current issues in the U.S. health care system. The student will understand what is prompting reform and the significant changes in healthcare reform legislation. In addition, students will survey other global health care systems. Open for Cross Enrollment on Space Available Basis.

BSMS 4005. Health Care Ethics. 3 Credit Hours.

This course focuses on the basic foundational theories of ethics, and practical application of to health care situations. The course explores the legal, moral values and judgments as they apply to medicine and ethical principles associated with research. It also elaborates on the ethical decision-making framework, and the legal and ethical principles that govern the practice of medicine. Open for Cross Enrollment on Space Available Basis.

BSMS 4010. Research Methods. 3 Credit Hours.

This course introduces students to methods of scientific research to include review of literature, research designs, sampling techniques, measurement, and related issues. Research articles that exemplify various research designs, presentation of results, and conclusions will be reviewed and discussed to enable to the student to grade the quality and level of evidence associate with published research. Open for Cross Enrollment on Space Available Basis.

BSMS 4011. Genetics. 3 Credit Hours.

The principles of genetics and genetic testing will be discussed related to health and disease. The principles governing transmission of hereditary factors with an emphasis on molecular, biochemical, and population genetics will also be introduced. The importance of genetic counseling in disease prediction and management will be discussed. Open for Cross Enrollment on Space Available Basis.

BSMS 4013. Quality Improvement. 3 Credit Hours.

This course provides students with fundamentals of quality improvement in health care. Specifically, students will examine the history of quality improvement in hospitals and how that has translated into the current structures, processes and outcomes of the hospital improvement efforts of today. Emphasis is placed on philosophy, framework, and methodology of quality improvement, with a specific focus on the measurement and analysis of data. Students will learn to use frameworks and tools to apply quality improvement strategies and sharpen their skills in turning data into information and in change management. Quality as it appears in current health policy will also be discussed. Open for Cross Enrollment on Space Available Basis.

BSMS 4015. Epidemiology. 3 Credit Hours.

This course introduces students to the principles and practices of epidemiology and provides them with a population-based perspective on health and disease. Students learn basic measurements of frequency and association, and methods employed in describing, monitoring and studying health and disease in populations. Students will gain a working knowledge of key concepts in epidemiology and biostatistics, and an understanding of key aspects associated with introducing strategic initiatives. Open for Cross Enrollment on Space Available Basis.

BSMS 4020. Nutrition. 3 Credit Hours.

Principles of human nutrition and metabolism as well as nutritional planning for the maintenance of health and wellness across the life span (infant, childhood, adolescent, adulthood, and later) are explored. This course will elaborate on the role of nutrients in the body and how they affect function in the normal human as well as those with a chronic disease process. The methods and equipment used to provide nutritional analysis will be discussed and demonstrated. Open for Cross Enrollment on Space Available Basis.

BSMS 4025. Patient Assessment. 3 Credit Hours.

General and system specific concepts related to the causation and clinical presentations of pathology across the life span are discussed. Prototype diseases are used to illustrate pathologic concepts. Use of medical interviews, physical examinations, and interpretation of examination findings will be introduced. Instruction on the components of the health history (chief complaint, present illness, past history, family history, personal and social history, review of symptoms) is provided. Physical examination including the general survey of the patient, vital signs, skin, head and neck exam, thorax and lungs, cardiovascular and peripheral vascular systems, breasts and axillae, abdomen, genitalia and rectal exams, musculoskeletal system, and the mental status and nervous system exams will be introduced. Open for Cross Enrollment on Space Available Basis.

BSMS 4030. Practicum. 1 Credit Hour.

The practicum builds upon the theoretical knowledge and techniques introduced during didactic courses in the first year. Students will complete practicum experiences of their choice (as available) in a health profession for which they plan to enter graduate school to complete. Offerings may include nursing, medicine, and various allied health fields. Students will shadow the health care provider as they conduct their day to day work. Student rotations will generally be two days per week. Open for Cross Enrollment on Space Available Basis.

BSMS 4033. Health Care Disparities. 3 Credit Hours.

Students will examine aspects of the health care system related to health risk, access, outcomes and cost, and associated health care disparities. Causes of poor health access and adverse health outcomes will be discussed, as well as issues related to cultural competency. This course explores the complexities and dimensions of health and illness through diverse cultural perspectives. Social and historical factors that may be involved will be reviewed, as well as possible solutions to ensure access to cost-effective, quality health care. Open for Cross Enrollment on Space Available Basis.

BSMS 4036. Health Care Informatics. 3 Credit Hours.

This course will introduce students to health informatics. It examines trends and emerging technologies involved in health care delivery and information systems/technology management within diverse health care settings. Content includes the provider order entry (CPOE), the electronic medical record, pharmacy systems, billing/finance systems, business intelligence/data warehousing systems and bio-surveillance methods. In addition, students will discuss ethical and legal considerations and aspects related to the use of computerized technology and information systems in the delivery of health care. Open for Cross Enrollment on Space Available Basis.

BSMS 4040. Capstone Project. 2 Credit Hours.

A meaningful project related to the medical sciences will be designed and completed by the student under the direction of a faculty member. Open for Cross Enrollment on Space Available Basis.

BSMS 4045. Capstone Project and Practicum. 3 Credit Hours.

The practicum builds upon the theoretical knowledge and techniques they learned. The students will complete practicum experiences of their choice (as available) in a health profession they are interested in pursuing in graduate school. Offerings may include nursing, medicine, and various allied health fields. Students shadow health care providers as they conduct their day-to-day work. Student rotations are generally two days per week. During the practicum the students will identify topics of their choice for the Capstone Project. The capstone Project will address current healthcare trends and professional issues in an identified health specialty, including an overview of educational requirements and labor market trends. Students will evaluate how their career interests realistically match their skills and qualities in order to develop a plan for their next professional development steps. Students will develop a career portfolio that synthesizes their academic and professional accomplishments.