

**BIOMEDICAL SCIENCE COURSES (BIOM)**

**BIOM 238 INTRODUCTION TO RESEARCH (1-3)** *Prerequisite: Consent of supervising instructor.* This course provides the beginning student the opportunity to conduct lab, field, or library research under the supervision of a faculty mentor. Credit is dependent on the scope of the work.

**BIOM 301W BIOMEDICAL SCIENCE SEMINAR [Writing Enriched] (1)** *Prerequisite: Junior or senior standing, and ENGL 111W-112W or ENGL 223W.* One hour lecture. Students meet for presentations (prepared by the students) on various aspects of careers and trends in the health-related professions. Topics may include ethics in medicine, current research problems in the health fields, health insurance options, job outlook predictions for various medical specialties, average QPA and MCAT scores for last year's entering class, demonstrations of interesting websites, and standardized test and interview preparation. Experimental design is also addressed. The grade is based on attendance, presentations, several short essays, and a final paper on which the student can base the essay required for professional school application.

**BIOM 312 FORENSIC SCIENCE (4)** *Prerequisites: Satisfactory completion of the following: BIOL 114, CHEM 112.* This course introduces the student to the forensic science profession. Course topics include crime scene investigation, techniques used for the identification and analysis of body fluids, hair, glass, fibers, latent fingerprints, firearms, and narcotics. Laboratory experiments emphasize the collection/preservation of evidence, serology, wet chemical techniques, microscopy, and the use of spectroscopic instrumentation.

**BIOM 397 INDEPENDENT STUDY IN BIOMEDICAL SCIENCE (1-3)** *Prerequisites: Approval of faculty sponsor and school dean; junior or senior standing.* This course provides students the opportunity to pursue individual study of topics not covered in other available courses. The area for investigation is developed in consultation with a faculty sponsor and credit is dependent on the nature of the work. May be repeated for no more than six credits.

**BIOM 398 SPECIAL TOPICS IN BIOMEDICAL SCIENCE (1-3) [credit depends on topic]** *Prerequisite: A background of work in the discipline.* This course will focus on an aspect of the discipline not otherwise covered by the regularly offered courses. The topic will vary according to professor and term; consequently, more than one may be taken by a student during his/her enrollment.

**BIOM 399 INTERNSHIP IN A HEALTH PROFESSION (1-12)** *Prerequisites: Juniors or seniors with a 2.25 minimum QPA, approval of written proposal by internship coordinator, and supervising faculty prior to registration.* This internship provides practical experience in the health professions under supervision of a qualified professional. A final written report is required of the student intern. (See "Internships.")

**BIOM 420 CANCER BIOLOGY (3)** *Prerequisites: BIOL 113-114; recommended BIOL 360.* Three hours lecture. This course will address current issues in cancer: the genesis and progression of a tumor, types of tumors, mechanisms of tumorigenicity and effective treatment strategies.

**BIOM 428 INDIVIDUAL RESEARCH IN BIOMEDICAL SCIENCE (1-6)** *Prerequisites: Junior or senior standing; consent of supervising instructor.* This independent opportunity to conduct a field, laboratory, or literary study project culminates in a formal paper and/or presentation as directed by the supervising instructor. Credit is dependent on the nature of the work but may not exceed three credit hours per semester.

**BIOM 454 IMMUNOLOGY (4)** *Prerequisites: BIOL 113-114, and CHEM 111.* Three hours lecture and three hours laboratory. A study of the structure and function of the mammalian immune systems, principally focused on mouse and human immunology. This course builds basic knowledge about the function of the cellular components of immunity and examines an integrated view of the biochemical and genetic aspects that contribute to immune action in infectious disease and immune disorders.

**BUSINESS ADMINISTRATION COURSES (BUAD)**

**BUAD 100 PERSPECTIVES ON BUSINESS (3)** This course presents basic concepts and problems found in business. Topics such as marketing, organizational forms, management, production, finance,

and economics are discussed. The business environment is also emphasized, including the global, social, ethical, political, legal, and regulatory business environment. Leading business executives bring the “real world” to the classroom, and a technological component emphasizing computer presentation software is presented. Team-building skills are strongly emphasized and developed.

**BUAD 222 ETHICAL DILEMMAS IN BUSINESS AND LEADERSHIP (3)** This course examines moral and ethical dilemmas related to business and leadership, including ethical decision making and core decision making skills in the business environment. Close attention will be paid to contemporary ethical dilemmas faced by business, political and world leaders.

**BUAD 241 BUSINESS STATISTICS (3)** This course focuses on the development of the theory of inferential statistics with the aim of generating an understanding of the selection, application, and interpretation of statistical methodology necessary for making informed management decisions. Topics include sets and probability, probability distributions, expected value, statistical measures, sampling distributions, estimation, and hypothesis testing. Note: business and economics majors will not meet the statistics requirement by substituting MATH 222 for BUAD 241.

**BUAD 243 DATA MINING (3)** This hands-on course focuses on the application of current data mining techniques in business and economics. Supervised and unsupervised learning techniques will be discussed, including association rules, decision trees, and classification. These are applicable in marketing (customer profiling), economics (fraud detection), accounting (auditing), information systems (security), and a variety of other contexts.

**BUAD 265 LEADERSHIP AND THE CLASSICS (3)** This course studies the concepts and techniques of effective leadership. The classics are used as resources to gain insightful knowledge about ways in which concepts and techniques of leadership work in the business environment.

**BUAD 322 LEGAL ENVIRONMENT OF BUSINESS (3)** This course examines legal principles and ethics, the role of law in society, and the legal environment in which business operates.

**BUAD 352 PRINCIPLES OF INTERNATIONAL BUSINESS (3)** *Prerequisites: ACCT 201, ECON 201-202, and MGMT 260.* An introduction to the study of the theory and practice of the field of international business that focuses on managerial, operational, strategic, and environmental factors. The roles of intercultural communications and cross-cultural awareness in successful global strategies are emphasized. Analysis of the procedures and processes of international business and alternative modes of entry are also stressed.

**BUAD 377 STUDY ABROAD (3)** *Prerequisite: Permission of instructor.* This course is a study-course experience, normally lasting one week, that takes students outside the United States. The purpose is to deepen students’ understanding of other cultures as they learn how the requirements for operating a successful enterprise differ from those in the U.S. This is accomplished through a series of papers completed prior to and following the study-tour experience.

**BUAD 397 INDEPENDENT STUDY IN BUSINESS ADMINISTRATION (1-3)** *Prerequisites: Approval of faculty sponsor and school dean; junior or senior standing.* This course provides students the opportunity to pursue individual study of topics not covered in other available courses. The area for investigation is developed in consultation with a faculty sponsor and credit is dependent on the nature of the work. May be repeated for no more than six credits.

**BUAD 398 SPECIAL TOPICS IN BUSINESS ADMINISTRATION (1-3) [credit depends on topic]** *Prerequisite: A background of work in the discipline.* This course will focus on an aspect of the discipline not otherwise covered by the regularly offered courses. The topic will vary according to professor and term; consequently, more than one may be taken by a student during his/her enrollment.

**BUAD 399 INTERNSHIP IN BUSINESS (1-12)** *Prerequisites: Juniors or seniors with a 2.25 minimum QPA; approval of written proposal by internship coordinator and supervising faculty prior to registration.* Internships are offered in cooperation with a faculty sponsor responsible for academic quality who assigns the final grade. Student interns may or may not be paid for their work. (See “Internships.”)

**BUAD 406 INTRODUCTION TO ENTREPRENEURSHIP (3)** *Prerequisites: ACCT 201-202.*

This course emphasizes aggressive strategic planning of entrepreneurial projects. The course integrates professional management and entrepreneurial values, concepts, and tools. Students are coached through development of strategic plans for their projects.

**BUAD 430 PRACTICUM IN BUSINESS (3)** *Prerequisite: Senior standing in a School of Business And Economics major.* This course provides the student with firsthand experience in problem solving and decision making in a business environment. Students will work as part of a team on an actual business case culminating in a thorough report recommending solutions for the firm's problems.

**BUAD 441 INTEGRATED APPLICATION OF BUSINESS PRINCIPLES (3)** *Prerequisites: ECON 201-202, FIN 317, MGMT 244, 260, and MKTG 209.* This course focuses on integrating business theory and practice. Students apply core business concepts (accounting, economics, finance, law, management, marketing, and operations management) to develop a business plan. Students also explore topics associated with the strategic management and control of small- to medium-size business enterprises.

## CHEMISTRY COURSES (CHEM)

**CHEM 111 FUNDAMENTALS OF CHEMISTRY I (4)** *Prerequisite or corequisite: MATH 103.* Three hours lecture and three hours laboratory. This course covers fundamental principles and concepts necessary for a successful understanding of major aspects of chemistry. Major topics include atomic structure, periodicity, bonding, and intermolecular forces.

**CHEM 112 FUNDAMENTALS OF CHEMISTRY II (4)** *Prerequisites or corequisites: CHEM 111, MATH 102 or 103.* Three hours lecture and three hours laboratory. This course is a continuation of CHEM 111 and continues to cover fundamental principles and concepts necessary for a successful understanding of major aspects of chemistry. Major topics for this course include chemical reactions, thermodynamics, kinetics, equilibrium, acid/base chemistry, and electrochemistry.

**CHEM 127 THE CHEMISTRY OF LIFE (4)** This is an introductory course in general, organic, and biological chemistry recommended for, but not restricted to, those who are preparing for nursing. Major concepts include atomic structure, chemical bonding, acid/base chemistry, carbon-containing compounds, and biomolecules (carbohydrates, proteins, and lipids). The laboratory is designed to investigate the role chemistry plays in biological life processes.

**CHEM 206 ENVIRONMENTAL CHEMISTRY (4)** *Prerequisite: Satisfactory completion of CHEM 111.* Three hours lecture and three hours laboratory. This course can substitute for CHEM 112 for environmental science majors only. This course focuses on the application of fundamental chemical principles to environmental problems. Laboratory techniques and field collection methods used in modern environmental analysis are introduced to assess aspects of water quality, atmospheric chemical reactions, and soil chemistry.

**CHEM 221 ORGANIC CHEMISTRY I (4)** *Prerequisites: A grade of C- or better in both CHEM 111 and 112.* Three hours of lecture and three hours of lab. The fundamentals of organic chemistry are presented with an emphasis on the nomenclature, stereochemistry and reaction mechanisms that functional groups undergo. Specifically, the reactions of alkyl halides, alkenes and alkynes are reviewed. Laboratory techniques used to synthesize, purify, and analyze organic compounds are investigated. Spectroscopic and instrumental methods of analysis are also examined with a focus on IR spectroscopy.

**CHEM 222 ORGANIC CHEMISTRY II (4)** *Prerequisite: CHEM 221 with a grade of C- or better.* Three hours of lecture and three hours of laboratory. The fundamentals of organic chemistry are further explored in this course. The nomenclature, stereochemistry and reaction mechanisms of specific functional groups are expanded upon. Specifically, the reactions of aromatic compounds and carbonyl chemistry are explored. This course emphasizes the multistep synthesis of small organic compounds and an exploration into retrosynthetic analysis. More advanced organic laboratory techniques used to synthesize, purify, and analyze organic compounds are investigated. Spectroscopic and instrumental methods of analysis are examined with emphasis on H1 and C13 NMR and MS.

**CHEM 238 INTRODUCTION TO RESEARCH (1-3)** *Prerequisite: Consent of supervising instructor.* This course provides the beginning student the opportunity to conduct lab, field, or library research