

BIMS - BIOMEDICAL SCIENCE (BIMS)

BIMS 101 Introduction to Biomedical Sciences

Credit 1. 1 Lecture Hour. Integration into the BIMS program through content and assignments; understanding of problem solving, personal, and social responsibility; development of self-efficacy, self-awareness, and sense of purpose; becoming actively engaged inside and outside the classroom; becoming socially integrated within the university community. **Prerequisites:** BIMS major.

BIMS 110 One Health in Action

Credit 1. 1 Lecture Hour. Exploration of the concept of One Health; the interconnected and interdependent health of humans, animals and ecosystems; the conceptual framework that encompasses human and veterinary medical sciences, agricultural sciences, food safety, public health, epidemiology, environmental health, toxicology, wildlife ecology and conservation and many related fields of study or research. **Prerequisite:** Freshman or sophomore classification or approval of instructor.

BIMS 120 Learners in Transition

Credits 0. 0 Lecture Hours. 0 Lab Hours. 0 Other Hours. High-impact, one-semester course; acclimation to the university, the College of Veterinary Medicine & Biomedical Sciences faculty, the BIMS program staff and peer mentors; exploration of campus resources, discourse from faculty and students, meetings with advisors, determination of strengths and exploration of personal and financial wellness, diversity and inclusion. Must be taken on a satisfactory/unsatisfactory basis. **Prerequisite:** BIMS and NRSC-TPC majors; freshman classification.

BIMS 125 Animals in Society

Credit 1. 2 Lab Hours. Introduction to integration of humans and animals in society, focusing on animal, human and environmental health of common species as well as special roles of animals. **Prerequisite:** Freshman classification.

BIMS 201 Introduction to Phenotypic Expression in the Context of Human Medicine

Credits 2. 2 Lecture Hours. Study of human genetics with respect to gene expression as it pertains to the cell cycle, development, cancer, aging and epigenetics; discussions and debates surrounding medical examples and case studies. **Prerequisite:** BIOL 112, CHEM 227; or approval of instructor.

BIMS 250 Professionalism, Skill Development, Career Exploration, and Ethical Conduct in BIMS

Credit 1. 1 Lecture Hour. Skills and ethical procedures to assist in professional practice of Biomedical Sciences; exploration of business and professional concepts; topics include development of the individual, ethical integrity, interpersonal dynamics, effective communication skills. **Prerequisites:** Sophomore classification in Biomedical Sciences.

BIMS 289 Special Topics in...

Credits 1 to 4. 1 to 4 Lecture Hours. 0 to 4 Lab Hours. Selected topics in an identified area of biomedical science. May be repeated for credit. **Prerequisites:** Freshman or sophomore classification and approval of instructor.

BIMS 291 Research

Credits 0 to 4. 0 to 4 Other Hours. Research conducted under the direction of faculty member in biomedical sciences. May be repeated for credit. **Prerequisites:** Freshman or sophomore classification and approval of instructor.

BIMS 301 Biomedical Sciences Study Abroad

Credits 2 to 12. 2 to 12 Lecture Hours. For students in approved programs abroad. May be repeated for credit. Maximum 3 hours free elective credit in the BIMS degree plan. Must be taken on a satisfactory/unsatisfactory basis.

BIMS 303 Research Methodologies and Experimental Design in Biomedical Sciences

Credits 3. 3 Lecture Hours. Exploration of various research methodologies and experimental designs; includes lab-based, field based, quantitative, qualitative and mixed methods approach; emphasis on best practices in research; analysis and interpretation of data to draw conclusions; development of critical thinking skills; focus on appropriate methodologies for various experimental designs. **Prerequisites:** Grade of C or better in CHEM 257; junior classification.

BIMS 320/GENE 320 Biomedical Genetics

Credits 3. 3 Lecture Hours. Fundamental genetic principles as applied to biomedical science; Mendelian inheritance, linkage and genetic mapping, mutagenesis and pedigree analysis; molecular basis of gene function and inherited disease; gene therapy and genetic counseling. Only one of the following will satisfy the requirements for a degree: GENE 301, GENE 302, GENE 315, GENE 320/BIMS 320, or BIMS 320/GENE 320. **Prerequisites:** Grade of C or better in CHEM 228 or CHEM 258; PHYS 207 or grade of C or better in PHYS 202; junior or senior classification. **Cross Listing:** GENE 320/BIMS 320.

BIMS 380 Equine-Assisted Activities and Therapies - Best Practices

Credits 3. 2 Lecture Hours. 2 Lab Hours. Exploration of concepts behind Equine-Assisted Activities and Therapies (EAAT); principles of EAAT, horse welfare, safety factors, effective techniques to promote healing of participants and career options.

BIMS 402/VIBS 402 Anatomy

Credits 4. 2 Lecture Hours. 6 Lab Hours. Clinical and functional anatomy focused on pre-professional training; includes anatomy of all major body systems. **Prerequisites:** Grade of C or better in BIOL 112 and CHEM 258; junior or senior classification; minimum GPA 2.75; or approval on instructor. **Cross Listing:** VIBS 402/BIMS 402.

BIMS 405/GENE 405 Mammalian Genetics

Credits 3. 3 Lecture Hours. Comparative mammalian genetic systems with emphasis on laboratory animals; organization and expression of mammalian genes; development and use of genetically defined animals in biomedical and genetic research. **Prerequisites:** GENE 301, BIMS 320/GENE 320 or GENE 320/BIMS 320; junior or senior classification. **Cross Listing:** GENE 405/BIMS 405.

BIMS 421/GENE 421 Advanced Human Genetics

Credits 3. 3 Lecture Hours. A rigorous, analytical approach to genetic analysis of humans including diagnosis and management of genetic disease in humans; transmission of genes in human populations; human cytogenetics; the structure of human genes; human gene mapping; molecular analysis of genetic disease; genetics screening and counseling. **Prerequisites:** GENE 302; BICH 410 or BICH 440. **Cross Listing:** GENE 421/BIMS 421.

BIMS 481 Seminar

Credit 1. 1 Other Hour. Exploration of published scientific research via guided discussions; familiarization with the necessary skills to conduct an appropriate literature search of the scientific record; extensive practice in effectively communicating biomedical science through oral presentation. Must be taken on a satisfactory/unsatisfactory basis. **Prerequisites:** Junior or senior classification; BIMS major; BIOL 401, BIOL 402, BIOL 403, VIBS 310, or VIBS 311.

BIMS 484 Internship

Credits 0 to 3. 0 to 3 Other Hours. Supervised internship in the biomedical sciences workforce for practical application of biomedical sciences knowledge. May be taken for credit up to six hours. Must be taken on a satisfactory/unsatisfactory basis. **Prerequisites:** Approval of instructor.

BIMS 485 Directed Studies

Credits 0 to 4. 0 to 4 Other Hours. Directed individual study of problems in the biomedical sciences with emphasis in the allied health professions, hospital administration, and the health-related industry approved by the instructor. **Prerequisites:** Junior or senior classification; approval of instructor; BIMS major with a minimum overall 2.5 TAMU GPA.

BIMS 489 Special Topics in...

Credits 1 to 4. 1 to 4 Other Hours. Selected topics in an identified area of biomedical science. May be repeated for credit. **Prerequisite:** Junior or senior classification; BIMS major with a minimum overall 2.5 TAMU GPA.

BIMS 491 Research

Credits 0 to 4. 0 to 4 Other Hours. Research conducted under the direction of faculty member in biomedical sciences. May be repeated for credit. **Prerequisites:** Grade of C or better in CHEM 228 or CHEM 258; grade of C or better in PHYS 202; junior or senior classification; approval of instructor.

BIMS 499 Biomedical Sciences Capstone Experience

Credit 1. 1 Other Hour. Integration of foundational biomedical science knowledge, competencies, and coursework through an individual capstone project based on research and presentation of an approved topic; formal presentation of both translational and integrative application of information as well as the expected impacts of the selected topic. **Prerequisites:** Senior classification and approval of instructor, or concurrent participation in the Biomedical Research Certificate.