

APPLIED HEALTH SCIENCES (AHS)

AHS 101 | Introduction to Applied Health Sciences | 3 cr

Provides an overview of the Applied Health Sciences major. Focuses on specific information about health career options. Covers the value and importance of service, current topics in health care, ethics in the health sciences, cultural sensitivity within health sciences. Additionally, students will gain experience in professional writing, presentation techniques, portfolio development and service learning.

Prerequisites: None.

Offered: Fall, Spring.

AHS 300 | Introduction to Medical Laboratory Sciences | 3 cr

Introduces the practice of medical laboratory science. Discusses professionalism, ethics, basic laboratory concepts and techniques. Covers microscopy and phlebotomy techniques in the teaching laboratory. Lecture/lab.

Prerequisites: AHS 101; BIOS 101 and 102, or BIOS 105 and 106, or BIOS 300 and 341; BIOS 210, 260, CHEM 115; MATH 114, or MATH 112 or 113.

Offered: Fall, Spring.

AHS 310 | Clinical Microbiology I | 2 cr

Explores the microorganisms associated with human infectious processes, including the characteristics, isolation, identification, antimicrobial techniques and clinical infections associated with pathogenic microorganisms. Lecture/lab.

Prerequisites: AHS 101; BIOS 101 and 102, or BIOS 105 and 106, or BIOS 300 and 341; BIOS 210, 260, CHEM 115; MATH 114, or MATH 112 and 113.

Offered: Spring.

AHS 311 | Clinical Microbiology II | 3 cr

Focuses on advanced topics in microbiology, including antibiotics and antimicrobial susceptibility testing, mycobacteriology, anaerobic bacteriology, fastidious microorganisms and the clinical aspects of microbiology. Three-hour lecture/one-hour lab.

Prerequisites: AHS 310.

Offered: Spring.

AHS 320 | Clinical Immunology I | 3 cr

Explores clinical immunology concentrating on immune system functions, relationships and responses to infection and disease, including vaccine strategies and basic immunology assessment techniques. 3 hour Lecture/1 hour Lab.

Prerequisites: AHS 300, AHS 310.

Offered: Fall.

AHS 321 | Clinical Immunology II | 2 cr

Delves into an advanced study of clinical immunology concentrating on diseases of the immune system such as immunodeficiencies, infectious diseases and autoimmune conditions. Examines immunodiagnostic methods and diagnostic strategies, includes donor selection, recognition of transplant related conditions. Lecture/Lab.

Prerequisites: AHS 320.

Offered: Spring.

AHS 335 | Clinical Chemistry I | 3 cr

Explores biological samples, analytes, and assays pertinent to the clinical laboratory. Includes electrolyte, carbohydrate, protein, lipid, vitamin, and mineral analytes and the techniques utilized to detect and quantify such materials. Cross-listed with: CHEM 335.

Prerequisites: AHS 300, CHEM 215.

Offered: Fall.

AHS 336 | Clinical Chemistry II | 3 cr

Investigates metabolism and diagnostic procedures for analysis of metabolism and human disease. Analyzes data for indicators of common pathophysiology and human disease markers. Lecture. Cross-listed with: CHEM 336.

Prerequisites: AHS 335 or CHEM 335.

Offered: Fall.

AHS 340 | Hematology and Hemostasis I | 3 cr

Addresses theory of hematology and hemostasis diagnostic procedures, interpretation, and correlation of laboratory findings with disease states. Includes hematopoiesis, cell morphology, anemias, hemoglobinopathies, myelodysplastic syndromes, coagulation and platelet disorders, and bleeding abnormalities. Lecture/Lab.

Prerequisites: AHS 300, CHEM 215; BIOS 101 and 102, or BIOS 105 and 106, or BIOS 300 and 341; and BIOS 260.

Offered: Fall, Spring, Summer.

AHS 341 | Hematology and Hemostasis II | 2 cr

Covers theory of hematology and hemostasis diagnostic procedures, interpretation, and correlation of laboratory findings with disease states. Includes lymphoproliferative and myeloproliferative disorders, immunoproliferative disorders, malignant lymphomas.

Prerequisites: AHS 340.

Offered: Fall, Spring, Summer.

AHS 350 | Diagnostic Molecular Biology | 3 cr

Examines medical genetics including the structure, function, and synthesis of DNA, RNA, and involved proteins; the mechanism of inheritance; and medical genetics. Covers molecular biology techniques and their applications is included as well as the laboratory diagnosis of disease, including ethics and emerging technologies.

Prerequisites: AHS 320, AHS 340; AHS 335 or CHEM 335.

Offered: Fall, Spring, Summer.

AHS 400 | Immunohematology I | 2 cr

Provides introduction to the different human blood groups, blood components, the antibody screening and identification process, transfusion protocols, blood donor screening, and regulatory concerns of modern blood banking.

Prerequisites: AHS 310, AHS 320, AHS 340; AHS 335 or CHEM 335.

Offered: Fall, Spring, Summer.

AHS 401 | Immunohematology II | 2 cr

Provides initial laboratory experience in blood banking practices including blood typing, antibody screening, antibody identification, cross matching, and confirmatory testing. Lab.

Prerequisites: AHS 400.

Offered: Fall, Spring, Summer.

AHS 405 | Cellular Morphology Laboratory | 2 cr

Investigates blood and blood cells in abnormal or malignant states, including discussions on red blood cell and white blood cell disorders. Performs specialized hematology procedures in the teaching laboratory, emphasizing on the microscopic evaluation of abnormal blood cell morphology, evaluation of complete blood count data along with cytochemical and molecular testing. Lab.

Prerequisites: AHS 311, AHS 321, AHS 341, AHS 400; AHS 336 or CHEM 336.

Offered: Fall, Spring, Summer.

AHS 406 | Clinical Fluid Analysis | 2 cr

Introduces urinalysis and reviews of the anatomy and physiology of kidney, role of the kidney in disease; physical, chemical and microscopic properties of urine; and clinical correlation of lab results. Covers the physiology, specimen collection, processing and analysis of other body fluids. Lecture/Lab.

Prerequisites: AHS 311, AHS 321, AHS 341, AHS 400; AHS 336 or CHEM 336.

Offered: Fall, Spring, Summer.

AHS 410 | Clinical Mycology, Parasitology, and Virology | 3 cr

Investigates clinically relevant fungal, parasitic, and viral pathogens emphasizing diagnostic forms. Focuses on identification of the microorganisms, interpretation of findings and clinical correlation. Lecture/Lab.

Prerequisites: AHS 311, AHS 321, AHS 401.

Offered: Fall, Spring, Summer.

AHS 420 | Laboratory Operations | 2 cr

Addresses basic principles of clinical laboratory management, including theory and practice. Includes personnel and financial management, regulation and accreditation, information management, quality assurance, quality control, clinical and continuing education. Two hour lecture.

Prerequisites: AHS 400, AHS 405, AHS 406, AHS 494.

Offered: Fall, Spring, Summer.

AHS 450 | Clinical Correlations and Board of Review Test Preparation | 2 cr

Employs case studies to learn to evaluate patient histories and correlate laboratory test results to specific disease diagnosis. Prepares students to take the ASCLS MLS certification exam. Two hour lecture.

Prerequisites: AHS 400, AHS 405, AHS 406, AHS 494.

Offered: Fall, Spring, Summer.

AHS 494 | Internship/Fieldwork | 1-6 cr

Provides students with learning experiences within professional fields that are related to their professional career goals; including, but not limited to: business operations, professional competencies and conduct, and overall work environment. Requires placement approval by AHS academic advisor or the AHS director. No more than six credits can be applied toward the AHS major and no more than twelve credits can count towards general graduation requirements.

Prerequisites: AHS 101, sophomore or above and approval by applied health science academic advisor and the director.

Offered: Fall, Spring, Summer.

AHS 495 | Clinical Practicum I | 2 cr

Provides experiential learning for clinical laboratory sciences at clinical affiliate sites. Incorporates phlebotomy practice exposure with rotation through each clinical laboratory department, Hematology/Coagulation/Body Fluid Analysis, Clinical Chemistry, Microbiology, and Blood Bank.

Prerequisites: AHS 400, AHS 405, AHS 406.

Offered: Fall, Spring, Summer.

AHS 496 | Clinical Practicum II | 2 cr

Provides additional experiential learning course for clinical laboratory sciences at clinical affiliate sites. Incorporates phlebotomy practice exposure with rotation through each clinical laboratory departments.

Prerequisites: AHS 400, AHS 405, AHS 406, AHS 495.

Offered: Fall, Spring, Summer.