MEDICAL LAB & RADIATION SCI (MLRS)

Courses

**MLRS 034. Human Cell Biology. 0 or 4 Credits.**
Lecture and laboratory experiences about molecular and cellular structure, function and physiology using human cells as the model.

**MLRS 054. Principles of Microbiology. 3 Credits.**
Lectures dealing with the structure, physiology, and control of microorganisms, in particular those of medical importance.

**MLRS 056. Principles of Microbiology Lab. 1 Credit.**
Laboratory experiences dealing with the structure, physiology, and control of microorganisms, particularly those of medical importance. Prerequisite: MLRS 054.

**MLRS 095. Special Topics. 1-12 Credits.**
See Schedule of Courses for specific titles.

**MLRS 096. Special Topics. 1-12 Credits.**
See Schedule of Courses for specific titles.

**MLRS 110. Phlebotomy. 1 Credit.**
Basic techniques in blood collection in outpatient phlebotomy and advanced techniques in inpatient phlebotomy, including choice of anticoagulants, equipment, sterility, and protection from blood-borne pathogens. Prerequisites: MLS and MLS-PBC students only.

**MLRS 140. Radiation Science. 3 Credits.**
Introduction to ionizing radiation, emphasizing its interaction with matter, its effect on the human body, and methods of radiation protection.

**MLRS 141. Advanced Radiation Science. 3 Credits.**
Lecture and laboratory experiences to enhance the understanding and application of the principles of radioactive decay, radiation exposure, absorbed dose, shielding and detection of radiation. Prerequisite: MLRS 140.

**MLRS 175. Medical Imaging. 3 Credits.**
Introduction to the radiographic anatomy and the various imaging modalities presently used to include diagnostic imaging, computed tomography (CT), magnetic resonance imaging (MRI), and nuclear medicine. Prerequisites: MLRS 141, RADT 152, and ANPS 020.

**MLRS 195. Intermediate Special Topics. 1-18 Credits.**
See Schedule of Courses for specific titles.

**MLRS 242. Immunology. 3 Credits.**
Lecture dealing with cellular and humoral immunity, B cells and T cells, autoimmunity, immunodeficiency. Prerequisite: One semester of Biochemistry.

**MLRS 244. Immunology Lab. 1 Credit.**
Laboratory experience dealing with cellular and humoral immunity, B cells and T cells, autoimmunity, immunodeficiency. Laboratory covers immunological techniques and applications. Co-requisites: MLRS 242; one semester of Biochemistry.

**MLRS 281. Applied Molecular Biology. 3 Credits.**
Lecture course focused on application of molecular biology techniques to diagnostic testing and biotechnology. Prerequisite: CHEM 042 or CHEM 141.

**MLRS 282. Applied Molecular Biology Lab. 1 Credit.**
Laboratory course focused on application of molecular biology techniques to diagnostic testing and biotechnology. Prerequisites: CHEM 042 or CHEM 141. Co-requisite: MLRS 281.

**MLRS 293. Undergraduate Research I. 1-6 Credits.**
Individual research performed under the supervision of a faculty mentor. A written report and seminar is required. Prerequisite: Department permission.

**MLRS 294. Undergraduate Research II. 1-6 Credits.**
Individual research performed under the supervision of a faculty mentor. A written report and seminar is required. Prerequisite: MLRS 293, Department permission.

**MLRS 295. Prin of Education & Management. 3 Credits.**
Introduction to educational practices, management strategies, and professionalism. Third year standing, Medical Laboratory Science, Nuclear Medicine Technology, Radiation Therapy majors only.

**MLRS 296. Leadership & Mgt in Hlth Care. 3 Credits.**
This course will familiarize students with operational aspects of healthcare management, including but not limited to process improvement, budgeting, team building and information management. Prerequisites: NLS, NMT, RADT majors only; 3rd or 4th year cohort standing.

**MLRS 299. Advanced Special Topics. 1-18 Credits.**
Courses or seminars beyond scope of existing departmental offerings. Prerequisite: Department permission.

**MLRS 215. CT Procedures. 3 Credits.**
This course provides in-depth study of the concepts, use and practice of CT Procedures related to Nuclear Medicine Technology and Radiation Therapy. Prerequisites: ANPS 019 and ANPS 020, MLRS 175.