

MEDICAL LABORATORY SCIENCES (MED)

MED-410: Clinical Microbiology (8 Credits)

This course addresses the relationship of bacteria and bacterial diseases of man with an emphasis on the application to medical diagnosis. Students rotate through all routine areas of clinical microbiology, parasitology and virology.

MED-420: Clinical Chemistry (8 Credits)

The chemistry of body constituents such as minerals, carbohydrates, lipids, proteins, enzymes, vitamins and hormones and the relationship of these constituents to the diagnosis of human disease is studied. The student receives instruction in manual procedures and automated analysis. Toxicology and therapeutic drug monitoring are also covered.

MED-430: Immunohematology I (4 Credits)

Instruction is given in drawing and processing blood and in ascertaining blood compatibility. Major topics include the development and chemical structure of blood group antigens, the correlation of physical properties of antigens and antibodies with testing procedures, the role of complements in blood banking, autoimmune status, and the inheritance patterns of blood groups. Hemolytic Disease of the Newborn, transfusion reactions, and the preparation and use of blood components. Laboratory practice also emphasizes serological procedures in the diagnosis of disease. Donor recipient blood tissue reactions are covered in detail. Students gain experience in blood bank operations.

MED-440: Hematology & Coagulation (6 Credits)

This course addresses the morphology of the blood and blood-forming organs and the study of abnormalities associated with diseases. Diagnostic procedures are emphasized. Experience is also gained in the dynamics of coagulation. During the clinical laboratory rotation, the student is expected to master the routine procedures performed in hematology and to become familiar with specialized hematology procedures and automated hematology instrumentation.

MED-460: Molecular Pathology (2 Credits)

This course is an introduction to pathology. The correlation between pathological processes and clinical symptoms and the courses of disease will be studied. (Note: This course is not offered by all affiliated hospitals).

MED-470: Professional Topics in Clinical Laboratory Sciences (2 Credits)

This course investigates current topics in the field of Biomedical Technology. The topics to be covered and the focus of the course will be specified at the time of registration. This course may be repeated for different topics.

MED-480: Clinical Immunology (2 Credits)

This course will cover the reaction of antigens with antibodies and the role of the laboratory in detecting and identifying the antibodies and antigens. Topics of discussion will include defining disease states associated with autoimmune diseases, hypersensitivity, immunization and other antigen/antibody interactions.