

# MEDICAL TECHNOLOGY (MEDT)

## MEDT 2010 Introduction to Medical Laboratory Techniques

[2 credit hours]

This course serves as an introduction to the profession of laboratory medicine. Topics include: organizational structure of hospitals and laboratories; medical ethics; related medical terminology; quality assurance; laboratory safety; laboratory calculations and knowledge of the basic principles of laboratory testing.

**Prerequisites:** BIOL 2170 with a minimum grade of C and BIOL 2180 with a minimum grade of C and CHEM 1240 with a minimum grade of C and CHEM 1290 with a minimum grade of C

**Term Offered:** Spring, Summer, Fall

## MEDT 4020 Clinical Hematology I

[4 credit hours]

Introduction to the theory, practical application, technical performance and evaluation of hematological procedures. Correlation of clinical laboratory data with the diagnosis and treatment of blood cell diseases.

**Term Offered:** Spring

## MEDT 4025 Clinical Hematology II

[3 credit hours]

Introduction to the theory, practical application, technical performance and evaluation of neoplastic hematologic disorders, morphologic analysis of body fluids, hemostasis, and advanced hematology procedures including bone marrow and flow cytometry, chromosome analysis, and quality assessment. Correlation of clinical laboratory data with the diagnosis and treatment of blood cell diseases.

**Prerequisites:** MEDT 4020 with a minimum grade of C

**Term Offered:** Fall

## MEDT 4030 Urine Analysis and Body Fluids

[2 credit hours]

Normal and pathological physiologic function of renal, synovial, seminal, cerebrospinal, serous and amniotic fluids.

**Term Offered:** Spring

## MEDT 4040 Clinical Chemistry

[5 credit hours]

Analysis of chemical constituents of blood and body fluids in normal and abnormal physiology, including assay performance, test interpretation, quality control and interpretation, and methodological principles.

**Term Offered:** Spring, Summer, Fall

## MEDT 4050 Clinical Microbiology I

[4 credit hours]

Study of bacteria that are pathogenic or potentially pathogenic to humans with emphasis on principles of testing methodologies, techniques for isolation, identification, and clinical relevance by body site.

**Prerequisites:** BIOL 4030 with a minimum grade of C and BIOL 4040 with a minimum grade of C

**Term Offered:** Spring, Summer

## MEDT 4060 Clinical Immunology

[3 credit hours]

Theory and practical applications of immunodiagnostics and immunopathology, and of molecular diagnostics. Principles of methodologies in relationship to clinical diagnosis and correlation with human disease are stressed.

**Prerequisites:** BIOL 4050 with a minimum grade of C

**Term Offered:** Summer, Fall

## MEDT 4070 Clinical Parasitology

[2 credit hours]

Lecture/laboratory sessions cover the major groups of medically important parasites, including amoebae, helminthes and blood protozoa. Morphologic identification of pathogenic organisms and the ability to distinguish from non-pathogenic genera.

**Term Offered:** Fall

## MEDT 4080 Clinical Immunohematology

[4 credit hours]

Introduces the student to the basic genetics of red cell antigens. Students will also study the significance of the blood cell antigens and antibodies, uses of specific blood components for transfusion, component processing, donor requirements and various transfusion associated disease states. Laboratory instruction emphasizes ABO and Rh typing, antibody detection and identification, and cross matching procedures.

**Term Offered:** Fall

## MEDT 4090 Clinical Mycology

[2 credit hours]

Study of the medically important fungi including yeast, dermatophytes and opportunistic and dimorphic fungi, including morphologic identification of pathogenic organisms and saprophytes which are commonly encountered in clinical specimens.

**Term Offered:** Spring, Fall

## MEDT 4100 Clinical Virology

[2 credit hours]

Discussion of the epidemiology and pathogenesis of viruses implicated in human disease. Emphasis on diagnostic tools used in the clinical laboratory to isolate, culture, and identify these organisms.

**Term Offered:** Spring, Summer, Fall

## MEDT 4120 Clinical Microbiology II

[3 credit hours]

Discussion of specific concentrations of clinical microbiology that includes intracellular bacteria, mycology, parasitology, and virology. Clinical manifestations and organism identification will be discussed. In addition, review of laboratory techniques used to culture and identify microorganisms isolated from common body sites.

**Prerequisites:** MEDT 4050 with a minimum grade of C

**Term Offered:** Fall

## MEDT 4500 Clinical Research and Clinical Correlations

[3 credit hours]

Correlate clinical, technical and analytical proficiencies that comprise medical laboratory science practice. Analyze and interpret case studies through selection, application, and interpretation of clinical laboratory protocols.

**Term Offered:** Spring, Fall

**MEDT 4950 Clinical Externship: Management**

[1 credit hour]

Clinical practicum experience in a Clinical Sciences Laboratory setting focused on management of laboratory services, including role and responsibilities of supervision, laboratory scheduling/workflow, and financial management.

**Term Offered:** Spring, Fall

**MEDT 4951 Clinical Externship: Microbiology**

[4 credit hours]

Clinical laboratory experience in an affiliated Clinical Sciences Laboratory setting focused on microbiological culture and assay techniques and methods. May also include an immunology system.

**Prerequisites:** MEDT 4050 with a minimum grade of C

**Term Offered:** Spring, Summer, Fall

**MEDT 4952 Clinical Externship: Chemistry**

[2 credit hours]

Clinical laboratory experience in an affiliated Clinical Sciences Laboratory focused on clinical chemistry procedures, techniques, principles, and relationship to disease states. May also include an immunology practicum.

**Prerequisites:** MEDT 4040 with a minimum grade of C

**Term Offered:** Spring

**MEDT 4953 Clinical Externship: Hematology**

[2 credit hours]

Clinical laboratory experience in an affiliated Clinical Sciences Laboratory focused on analytical hematological methodologies, correlation of tests with disease state, hematopoiesis and hemostasis, quality control and instrumentation and manual methods.

**Prerequisites:** MEDT 4025 with a minimum grade of C

**Term Offered:** Spring

**MEDT 4954 Clinical Externship: Immunohematology**

[3 credit hours]

Clinical laboratory experience in an affiliated Clinical Sciences Laboratory focused on methodologies and problem-solving in immunohematology, including crossmatching, antibody identification, blood component preparation, and transfusion and quality assurance.

**Prerequisites:** MEDT 4020 with a minimum grade of C

**Term Offered:** Spring, Summer, Fall