

**Master of Science Health Science
 Concentration Clinical Laboratory Science
 Academic Year 2019-2020**

DEGREE REQUIREMENTS:
FALL MODULE 1
HSCI 6345 Legal and Ethical Issues in Healthcare
CLSC 6300 Pathophysiology of Disease
FALL MODULE 2
HSCI 6307 Health Care Policy, Organization, and Financing
CLSC 6302 Advanced Practice in Clinical Chemistry
SPRING MODULE 1
HSCI 7302 Professional Proposal Writing
CLSC 6301 Adv. Clinical Practice in Hematology & Hemostasis
SPRING MODULE 2
HSCI 6310 Research in Health Science
CLSC 6305 Clinical Applications in Molecular Diagnostics
SUMMER MODULE 1
HSCI 6300 Intro HealthCare Sys & Quality Improvement
CLSC 6303 Adv. Practice in the Clinical Lab Diagnosis of Infectious Disease
SUMMER MODULE 2
INFS 6340 Healthcare Informatics
CLSC 6304 Adv. Practice in Immunohematology and Immunology

Module Duration: 7 weeks

Course Credit Hours: 3

Master of Science Health Science Concentration Clinical Laboratory Science Course Descriptions

CLSC 6300 Pathophysiology of Disease

This course explores the phenomena that produce changes in normal cellular and tissue functions as well as related physiologic processes resulting from aging and various disease processes.

CLSC 6301 Advanced Clinical Practice in Hematology and Hemostasis

The pathogenesis, mechanism and morphological overview of hematological and coagulation disorders. Laboratory testing protocols, clinical pathways and interpretation of diagnostic tests will be covered.

CLSC 6302 Advanced Practice in Clinical Chemistry

This course is designed to give an in-depth understanding of the practice of clinical chemistry. Topics include advanced analytical techniques, selection of methodologies, clinical pathways and the application of biochemical testing to the diagnosis of disease. Current practice as well as an analysis of future trends in laboratory testing will be discussed.

CLSC 6303 Advanced Practice in Clinical Laboratory Diagnosis of Infectious Disease

Laboratory techniques used in the diagnosis of infectious diseases in humans. Emphasis will be placed on the differential diagnosis and correlation of microbiology results with other laboratory tests. Current research in these areas will be explored.

CLSC 6304 Advanced Practice in Immunoematology and Immunology

This course focuses on the function of the immune system in both health and disease. Advanced concepts in immunology are covered in the areas of transplantation, clinical immunopathology, immunotherapy and transfusion practice. Current research in red cell, antigens and antibodies, autoantibodies, drug induced sensitization and problem solving techniques are explored.

CLSC 6305 Clinical Applications of Molecular Diagnostics

This course provides foundation knowledge in molecular biology, genetics, and the molecular basis of selected human diseases. An over-view of molecular diagnostics techniques used in the diagnosis, monitoring, therapeutic decision-making, and prediction of genetic, infectious, and malignant diseases is discussed. Pharmacogenomics and ethical issues are also addressed.