MEDICAL LABORATORY SCIENCE (MLS)

Courses

MLS 5100. Gr Clinical Chemistry I. 4 Credits.
This is part one of a two semester series in Clinical Chemistry.
Prepares students to work in the clinical chemistry laboratory to
analyze patient samples, assess whether or not lab data is accurate,
think critically, and problem solve. Prerequisite: Medical Laboratory
Science Graduate student or Instructor permission.

MLS 5110. Gr Clinical Chemistry II. 3 Credits.
Clinical Chemistry is the discipline of pathology that is concerned
with the detection and measurement of biochemical changes in
disease, and helps to investigate for the presence of disease with
panels of biochemical tests for renal disease, electrolyte disturbances,
drug levels and toxic agents, blood gas and acid-base status, bone
disease, diabetes, etc. Prerequisites: MLS 5100; Medical Laboratory
Science Graduate student; or Instructor permission.

MLS 5200. Gr Hematology. 3 or 4 Credits.
Lecture and laboratory that integrates theory with application of
hematology and hemostasis diagnostic procedures, interpretation,
problem solving and correlation of laboratory findings with disease
states. Covers the fundamentals of blood cell development, structure,
function, biochemistry, and cell and molecular biology. Prerequisite:
Medical Laboratory Science Graduate student.

MLS 5300. Gr Clinical Micro II. 3 Credits.
Comprehensive study of non-bacterial pathogenic microorganisms
and their disease states in humans. Includes medical mycology,
parasitology and virology. Focus on understanding the biology
of these organisms and learning about evaluation, diagnosis, and
treatment of diseases caused by these pathogens. Prerequisite:
Medical Laboratory Science Graduate student.

MLS 5400. Gr Immunohematology. 4 Credits.
Combines lecture and laboratory experiences to provide knowledge
in regulations, quality and compliance in Immunohematology
and transfusion medicine. Provides an overview of donor
blood collection, processing, testing and storage as well as the
understanding of cellular therapy in the hospital transfusion service.
Prerequisites: BHSC 3420 or MMG 3230; or Medical Laboratory
Science Graduate student.

MLS 5990. Special Topics. 1-18 Credits.
See Schedule of Courses for specific titles.

MLS 5993. Independent Study. 1-18 Credits.
A course which is tailored to fit the interests of a specific student,
which occurs outside the traditional classroom/labatory setting
under the supervision of a faculty member, for which credit is
awarded. Offered at department discretion.

MLS 6000. Certification Review. 1 Credit.
Certification review of the Medical Laboratory Science Body of
Knowledge. It is designed to provide a challenging self directed
assessment of practical and theoretical knowledge and will prepare
students to successfully pass the ASCP certification exam in
Medical Laboratory Science. Prerequisites: MLS 3300, MMG 3230,
MLS 3100, MMG 3220, MLS 3110, MLS 3200, MLS 3400. Pre/Co-
prerequisite: MLS 6700.

MLS 6100. Advanced Immunobiology. 3 Credits.
Advanced survey of key current topics in immunology. Focus on
understanding the key concepts and experimental approaches in
the major areas in immunology, with an emphasis on applications
to human disease. Prerequisites: Cell Biology and Biochemistry
recommended.

MLS 6200. Clinical Correlations. 3 Credits.
Advanced, graduate-level education in medical laboratory testing.
The appropriate utilization of laboratory tests for screening,
diagnosis, monitoring and determining prognosis of various human
diseases will be discussed.

MLS 6300. Emerging Diag. Technologies. 3 Credits.
Provides advanced, graduate-level education in medical laboratory
testing. Using the scientific literature, students will review and discuss
historical and emerging medical laboratory strategies that relate to
human health and disease and the clinical environment.

MLS 6500. Research and Design II. 3 Credits.
Provides students with a foundation in how to read the primary
literature, understanding the major sections of a primary literature
reports, and instruction on writing their own reports to facilitate their
success for their capstone project. Prerequisite: MLS 6400.

MLS 6600. Research Capstone. 1-3 Credits.
The third course in a three-course research series. Complete the
capstone project under the guidance of the research mentor or the
Graduate Program Director/Course Instructor. Communicate
the findings both through a formal oral presentation and a written
research paper. Prerequisites: NH 6899, MLS 6400, MLS 6500.

MLS 6700. Clinical Practicum. 12 Credits.
Clinical Practicum involves a semester long directed clinical practice
in Hematology, Chemistry, Microbiology, Immunohematology, and
Molecular Biology at assigned clinical affiliate sites. Prerequisites:
MLS 3300, MMG 3230, MLS 3100, MMG 3220, MLS 3110,
MLS 3200, MLS 3400.

MLS 6900. Clinical Leadership & Mgt. 3 Credits.
Focuses on the fundamentals of clinical leadership and management,
with particular emphasis on organizational design, problem solving,
communication and change theories. Strategies for human resource
management, project management, quality improvement, increasing
productivity, and ensuring financial viability are covered.

MLS 6990. Special Topics. 1-18 Credits.
See Schedule of Courses for specific titles.
MLS 6993. Independent Study. 1-18 Credits.
A course which is tailored to fit the interests of a specific student, which occurs outside the traditional classroom/laboratory setting under the supervision of a faculty member, for which credit is awarded. Offered at department discretion.