

# Medical Laboratory Science (MLS)

## Courses

### MLS 110. Introduction to Medical Laboratory Science. 2 Credits.

Introduction to the professional role, fundamental knowledge, and clinical skills related to medical laboratory science. S.

### MLS 220. Introduction to Clinical Laboratory Operations. 2 Credits.

Foundational principles and practice of clinical laboratory operations. Prerequisite: Pre-MLS, Certificate, or Bachelor's in MLS students only. F,S,SS.

### MLS 226. Introduction to Clinical Immunology. 3 Credits.

Foundational principles and practice in clinical immunology. Prerequisite: Pre-MLS, Certificate, or Bachelor's in MLS students only. F,S,SS.

### MLS 234. Human Parasitology. 2 Credits.

Physiological aspects of human parasites, their symbiotic host parasite relationships and clinical diagnostic techniques. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. F,S,SS.

### MLS 234L. Human Parasitology Laboratory. 1 Credit.

Laboratory methods for the identification and diagnosis of human parasites. Prerequisite: MLS, Categorical Certificate Clinical Chemistry/Urinalysis, Categorical Certificate Hematology/Hemostasis, Categorical Certificate Immunohematology or Categorical Certificate Microbiology students only. F.

### MLS 301. Immunology. 3 Credits.

Principles of clinical immunology focusing on the cellular and molecular nature of antigens and immunoglobulin, the immune response, immunogenetics, and immune mediated disease. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. F.

### MLS 325. Hematology. 3 Credits.

Identification of normal and abnormal blood cells in various hematological disorders. Theory and application of hematology procedures. Theory and mechanisms of hemostasis. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. F.

### MLS 325L. Hematology Laboratory. 2 Credits.

Morphologic examination of blood and bone marrow and laboratory testing used in hematological study. F,S,SS.

### MLS 332. Introduction to Clinical Hematology. 3 Credits.

Foundational principles and practice in clinical hematology and hemostasis. Prerequisite: Pre-MLS, Certificate, or Bachelor's in MLS students only. F,S,SS.

### MLS 334. Introduction to Clinical Microbiology. 3 Credits.

Foundational principles and practice in clinical microbiology (including mycology, parasitology, and virology). Prerequisite: Pre-MLS, Certificate, or Bachelor's in MLS students only. S.

### MLS 336. Laboratory Calculations. 1 Credit.

Calculations used in the clinical laboratory including measurement systems, dilutions, graphing, solution chemistry, statistics of quality control and research interpretation. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. F.

### MLS 339. Introduction to Evidence Based Practice. 3 Credits.

Foundational principles of evidence-based practice in the health sciences. The course focuses on identifying and evaluating common discipline-related evidence sources, as well as utilization of appropriate evidence to support relevant practice-related decisions. Prerequisite: Pre-MLS, MLS program, and Bachelor of General Studies (Histotechnology subplan) students only. F,S.

### MLS 340. Introduction to Molecular Diagnostics. 1 Credit.

Foundational principles and practice of molecular diagnostics. Prerequisite: MLS program students only. S.

### MLS 340L. Molecular Diagnostics Laboratory. 1 Credit.

Application of molecular techniques including the operation of molecular based instrumentation, DNA extraction and measurement, blotting, polymerase chain reactions, and utilization of probes. Prerequisite: MLS program students only. S.

### MLS 380. Professional Issues in Clinical Laboratory Science. 1 Credit.

Discussion of CLS professional issues, ethics, current topics of healthcare delivery, governmental regulations, societal concerns, cultural diversity, disease prevention, research and environment. Prerequisite: MLS Program Students Only. SS.

### MLS 394. Medical Microbiology. 2 Credits.

Medically important microorganisms are identified using a wide variety of clinical techniques. Included in the discussion will be susceptibility studies and the correlation of the presence of microorganisms to health and disease. Prerequisite: MLS, Categorical Certificate Clinical Chemistry/Urinalysis, Categorical Certificate Hematology/Hemostasis, Categorical Certificate Immunohematology or Categorical Certificate Microbiology students only. S.

### MLS 399. Special Topics in Clinical Laboratory Science. 1-13 Credits.

Lecture, discussion, and readings on topics of current interest in the clinical laboratory sciences. Prerequisite: MLS Program Students Only. Repeatable to 13.00 credits. F,S,SS.

### MLS 411. Clinical Chemistry I. 2 Credits.

Theory in clinical chemistry focused on physiologic mechanisms, preanalytic testing considerations, analytical testing principles/procedures, and general clinical correlations. Prerequisite: Certificate or Bachelor's in MLS students only. SS.

### MLS 412. Clinical Hematology & Hemostasis I. 3 Credits.

Theory in clinical hematology and hemostasis focused on physiologic mechanisms, preanalytic testing considerations, analytical testing principles/procedures, and general clinical correlations. Prerequisite: Certificate or Bachelor's in MLS students only. SS.

### MLS 413. Clinical Immunohematology I. 2 Credits.

Theory in clinical immunohematology focused on physiologic mechanisms, preanalytic testing considerations, analytical testing principles/procedures, and general clinical correlations. Prerequisite: Certificate or Bachelor's in MLS students only. SS.

### MLS 414. Clinical Microbiology I. 3 Credits.

Theory in clinical microbiology (including mycology, parasitology, and virology) focused on physiologic mechanisms, preanalytic testing considerations, analytical testing principles/procedures, and general clinical correlations. Prerequisite: Certificate or Bachelor's in MLS students only. SS.

### MLS 415. Clinical Urinalysis & Body Fluids I. 2 Credits.

Theory in clinical urinalysis and body fluids focused on physiologic mechanisms, preanalytic testing considerations, analytical testing principles/procedures, and general clinical correlations. Prerequisite: Certificate or Bachelor's in MLS students only. SS.

### MLS 416. Clinical Immunology & Molecular Diagnostics. 1 Credit.

Theory in clinical immunology and molecular diagnostics focused on physiologic mechanisms, preanalytic testing considerations, analytical testing principles/procedures, and general clinical correlations. Prerequisite: Certificate or Bachelor's in MLS students only. SS.

### MLS 420. Clinical Laboratory Operations. 2 Credits.

Theory and practice related to clinical laboratory operations, including essential technical skills and professionalism. Prerequisite: Certificate or Bachelor's in MLS students only. F,S,SS.

### MLS 421. Clinical Chemistry II. 2 Credits.

Advanced theory and practice in clinical chemistry focused on analytical testing, relevant pathophysiology, clinical correlations, and post-analytic considerations. Prerequisite: Certificate or Bachelor's in MLS students only. F,S,SS.

### MLS 422. Clinical Hematology & Hemostasis II. 3 Credits.

Advanced theory and practice in clinical hematology and hemostasis focused on analytical testing, relevant pathophysiology, clinical correlations, and post-analytic considerations. Prerequisite: Certificate or Bachelor's in MLS students only. F,S,SS.

**MLS 423. Clinical Immunohematology II. 2 Credits.**

Advanced theory and practice in clinical immunohematology focused on analytical testing, relevant pathophysiology, clinical correlations, and post-analytic considerations. Prerequisite: Certificate or Bachelor's in MLS students only. F,S,SS.

**MLS 424. Clinical Microbiology II. 3 Credits.**

Advanced theory and practice in clinical microbiology (including mycology, parasitology, and virology) focused on analytical testing, relevant pathophysiology, clinical correlations, and post-analytic considerations. Prerequisite: Certificate or Bachelor's in MLS students only. F,S,SS.

**MLS 425. Clinical Urinalysis & Body Fluids II. 2 Credits.**

Advanced theory and practice in clinical urinalysis and body fluids focused on analytical testing, relevant pathophysiology, clinical correlations, and post-analytic considerations. Prerequisite: Certificate or Bachelor's in MLS students only. F,S,SS.

**MLS 430. Clinical MLS Theory I. 3 Credits.**

Theory in clinical chemistry, hematology, hemostasis, urinalysis, and body fluids. Focused on physiologic mechanisms, preanalytical testing considerations, analytical testing principles/procedures, and general clinical correlations. Prerequisite: Certificate or Bachelor's in MLS students only. S/U grading. F.

**MLS 431. Clinical Chemistry & Urinalysis III. 1-2 Credits.**

Supervised clinical experience at an affiliated laboratory site. Focused on advanced clinical, professional, and theory-application skills required for entry-level competency in clinical chemistry urinalysis. Prerequisite: Certificate or Bachelor's in MLS students only. F,S,SS.

**MLS 432. Clinical Hematology & Hemostasis III. 1-2 Credits.**

Supervised clinical experience at an affiliated laboratory site. Focused on advanced clinical, professional, and theory-application skills required for entry-level competency in clinical hematology hemostasis. Prerequisite: Certificate or Bachelor's in MLS students only. F,S,SS.

**MLS 433. Clinical Immunohematology III. 2 Credits.**

Supervised clinical experience at an affiliated laboratory site. Focused on advanced clinical, professional, and theory-application skills required for entry-level competency in clinical immunohematology. Prerequisite: Certificate or Bachelor's in MLS students only. F,S,SS.

**MLS 434. Clinical Microbiology III. 2 Credits.**

Supervised clinical experience at an affiliated laboratory site. Focused on advanced clinical, professional, and theory-application skills required for entry-level competency in clinical microbiology. Prerequisite: Certificate or Bachelor's in MLS students only. F,S,SS.

**MLS 439. Clinical MLS Practicum. 5 Credits.**

Supervised clinical experience at an affiliated laboratory site. Focused on advanced clinical, professional, and theory-application skills required for entry-level competency in clinical chemistry, hematology, hemostasis, urinalysis, body fluids, microbiology (including mycology, parasitology, and virology), immunohematology, immunology, and molecular diagnostics. Prerequisite: Certificate or Bachelor's of MLS students only. F,S,SS.

**MLS 440. Clinical MLS Theory II. 3 Credits.**

Theory in clinical microbiology (including mycology, parasitology, and virology) and immunohematology. Focused on physiologic mechanisms, preanalytical testing considerations, analytical testing principles/procedures, and general clinical correlations. Prerequisite: Certificate or Bachelor's in MLS students only. S/U grading. F,S,SS.

**MLS 449. Capstone in Medical Laboratory Science. 3 Credits.**

A capstone course focused on professional development, laboratory management, evidence-based practice/scholarly writing, and understanding the role of the medical laboratory in healthcare. Prerequisite: Enrollment in clinical practicum coursework is the corequisite; MLS program students only. F,S,SS.

**MLS 450. Advanced Clinical Applications in Medical Laboratory Science. 1 Credit.**

A culminating course focused on preparation for entry-level professional practice as a laboratory scientist, integration of advanced clinical theory and skills, and interdisciplinary applications. Prerequisite: Certificate or Bachelor's in MLS students only. F,S,SS.

**MLS 460. Laboratory Practice. 2 Credits.**

This course represents an overview of standard laboratory practices including safety, glassware, microscopes, centrifuges, balances, specimen collection and handling. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. F,S,SS.

**MLS 464. Clinical Review. 3 Credits.**

Emphasis is on concepts related to the role of a clinical laboratory scientist. Analysis and evaluation focuses on the theories of immunohematology, clinical chemistry, microbiology, hematology and other areas contributing to clinical application. F.

**MLS 465. Clinical Laboratory Management. 3 Credits.**

Management practices in the clinical laboratory including concepts related to service and quality, information management, financial management, personnel management, laboratory education and research. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. F,S,SS.

**MLS 471. Clinical Chemistry I. 2 Credits.**

Theories and principles of clinical chemistry procedures are discussed as well as how the results of these procedures correlate to health and disease. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. SS.

**MLS 472. Pre-analytical Skills. 1 Credit.**

Theory and practice of phlebotomy in the clinical setting, specimen processing, review of state and federal regulations, safety and biohazard compliance, interpersonal relationship skills. Prerequisite: MLS Program Students Only. SS.

**MLS 473. Clinical Hemostasis I. 2 Credits.**

Physiologic mechanisms of normal human hemostasis as well as hereditary and acquired defects. Laboratory techniques performed and discussed are screening tests and specific assays for abnormalities, procedures to monitor therapeutic measures and practice and maintenance of current instrumentation. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. SS.

**MLS 474. Clinical Urinalysis I. 2 Credits.**

Theory, techniques and practice of microscopy and urinalysis with emphasis on identification of elements in the sediment. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. SS.

**MLS 477. Clinical Immunohematology I. 1 Credit.**

Theory of modern transfusion techniques, component therapy, and quality assurance. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. SS.

**MLS 477L. Clinical Immunohematology I Lab. 1 Credit.**

Practical application of modern transfusion techniques, component therapy, and quality assurance. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. SS.

**MLS 478. Clinical Microbiology I. 2 Credits.**

Groups of medically important bacteria are studied and correlated to laboratory practice in identification. Included in the discussions are antibiotic susceptibility testing, quality control, and methods of identification including rapid, automated, and traditional methods. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. SS.

**MLS 479. Clinical Hematology I. 2 Credits.**

Emphasis on interpretive correlation of hematology findings and pathophysiology. Topics of current interest and advances in hematology. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. SS.

**MLS 480. Clinical Immunohematology II. 2 Credits.**

Applied theory and modern transfusion at the clinical affiliate. Offered annually. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only.

**MLS 481. Clinical Chemistry II. 2 Credits.**

Applied theory and practice in clinical chemistry at the clinical affiliate. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. F.

**MLS 483. Clinical Hemostasis II. 1 Credit.**

Techniques and practice in routine phlebotomy and hemostasis at the clinical affiliate. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. F.

**MLS 484. Clinical Microbiology II. 2 Credits.**

Applied theory and practice in clinical microbiology at the clinical affiliate. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. F.

**MLS 485. Clinical Urinalysis II. 1 Credit.**

Applied theory and practice in urinalysis and observation, practice, or research in specialized areas or settings at the clinical affiliate. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. F.

**MLS 487. Medical Mycology. 1 Credit.**

Comparative morphology, physiology and pathogenicity of medically important fungi. Laboratory methods for identification emphasize interpretation and evaluation of results including the recognition of contaminating organisms. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. F.

**MLS 488. Clinical Hematology II. 2 Credits.**

Applied theory and practice in clinical hematology at the clinical affiliate. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. F.

**MLS 489. Clinical Body Fluids. 1 Credit.**

Overview of the theory and practice in manual procedures of human body fluids. The body fluids to be discussed include: spinal, synovial and amniotic fluid, transudates and exudates, fecal specimens, gastric, sweat, and other body fluid secretions. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. F.

**MLS 491. Clinical Chemistry III. 2 Credits.**

Techniques and practice in clinical chemistry at the clinical affiliate. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. S.

**MLS 492. Clinical Immunohematology III. 2 Credits.**

Techniques and modern transfusion practices at the clinical affiliate. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. S.

**MLS 494. Clinical Immunology. 1 Credit.**

Applied theory and practice in clinical immunology and serology at the clinical affiliate. Prerequisite: MLS, Categorical Certificate Clinical Chemistry/Urinalysis, Categorical Certificate Hematology/Hemostasis, Categorical Certificate Immunohematology or Categorical Certificate Microbiology students only. S.

**MLS 495. Clinical Microbiology III. 2 Credits.**

Techniques and practice in clinical microbiology at the clinical affiliate. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. S.

**MLS 498. Clinical Hematology III. 2 Credits.**

Techniques and modern hematology practices at the clinical affiliate. Prerequisite: MLS, Clinical Chemistry/Urinalysis, Hematology/Hemostasis, Immunohematology or Microbiology program students only. S.

**MLS 501. Advanced Laboratory Practice: Technical Concepts. 3 Credits.**

An examination of technical concepts and skills utilized to ensure quality in the medical laboratory. The course will focus on enhancing quality control analysis and method validation skills, and utilizing statistical tools to monitor and improve quality testing processes in the medical laboratory. Prerequisite or Corequisite: MLS 525. S, odd years.

**MLS 502. Advanced Clinical Hematology: Erythrocytes. 3 Credits.**

A comprehensive study of human erythrocytes. Included are discussions of normal erythrocyte structure, function, production, regulation, and the pathophysiology of related disorders. The role of current laboratory testing in the diagnosis of erythrocyte disorders will be emphasized. Prerequisite or Corequisite: MLS 525. S, even years.

**MLS 503. Advanced Clinical Hematology: Leukocytes. 3 Credits.**

A comprehensive study of human leukocytes. Included are discussions of normal leukocyte structure, function, production, regulation, and the pathophysiology of related disorders. The role of current laboratory testing in the diagnosis of leukocyte disorders will be emphasized. Prerequisite or Corequisite: MLS 525. F, odd years.

**MLS 505. Advanced Laboratory Practice: Financial Management. 3 Credits.**

This course presents an overview of financial management for medical laboratories. Students examine several basic financial operation concepts, including how to evaluate productivity, manage salaries, and manage supply inventories for maximum cost containment. Students learn how to plan for capital expenditures, set laboratory fee rates, and create, implement, and evaluate a budget. Prerequisite or Corequisite: MLS 525. F, even years.

**MLS 506. Advanced Clinical Chemistry. 3 Credits.**

An advanced study of the theories and principles of clinical chemistry. Correlation of laboratory results with associated disease pathophysiology will be emphasized. Prerequisite: MLS 525. S, even years.

**MLS 507. Advanced Clinical Immunohematology. 3 Credits.**

A detailed study of human blood groups including laboratory aspects of blood banking with special reference to theoretical and clinical applications. Emphasis will be placed on antibody identification and advanced problem solving techniques. Prerequisite or Corequisite: MLS 525. F, even years.

**MLS 508. Leadership for the Laboratory Professional. 3 Credits.**

This course will focus on developing leadership skills applicable to the medical laboratory profession. Offered once per 3-year cycle (fall or spring semester). See program website for current course rotation. Prerequisite: MLS program students only. F,S.

**MLS 509. Medical Laboratory Education: Teaching Principles. 3 Credits.**

Approaches to teaching in Medical Laboratory Science will be examined, with an emphasis on development of instructional and evaluative materials. Additional topics discussed will include learner diversity, classroom management techniques, and course assessment. Prerequisite or Corequisite: MLS 525. F, odd years.

**MLS 513. Advanced Clinical Immunology. 3 Credits.**

An in-depth investigation of immune system functions. Correlation of laboratory results with normal and disease states will be emphasized. Prerequisite or Corequisite: MLS 525. SS, odd years.

**MLS 515. Capstone in Master of Medical Laboratory Science. 2 Credits.**

This course is a summative experience that occurs at the end of the degree process. Graduate-level Medical Laboratory Science students reflect upon and consider applications of degree coursework. Additionally, the future of the medical laboratory science profession will be discussed and career opportunities will be explored. Prerequisite: Completion of at least 20 credits in the MLS MS Program. Prerequisite or Corequisite: MLS 525. SS.

**MLS 516. Special Topics in Medical Laboratory Science. 1-4 Credits.**

Topical courses in laboratory medicine organized on a semester by semester basis. Prerequisite or Corequisite: MLS 525. Repeatable to 12.00 credits. F,SS.

**MLS 517. Advanced Laboratory Practice: Administrative Concepts. 3 Credits.**

An examination of administrative concepts and skills utilized to ensure quality in the medical laboratory. The course will focus on advanced concepts related to medical laboratory accreditation, inspection, and federal regulations. An emphasis will be placed on the utilization of best practices to monitor and improve laboratory diagnostics. Prerequisite or Corequisite: MLS 525. S, even years.

**MLS 518. Advanced Molecular Diagnostics. 3 Credits.**

An analysis of specific molecular biology application in the medical laboratory including correlation of cell biology, DNA chemistry, genetics, and laboratory techniques in relation to diagnostic investigations. Prerequisite or Corequisite: MLS 525. S, odd years.

**MLS 522. Advanced Clinical Bacteriology. 3 Credits.**

An advanced study of the laboratory diagnosis of bacterial diseases and an in depth exploration of antibacterial agents. Prerequisite or Corequisite: MLS 525. F, odd years.



**MLS 523. Advanced Non-Bacterial Microbiology. 3 Credits.**

An advanced study of the laboratory diagnosis of viral, fungal, and parasitic diseases and associated antimicrobial agents. Prerequisite or Corequisite: MLS 525. F, even years.

**MLS 524. Current Trends and Issues in Medical Laboratory Science. 2 Credits.**

Through group discussion and presentations, Medical Laboratory Science graduate students will explore current trends and issues related to all aspects of the profession. Prerequisite or Corequisite: MLS 525. SS.

**MLS 525. Professional Communication in the Medical Laboratory. 3 Credits.**

This course will focus on developing written and oral communication skills as a foundation for application within the medical laboratory profession. Students will learn how to identify, assess, and incorporate appropriate reference materials to prepare professional, scholarly papers and presentations. Prerequisite: Admission to the MLS Master of Science program; this course must be satisfactorily completed in the first semester of degree coursework. F,S.

**MLS 526. Advanced Clinical Hemostasis. 3 Credits.**

A comprehensive study of the human hemostatic system. Normal function, disease pathophysiology, and the evolution of hemostasis in healthcare will be discussed. The laboratory's role in the diagnosis and/or monitoring of bleeding and clotting disorders will be emphasized. Prerequisite or Corequisite: MLS 525. SS, even years.

**MLS 527. Medical Laboratory Education: Assessment and Accreditation. 3 Credits.**

This course will focus on assessment and accreditation specific to medical laboratory education programs. Topics will include examination of assessment at the classroom, program, and institutional levels, including how to create and implement an assessment plan. Medical laboratory education accreditation processes will also be examined, with an emphasis on the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) standards. Offered once per 3-year cycle (fall or spring semester). See program website for current course rotation. F,S.

**MLS 528. Medical Laboratory Science and Public Health. 3 Credits.**

This course will examine public health principles and their application within medical laboratory sciences. The role of medical laboratory science within public health will also be investigated. Prerequisite: MS in MLS program students only. S, even years.

**MLS 530. Medical Laboratory Leadership: Principles & Practice. 1 Credit.**

This course will provide an overview of leadership principles and their relation to the medical laboratory profession. Prerequisite or Corequisite: MLS 525. S.

**MLS 531. Medical Laboratory Leadership: Practical Applications. 1 Credit.**

This course will focus on application of leadership strategies within the medical laboratory profession. Prerequisite or Corequisite: MLS 525. SS.

**MLS 532. Medical Laboratory Leadership: Conflict Resolution. 1 Credit.**

This course will focus on developing strategies and skills for conflict resolution within the medical laboratory profession. Prerequisite or Corequisite: MLS 525. F.

**MLS 589. Readings in Medical Laboratory Science. 1 Credit.**

Examination of applicable literature related to Medical Laboratory Science as part of an area of specialization or interest. Prerequisite or Corequisite: MLS 525. Repeatable to 3.00 credits. F,S.

**MLS 590. Project Development. 1 Credit.**

With faculty/advisor consult, the student will identify a topic and develop a proposal for the Independent Study completed in MLS 997. Initial scholarly investigation of the selected topic will occur, and general guidelines for project format and content will be discussed. Prerequisite or Corequisite: MLS 525. S.

**MLS 591. Directed Study in Laboratory Medicine. 1-6 Credits.**

Designed to meet the needs of individual student-focused studies in laboratory medicine. Prerequisite or Corequisite: MLS 525. Repeatable to 6.00 credits. On demand.

**MLS 996. Continuing Enrollment. 1-12 Credits.**

Prerequisite: MLS program students only. Repeatable. S/U grading.

**MLS 997. Independent Study. 2 Credits.**

The independent study is a culminating experience for Medical Laboratory Science graduate students. Utilizing skills and information acquired throughout the degree process, students will select, investigate, and present findings of a topic with significance to the major field of study. Prerequisite or Corequisite: MLS 525. S.