

Medical Laboratory Science Program

16 S Sulfur	T Tau	92 U Uranium	1 01 D Deuterium	NI nōI	T Tau
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1 H Hydrogen	α Alpha Particle	7 N Nitrogen	105 Db Dubnium	8 O Oxygen	8 O Oxygen	19 K Potassium
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Dear Medical Laboratory Science Student,

Welcome to the Medical Laboratory Science (MLS) program at Florida Southern College! It is an honor to share this program journey with you as a talented and committed student. This road may feel long and winding, but rest assured, before long you will be part of a proud community of laboratory professionals.

As you begin the program concentration, you will be challenged. There will be times when you feel overwhelmed and overworked. This is all a normal feeling when we are balancing our educational expectations with our work/life balance. Stay focused on the goals ahead. Remember that faculty is here to support you in every step of this journey.

The MLS Student Handbook has been developed as an additional resource to our FSC Student Handbook (Academic), but also share some important information specific to the MLS Program. Please read and become familiar with the information available in this handbook. Use this as a main source of information, especially policies and procedures specific to MLS majors. It will also serve as a companion to the Clinical Practicum Handbook you will receive before your first semester of clinical rotations.

We wish you success as you move through this educational experience.

Sincerely,

FSC Faculty and LRH staff

Florida Southern College

Overview

Founded in 1883, Florida Southern College (FSC) is a private, comprehensive college and the oldest college in Florida. FSC maintains its commitment to academic excellence through more than 70 undergraduate programs and distinctive graduate programs in business, accounting, education, and nursing. FSC has a 14:1 student-to-faculty ratio; is an award-winning national leader in engaged learning; and boasts 30 NCAA Division II national championships. It is ranked among the top Best Colleges in the South by *U.S. News and World Report* (2025); named a U.S. Student Top Producer by Fulbright (2018-2019); included in The Princeton Review's 389 Best Colleges (2024) and featured in The Fiske Guide to Colleges (2025). The College is committed to the development of the whole student through vibrant student life programs that prepare graduates to make a positive, consequential impact on society. FSC is conveniently located within an hour's drive of both Orlando and Tampa and home to the world's largest collection of Frank Lloyd Wright architecture, designated a National Historic Landmark in 2012. Named the "Most Beautiful Campus in the Nation" for two consecutive years by The Princeton Review and one of the nation's "Ten College Campuses with the Best Architecture" by *Architectural Digest*, Florida Southern is an internationally recognized place of beauty and academic excellence. For more information, visit <https://www.flsouthern.edu/about-fsc>.

Community and Values

The faculty in the Biology Department are committed to the following:

1. We are committed to ensuring that all individuals are treated equitably, with respect, dignity, and fairness. We will actively address discrimination, bias, and inequity wherever it occurs on our campus and in our community.
2. We uphold the rights of all individuals, regardless of race, gender identity, sexual orientation, nationality, and place of origin, to learn and work in an environment free from discrimination and harassment.
3. We commit to continuous professional development to foster a respectful, welcoming, and collaborative departmental culture.
4. As a faculty, we are committed to highlighting the contributions of scientists from a wide range of backgrounds, cultures, and experiences, ensuring our curriculum reflects the breadth of voices in the field. We will work to provide opportunities to our students to hear from an eclectic population of scientists.
5. We ensure equal access to research and internship opportunities for all students, while also connecting eligible students with additional external programs and resources designed to expand participation in STEM.
6. We are aware of the economic struggles some of our students' face, and we will work to reduce economic burdens at the departmental level.
7. We promote a culture of compassion in our classrooms, labs, and in our student organizations. We actively strive to know our students as individuals so that all students can be comfortable and confident to seek help if necessary. We may not share all your experiences, but we will listen and do everything we can to help you be successful.

8. We stay true to the core principles of science as an unbiased and objective discipline that is grounded in evidence, rigorous methodology, and open inquiry. We strive to model these principles in all aspects of our teaching and research.

Professionalism

Student professionalism refers to the conduct, aims, and qualities that characterize a professional individual. It is crucial for students to embody professionalism as it prepares them for the workforce and enhances their employability. Professionalism includes attributes such as integrity, accountability, respect, and commitment to excellence. These qualities not only contribute to a positive learning environment but also reflect on students' future career prospects.

Student Privacy Rights

Program faculty maintains confidentiality of all Florida Southern College MLS students program records. An appointment to review a student's personal program file may be requested by the student at any time. Any inquiry with regard to a student's program file is referred directly to the student. The Family Education Rights and Privacy Act (FERPA) governs the confidentiality of student records. Records are defined as all records, files and data directly related to students that are created, maintained, and used by FSC will be kept by the Admissions records and registration department. If a parent, guardian, spouse, or other interested party contacts Faculty to discuss or inquire about academic matters or any other matters regarding a student, that Faculty should not discuss or divulge potentially privileged information. Rather, the Faculty should do the following: (1) refer the inquiring party to the appropriate academic Dean who will determine if the student has provided a waiver to disclose academic information (and to whom); and (2) explain to the inquirer that under federal law (specifically, the Family Educational Rights and Privacy Act, or FERPA), Florida Southern College cannot disclose privileged information until it has been determined that a FERPA waiver has been signed by the student. If the Faculty wishes to engage in a conversation with the inquirer and does not have access to the information regarding the student's waiver status, he or she should e-mail the appropriate academic Dean to explain the situation and determine the student's waiver status of student before engaging in any such conversation or communication with the inquirer.

Roles and responsibilities of the Administration

Dr. Susan Serrano, Interim Dean of Arts and Sciences at Florida Southern College

Responsible for budget approval; primary liaison between the provost and the faculty, students, and staff of the College of Arts and Science, including the MLS program

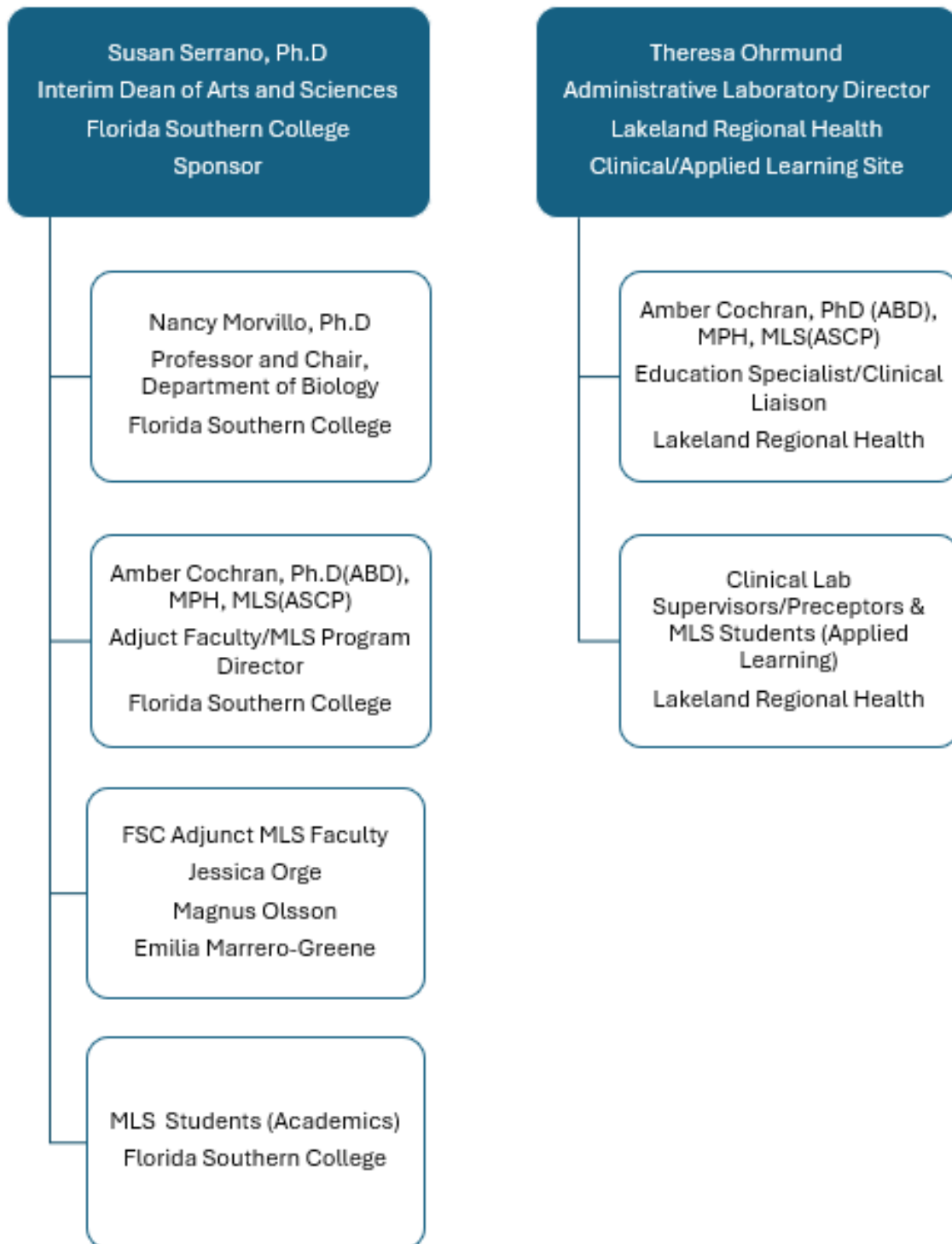
Dr. Nancy Morvillo, Professor and Chair of Biology at Florida Southern College

Responsible for budget creation and implementation; coordinator of MLS pre-requisite courses; academic advisor for all MLS majors; collaborates with the MLS Program Director on academic requirements and curricular issues

Dr. Amber Cochran, MLS Program Director at Lakeland Regional Hospital

Responsible for NAACLS assessment and compliance; coordinates clinical experiences for MLS majors; trains MLS faculty; schedules and staffs MLS courses; Clinical Liaison between FSC and LRH, serves as primary MLS faculty each semester

Line of Authority



MLS Major Requirements

A. WRIGHT Foundations Requirements..... 34 hours

B. Major Requirements..... 84-86 hours

BIO 1500	Biology I: Biological Essentials
BIO 1501	Current Perspectives in Biology (FTIC only)
BIO 2215	Human Anatomy and Physiology I
BIO 2216	Human Anatomy and Physiology II
BIO/CHE 3362	Biochemistry: Molecular Biology
BIO 3710	Microbiology
BIO 3850	Parasitology
BIO 4300	Immunology
CHE 1111	Principles of Chemistry I
CHE 1112	Principles of Chemistry II
CHE 2231	Organic Chemistry I
CHE 2251	Organic Chemistry I Laboratory
CHE 2232	Organic Chemistry II
CHE 2252	Organic Chemistry II Laboratory
MAT 2032	Biostatistics
<i>OR</i>	
MAT 2022	Elementary Statistics <i>AND</i>
MAT 2027	Transition to Biostatistics
MLS 3100	Introduction to Clinical Laboratory Sciences
MLS 3350	Urinalysis and Body Fluids
MLS 3600	Clinical Hematology
MLS 3700	Immunology and Serology
MLS 4200	Blood Bank and Transfusion Medicine
MLS 4250	Clinical Chemistry
MLS 4400	Clinical Microbiology I
MLS 4450	Clinical Microbiology II
MLS 4600	Advanced Hematology and Hemostasis
MLS 4800	Medical Laboratory Science Practicum I
MLS 4850	Medical Laboratory Science Practicum II
MLS 4900	Medical Laboratory Science Capstone
MLS 4950	Medical Laboratory Operations and Management

C. Bachelor of Science Degree Requirements12 hours

D. Electives..... 0 hours

E. Total.....130-132 hours

Suggested Medical Laboratory Science Major (4-Year Plan)



Long Term Academic Planning Worksheet: _____ Medical Laboratory Sciences (MLS) major

All plans are unofficial. Final schedules may be based on many factors, including but not limited to: course availability, prerequisite completion, degree requirements, post-graduate needs and student interest. Academic plans and career paths should be discussed on a regular basis with the student's advisor, other faculty and professional staff in the Office of Career Services.

Year 1	Year 2	Year 3	Year 4
Fall 20__	Fall 20__	Fall 20__	Fall 20__
4 BIO 1500 – Biology I: Biological Essentials + lab (Major, WF: Science) 1 BIO 1501- Current Perspectives in Biology (Major) 4 CHE 1111 – Principles of Chemistry I + lab (Major) 4 WF: Written Com. 4 WF: Global Credits 17	4 BIO 2216- Human A&P II + lab (Major) 3 CHE 2231 – Organic Chemistry I (Major) 1 CHE 2251- O. Chem. I lab (Major) 4 WF: Soc. Beh. Sci. 2 WF: Resilience 4 Elective Credits 18	4 BIO 3710 – Microbiology + lab (Major) 2 MLS 3100 Introduction to Clinical Lab Sciences (Major) 4 MAT or CSC course (BS degree) 4 WF: Fine Arts Credits 14	3 MLS 4250 Clinical Chemistry (Major) 3 MLS 4400 Clin. Micro. I (Major) 3 MLS 4600 Adv. Hematology & Hemostasis (Major) 3 MLS 4800 MLS Practicum I (Major) 4 Credits 13
Spring 20__	Spring 20__	Spring 20__	Spring 20__
4 BIO 2215 – Human A&P I + lab (Major) 4 CHE 1112 – Principles of Chemistry II + lab (Major) 4 MAT 2032 – Biostatistics (Major, WF: Math) 4 WF: Oral Com. Credits 16	4 BIO 3850 Parasitology (Major) 3 CHE 2232 – O. Chem. II (Major) 3 CHE 2252- O. Chem. II lab (Major) 4 WF: Humanities 4 Soc. Sci. BS degree Credits 16	4 BIO 3362 – Biochemistry: Molecular Biology (Major) 4 BIO 4300 Immunology (Major) 1 MLS 3350 Urin & Body Fluids (Major) 3 MLS 3600 Clin. Hematology (Major) 1 MLS 3700 Immuo. & Serology (Major) 4 Elective Credits 17	3 MLS 4200 Blood Bank and Transfusion Medicine (Major) 3 MLS 4450 Clin. Micro. II (Major) 4 MLS 4850 MLS Practicum II (Major) 3 MLS 4900 MLS Capstone (Major) 4 MLS 4950 MLS Ops & Mgmt (Major) 1 Credits 15
Summer 20__	Summer 20__	Summer 20__	Summer 20__
Credits	Credits	Credits	Credits
Experiences/Activities:	Experiences/Activities:	Experiences/Activities:	Experiences/Activities:
			ASCP BOC exam

*"WF" are the WRIGHT Foundations courses, FSC's general education curriculum. There are many options for these and the BS degree requirements, and these can be moved to fit anywhere in the schedule. At least 124 hours are required for the BS degree.

Updated: April 27, 2026

Program Faculty

Although rotation of faculty may occur within the courses, current faculty available to teach the courses in the MLS major are listed below:

<u>Course number</u>	<u>Course Title</u>	<u>Faculty</u>
<u>BIO 1500</u>	<u>Biology I: Biological Essentials</u>	<u>S. Banks, Ph.D.; B. Barrios-Roque, Ph.D; N. Morvillo, Ph.D.; A. Smith, MS; K. Upshaw, MS</u>
<u>BIO 1501</u>	<u>Current Perspectives in Biology</u>	<u>S. Banks, Ph.D.; A. Bowers-Macrander, MS; J. Macrander, Ph.D.; T. Moore, MS; N. Morvillo, Ph.D.; C. Wolovich, Ph.D.; L. Young, MS</u>
<u>BIO 2215</u>	<u>Human Anatomy and Physiology I</u>	<u>A. T. Moore, M.S.; M. O'Neil, MS; L. Young, MS.</u>
<u>BIO 2216</u>	<u>Human Anatomy and Physiology II</u>	<u>T. Moore, M.S.; M. O'Neil, MS; L. Young, MS.</u>
<u>BIO 3362</u>	<u>Biochemistry: Molecular Biology</u>	<u>N. Morvillo, Ph.D.</u>
<u>BIO 3710</u>	<u>Microbiology</u>	<u>N. Steffens, Ph.D.; A. Smith, MS.</u>
<u>BIO 3850</u>	<u>Parasitology</u>	<u>G. Langford, Ph.D.</u>
<u>BIO 4300</u>	<u>Immunology</u>	<u>N. Steffens, Ph.D.</u>
<u>CHE 1111</u>	<u>Principles of Chemistry I</u>	<u>M. Brown, Ph.D. L, Laguerre Van Sickle, Ph.D.; J. Montgomery, Ph.D.; S. Wallen, Ph.D.;</u>
<u>CHE 1112</u>	<u>Principles of Chemistry II</u>	<u>M. Brown, Ph.D. L, Laguerre Van Sickle, Ph.D.; J. Montgomery, Ph.D.; S. Wallen, Ph.D.;</u>
<u>CHE 2231</u>	<u>Organic Chemistry I</u>	<u>A Braaksma, Ph.D.; D. Bromfield Lee, Ph.D.; M. Evans, Ph.D.</u>
<u>CHE 2251</u>	<u>Organic Chemistry I Lab</u>	<u>A Braaksma, Ph.D.; D. Bromfield Lee, Ph.D.; M. Evans, Ph.D.</u>
<u>CHE 2232</u>	<u>Organic Chemistry II</u>	<u>A Braaksma, Ph.D.; D. Bromfield Lee, Ph.D.; M. Evans, Ph.D.</u>
<u>CHE 2252</u>	<u>Organic Chemistry II Lab</u>	<u>A Braaksma, Ph.D.; D. Bromfield Lee, Ph.D.; M. Evans, Ph.D.</u>
<u>MAT 2032</u>	<u>Biostatistics</u>	<u>D. Jelsovsky, Ph.D.; S. McLoughlin</u>

<u>MLS 3100</u>	<u>Introduction to Clinical Laboratory Sciences</u>	<u>A. Cochran, Ph.D. (ABD), MPH, MLS(ASCP); J. Orge, MT (AAB), MLT/PBT/DPT (ASCP), CPI (NCCT)</u>
<u>MLS 4250</u>	<u>Clinical Chemistry</u>	<u>J. Orge, MT (AAB), MLT/PBT/DPT (ASCP), CPI (NCCT); A. Cochran, Ph.D. (ABD), MPH, MLS(ASCP)</u>
<u>MLS 3600</u>	<u>Clinical Hematology</u>	<u>J. Orge, MT (AAB), MLT/PBT/DPT (ASCP), CPI (NCCT); A. Cochran, Ph.D. (ABD), MPH, MLS(ASCP)</u>
<u>MLS 3350</u>	<u>Urinalysis and Body Fluids</u>	<u>J. Orge, MT (AAB), MLT/PBT/DPT (ASCP), CPI (NCCT); A. Cochran, Ph.D. (ABD), MPH, MLS(ASCP)</u>
<u>MLS 3700</u>	<u>Immunology and Serology</u>	<u>J. Orge, MT (AAB), MLT/PBT/DPT (ASCP), CPI (NCCT); A. Cochran, Ph.D. (ABD), MPH, MLS(ASCP)</u>
<u>MLS 4200</u>	<u>Blood Bank & Transfusion Medicine</u>	<u>J. Orge, MT (AAB), MLT/PBT/DPT (ASCP), CPI (NCCT); A. Cochran, Ph.D. (ABD), MPH, MLS(ASCP)</u>
<u>MLS 4250</u>	<u>Clinical Chemistry</u>	<u>J. Orge, MT (AAB), MLT/PBT/DPT (ASCP), CPI (NCCT); A. Cochran, Ph.D. (ABD), MPH, MLS(ASCP)</u>
<u>MLS 4400</u>	<u>Clinical Microbiology I</u>	<u>A. Cochran, Ph.D. (ABD), MPH, MLS(ASCP); M. Olsson, MS, MLS(ASCP); E. Marrero-Green, M Ed, MT(AAB), M(ASCP)</u>
<u>MLS 4450</u>	<u>Clinical Microbiology II</u>	<u>A. Cochran, Ph.D. (ABD), MPH, MLS(ASCP); M. Olsson, MS, MLS(ASCP); E. Marrero-Green, M Ed, MT(AAB), M(ASCP)</u>
<u>MLS 4600</u>	<u>Advanced Hematology & Hemostasis</u>	<u>J. Orge, MT (AAB), MLT/PBT/DPT (ASCP), CPI (NCCT); A. Cochran, Ph.D. (ABD), MPH, MLS(ASCP)</u>
<u>MLS 4800</u>	<u>Medical Laboratory Science Practicum I</u>	<u>A. Cochran, Ph.D. (ABD), MPH, MLS(ASCP)</u>
<u>MLS 4850</u>	<u>Medical Laboratory Science Practicum II</u>	<u>A. Cochran, Ph.D. (ABD), MPH, MLS(ASCP)</u>
<u>MLS 4900</u>	<u>Medical Laboratory Science Capstone</u>	<u>A. Cochran, Ph.D. (ABD), MPH, MLS(ASCP); J. Orge, MT (AAB), MLT/PBT/DPT (ASCP), CPI (NCCT); E. Marrero-Green, M Ed, MT(AAB), M(ASCP)</u>
<u>MLS 4950</u>	<u>MLS Lab Operations and Management</u>	<u>A. Cochran, Ph.D. (ABD), MPH, MLS(ASCP)</u>

MLS Course Descriptions

MLS 3100 INTRODUCTION TO CLINICAL LABORATORY SCIENCES

Course Description:

Two hours: Prerequisite: Medical Laboratory Sciences majors. Co-requisite or prerequisite: BIO 3710. Basic aspects of clinical laboratory sciences are covered, including general clinical laboratory safety, proper use and care of laboratory equipment, and an overview of clinical laboratory tests. Overviews of administrative, educational, career, legal and ethical aspects of the MLS profession are also discussed.

Course Learning Outcomes:

By the end of the course, students should be able to:

- Identify general safety procedures and necessary quality assurance and quality control aspects for different clinical laboratory departments.
- Demonstrate the correct use and maintenance of basic clinical laboratory equipment.
- Identify appropriate protocols for collecting and testing samples and specimens.
- Describe professional, legal and ethical aspects necessary for medical laboratory scientists.
- Explain the impact of federal and state regulatory agencies on clinical laboratory departments.

MLS 3350 URINALYSIS AND BODY FLUIDS

Course Description:

One hour: Prerequisite: MLS 3100. An exploration of structure, function and disorders of kidney and urinary systems, with emphasis on testing procedures for urine and other body fluids.

Course Learning Outcomes:

By the end of the course students should be able to:

- Describe the basic structure and function of the kidneys and the urinary system.
- Describe the procedures for routine testing, including appropriate calculations, analysis and quality control, of urine, stool, serous fluids, amniotic fluid, semen, synovial fluid, and spinal fluid.
- Interpret results of common chemical and physical tests by identifying reference ranges, abnormal values, appropriate units and sources of error, as well as correlation with disease states.
- Identify discrepancies in chemical and microscopic results, including through the quantification of all formed elements and/or cells found in body fluids, and situations where additional testing is necessitated.

MLS 3600 CLINICAL HEMATOLOGY

Course Description:

Three hours: Prerequisite: MLS 3100. An introduction to the structure, function and disorders of hematopoietic cells and tissues.

Course Learning Outcomes:

By the end of the course students should be able to:

- Describe the hematopoietic system and the role of hematopoiesis in various states of health and disease
- Describe common hematology test methods used for the diagnosis of health conditions
- Demonstrate the correct use and maintenance of basic instrumentation necessary for clinical hematology
- Explain the use of flow cytometry test methods and bone marrow analysis for the diagnosis of health conditions

MLS 3700 IMMUNOLOGY AND SEROLOGY

Course Description:

One hour. Prerequisite: MLS 3100. An overview of serological procedures used to study serum and other body fluids, with emphasis on identification of antibodies and how this information can be used in the diagnosis of infections and diseases.

Course Learning Outcomes:

By the end of the course, students should be able to:

- Explain routine serological procedures and their clinical applications.
- Explain the relationship between antibodies and their use in diagnostics.
- Demonstrate the procedures for routine testing, including serial dilutions, appropriate calculations, analysis and quality control, used in serology.
- Interpret results of common tests by identifying reference ranges, abnormal values, appropriate units and sources of error, as well as correlation with disease states and when additional testing is necessitated.

MLS 4200 BLOOD BANK AND TRANSFUSION MEDICINE

Course Description:

Three hours: Prerequisite: MLS 3100 and BIO 4300. A detailed exploration of the processes of blood donation and transfusion, with emphasis on detection and analysis of blood components and disease states.

Course Learning Outcomes:

By the end of the course students should be able to:

- Describe techniques for collection, processing, storage and required testing of blood and blood components.
- Describe quality control procedures used for Blood Bank reagents, equipment, procedures and components.
- Describe indications, precautions and special considerations for collection and transfusion of various blood components for routine and special donor categories and for apheresis procedures.
- Explain the differences between the various types of adverse reactions related to transfusion and/or complications of transfusion.
- Explain the importance of HLA antigens in transfusion, types of HLA antigens and their locations on tissues/cells/pieces of cells, and the conditions that are caused when they do not match.

MLS 4250 CLINICAL CHEMISTRY

Course Description:

Three hours. Prerequisite: MLS 3100. An in-depth exploration of critical chemical concepts for the medical laboratory sciences professional.

Course Learning Outcomes:

By the end of the course students should be able to:

- Identify chemical functions of the body which contribute to various states of health and disease.
- Explain clinical chemistry methods used for the diagnosis of health conditions and factors which directly affect chemical procedures and results.
- Explain the correct use and maintenance of basic instrumentation necessary to perform clinical chemistry testing.
- Demonstrate the procedures for routine testing, including dilutions, appropriate calculations, analysis and quality control, used in clinical chemistry.
- Interpret results of common chemical tests by identifying reference ranges, abnormal values, appropriate units and sources of error, as well as correlation with disease states.

MLS 4400 CLINICAL MICROBIOLOGY I

Course Description:

Three hours. Prerequisite: MLS 3100 and BIO 3710. An exploration of the basic morphology and biochemical characteristics of pathogenic bacteria, along with appropriate testing procedures for detection in patient samples.

Course Learning Outcomes:

By the end of the course students should be able to:

- Describe specimen collection, transport, and processing of routine microbiology samples, including specimen rejection requirements, quality control procedures and safe handling procedures.
- Perform common biochemical, serological, and/or morphological characteristic testing to identify bacterial isolates and distinguish normal flora from pathogenic bacterial isolates.
- Analyze the sources, culture methods, and detection methods, including molecular techniques, available for identifying epidemiological significant isolates.
- Explain the mode of action, uses, and limitations of the major classes of antimicrobial agents.
- Describe the source, culture methods, and rapid identification of Select Agents (Bioterrorism) and the role of regional laboratories in the Laboratory Response Network (LRN).
- Create documentation and critical value reporting in the microbiology laboratory, including reporting to infection control practitioners.

MLS 4450 CLINICAL MICROBIOLOGY II

Course Description:

Three hours: Prerequisite: MLS 4400. An exploration of the basic morphology and biochemical characteristics of clinically significant mycobacteria, fungi, parasites and viruses, along with appropriate testing procedures for detection in patient samples.

Course Learning Outcomes:

By the end of the course students should be able to:

- Describe the basic morphology and biochemical characteristics, and their impact on disease states, of viruses, mycobacteria, fungi and parasites.
- Describe the specimen source, pathogenic transmission, and detection methods for viruses.
- Describe the specimen source, colony morphology, growth characteristics, and detection methods used in Mycobacteriology.
- Describe the specimen source, colony morphology, and growth characteristics for clinically significant fungi.
- Identify yeast and fungi using multiple techniques, including biochemical evaluation, staining methods, automated analysis, and molecular techniques.
- Describe the specimen source, pathogenic transmission, and detection methods for common clinical parasites.
- Explain the mode of action, uses, and limitations of the major classes of antimicrobial agents.
- Discuss routine documentation and critical value reporting in the microbiology laboratory, including reporting to local and state health departments.

MLS 4600 ADVANCED HEMATOLOGY AND HEMOSTASIS

Course Description:

Three hours: Prerequisite: MLS 3600. An exploration of structure, function and disorders of hematopoietic cells and tissues, with emphasis on testing methods used in the hematology lab.

Course Student Learning Outcomes:

By the end of the course students should be able to:

- Describe the physiological pathways associated with hemostasis
- Describe procedures for collecting, preparing specimens, and diagnosing diseased states, including quality control procedures.
- Identify and categorize various types of white blood cell disorders and platelet abnormalities through differentials and morphological evaluations from automated and/or manual result analysis.
- Perform cell counts associated with both blood and body fluids.
- Correlate abnormal test results with specific disease states and/or hereditary anomalies, including identification of sources of error, normal ranges, critical values, and specimen requirements for hemostasis testing.

MLS 4800 MEDICAL LABORATORY SCIENCES PRACTICUM I

Course Description:

Four hours: Prerequisite: MLS 3100. Application of medical testing concepts to laboratory settings. Students will rotate through multiple laboratory facilities in a clinical setting to gain experience in the methods and procedures needed for the Medical Laboratory Science professional.

Course Learning Outcomes:

By the end of the course students should be able to:

- Process specimens according to laboratory and safety protocols.
- Perform, within specified limits of accuracy, manual and automated routine and complex analytical procedures.
- Perform and record all quality control procedures, including maintenance, calibrations, linearities, and/or calculations.
- Apply quality control concepts and monitor ongoing quality control programs.
- Correlate laboratory and patient data to confirm validity of results with emphasis on normal, abnormal, and panic values and identification of situations where results do not correlate and require investigation and confirmation.
- Describe problem-solving scenarios encountered in the laboratory.
- Demonstrate professional behavior and interpersonal communication skills with patients, laboratory personnel, and other healthcare providers and staff.

MLS 4850 MEDICAL LABORATORY SCIENCES PRACTICUM II

Course Description:

Four hours: Prerequisite: MLS 4800. Continuation of student rotations through multiple laboratory departments in a clinical setting to gain experience in the methods and procedures needed for the Medical Laboratory Science professional. Also includes review of MLS core content in preparation for the ASCP BOC exam.

Course Learning Outcomes:

By the end of the course students should be able to:

- Process specimens according to laboratory and safety protocols.
- Perform, within specified limits of accuracy, manual and automated routine and complex analytical procedures.
- Perform and record all quality control procedures, including maintenance, calibrations, linearities, and/or calculations.
- Apply quality control concepts and monitor ongoing quality control programs.
- Correlate laboratory and patient data to confirm validity of results with emphasis on normal, abnormal, and panic values and identification of situations where results do not correlate and require investigation and confirmation.
- Describe problem-solving scenarios encountered in the laboratory.
- Demonstrate professional behavior and interpersonal communication skills with patients, laboratory personnel, and other healthcare providers and staff.
- Review MLS core content and test taking strategies in preparation for the ASCP BOC exam.

MLS 4900 MEDICAL LABORATORY SCIENCES CAPSTONE

Course Description:

Four hours: Prerequisite: MLS 3100 and MLS 4400. Students will consider special topics in Medical Laboratory Sciences, which may include case study analysis, interpretation of information and consideration of new technologies. Students will perform literature and/or laboratory research, and will present their findings in oral and written formats.

Course Student Learning Outcomes:

By the end of the course students should be able to:

- Design a semester-long project involving laboratory research, case studies, and/or analysis of existing data.
- Demonstrate effective written communication, appropriate grammar and sentence structure, and logical content organization through a variety of assignments.
- Demonstrate effective oral communication through presentations and discussions.
- Demonstrate effective teamwork while compiling resources and data.
- Discuss selected issues affecting clinical laboratory practice.

MLS 4950 MEDICAL LABORATORY OPERATIONS AND MANAGEMENT

Course Description:

One hour: Prerequisite: MLS 3100. An examination of the requirements necessary to operate and manage clinical laboratories.

Course Student Learning Outcomes:

By the end of the course students should be able to:

- Apply organizational behavior theory, theories of motivation, performance improvement tools and strategic planning to health care management.
- Analyze the value of information technology in leading health care organizations.
- Describe techniques for managing costs and revenues in health care organizations.
- Evaluate the major aspects of health care financing and insurance reimbursement.
- Apply concepts of cultural competency and diversity in health care management and leadership.
- Compare and contrast the relationship among ethics, law, and health care leadership.
- Describe the importance of addressing fraud and abuse in health care.

Program Learning Outcomes for the MLS major

1. **Scientific Method:** Students will appropriately apply aspects of the Scientific Method to novel situations.
2. **Career Exploration:** Students will articulate the requirements and responsibilities of careers related to the MLS major.
3. **Effective Communication:** Students will demonstrate competency in oral and written communication skills.
4. **Research Skills:** Students will demonstrate the ability to conduct research applicable to medical laboratory diagnostic and the importance of patient care.
5. **Laboratory Skills:** Students will demonstrate appropriate techniques in the use of laboratory equipment and the methodology involved in experimentation and clinical testing.
6. **Knowledge of Clinical Laboratory Testing Procedures:** Students will articulate an understanding of basic biology necessary to conduct appropriate clinical tests and basic steps involved in these testing procedures.

A table indicating where Program Learning Outcomes (LOs) are Introduced (I), Reinforced (R) or Mastered (M) within required coursework for the MLS degree is included below:

Required Course	LO 1: Scientific Method	LO 2: Career Exploration	LO 3: Effective Communication	LO 4: Research Skills	LO 5: Laboratory Skills	LO 6: Knowledge of Testing Procedures
BIO 1500	I		I	I	I	I
BIO 1501		I				
BIO 2215			I		I	I
BIO 2216			I		I	I
BIO 3710	R	R	R	R	R	R
BIO 3362						R
BIO 3850			R		R	R
BIO 4300						R
MLS 3100		R				R
MLS 3300	R					R
MLS 3600						R
MLS 3700						R
MLS 4200						R
MLS 4250						R
MLS 4400						R
MLS 4450						R
MLS 4600						R
MLS 4800		M	R		M	M
MLS 4850		M	R		M	M
MLS 4900	M	M	M	M		M
MLS 4950						M

The Medical Laboratory Science Program

The MLS program provides the student with didactic and field experiences necessary for working in a laboratory within a hospital, public health department, research, private, government, or industrial setting. Within the curriculum, the program provides exposure to experiences which lead to the development of competent practicing Medical Laboratory Scientists. Graduates will utilize critical thinking, educational, and technical understanding to identify, evaluate, research and provide solutions to problems which may arise in clinical situations. The program will also provide opportunities to develop supervisory and management skills, and enable students to pursue graduate studies. The broad technical and professional experiences will enable future employers to develop the student's fullest potential as a working member of the laboratory and healthcare team.

For more information, visit [Medical Laboratory Sciences - Florida Southern College](#)

Program Overview

The MLS program is an allied health career opportunity for students interested in working in a clinical laboratory. Medical Laboratory Scientists work behind-the-scenes, processing laboratory tests which licensed healthcare providers utilize in the diagnosis, monitoring and treatment of patients. These laboratory applications also support preventative medicine practices. Medical Laboratory Scientists primarily work in hospitals, clinics, private laboratories, public health organizations, research laboratories, and research and development departments of pharmaceutical or industrial companies.

Medical Laboratory Scientists assist licensed healthcare providers and other hospital staff in choosing the correct lab tests, support proper collection methods, and provide education on technical methodologies. Medical Laboratory Scientists receive, analyze, interpret and report results from patient specimens. A Pathologist may confirm a diagnostic result, but often the Medical Laboratory Scientist is responsible for interpreting and communicating critical patient results to the healthcare team.

Examples of job tasks for Medical Laboratory Scientists include: identification of infectious agents such as bacteria, viruses, fungi, and parasites; analysis of blood to detect disorders such as leukemia, hemophilia and immunodeficiency; measuring the presence of antibodies in blood to indicate infection with agents such as Human Immunodeficiency Virus (HIV); analysis of molecular tests such as Polymerase Chain Reaction (PCR) for the detection of emerging diseases; and assuring the quality and compatibility of blood for transfusions. In addition, laboratory scientists assure the quality of test data, compare and select appropriate laboratory methods and instruments, provide physicians with information on the validity and significance of test results, and supervise other laboratory personnel.

Accreditation Statement

The Florida Southern College MLS program is accredited with the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). For more information, use the contact information provided:

National Accrediting Agency for Clinical Laboratory Sciences, (NAACLS)

5600 N. River Rd, Suite 720 Rosemont IL 60018-5119

Phone: 773.714.8880

Fax: 773.714.8886

info@naaccls.org

www.naaccls.org

Certification and Licensure Eligibility

Graduates of the MLS program is eligible to sit for the Medical Laboratory Scientist (MLS) examination through the American Society for Clinical Pathology (ASCP) Board of Certification (BOC). Graduates who successfully pass the national certification exam are eligible to apply and receive a state license to practice as an MLS within Florida. *Graduation is not contingent upon taking or passing a national certification exam or obtaining a Florida license as an MLS.*

Mission Statement

Florida Southern College and Lakeland Regional Health's mission for the Medical Laboratory Science (MLS) Program is to empower students to attain the theoretical knowledge, practical applications, critical thinking, research methodologies, and effective communication skills to successfully practice in the dynamic field of medical laboratory science. We believe that by promoting wellness, education and discovery, our graduates will have a positive impact on society and help to deliver the best outcomes and safest care to the surrounding community.

Program Goal & Objectives

Our goal is to prepare an individual with an in-depth academic experience in which learning empowers growth, values, professionalism, and technical competencies to perform as an entry-level medical laboratory scientist.

Objectives of the MLS program is to offer opportunities for students to:

1. Acquire the necessary educational knowledge to be part of a high-performance laboratory team which provides timely and accurate laboratory results for the purpose of diagnosing and treating disease and maintaining health
2. Demonstrate competent practical laboratory skills and quality workflow to support the preanalytical, analytical and post-analytical processes
3. Apply critical thinking skills and independent judgement making sure to recognize when to take appropriate action
4. Effectively communicate with patients, physicians, colleagues, employees, and other members of the healthcare team
5. Instill the importance of quality assurance and quality improvement in all aspects of laboratory performance
6. Grow the profession of medical laboratory science through the provision of highly skilled and dedicated professionals
7. Become lifelong learners as they seek to maintain competence and continuing education for personal and professional career growth
8. Teach, demonstrate, and promote ethical behaviors and provide the building blocks for future leadership endeavors
9. Encourage participation in activities of professional organizations
10. Instill a sense of integrity, professionalism, and emotional intelligence required to sustain a healthy working environment for students, patients, and all members of the healthcare team

Program Essential Functions

The MLS student must be able to:

1. Observe laboratory demonstrations in which biologicals (i.e. body fluids, culture materials, tissue sections, and cellular specimens) are tested for their biochemical, hematological, immunological, microbiological and histochemical components.
2. Characterize the color, odor, clarity and viscosity of biologicals, reagents or chemical reaction products.
3. Employ a clinical grade binocular microscope to discriminate among fine structural and color (hue, shading, and intensity) differences of microscopic specimens.
4. Read and comprehend text, numbers and graphs displayed in print and on a video monitor.
5. Move freely and safely about a laboratory.
6. Reach laboratory benches and shelves, patients lying in hospital beds or patients seated in specimen collection furniture.
7. Travel to clinical laboratory sites for practical experiences.
8. Perform moderately taxing continuous physical work, often requiring prolonged sitting over several hours.

9. Perform phlebotomy, utilizing the correct equipment for venipuncture collection.
10. Utilize culture acquisition equipment to safely collect valid laboratory specimens from patients.
11. Manipulate laboratory equipment (pipettes, inoculating loops, test tubes) and adjust instruments to perform laboratory procedures.
12. Use an electronic keyboard to operate laboratory instruments and to calculate, record, evaluate and transmit laboratory information.
13. Read and comprehend technical and professional materials (textbooks, magazine and journal articles, handbooks and instruction manuals).
14. Follow verbal and written instructions in order to correctly and independently perform laboratory test procedures.
15. Direct oral communication with patients, nurses and other non-laboratory personnel.
16. Communicate orally urgent critical values to nurses and physicians via telephone.
17. Confidentially and sensitively converse with patients, and other non-laboratory personnel regarding laboratory tests.
18. Communicate both written and oral with faculty members, fellow students, staff and other health care professionals.
19. Independently prepare papers, prepare laboratory reports and take paper, computer and laboratory practical exams.
20. Possess the following skills: comprehension, measurement, mathematical calculation, reasoning, integration, analysis, comparison, self-expression and criticism.
21. Be able to exercise sufficient judgment to recognize and correct performance deviations.
22. Be able to manage the use of time and to systemize actions in order to complete professional and technical tasks within realistic constraints.
23. Possess the emotional health necessary to effectively employ intellect and exercise appropriate judgment.
24. Provide professional and technical services while experiencing the stresses of uncertainty (ambiguous test ordering, ambivalent test interpretation), emergent demands (STAT ordered tests) and a distracting environment (high noise levels, crowding, complex visual stimuli)
25. Recognize potentially hazardous materials, equipment, and situations and proceed safely in order to minimize risk of injury to patients, self, and nearby individuals.
26. Adapt to working with unpleasant biologicals.
27. Support and promote the activities of fellow students and of health care professionals. Promotion of peers helps furnish a team approach to learning, task completion, problem-solving and patient care.
28. Be honest, compassionate, ethical and responsible. The student must be forthright about errors or uncertainty. The student must be able to critically evaluate her or his own performance, accept constructive criticism, and look for ways to improve (participate in enriched educational activities). The student must be able to evaluate the performance of fellow students and tactfully offer constructive comments.

Entry-Level Competencies

At entry-level, the medical laboratory scientist will possess the entry-level competencies necessary to perform the full range of medical laboratory tests in areas such as Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology/Transfusion medicine, Microbiology, Urine and Body Fluid Analysis and Laboratory Operations, and other emerging diagnostics, and will play a role in the development and evaluation of test systems and interpretive algorithms. The medical laboratory scientist will have diverse responsibilities in areas of analysis and clinical decision-making, regulatory compliance with applicable regulations, education, and quality assurance/performance improvement wherever laboratory testing is researched, developed or performed.

At career entry-level, the medical laboratory scientist will have the following professional competencies:

A. Professional Behaviors and Communication

- Demonstrate professional and ethical behavior along with effective interpersonal communication skills when engaging with various stakeholders.
- Establish effective interprofessional working relationships with other health care professionals, demonstrating comprehension of and respect for their roles and patient welfare.
- Recognize and appreciate the importance of engaging with an inclusive workforce through collaboration.
- Value and advocate for a workplace environment that fosters inclusivity, diversity, equity, and accessibility.

B. Safety and Compliance

- Comply with government regulations and accreditation standards relevant to the respective discipline.
- Adhere to prescribed protocols for overall laboratory safety, biohazard containment, and waste disposal.
- Implement quality assurance principles to ensure the validity and accuracy of laboratory generated data.

C. Education and Research

- Acknowledge and respond to individual requirements for continuing education and development to foster growth and maintain professional competence.
- Provide instruction to users of laboratory services regarding appropriate procedures, test utilization and interpretation.
- Evaluate clinical research studies and data sets to assess applicability and validity.

D. Laboratory Operations

- Employ a logical and systematic problem-solving approach when identifying errors and/or technical issues with laboratory procedures and instrumentation.

- Apply principles of data security to safeguard laboratory and hospital information systems.
- Apply principles of quality assurance to ensure validity and accuracy of laboratory data.
- Recognize principles and practices of laboratory management as applied to clinical laboratory science.

E. Pre-Analytical Competencies

- Evaluate specimen collection, processing, and storage procedures in accordance with standard operating procedures.
- Ensure specimen integrity is maintained throughout the sample procurement process.

F. Analytical Competencies

- Adhere to written policies, processes, and procedures for analytical testing, analysis, and instrumentation maintenance.
- Evaluate and provide rationale for troubleshooting protocols in analytical testing when appropriate.
- Perform routine procedures in accordance with standard operating procedures.
- Apply quality control principles to analytical testing procedures, including instrument calibration, statistical analyses of control results, Westgard rules, and verification of reference ranges.
- Perform basic calculations, dilutions, and statistical analyses for procedures and analytical testing in the respective discipline.
- Apply theoretical principles of instrumentation to current methods of analysis.

G. Post-Analytical Competencies

- Perform all post-analytical procedures in accordance with quality assurance protocols and regulatory standards.
- Evaluate results for accuracy relative to quality control, patient history, specimen integrity, and overall clinical correlation.
- Report test results, including abnormal, STAT, and critical values, in accordance with the laboratory's standard operating procedures.

Program Affective Objectives

After completion of the MLS program, the student will exhibit the following behaviors:

1. Apply a distinct body of knowledge gained from coursework
2. Profess a sense of duty to those being served
3. Demonstrate responsibility for maintaining standards of excellence
4. Commit to a strict code of ethics
5. Demonstrate recognition and esteem for fellow professionals
6. Demonstrate competency in scientific, technical, managerial and scholarly principles
7. Act according to the high standards for performance and professional conduct of the profession
8. Demonstrate strong values and beliefs
9. Demonstrate sound judgment skills in interpreting laboratory results
10. Follow through on decisions based on information, facts and concepts

11. Project an image of professionalism to include appearance, dress and confidence
12. Promote respect and high regard for all health care professionals
13. Maintain a clean, neat working area
14. Adapt to new circumstances with ease
15. Be punctual and reliable in attendance
16. Follow all policies regarding patient safety and confidentiality
17. Follow all appropriate safety policies and procedures
18. Accept constructive criticism and attempt to improve
19. Strive to be versatile in handling more than one task
20. Promote cooperative and courteous relationships with others in the work environment

Program Policies and Procedures

Each student has the responsibility to read and understand all policies and procedures as stated by the College and this program handbook, including those directly related to the clinical affiliate.

MLS Admission Requirements

All requirements are included in the Florida Southern College (FSC) Academic Catalog. If there are any discrepancies, the Academic Catalog supersedes any information listed here. Therefore, students are encouraged to consult with the Academic Catalog to confirm these requirements: <https://www.flsouthern.edu/academic-life/academic-catalog>

Florida Southern College's medical laboratory sciences (MLS) major provides students with a Bachelor of Science degree and extensive training for a career as a medical laboratory scientist in a four-year program. Medical laboratory scientists play a vital role in the health care system, and are involved in medical diagnosis and treatment. They operate and manage clinical labs, perform research, and are involved in education and training of lab staff. Students in the MLS major gain experience with state-of-the-art automated laboratory equipment, computers and microscopes, and learn the proper procedures for clinical tests involving analysis of patient samples.

MLS majors have extensive backgrounds in basic and advanced sciences, including anatomy and physiology, immunology, microbiology, and chemistry. Students must possess the abilities to critically analyze results and troubleshoot problems.

Florida Southern College has partnered with Lakeland Regional Health (LRH), the major health care provider in the community, to create a unique program where students spend their first three years on the campus of Florida Southern College, and their fourth year at LRH clinical labs in the nearby hospital and testing facilities. The curriculum follows the strict guidelines set by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), and the program has been awarded Initial Accreditation for five years by NAACLS. By the end of the program, students are well prepared to take the national certification exam for the Medical Laboratory Scientist administered by the American Society for Clinical Pathology Board of Certification. The granting of the degree is not contingent upon the student passing the certification exam.

Admission to the program is competitive, and a comprehensive review of application materials will determine admittance. Acceptance to the college does not guarantee acceptance into the MLS program. Acceptance is based on merit and available space in the program. If admitted to the MLS program, students must maintain an overall Florida Southern College GPA of 3.0 and a final grade of C or better in all MLS major and prerequisite courses. Students who are unable to maintain these standards may be unenrolled from the MLS program. There are five entry pathways into the MLS program:

1. Direct Entry Applicants

High school students may apply to the MLS program and begin their education in the first year to be completed over a four-year time period. Enrollment is limited to six students per year. Acceptance to the college does not guarantee acceptance into the MLS program. Acceptance is based on merit and available space in the program. Students should maintain an overall Florida Southern GPA of 3.0, and have a final grade of C or better in all major and prerequisite courses. Students who are unable to maintain the required academic standards may be unenrolled from the MLS program.

2. Internal Transfer Applicants

Students currently enrolled at Florida Southern College in different majors may apply for a change of major into the MLS program. Students must meet all requirements for direct entry, have met or will meet all prerequisite course requirements, and have an overall GPA of 3.0 with a C or better in all major and prerequisite courses. The dean of the School of Arts and Sciences and the MLS director will review all internal applicants and make a final decision for a change in major based on merit and available space in the program.

There is no guarantee for transfer into the MLS major from other majors even if the student meets academic eligibility. A student requesting an internal transfer to the MLS major is required to make an appointment with the MLS director by November 15 to be considered for the following spring semester, or by March 1 to be considered for the following fall semester.

*3. External Transfer Applicants**

To apply for admission to the MLS program, a transfer student must first be admitted to the College and, at minimum, should meet the following academic criteria:

- Overall college GPA of 3.0 based on previous coursework.
- Completion of at least three prerequisite courses including BIO 1500, CHE 1111, and CHE 1112 all with a grade of C or higher.
- Coursework required for the major cannot be transferred if completed more than 5 years before the student matriculates at FSC.

*4. Second Degree Seeking Students**

Students who have already earned a Bachelor's degree may apply to the program as a second-degree seeking student. Upon completion of the program, students will earn a BS degree in MLS. To apply for admission to the MLS program, a second-degree seeking student must first be admitted to the College and, at minimum, should meet the following academic criteria:

- Overall college GPA of 3.0 based on previous coursework.
- Completion of at least four prerequisite courses including BIO 1500, CHE 1111 and CHE 1112 all with a grade of C or higher.

- Coursework required for the major cannot be transferred if completed more than 5 years before the student matriculates at FSC.

5. Five Year Dual Major Pathway

Prior to their senior year, Florida Southern College students may apply for the Five Year Dual Major Pathway. Students who are on track to graduate with a biology or related major, with all prerequisite MLS courses completed or in progress, can take MLS courses in their fourth year while they are completing their first major. Students continue for one additional year to complete the remaining requirements for an MLS major and graduate after five years with two majors. Students interested in this program must reach out to the MLS director to review student progress and discuss how the student can fit prerequisite and MLS coursework into their schedules. Students must have an overall college GPA of 3.0 with a grade of C or higher in all prerequisite courses for the MLS major.

**External Transfer and Second-Degree Seeking Student Requirements*

Upon application and acceptance to the College, student transcripts will be reviewed by the Registrar. Students are required to create a course plan for degree completion in conversation with a biology faculty member before they matriculate. Students should be advised that courses in the natural sciences require prerequisite coursework and transfer students who are not bringing in these courses may be delayed in taking upper-level courses until they fulfill these requirements. Coursework required for the major cannot be transferred if completed more than 5 years before the student matriculates at FSC.

Enrollment/Progress Requirements

Enrollment in the MLS major is restricted to six students per year. All MLS majors must earn a grade of C or better in all required coursework for the major and maintain a minimum GPA of 3.0 each semester. There is an expectation of a high standard of conduct and professional behavior for all students. Students who do not maintain the expected level of academic and professional performance may be unenrolled from the MLS program. Mid-degree course check-ins are required.

**Medical Laboratory Sciences (MLS) Bachelors of Science degree
Mid-degree Course Check
*To be completed by December 20th of a student's third semester***

Name: _____ Date: _____

Home Address: _____

Phone: _____

Email: FSC: _____ Permanent: _____

Faculty Advisor: _____

Semester/Year of Matriculation to FSC: _____

Anticipated Semester/Year of Graduation from FSC: _____

Current Overall GPA _____

Current Science/Math GPA _____

Provide an updated long term academic plan for your MLS degree.

Complete the following on a separate sheet and attach to the application:

1. An updated long-term plan showing all courses you have taken and are planning to take each semester at FSC.
2. A personal statement of no more than 500 words on your experiences as an MLS major, and what motivates you to continue this career track. Include how your education is helping you in this capacity, any contact you have had with Medical Laboratory Scientists, any tours you have taken of clinical facilities, etc.
3. A current unofficial transcript from Florida Southern College.

I attest the information in this application is true and accurate.

Signature

Date

Submit the degree check by December 20th of the third semester to:
Dr. Nancy Morvillo
Professor and Chair of Biology and Pre-Medical Studies Coordinator
Florida Southern College

MLS Special Requirements

- Each MLS student is required to participate in clinical laboratory experiences at off-site locations. Each student is responsible for obtaining reliable transportation to the clinical laboratory sites. Students may be assigned laboratory rotations on weekends.
- Students will incur additional costs throughout the program based on working in a health-care environment.
- Each MLS student is required to complete a criminal background screening, including fingerprinting, prior to starting the first clinical laboratory course. Upon review of the background screening or if there is a failure to disclose or report any criminal arrest before or after matriculation additional follow-up may be communicated to the students regarding possible disqualification from the MLS program.
- Each MLS student is required to complete a ten-panel drug screen prior to starting the first clinical laboratory experience. Any student may be requested to repeat the urine drug screen as required by any clinical site or as part of a drug testing program. The cost of the background check and drug screenings is the responsibility of the student. *Note: Students who have a positive drug test may be denied acceptance into the MLS program or be unenrolled from the MLS program.*
- A blanket student liability insurance policy will cover all MLS students for the time he or she is working in a clinical site as part of a supervised laboratory experience.
- Prior to the fall semester of the final year, each MLS student is required to apply for and obtain a clinical laboratory trainee license with the state of Florida prior to beginning the first clinical rotation in the fall of their senior year. For more information, visit [Trainee | Florida Board of Clinical Laboratory Personnel](#)
- Each student will complete a Level 2 Background Screen as part of the state licensure requirements.
- Each MLS student is required to provide proof of immunization prior to entering any clinical laboratory. The student is responsible for all related costs for immunization. No student will be allowed to begin clinical laboratory experiences until all immunizations or proof of immunity (titers) has been submitted to the MLS Program Director. As part of the onboarding process, the Program Director will notify students of the current requirements. The following is a list of suggested vaccines:
 - a) Mantoux tuberculin test or serum-based tuberculosis assay
Note: Student must demonstrate a negative screen for tuberculosis infection
 - b) Measles/Mumps/Rubella (MMR) titers
 - c) Hepatitis B titer
 - d) Hepatitis C titer
 - e) Varicella titer
 - f) Pertussis (Tdap booster within past 10 years) vaccination record
 - g) Tetanus (booster every 10 years)
 - h) Annual flu vaccine
 - i) Physical or wellness assessment
 - j) COVID-19 vaccine
 - k) Any additional requirements specified by your clinical site
- After the immunization record is reviewed by the Program Director, any additional follow-up health care requirements will be communicated to the student.

Non-Discriminatory Policy

Florida Southern College is committed to administer all educational and employment activities in compliance with Title VI and Title VII of the Civil Rights Act of 1964, Title IX of the Educational Act of 1972, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, and the Florida Civil Rights Act of 1992, and thereby does not discriminate based on race, creed, color, national origin, gender, gender identity, sex, sexual orientation, marital status, pregnancy, religion, age, disability, political opinions or affiliations, genetic information, veteran or military status as protected under the Vietnam Era Veterans' Readjustment Assistance Act, and any other protected category under applicable local, state, or federal law. This policy applies to Florida Southern College faculty, employees, students, visitors, applicants, and contractors in a manner consistent with applicable federal and state laws, regulations, ordinances, orders and rules, and College policies, procedures, and processes. The College ascribes to equal opportunity practices and admits all of its students to the rights, privileges, programs, and activities generally accorded or available to students and employees at the College.

Discrimination on the basis of race, color, religion, sex, sexual orientation, gender identity or expression, national origin, age, physical or mental disability, veteran status, genetic information, or any other basis protected by federal, state, or local law is prohibited and will not be tolerated in the learning and working environment. If an MLS student or faculty member feels as if he or she has been discriminated against or observes an act that may be interpreted to be discriminatory, he or she has a duty to report it to the MLS Program Director.

For more information, visit [Equal Opportunity - Florida Southern College](#)

Student Compliant Procedures

Complaints and appeals are addressed by various offices depending on the nature of the grievance. A directory of names or offices to whom complaints should be directed is available in our [Section 504 Grievance Procedure document](#).

The College has a general grievance process, but maintains separate, more specific processes for dealing with certain academic and harassment complaints. Complaints and appeals fall into one of three general categories:

1. General Grievance Process
2. Academic Complaints/Appeals
 1. Grade Appeals
 2. Academic Dishonesty
 3. Academic Suspension Appeal
 4. Complaints Related to Student Privacy (FERPA)
 5. Other Academic Related Appeals
3. Discrimination
4. Non-academic
 1. General Non-academic
 2. Student Misconduct
 3. Financial

The complaint procedures outlined apply to full-time and part-time students, and regardless of instructional modality (traditional face-to-face vs. distance learning).

For more information on the categories listed above, visit [Student Complaint Procedures - Florida Southern College](#)

During the clinical experiences, students should first bring the complaint to the attention of the MLS Program Director. Upon investigation, the Program Director will provide an outcome to the student. Should the student wish to appeal the outcome, a neutral arbitrator, the Chair of Biology, would be the next step in the grievance process.

Advisement

In addition to faculty advisement procedures with FSC, the MLS Program Director is available to assist and advise students. Students are advised to make an appointment with the Program Director during regular office hours; however, when needed, every effort will be made to accommodate students outside office hours.

Students will have the opportunity to evaluate each faculty member at the end of every semester. This is highly encouraged to provide constructive feedback to MLS faculty as to their delivery of material and the students' ability to retain it.

Attendance

As a rule, please review course policies on attendance within each of your courses. Instructors reserve the right to set and enforce more stringent policies at their discretion. The following are general policies to keep in mind throughout the program. Failure to follow these policies may be documented and could lead to disciplinary action – including removal from the MLS program.

Absences – Lecture

Lecture is a vital component for success in the MLS program. Absences are considered a negative attribute and references from faculty will reflect against the student. The program is considered a professional program and the student will be assessed in accordance with professional standards of the medical laboratory industry.

UNEXCUSED ABSENCES are strongly discouraged and the student should not expect the faculty to help with material that has been missed. Three unexcused absences during an MLS course are considered a severe enough offense that disciplinary action can be sought - including dismissal from the program.

Absences on test days are considered unexcused absences unless documented reasons are provided. In extenuating circumstances, the student may petition the program faculty to be allowed to make up the exam but such exceptions are at the discretion of the faculty.

Absences – Laboratory Sessions

Clinical specimens, reagents, and supplies used for laboratory exercises have a short usable life. Because of these constraints and the expense involved, NO make-up sessions will be held in the laboratory by the faculty.

With faculty permission and availability of specimens and reagents, the student may be able to perform laboratory procedures missed. If, due to constraints, the lab session(s) cannot be made up, a grade of zero (0) will be given for the missed lab.

However, the student will be responsible for information that would be gained from the performance and write-up of each exercise.

Absences in assigned clinical rotations are considered unexcused and will result in dismissal from the program if excessive. Refer to the Clinical Practicum Handbook for more information.

Tardiness

Punctuality is the mark of a professional. Faculty can set late arrival policies. Students who do not demonstrate punctuality per those policies will have tardies documented as unexcused absences.

The student will be graded on punctuality critically during the clinical practicums. Therefore, it is important that good attendance habits are developed. Your future positions will require it.

MLS Grading Policies

Grading policies for the MLS Program are those approved by the faculty of the Program as a whole. Grading schematics is at the discretion of the faculty and may vary based on the MLS course content and assessments. Course grading policies will be outlined in each syllabus. For any additional questions, refer to course faculty and/or the Program Director.

The policies are as follows:

NUMERICAL AVERAGE	LETTER
90 – 100	A
80 - 89	B
70 - 79	C

UNSATISFACTORY GRADES

60 - 69	D
68 - 0	F

Curriculum

Admission to the professional phase and progressions within the MLS program requires students to maintain a minimum overall GPA of 3.0 which is equivalent to a B average. This applies to all MLS and discipline-specific coursework including clinical experiences. Students must earn a grade of “C” or higher in each MLS course with no course failures permitted within the professional curriculum.

The MLS curriculum is structured to integrate didactic instruction in laboratory theory, pathophysiology, instrumentation, quality systems, and diagnostic methodologies with hands-on laboratory practice and supervised clinical rotations designed to develop competency in real-world laboratory operations, specimen analysis, problem solving, and patient testing applications. Coursework and competency expectations are aligned with the content distribution and professional standards established by the American Society of Clinical Pathology (ASCP) Board of Certification (BOC) examination framework to prepare graduates for national certification and entry-level professional practice.

Instructional Methods

Many portions of the curriculum incorporate online learning, recorded lecture, virtual resources, and supplemental educational platforms in addition to traditional classroom instruction. Enrolled students are expected to engage with a variety of instructional modalities. This could include the learning management system, video lectures, slide decks, YouTube videos, educational resources, and other technology-enhancing tools to support both didactic and clinical competency development.

Artificial Intelligence (AI) Policy

Regarding AI Tools in Student Work, the MLS program strictly prohibits the use of Artificial Intelligence (AI) to complete any work or assessment EXCEPT for in the following cases:

A student MAY use AI to brainstorm thoughts but is REQUIRED to cite the AI tool in their references if any content is used from the AI tool.

- o EX: In text (OpenAI, 2025) and on reference page OpenAI. (2025). ChatGPT (March 14 version) [Large Language Model]. <https://chat.openai.com/chat>

A student MAY use AI to check their grammar and spelling but is REQUIRED to cite the AI tool in their references. Students are prohibited from utilizing AI tools that will rephrase their original work.

- o EX: In text (Grammarly, 2025) and on reference page Grammarly. (2025). Grammarly [Large Language Model]. <https://www.grammarly.com>

You will lose credit or receive a zero on any assignment that flags as using >20% AI tools when there is no resource provided as such. If there is a question regarding the assignment, the instructor will reach out to the student for further communication.

Students should NOT rely on AI to complete academic work without demonstrating their own understanding. Violation of these expectations may be considered a breach of academic integrity.

If you're unsure whether a particular use of AI is appropriate, please ask your instructor FIRST.

Cheating

Cheating of any kind may result in immediate dismissal. This policy includes all work performed, including exams, quizzes, worksheets, laboratory tests, case histories, projects, etc. Please note, unless given specific instructions to use AI to complete a specific assignment, using AI incorrectly can be categorized as cheating.

Academic Integrity

Since this is considered a professional program the expectations of the student's behavior are critically evaluated. A student cheating on an exam or laboratory exercise does not exhibit behavior that would be conducive to handling patient data in a clinical setting. If a student is caught cheating, copying or turning in any form of work that is not his/her own, there will be immediate action taken that will result in dismissal from the program.

Plagiarism

The use of facts, ideas, phrases, charts, etc. from any source without giving credit for the information. In a paper, report, or similar graded submission, all unacknowledged material is assumed to be the original work of the writer. Ideas and information from another source, whether paraphrased or a direct quotation, must be acknowledged using a standard documentation format such as APA. The downloading of papers from the internet and submission of the material as work done by the student is one of the most blatant examples of plagiarism. Individual professors are responsible for explaining their referencing policies in each class.

Academic Performance

The grades for each MLS course (contains the prefix MLS) will be determined using the following sources of "suggested" assessment:

Cognitive:	Quizzes, Case Studies, Exams, Discussion, Critical Thinking Exercises, Laboratory Exercises
Psychomotor:	Performance Evaluation/Technical Skill to assess and perform functions in a laboratory environment
Affective:	Performance Evaluation/Affective Evaluation to assess attendance, punctuality, team participation, professionalism, responsibility, and attentiveness

- A. **Cognitive:** Students must be able to measure, calculate, analyze, synthesize, integrate, and apply information including utilizing critical thinking and sound judgement in problem solving situations.
- B. **Psychomotor:** Students must have sufficient motor function to perform entry-level medical laboratory science processes and techniques such as collecting blood, operating computers, and manipulating complex laboratory instruments.
- C. **Critical Objectives:** All critical objectives in each course must be successfully performed. If any critical objective is not successfully completed, the student **MUST** remediate the failed critical objective. Any student who has failed any critical objective needs to refer to the section on Remediation for specific guidelines. Failure to obtain successful completion of any critical objective in any course will result in the non-probationary student being placed on probation for the remainder of the course. Please see the section on Probation for specific guidelines.
- D. **Clinical Objectives:** As part of the practicum performance evaluations, the student must receive a passing score to successfully complete each clinical objective. Any score below passing on any clinical objective is considered a failing score for that portion of the practicum.

- E. **Affective Performance Evaluation:** Students must possess the emotional intelligence, behavioral and social attributes, and ethical standards (professionalism) to work under minimal supervision.

Important Information:

- In addition, to ensuring each student maintains a minimum GPA of 3.0, a satisfactory grade of C or better must be attained on the accumulation of points for each theory course, as well as all clinical practicum rotation sequences. Failure to obtain an overall grade of C or better for any final course grade will result in the student being placed on probation for the remainder of the clinical practicum. Please see the section on Probation for specific guidelines.
- A satisfactory level of achievement must be attained on any evaluations for each rotation in the practicum.
- Due to limited enrollment and course sequence in the MLS program, professional courses are only offered once annually. Therefore, failure of any MLS course may delay progression in the program by one academic year.
- While there are alternative certification pathways for medical laboratory science, such as American Medical Technology (AMT), the MLS program curriculum is designed to align with the content preparation with ASCP.

Laboratory Performance

The MLS profession requires accuracy and precision in the laboratory setting. While we have student laboratory sessions to help build on these skills, if the student is not able to maintain expectations on laboratory work, the student will need to meet with the MLS Program Director to discuss alternative curricular options.

Professional Performance

Students not meeting the Essential Functions or Programmatic policies can be academically dismissed due to their inability to meet specific program requirements. The MLS faculty will evaluate and meet with each student prior to clinical experience to assess the behaviors and professional attributes the student has demonstrated. Students not meeting professional standards; students may be asked to choose another major or retake MLS classes.

Communication

Communication, both oral and written can come in many forms. Specific FSC/MLS communication maybe shared via email, LMS announcement, classroom announcement, text, or telephone call. It is the student's responsibility to maintain their most current email address, telephone/mobile number, and mailing address. Gentle reminders and quick check-ins, can be communicated via text if the instructor makes this option available.

Professional Organizations

Students are encouraged to join the American Society of Clinical Laboratory Science (ASCLS) or the American Society for Clinical Pathology (ASCP) at a reduced student rate. These societies promote the medical laboratory science profession and provide opportunities for professional growth.

Other organizations of interest are:

- American Association of Blood Banks (AABB)
- American Association for Clinical Chemistry (AACC)
- American Society for Microbiology (ASM)
- Clinical Laboratory Management Association (CLMA)
- American Association for Hematology

Information may be located via organization websites.

Student Responsibilities

Student ID number

All MLS students MUST possess a Student ID number provided in order to access the campuses for our clinical affiliate. This is separate from the FSC student number and will also correlate with a badge which must be worn (above the waste) at all times while on the hospital campus.

Transportation

The MLS student MUST have the ability to relocate or have transportation to and from the location of their didactic and laboratory sessions, as well as to the clinical affiliate for their clinical rotations. Students must also meet the expected schedule of the clinical affiliate.

Incidental Program Expenses

Item	Number needed	Cost per item	Total cost
Expenses (as Rising Juniors)			
Immunizations/Titers	Varies	Varies	Varies
Scrubs	Varies	Varies	Varies
Drug Screen	One	\$46	\$46
Background Check	One	\$64	\$64
Expenses (per Student)			
Tuition	Annual	\$47,670	\$190,680
Food and Housing	Annual	\$15,130	\$60,520
MLS Books	Per Semester	\$300-600	\$1200-2400
Expenses (as Seniors)			
Certification Exam Fee	One	ASCP \$250	ASCP \$250
Clinical Laboratory Trainee License	One	\$45	\$45
Fingerprints for Trainee License	One (held for 5 years)	Varies	Varies

Health Insurance Coverage

Students are required to provide their own medical insurance and documentation of proof of insurance must be provided to the Program Director as part of onboarding for the MLS program. Lakeland Regional Health group medical insurance is NOT available to students. In case a claim should arise from any laboratory incident, the student is responsible for submitting the claim to his or her insurance company and for any deductible, copays or costs incurred.

Liability Insurance

This insurance is provided by Florida Southern College and is not considered an additional expense.

Background Check

You will be required to obtain an OFFICIAL background check. The student must cover the cost of the background check. See *Incidental Program Expenses* for more information.

Drug Screen

You will be required to obtain an OFFICIAL background check. The student must cover the cost of the background check. See *Incidental Program Expenses* for more information.

Dress Code

The official scrub uniform for MLS students is a teal scrub top with the proper embroidery (See Uniform Acknowledgement Form) and black scrub pants. Students are expected to wear the proper scrubs when they are in class, lab sessions, observations, and clinical rotations. Students are expected to purchase scrubs from Discount Uniform (locally to Lakeland). Students are responsible for the cost. In addition to wearing the required scrub uniform, MLS students must abide by the following:

- Identification badge must be visible at all times, as applicable
- All apparel is to be neat and clean
- Good personal hygiene is expected
- Hair below the shoulders must be pulled back
- Dangling earrings should not be worn
- Legs must be covered
- Shoes must be close-toed and worn with socks or hosiery
- Appropriate personal protective equipment (PPE) must be worn when handling laboratory specimens, reagents, etc.

Health Status Reports/Immunizations

Every student must submit the following health information to the Program Director so it may be kept with each student's record. This material is required by the clinical affiliate to ensure your health is appropriate within a clinical setting per their occupational health requirements.

The minimum requirements are:

1. Updated vaccine status for*:
 - a. Hepatitis B
 - b. MMR
 - c. TdAP (within last 10 years)
 - d. Varicella (or documented history of illness)
 - e. Seasonal Influenza
 - f. COVID-19
2. Results of a tuberculin skin test or serum-based tuberculosis assay that demonstrates the student is not infected with tuberculosis.
3. A drug screen

*Some facilities do allow exceptions for some vaccines. The program respects an individual's medical autonomy. However, each facility reserves the right to reject a student for not meeting their health and vaccine requirements. While the program will attempt to find a suitable alternative in these situations, this cannot be guaranteed and could impact the student's progression and ability to graduate. Due to the nature of the samples obtained from clinical facilities, the faculty of the MLS program HIGHLY ENCOURAGE all vaccines at the start of the program – especially Hepatitis B.

These vaccines can be obtained through the Student Health Center for a nominal cost. Please also note that the student health center keeps records of most of these vaccines and has requested proof (or declination) of them during your admissions process.

Other health-related documents and records may be needed at the request of the clinical affiliate. The student must provide all requested documents to be eligible to attend the clinical affiliate for their clinical/applied learning experience. Clinical affiliates reserve the right to refuse a student who does not comply with the health policies. Students are required to cover the cost of all the above health-issues.

Florida Trainee License

All students must apply for and obtain a Board of Clinical Laboratory Personnel Trainee License from the State of Florida Department of Health prior to beginning their clinical rotations in their final academic year. The cost of the license is \$45. Fingerprints are now required for all Clinical Laboratory Personnel, including trainees. This is an addition expense and must be completed prior to the state application. Pricing varies as the student chooses the Livescan Provider they wish to use for the fingerprinting process. For more information, visit [Initiate a Screening - FL HealthSource • Health Care Resources for Consumers & Providers](#)

Florida applicants should also complete the state licensure application found on the Florida Department of Health website. Failure to complete the Florida licensure delays receiving the Florida license.

State of Florida
Department of Health
Board of Clinical Laboratory Personnel
P.O. Box 6330
Tallahassee, FL 32314-6330
Phone: (850) 245-4355
www.floridasclinicallabs.gov/

Textbooks/Resource Materials

The student is directed to the individual syllabus for the textbooks that are required for each course, in addition, the college bookstore can provide a list of books being used in each course. The student should retain the textbook at course completion. They will serve as reference texts during the Capstone course, Clinical Internship, and with for certification preparation. In addition to textbooks, the program has secured licenses for several online websites. These sites will be used as supplemental material and completion of some of the end of module quizzes will be included in the computation of the final grade of the course they are enrolled in.

The student will be assigned a username and password by the Program Director. These will be valid until graduation. The student is encouraged to visit these sites often as part of their preparation for the national registry exam. Access to certain modules is available for one year post graduation.

Laboratory Safety

In preparation for student laboratory sessions, observations in the clinical laboratory, and clinical rotations, students will complete a number of laboratory safety courses to support the program and compliance standards. Any required safety courses throughout the MLS program must be completed within the specified deadlines. Records are maintained with the college and MLS Program Director.

Orientation is provided at each clinical site and includes the facility's policies, rules, and regulations, including safety training and review of confidentiality regulations. This includes affiliate-specific OSHA bloodborne pathogen exposure training, HIPAA training, etc. Participation in applicable affiliate-specific orientation activities is required regardless of whether a student has already received such training at the college or their place of employment.

Safety Protocols

To safeguard the health and safety of students, clinical staff, and patients, students must adhere to all affiliate-specific safety protocols while completing clinical learning experiences at a clinical affiliate site. If a student becomes injured at the clinical affiliate site, the student must immediately notify the clinical preceptor and/or clinical liaison and initiate necessary first aid. If medical treatment is required, beyond preliminary first aid, emergency outpatient treatment is available to students while completing clinical learning experiences in a hospital setting – the student is responsible for the cost of emergency treatment. clinical practicum instructor and MLS Program Director must be notified when a student experiences an emergency or injury while completing clinical learning experiences at a clinical affiliate site.

Universal Precautions

A policy standardizing the handling of biological hazards. The concept of universal precautions was first introduced in 1987 by CDC to decrease the occupational risks to blood-borne diseases. In 1991, OSHA issued their final standard on occupational exposure to blood-borne pathogens, which mandates the use of universal precautions for protection against blood-borne pathogens. These standards mandate that each laboratory must develop an exposure control plan to include engineering controls, safe work practices, the use of protective equipment, proper waste handling and hepatitis B vaccinations. In essence, treating EVERY SAMPLE as if it is infectious.

Hand-washing

Hand-washing is the #1 defense in the spread of infection. Gloves do NOT replace handwashing. Adequate handwashing requires soap, running water and least 30 seconds of friction. Handwashing before leaving the laboratory is the expected standard and faculty have the right to incorporate grading practices which mark down students grades for not following this essential practice.

Personal Protective Equipment

Gloves, Lab coats, and other session-required personal protective equipment (PPE) are a REQUIREMENT in any of the laboratories. Failure to use PPE will result in you being asked to leave the laboratory.

Engineering Controls

Students must use appropriately provided workspaces and disposal receptacles.

Federal Regulations

"Rules, standards, and regulations set forth by Federal, State, and Local government agencies and professional organizations demand, as far as possible, safe and healthful working conditions in hospital laboratory...the use of safe laboratory procedures is not just a sensible goal, it is the law." It is the responsibility of the laboratory staff to always remain informed and in compliance with the law.

The Occupational Safety and Health Act (OSHA) of 1970 created two agencies:

National Institute for Occupational Safety and Health (NIOSH)

- o One of eight operating components of the Centers for Disease Control (CDC) which is a health agency in the Department of Health and Human Services.
- o Does not regulate, issue, or enforce safety or health standards.
- o Primarily engages in research to eliminate health and safety hazards of American workers.

Occupational Safety and Health Administration (OSHA)

- o Promulgates and enforces safety and health standards and regulations in the workplace.
- o Conducts workplace investigations and inspections to determine the status of compliance with job safety and health standards. Issues citations and proposes penalties.
- o Derives OSHA Standards
- o Divided into four (4) major categories:
 1. general industry
 2. maritime
 3. construction
 4. agriculture
- o Clinical, chemical and analytic laboratories are subject to the relevant standards found within OSHA General Industry Standards and Interpretations, Volume I, Part 1910, Title 29, Code of Federal Regulations. OSHA 29 CFR 1910 -- available as OSHA Publication 2206.

Hazardous Materials

Safety Data Sheets

Information on toxic substances in your work area can be found in the safety data sheets (SDS), provided by the product manufacturer include:

- o identifies the product/agent
- o lists the hazardous chemicals
- o lists the physical characteristics
- o gives fire and explosion data
- o contains health hazard information
- o gives reactivity data
- o lists spill or leak procedures
- o indicates if special protection is needed
- o indicates medical precautions
- o exposure control
- o disposal guidelines
- o regulatory information and considerations

Spill Response

What to do in the event of a hazardous spill:

- o does not touch the spill
- o keeps people away, evacuates the area
- o contains spill, if small
- o stops leak if you can do it without risk
- o refers to SDS for appropriate cleanup aid
- o notifies instructor IMMEDIATELY

Contaminated Needle Stick Injury

Infectious diseases such as Human Immunodeficiency Virus (HIV) and Hepatitis B may be transmitted via blood and/or other body fluids. Consequently, a needle stick injury or any injury that involves blood/blood-derived fluid coming into contact with broken skin or mucus membranes pose potential exposure to these diseases. Therefore, students, faculty members, or staff members of the College who are likely to be exposed to needles in the course of carrying out their academic and educational programs need to be taught the proper care and handling of needles and may only use needles or other sharp equipment under appropriate supervision. Should an injury occur from a contaminated or potentially contaminated needle, the following procedures are recommended:

- If on campus, notify your instructor immediately. If at clinical affiliate notify the clinical education coordinator and the Program Director immediately.
- Refer person who was stuck (victim) to medical authorities at the facility and/or refer to healthcare providers where the accident occurred for immediate care. Wound must be cleansed thoroughly. (Student must carry health care insurance.).
- An incident report must be completed and placed on file.

*Please note that while EXTREMELY unlikely these events can happen in the student laboratory and why we strongly encourage vaccines to Hepatitis B.

Student Laboratory Safety

Students are expected to always observe the following in the laboratory even if laboratory sessions are not occurring:

- No eating, drinking, application of cosmetics, or smoking in the laboratory.
- No food is to be stored in the reagent/specimen refrigerators/freezers.
- Do not ever use the ice from these refrigerators for drinks.
- Appropriate PPE will be used at all times shall be worn at all times and left in the lab when leaving. The only exception to this is when a lecture is occurring in the laboratory space and no hazardous substances are being used.
- Long, untied hair, loose flowing clothing, sandals, neckties, or jewelry that presents hazards must be removed. Certain religious exceptions will be made as needed.
- SPILLS must be handled immediately using the spill response procedure above
- Do not distract or startle another individual or indulge in practical horseplay in the laboratory.
- Wash hands frequently, especially after handling contaminated material and before leaving the laboratory, with an antiseptic soap.
- Tidiness, cleanliness and good housekeeping are required at all work areas. A mess is a safety hazard.
- Unlabeled materials must not be used and will be discarded if found.
- Do not take shortcuts or take chances with procedures, materials, or equipment.
- Adhere to Waste-Disposal procedures. All contaminated waste, including specimens and inoculated materials, must be disposed in the appropriate containers.
- When in doubt about any procedure or conditions, ASK AN INSTRUCTOR before proceeding.
- Handle all specimens as if they are contaminated.
- Avoid putting fingers, pencils, or other objects into the mouth.
- Needles and syringes must be discarded into proper containers.
- Laboratory work surface should be decontaminated with a disinfectant following any spill AND at the start and completion of the laboratory session.

Phlebotomy

The development of entry-level phlebotomy skills is a crucial part of the MLS program. The practice of phlebotomy requires clear and safe practices. As part of the learning experience, students may practice and perform phlebotomy techniques on an artificial arm, fruit, each other, the instructor, as well as patients and staff who consent. To participate in this aspect of the program, students must also consent to performing these safe practices under supervision of a qualified and licensed phlebotomist and/or Medical Laboratory Scientist. Phlebotomy techniques include venipuncture and capillary collections. Students must understand the risks involved which may include, but are not limited to infection, bruising, and other potential damage to surrounding tissue, as well as nausea, vomiting, and syncope. To practice these skills in a professional setting, the student must agree to release and hold harmless Florida Southern College and Lakeland Regional Health, its faculty, instructors, its officers, and staff from any and all liability arising out of or related to injuries as a result of such phlebotomy practice. Students are not required to participate in performing phlebotomy on humans; however, any assignments or assessments associated are still required by all students.

Clinical/Applied Learning Experiences

Programmatic accreditation through NAACLS requires that a signed affiliation agreement be in effect for the clinical site that participates in clinical training of Medical Laboratory Science Program students. A copy of the agreement is available for students to review, if desired.

Student Learning Responsibilities (during clinical rotations)

- Demonstrate and interpret the principles and theory of tests performed
- Become proficient in evaluating normal and abnormal values of tests
- Demonstrate professional conduct and communicate in a professional manner with patients, laboratory personnel and other health care providers.
- Apply the principles of safety, quality assurance, and quality control
- Demonstrate the appropriate use of automation
- Complete all assignments associated with MLS Practicum courses
- Maintain and submit copies of your various clinical check lists and evaluations. Getting these documents signed and submitted to the program director is ultimately your responsibility.
- Continue to study materials from campus lecture courses to assure appropriate grades on practicum written exams.
- Obtain a minimum grade of C for each clinical practicum.

Note: The student is expected to not only follow policies of the MLS program but also of the affiliate. Failure to follow either set of policies can lead to removal from the clinical experience and possibly the program.

If issues arise while at clinical rotations, students should first report to the Program Director. Additionally, the student should discuss the problem/occurrence with

Students MUST NOT discuss patient results outside of the student/clinical laboratory...CONFIDENTIALITY of PATIENT'S RESULTS must be strictly guarded. MEDICAL ETHICS MUST BE OBSERVED AT ALL TIMES. Do not casually discuss test results in the hallways of the laboratory, in elevators, dining rooms or outside the hospital. This is a ZERO TOLERANCE policy.

Clinical Affiliate

Starting in 1916 as Morrell Hospital, the facility began with 65 beds and 24 employees. Today, Lakeland Regional Health (LRH) is **one of the largest hospitals in Florida** with 910 beds and is the second largest private employer in Polk County with over 8,000 employees and a medical staff of more than 1300. It is the only hospital in Polk County to offer **three hybrid operating rooms and a hybrid catheterization lab**. LRH is an award-winning workplace, recognized as a 2026 Gallup Exceptional Workplace Award winner and named one of America's Greatest Workplaces in Healthcare by Newsweek in 2025 and one of America's Greatest Workplaces for Diversity by Newsweek in 2024-2025.

LRH was rated as a 2020 Making a Difference Workplace Well-Being Gold Winner by Aetna, honored with the Excellence in Work-Life Balance Award by Constangy Brooks, Smith & Prophete, LLP in 2019, and recognized in 2018 as the Best Large Hospital Workplace in Florida by the Florida Hospital Association. Forbes named us one of the 2022 Best-in-State Employers. Our leadership team earned the 2023 ATHENA Organizational Leadership Award and the 2023 CHIME-AHA Transformational Leadership Award.

LRH is proud to give the best possible care for our patients. Most recently, we have earned multiple recognitions for the care we provide to our community including:

- Most Wired by the College of Healthcare Information Management Executives for the 10th time since 2013
- High-Performing in Abdominal Aortic Aneurysm Repair, Colon Cancer Surgery, Heart Arrhythmia, Heart Failure, Knee Replacement, and Pacemaker Implantation for 2025-2026 by U.S. News & World Report
- Comprehensive Stroke Center Accreditation by The Joint Commission
- High-Performing for Maternity Care in 2025 and 2026 by U.S. News & World Report
- Asthma-Friendly Hospital by the Florida Asthma Coalition
- Level III Maternal Care Verified Facility by The Joint Commission
- 1 of 43 facilities to receive the Jean Byers Memorial Award for Excellence in Cancer Registration Honorable Mention

LRH has one of the busiest single-site emergency departments in our nation with nearly 200,000 annual visits. With a Level I Trauma designation, LRH is leading the healthcare sector in cancer treatment, cardiovascular medicine, behavioral health, rehabilitation, bariatric surgery, and neonatal intensive care. For more information, visit <https://www.mylrh.org/about-us/>.

We Promise To:

- ❖ Treasure all people as uniquely created
- ❖ Nurture, educate and guide with integrity
- ❖ Inspire each and every one of us to do our very best

With These Promises We:

- ❖ Care for Self
- ❖ Care for our Patients and Families
- ❖ Care for Others
- ❖ Care for Community

Student Professional Responsibilities

All Florida Southern College MLS students and Faculty members are expected to behave in all interactions with every patient, visitor, and member of the healthcare team with professionalism. All other program personnel of LRH will be required to follow all personal appearance, hygiene, and behavior expectations encompassed in the professionalism policy. Specific requirements and more information is available to students via the hospital's document control systems. MLS students will be evaluated on a program level based on ability to comply with institutional and program professionalism.

Assignment for Clinical Experiences

FSC and LRH anticipate having six students maximum seeking placement for clinical practicum. The number of students will never exceed the number of positions available. However, in the event that more than six students are waiting for clinical placement, students will be prioritized according to GPA in the MLS courses. Students who were not placed will be assigned to the clinical site by the end of calendar year in which they were eligible for clinical rotations.

Placement with the clinical affiliate will be made with the purpose of providing students with unbiased assignments that benefit the student's educational experience. Please note that you may be required to relocate during this time.

Clinical Schedule

Information pertinent to the clinical assignment such as the days, hours and rotation schedule will be provided before the start of the clinical rotations by the Program Director. Refer to the Clinical Practicum Handbook for more information.

Attendance

The relationship between the clinical facility and FSC requires a large degree of professionalism from the MLS students. Students should keep in mind they are "guests" at the clinical site. Students who are chronically late or absent will not be allowed to continue in the program or be readmitted at another time. Problems with professional conduct such as absences will be addressed by the Program Director with the student. If the situation is not corrected, the student will not be allowed to continue in the program. Attendance can negatively impact the overall grade for the practicum courses.

Direct Patient Care/Reportable Work Policy

It is the policy of LRH that students do not replace the scientist at the workplace. When students are learning or performing procedures, they will be under the direct supervision of a scientist or instructor. In the clinical/applied learning environment, students do not perform direct patient and/or reportable work. Work performed outside of academic hours is non-compulsory. Students must complete a Clinical Rotation Agreement prior to the beginning of the learning experience.

Clinical Evaluations

Clinical performance will be evaluated using multiple cloud-based software purchased by FSC and LRH and approved by the Program Director. An introduction to the modalities needed to complete clinical evaluations will be available to all students and staff.

Final evaluation will be discussed with each student at the end of each clinical rotation. Final grades are assigned by the FSC faculty instructing those courses. The student may discuss their final grade assigned with the MLS Program Director who serves as campus coordinator.

Clinical Exams

Students will be required to take written examinations after each clinical rotation. This requires the student to not only work competently in the affiliated hospital laboratory but study the content for the discipline which they are rotating through. This combination of clinical skills and knowledge is what helps an MLS professional be successful. To assure entry level competency, students must achieve a grade of 70% or higher on all clinical examinations.

Failure to achieve a 70% or higher on the exams may result in failing the course. Remediation opportunities are at the discretion of the program director, in consultation with the program and clinical site faculty.

Graduation Requirements

Graduation from the program requires successful completion of all MLS courses, adherence to MLS program rules, and successful completion of the MLS Comprehensive Exam.

Comprehensive Exam

Upon completion of all course work, the senior student is required to take a "COMPREHENSIVE EXAMINATION" which will be a major grade component of the MLS Practicum I/II. The examination is a compilation of all didactic, laboratory, and competency skills learned within the MLS program. Passing criteria constitutes a score of 70% or better. A failing grade on this exam will result in a failed grade for the practicum courses. This is outlined in the course syllabus. Hence the student will no longer be eligible to graduate if they fail this exam. The student will then have to retake the course to determine the eligibility date of graduation. Results of the exam and an analysis by the faculty will be discussed with each student after completion to use as a guide to assist the student in preparation for the national certification examination and hence State licensure.

Board of Certification

It is the intent that all students who successfully complete the MLS program at FSC will take the ASCP-BOC exam. The exam is an online exam that is administered at the Pearson Professional Center. Students must submit their official transcripts showing completion of the requirements to be eligible to take the exam. All applications to take the exam are completed online at www.ascp.org/Board-of-certification. There is a non-refundable application fee for the ASCP-BOC for MLS of \$250.00.

American Society for Clinical Pathologists (ASCP)

33 W. Monroe, Suite 1600

Chicago, Illinois 60603

Phone: (800) 267-2727 or 312-541-4999

www.ascp.org

Acknowledgements

A course syllabus is provided for each course in the MLS program. This includes course materials, additional supplies, and a preconstructed schedule and a list of the reading and assignment due dates. Students are expected to read and understand all materials provided by course instructors, including the syllabus. In addition, if signature of acknowledgement is required, the student will be provided a specific document and due date for the assignment.

Any other acknowledgement forms required throughout the program will be discussed and the student will be provided the opportunity to ask questions prior to completing the documents within a timely manner.

Teach Out Plan

In the event the Florida Southern College Medical Laboratory Science Program's ability to provide educational support to its students is unexpectedly closing due to natural or unnatural disasters or permanent closure, every effort will be made to assist affected students, faculty, and support staff. Adjustments for students will be made to guarantee clinical rotations, and graduation. If the closure of the program were to occur during the first three years in the program, those students would be directed to alternative MLS programs or to completion of the general B.S in Biological Sciences. The fourth-year students, who would be completing clinical rotations, would be allowed to finish the rotation at the hospital with the approval of the facility.

In the event that we face this situation, all classes and labs will be taught through the Canvas portal. In the event that students could not attend hospital clinical rotations, clinical instructors and faculty will arrange for laboratory simulations to provide content to meet learning objectives of the clinical practicum experience. Online sessions will be provided through a meeting application for the completion of the program.

Intentional Closure of the Program: Should the program be terminated intentionally; information will be communicated to all students immediately.

- In case of disaster, the college will inform students of a plan for continuation of their education as soon as that information is available.
- NAACLS will be notified and a teach out plan will be provided to them within 30 days of the official announcement of program closure. Florida Southern College will continue to provide the necessary resources and support to the Medical Laboratory Sciences students in meeting all requirements.

Protocols for Program Closure

In the event of program closure, notifications will be made to administration, faculty, support staff, and students, as soon as possible, regarding program closure. Program advising will be provided to appropriate students regarding suitable options to complete a comparable program of study at another academic institution.

Prospective students

- In the case of permanent closure students will be informed the program will not take a new cohort due to program closure.
- In the case of a natural or unnatural disaster the program will work with other laboratory science programs to continue education and training until training can resume at the college.
- Students will be counseled in applying to other local programs.
- Program closure information will be posted on the Florida Southern College website.

Current students

- Students will be informed of program closure.
- Florida Southern College will continue to maintain open communication with all currently-enrolled students

- In the case of a natural or unnatural disaster the program will work with other laboratory science programs to continue education and training until training can resume at the college.
- In the event of a mandated permanent closure currently enrolled students will be allowed to complete program. Students who are currently completing clinical rotation experiences are guaranteed completion of internships as scheduled.
- Currently enrolled students will receive didactic and clinical instruction under the curriculum plan that is currently in place.
- The Program Director will be designated to clear students applying for the certification exam.

Faculty and Staff/Program of Study

- Florida Southern College will maintain a sufficient number of qualified faculty members to continue to meet the instructional needs of the program.
- Minutes of faculty meetings, and committee meetings will continue to be filed and available for review
- Program of study will continue to consist of didactic and clinical/simulation learning experiences
- All current records will be maintained in a secure manner to prevent loss, destruction or unauthorized use. (Faculty records, faculty meeting minutes, college catalogs, mission and goals, affiliation agreement, curriculum and course outlines, program evaluation, etc.)
- The Program Director will continue to ensure the clinical facility utilized for clinical experiences are appropriate for the level of student learning, achievement of course objectives and student safety.

Probation Policy

A student will be placed on probation under any of the following circumstances:

- A. A student fails to successfully complete a cognitive course (mid-term and final exams), a performance evaluation (bench), a critical objective, or the affective performance evaluation as outlined above.
- B. A student lacks professional conduct such as:
 - a. Disregard for the patient's rights to confidentiality and privacy according to HIPAA legislation.
 - b. Disregard for good, quality patient care (inconsistent or inaccurate work, consistent careless attitude with patients).
 - c. Failure or inability to adhere to MLS departmental or LRH policies.
 - d. Failure to demonstrate academic honesty and integrity: The FSC MLS program abides by the FSC Student Handbook which includes the procedure for student dismissal related to academic dishonesty and failure to comply with stated rules relating to substance abuse.
- C. A student who does not adhere to State of Florida Guidelines: Students are licensed as trainees by the State of Florida, and grounds for disciplinary action against clinical laboratory personnel as stated in Florida Statute 483.825 (listed below) will be grounds for disciplinary and/or legal action against the student.

The following constitute grounds for disciplinary actions:

- a. Attempting to obtain, obtaining, or renewing a license or registration under this part by bribery, by fraudulent misrepresentation, or through an error of the department or the board.
- b. Engaging or attempting to engage in, or representing himself as entitled to perform, any clinical laboratory or category of procedures not authorized pursuant to his license.
- c. Demonstrating incompetence or making consistent errors in the performance of clinical laboratory examinations procedures or erroneous reporting.
- d. Performing a test and rendering a report thereon to a person not authorized by law to receive such services.
- e. Having been convicted of a felony or any crime involving moral turpitude under the laws of any state or of the United States. The record of conviction or certified copy thereof shall be conclusive evidence of such conviction.
- f. Having been adjudged mentally or physically incompetent.
- g. Violating or aiding and abetting in the violation of any provision of this part or the rules adopted hereunder.
- h. Reporting a test result when no laboratory test was performed on a clinical specimen.
- i. Knowingly advertising false services or credentials.
- j. Having a license revoked, suspended, or otherwise acted against, including the denial of licensure, by the licensing authority of another jurisdiction. The licensing authority's acceptance of a relinquishment of a license, stipulation, consent order, or other settlement, offered in response to or in anticipation of the filing of administrative charges against the licensee, shall be construed as action against the license.
- k. Failing to report to the board, in writing, within 30 days if action under subsection (10) has been taken against one's license to practice as clinical laboratory personnel in another state, territory, or country.
- l. Being unable to perform or report clinical laboratory examinations with reasonable skill and safety to patients by reason of illness or use of alcohol, drugs, narcotics, chemicals, or any other type material or as a result of any mental or physical condition. In enforcing this paragraph, the department shall have, upon a finding of the secretary or his or her designee, that probable cause exists to believe that the licensee is unable to practice because of the reasons stated in this paragraph, the authority to issue an order to compel a licensee to submit to a mental or physical examination by physicians designated by the department. If the licensee refuses to comply with such order, the department's order directing such examination may be enforced by filing a petition for enforcement in the circuit court where the licensee resides or does business. The department shall be entitled to the summary procedure provided in s.51.011. A licensee affected under this paragraph shall at reasonable intervals be afforded an opportunity to demonstrate that he or she can resume competent practice with reasonable skill and safety to patients.

- m. Delegating professional responsibilities to a person when the licensee delegating such responsibilities knows, or has reason to know, that such person is not qualified by training, experience, or licensure to perform them.

A student on probation may be dismissed from the MLS program if the student fails a subsequent didactic and/or practical work area. As a result, the student will not receive a BS degree in Medical Laboratory Science, nor be eligible for the ASCP Board of Certification (BOC) or any other national certification for MLS students.

Remediation

Remediation in any specific course will be determined by the Program Director.

- A. A student will be allowed one remediation total.
 - a. A student may remediate any one area: cognitive, psychomotor including a single critical objective, or affective area.
 - b. The student must successfully complete remediation to continue in the program. Failure to successfully remediate an identified area will result in program dismissal.
- B. Cognitive Remediation:
 - a. Failure to obtain a passing score will result in remediation of the course content. The Program Director will work with the student to establish remediation of the course content.
 - b. If a passing score is achieved, the grade issued will be no higher than a grade of C.
- C. Psychomotor/Affective Remediation: Credit for unsatisfactory performance may be earned by satisfactorily completing one of the following:
 - a. Additional days in the department where the unsatisfactory performance was achieved. Additional clinical experience time will be scheduled at the discretion of the department supervisor and the Program Director. Documentation of the remediation goals and evaluations will be discussed with the Program Director, the department supervisor, and the student.
 - b. Complete repetition of the entire departmental rotation may be deemed necessary. This will be completed at the end of the clinical practicum and a grade of incomplete will be assigned until all course requirements are met. The student would not be eligible for graduation or to sit for a national examination until successful remediation has occurred.
 - c. If a passing score is achieved, the grade issued will be no higher than a grade of C.
 - d. If remediation requires additional time spent on the bench, the student must submit, in writing, to the Program Director goals to identify the adjustments that will be made by the student to achieve a satisfactory performance evaluation.
- D. Conditions: A student on probation will remain in the program if all of the following are met:
 - a. The student continues to successfully complete and pass all subsequent coursework.
 - b. The student resolves the failure with remediation.

- c. The student maintains the specific expectations listed on the signed probation letter.

Program Dismissal

All dismissal/termination policies from FSC apply to the MLS program and the clinical practicum at LRH. The following are additional grounds for immediate program termination in the clinical practicum portion of the program.

A. Academic Dismissal:

- a. Failure to meet probation specifications
- b. A failing score following one successful remediation

B. Lack of Professional Student Conduct:

- a. Disregard for the patient's rights to confidentiality and privacy according to HIPAA legislation.
- b. Disregard for good, quality patient care, inconsistent or inaccurate work, or consistent careless attitude with patients.
- c. Failure or inability to adhere to MLS departmental or LRH policies.
- d. Academic dishonesty and failure to comply with stated FSC rules relating to substance abuse.

C. Drug Screen:

Any student may be subject to a drug of abuse screen prior to or during a clinical rotation at a medical center. Any student who tests positive for drugs of abuse will be removed from the clinical experience and will not be allowed to complete the required courses to earn a BS in Medical Laboratory Sciences.

For any additional information or questions regarding specific MLS program requirements, contact the Program Director.