

Lexington Health School of Medical Laboratory Science

Goals of the Program

Lexington Health School of Medical Laboratory Science has the following goals:

1. To prepare graduate medical laboratory scientists for career entry level positions
2. To prepare graduates for national certification in medical laboratory science.
3. To instill professional integrity and ethical behavior and to maintain the standards of the profession of medical laboratory science.
4. To produce graduates who are effective communicators with all members of the health care team and the public.
5. To produce graduates with problem-solving skills and the ability to critically evaluate laboratory data.
6. To help meet the demand for competent practitioners in a variety of laboratory settings and venues.
7. To provide graduate medical laboratory scientists with the necessary skills to advance into leadership roles in the medical laboratory sciences.
8. To uphold and promote the academic standards of the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS).

Career Entry-Level Competencies of the Medical Laboratory Scientist

The curriculum is designed to provide the student with the theoretical and practical knowledge, attitudes, and skills necessary for entry-level competency as a graduate medical laboratory scientist. At entry level, the medical laboratory scientist will possess the entry level competencies necessary to perform the full range of clinical laboratory tests in Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology/Transfusion Medicine, Microbiology, Urine and Body Fluid Analysis, 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.

They will have the ability to:

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.

Safety and Compliance

- Comply with government regulations and accreditation standards relevant to medical laboratory science.
- 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.

Education and Research

- Acknowledge and respond to individual requirements for continuing education and professional 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.

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 medical laboratory science.

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.

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.

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.

Graduates from the Lexington Health School of Medical Laboratory Science, with minimal supervision, are also expected to:

- Organize their workload to achieve efficiency and productivity.
- Perform blood collection procedures efficiently.
- Perform basic and complex analyses of blood, body fluids, and other specimens with accuracy, precision, and according to standard operating procedure.
- Interpret and judge the validity of laboratory results.
- Integrate and relate data generated by various laboratory departments while making decisions regarding possible discrepancies in routine tests.
- Detect problems and errors when collecting and processing specimens and performing laboratory analyses; use a systematic approach in problem-solving.
- Evaluate new laboratory methods and procedures.
- Perform basic preventive maintenance of equipment and instruments.
- Keep accurate and legible records.
- Maintain confidentiality and integrity in handling laboratory test results and other patient information.
- Work under pressure without loss of composure, efficiency, or accuracy.
- Assume responsibility for one's own actions and decisions.