ASSOCIATE OF APPLIED SCIENCE IN MEDICAL LABORATORY TECHNICIAN

Medical Laboratory Programs

Laboratory analysis plays an important role in the detection, diagnosis, and treatment of many diseases. Laboratory professionals perform a myriad of such tests to aid the physician in the management of disease.

For more information regarding program policies, procedures, and essential functions or to obtain a copy of the Medical Laboratory program handbook, please contact Joan O’Connell-Spalla at (330) 941-1761 or joconnells@ysu.edu.

Medical Laboratory Technician (MLT-AAS) Curriculum

The medical laboratory technician program is a two-year program leading to the Associate of Applied Science degree. The curriculum focuses on the knowledge and basic skills necessary to understand and master the procedures performed in the medical laboratory. Included are the principles, methods, calculations, and interpretation of laboratory procedures, computer technology, and communication and interpersonal skills. Technical instruction includes procedures in hematology, microbiology, immunohematology, clinical chemistry, and body fluids. This program requires five semesters of study including one summer semester.

Medical laboratory technicians (MLT) work in a supportive role in a hospital laboratory, private laboratory, clinic, public health facility, or pharmaceutical laboratory. The MLT performs laboratory tests under the supervision or direction of pathologists and other physicians, and clinical laboratory scientists. Physicians and other healthcare professionals use these tests to determine the presence and extent of disease, the etiologic implications about the cause of disease, and to monitor the treatment of the disease.

The MLT collects samples from patients and develops data on the blood, tissues, and body fluids by using a variety of precise methodologies and technologies. Medical laboratory technicians use modern instruments, with the ability to discriminate between similar items and correct errors using preset strategies. The MLT has knowledge of specific techniques and instrumentation and is able to recognize factors that affect laboratory procedures. The MLT also monitors quality assurance procedures.

Graduates are eligible to take the certification examinations for MLT/CLT offered through ASCP and become certified as an MLT (ASCP).

Students must have a minimal Math Placement of Level 3 or its equivalent to be considered for the MLT program. Students in Pre-MLT are not considered to be enrolled in the MLT program. Students must first complete the following courses with a minimal grade of C:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>TITLE</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLT 1501</td>
<td>Introduction to the Medical Laboratory Profession</td>
<td>2</td>
</tr>
<tr>
<td>MLT 1501L</td>
<td>Introduction to the Medical Laboratory Profession Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 2601</td>
<td>General Biology I: Molecules and Cells</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2601L</td>
<td>General Biology I: Molecules and Cells Laboratory</td>
<td>0</td>
</tr>
</tbody>
</table>

Total Semester Hours 7

Program admission is based on the applicant’s overall GPA and performance in Chemistry, MLT, and Biology courses. All MLT, BIOL, & CHEM courses must be completed with a minimum grade of a “C”. Students must maintain an overall program GPA of at least 2.75. Students receiving a total of 6 hours or more grades of “D” / “F” in MLT, BIOL, or CHEM will be dismissed from the program.

All developmental courses such as the following do not count toward degree requirements.

<table>
<thead>
<tr>
<th>COURSE</th>
<th>TITLE</th>
<th>S.H.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1539</td>
<td>Fundamentals of College Writing</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 1540</td>
<td>Introduction to College Writing</td>
<td>3</td>
</tr>
<tr>
<td>RSS 1510A</td>
<td>Advanced College Success Skills</td>
<td>3</td>
</tr>
<tr>
<td>RSS 1510B</td>
<td>Basic College Success Skills</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1501</td>
<td>Intermediate Algebra with Applications</td>
<td>5</td>
</tr>
<tr>
<td>MATH 1507</td>
<td>Intermediate Algebra</td>
<td>3</td>
</tr>
</tbody>
</table>

There will be no course substitutions for MLT, BIOL, or CHEM courses. Students are permitted a total of two course repetitions for recalculation of GPA. Readmission to the program is based on GPA and availability of class space. Students must maintain a minimum of 2.75 GPA for placement into clinical practicum. Courses must be taken in proper sequence; students may invalidate clinical placement when failing to do so. Students are required to complete a physical exam, background check, and immunizations as program requirements.

Medical laboratory technicians are expected to function with a maximum degree of effectiveness in professional attitude, patient relations, and integrity. The capacity for competent performance at all levels must be assured before the student will be assigned to a clinical internship. The student must be competent in the didactic (knowledge), psychomotor (laboratory skills), and affective realm (attitude and responsibility) prior to clinical placement.

Program Accreditation

The MLT program is accredited through the National Accrediting Agency for Clinical Laboratory Sciences and meets the standards developed by the American Society of Clinical Pathologists (ASCP).


Program outcomes for students graduating between 2018 and 2020 include:

- Graduation rate 100%
- Certification exam pass rate 100%
- Job placement rate 100%

Students graduating in Spring 2021 (data compiled April 2022):

- Graduation rate 100%
- Job placement rate 91%
- Certification exam pass rate 75%

*Only 73% of students who graduated Spring 2021 have taken the exam at the time of reporting.
Learning Outcomes

- Graduates will be prepared to function as entry-level health care professionals in the medical laboratory as medical laboratory technicians and medical laboratory scientists. At entry level, the medical laboratory graduate will be able to demonstrate the ability to comprehend, apply and evaluate information relative to the medical laboratory profession.
- These learning outcomes include comprehension of the theory and the ability to apply and evaluate the didactics of hematology, clinical chemistry, immunohematology, microbiology, immunology, coagulation, molecular diagnostics, and other emerging diagnostics.
- Graduates will be prepared to function as entry-level health care professionals in the medical laboratory as medical laboratory technicians and medical laboratory scientists. Upon completion of the program, graduates will demonstrate technical proficiency in laboratory applications.
- These psychomotor learning outcomes include the performance of laboratory procedures in hematology, clinical chemistry,
immunohematology, microbiology, immunology, coagulation, molecular diagnostics, and other emerging diagnostics. The graduate will demonstrate proficiency in the functions of all phases of laboratory analysis (pre-analytical, analytical, and post-analytical processes).

• Graduates will demonstrate professional conduct and interpersonal communication skills consistent with the medical laboratory profession.

• Students will exhibit the ability to think critically across all 3700-level courses through the application of fundamental didactic and psychomotor skills to assess the medical relevance and significance of specific aspects of laboratory testing.