MEDICAL LABORATORY TECHNOLOGY, A.S.

Begin Campus: Hazleton, Schuylkill 
End Campus: Hazleton 

Program Description 
This two-calendar-year Medical Laboratory Technology major (four semesters, two summer sessions) is designed to provide the necessary general and technical training for hospital personnel between the level of the medical laboratory technician (certificate program) and the medical technologist (baccalaureate program). The course of study includes one year of intensive clinical experience at an affiliated hospital and the theoretical background necessary for the clinical procedures performed by the certified medical laboratory technician (associate degree program). Upon completion of program requirements, the student receives the associate degree and is eligible to sit for examinations leading to certification and registry as a medical laboratory technician.

The Medical Laboratory Technology Program at Penn State Hazleton is fully accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Rd, Suite 720, Rosemont, IL 60018-5119, Phone 773-714-8880. Website: http://www.naacls.org

Graduates of this accredited MLT program are eligible to take national certification examinations such as the American Society of Clinical Pathology (ASCP) Board of Certification exam, to become certified as an MLT (ASCP).

What is Medical Laboratory Technology? 
A Medical Laboratory Technician (MLT) works with a team of pathologists, technologists, and technicians to analyze patient samples to provide information to the patient's physician to detect illness, enable treatment, and ensure that the treatment will benefit the patient. The MLT works in all areas of the medical laboratory such as microbiology, chemistry, hematology, and transfusion services. MLTs are qualified to perform routine tests as well as more complex procedures including analyzing blood for chemical components, typing blood to ensure safe transfusion, and identifying bacteria and other microorganisms. MLTs also prepare specimens for examination, count cells, and look for abnormal cells in blood and body fluids. They use microscopes, cell counters, and automated equipment and computerized instruments to test specimens. After testing and verifying the results, they relay the results to physicians.

MORE INFORMATION ABOUT MEDICAL LABORATORY TECHNOLOGY (http://hazleton.psu.edu/associate-science-medical-laboratory-technology)

You Might Like This Program If...
You might like this major if you are interested in science and enjoy working in a laboratory setting. MLTs are problem solvers and are accurate and reliable. They want to help patients in a medical setting but prefer not to have direct patient contact. They enjoy working with their hands and using technical instruments. Their work is interesting, challenging, and requires a love of life-long learning.

MORE INFORMATION ABOUT WHY STUDENTS CHOOSE TO STUDY MEDICAL LABORATORY TECHNOLOGY (https://www.ascp.org/content/careers)

Entrance to Major 
Students must request a Dean's review to change to this Associate degree after admission to the University.

Additional Information 
Before beginning the clinical experience rotations at hospitals, students must meet the requirements listed at: http://hazleton.psu.edu/program-clinical-prerequisites.

Degree Requirements 
For the Associate in Science degree in Medical Laboratory Technology, a minimum of 72 credits is required:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td>21</td>
</tr>
<tr>
<td>Requirements for the Major</td>
<td>63-65</td>
</tr>
</tbody>
</table>

12 of the 21 credits for General Education are included in the Requirements for the Major. This includes: 3 credits of GWS courses; 6 credits of GN courses; 3 credits of GQ courses.

Scheduling of courses in summer session depends on campus location.

General Education 
Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (http://bulletins.psu.edu/undergraduate/general-education/associate-degree-general-education-program) section of the Bulletin and consult your academic adviser.

Foundations (grade of C or better is required.)
• Quantification (GQ): 3 credits
• Writing and Speaking (GWS): 3 credits

Knowledge Domains
• Arts (GA): 3 credits
• Humanities (GH): 3 credits
• Social and Behavioral Sciences (GS): 3 credits
• Natural Sciences (GN): 3 credits

Foundations or Knowledge Domains
• A General Education course selected from GWS, GQ, GN, GA, GH, or GS, and may include Integrative Studies (Inter-domain or Linked) courses: 3 credits
The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

**University Degree Requirements**

**Cultures Requirement**
3 credits of United States (US) or International (IL) cultures coursework are required and may satisfy other requirements.

**Writing Across the Curriculum**
3 credits required from the college of graduation and likely prescribed as part of major requirements.

**Total Minimum Credits**
A minimum of 60 degree credits must be earned for a associates degree. The requirements for some programs may exceed 60 credits. Students should consult with their college or department adviser for information on specific credit requirements.

**Quality of Work**
Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

**Limitations on Source and Time for Credit Acquisition**
Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80). For more information, check the Suggested Academic Plan for your intended program.

**Requirements for the Major**
To graduate, a student enrolled in the major must earn a grade of C or better in each course designed by the major as a C-required course, as specified by Senate Policy 82-44. To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44.

**Additional Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MICRB 151W</td>
<td>Clinical Microbiology and Body Fluid Analysis for Medical Laboratory Technicians</td>
<td>5</td>
</tr>
</tbody>
</table>

**Select 8 credits from:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 110 &amp; BIOL 240W</td>
<td>Biology: Basic Concepts and Biodiversity and Biology: Function and Development of Organisms</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 161 &amp; BIOL 162 &amp; BIOL 163 &amp; BIOL 164</td>
<td>and Human Anatomy and Physiology I - Lecture and Human Anatomy and Physiology I - Laboratory and Human Anatomy and Physiology II - Lecture and Human Anatomy and Physiology II - Laboratory</td>
<td>8</td>
</tr>
</tbody>
</table>

**Select 3-5 credits from:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 21</td>
<td>College Algebra I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 22</td>
<td>College Algebra II and Analytic Geometry</td>
<td>3</td>
</tr>
<tr>
<td>MATH 26</td>
<td>Plane Trigonometry</td>
<td>3</td>
</tr>
<tr>
<td>MATH 40</td>
<td>Algebra, Trigonometry, and Analytic Geometry</td>
<td>3</td>
</tr>
<tr>
<td>MATH 81</td>
<td>Technical Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 110</td>
<td>Techniques of Calculus</td>
<td>3</td>
</tr>
<tr>
<td>MATH 140</td>
<td>Calculus With Analytic Geometry I</td>
<td>3</td>
</tr>
<tr>
<td>STAT 200</td>
<td>Elementary Statistics</td>
<td>3</td>
</tr>
<tr>
<td>STAT 250</td>
<td>Introduction to Biostatistics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Hazleton**
Patricia Ferry
Assistant Teaching Professor of Medical Laboratory Technology
Kostos 120
Hazleton, PA 18202
570-450-3090
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**Suggested Academic Plan**
The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2019-20 academic year. To access previous years’ suggested academic plans, please visit the archive (http://bulletins.psu.edu/undergraduate/archive) to view the appropriate Undergraduate Bulletin edition (Note: the archive only contain suggested
**Hazleton Campus**

The course series listed below provides only one of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an Academic Requirements or What If report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits Spring</th>
<th>Credits Summer</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 15 or 30††</td>
<td>3 MICRB 201</td>
<td>3 CHEM 202</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 110†</td>
<td>3 MICRB 202</td>
<td>2 CAS 100</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 161¹</td>
<td>3 BIOL 163</td>
<td>3 MICRB 150</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 162¹</td>
<td>1 BIOL 164</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CHEM 108 (optional)</td>
<td></td>
<td>1 CHEM 111</td>
<td>1</td>
</tr>
<tr>
<td>General Education Course (GQ)††</td>
<td>3-4 MIS 103</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>PSU 8</td>
<td>1 General Education Course</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Credits:** 15-16

### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits Spring</th>
<th>Credits Summer</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MICRB 151A²</td>
<td>5 MICRB 151C</td>
<td>4 General Education Course</td>
<td>3</td>
</tr>
<tr>
<td>MICRB 151B²</td>
<td>5 MICRB 151F</td>
<td>2 General Education Course</td>
<td>3</td>
</tr>
<tr>
<td>MICRB 151D²</td>
<td>2 MICRB 151G</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>MICRB 151E²</td>
<td>2 MICRB 151W</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

**Total Credits:** 74-75

1. Course requires a grade of C or better for the major
2. Course requires a grade of C or better for General Education
3. Course is an Entrance to Major requirement
4. Course satisfies General Education and degree requirement

### Lehigh Valley Campus

The course series listed below provides only one of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an Academic Requirements or What If report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits Spring</th>
<th>Credits Summer</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 15††</td>
<td>3 MICRB 201</td>
<td>3 CHEM 202</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 161¹</td>
<td>3 MICRB 202</td>
<td>2 MICRB 150</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 162¹</td>
<td>1 BIOL 163</td>
<td>3 General Education Selection (GA or GS)</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 110</td>
<td>3 BIOL 164</td>
<td>1 CAS 100</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 111</td>
<td>1 MIS 103 or 204</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>General Education Quantification†‡</td>
<td>3 General Education Selection (GA or GH)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>HDFS 287Y†</td>
<td></td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits:** 17-15-13

### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MICRB 151A³</td>
<td>5 MICRB 151C³</td>
<td>4</td>
</tr>
<tr>
<td>MICRB 151B³</td>
<td>5 MICRB 151W³</td>
<td>5</td>
</tr>
<tr>
<td>MICRB 151D³</td>
<td>2 MICRB 151F³</td>
<td>2</td>
</tr>
<tr>
<td>MICRB 151E³</td>
<td>2 MICRB 151G³</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total Credits:** 14-13

1. Course requires a grade of C or better for the major
2. Course requires a grade of C or better for General Education

### University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy University Requirements (United States and International Cultures). W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

GWS, GQ, GN, GA, GH, and GS are abbreviations used to identify General Education program courses. General Education includes Foundations (GWS and GQ) and Knowledge Domains (GN, GA, GH, and GS). Foundations courses (GWS and GQ) require a grade of ‘C’ or better.

### Program Notes:

A minimum of 72 credits is required for graduation.

Math (Quantification): If Placement Profile indicates MATH 4 – schedule before first Fall semester (during Summer). Then take MATH 21.

Other qualifying math courses: MATH 22, 26, 40, 81, 110, 111, 140, STAT 200, 250.

CHEM 108 (Problem Solving in Chemistry) is optional, but recommended.

PSU 8 required of all first-year students in the first semester.

**Medical Laboratory Technology, A.S.**
Medical Laboratory Technology, A.S.

# Course is an Entrance to Major requirement
† Course satisfies General Education and degree requirement

1 BIOL 110 and BIOL 240 may be taken in place of BIOL 161, BIOL 162, BIOL 163, BIOL 164.
2 Students can select from MATH 21, MATH 22, MATH 26, MATH 40, MATH 81, MATH 110, MATH 140, STAT 200, STAT 250.
3 MICRB 150 and MICRB 151 courses include clinical experience at affiliated sites.

University Requirements and General Education Notes:

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Career Paths

The two-year MLT program includes a two-semester clinical practicum experience in affiliated hospital laboratories. The MLT learns the most current laboratory techniques in a real laboratory setting.

Careers

You can find a career in a hospital laboratory, food processing industry, veterinary lab, state police or federal forensics lab, public health lab, cancer clinic, chemical company, pharmaceutical company, and more. You can choose to work in a medical lab or non-medical setting.

Opportunities for Graduate Studies

If an MLT graduate chooses to continue his/her education, the first year's courses will transfer to a major in Microbiology, Medical Laboratory Science, Biology or related disciplines. Once an MLT graduate passes a national certification exam and is certified as MLT, earns a BS or BA in any major, and works in a hospital laboratory for at least two years, they can qualify to take a Medical Laboratory Scientist (MLS) certification exam. Bachelor’s degrees earned prior to MLT certification count toward the MLS qualification. This opens the door to careers as an educator, laboratory manager and specialist positions.

Professional Resources

- American Society for Clinical Laboratory Science (http://www.ascls.org)
- American Society for Clinical Pathology (https://www.ascp.org/content)
- American Association of Clinical Chemistry (https://www.aacc.org/global-health-outreach/lab-tests-online)
- American Society of Hematology (http://www.hematology.org)
- American Association of Blood Banks (http://www.aabb.org)
- National Accrediting Agency for Clinical Laboratory Sciences (http://www.naacls.org)
- American Society for Microbiology (https://asm.org)
- Centers for Disease Control and Prevention (https://www.cdc.gov)

Accreditation

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Penn State Hazleton program outcome measures are available at http://hazleton.psu.edu/program-outcome-measures

MORE INFORMATION ABOUT THE NATIONAL ACCREDITING AGENCY FOR CLINICAL LABORATORY SCIENCES (http://www.naacls.org)

Contact

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