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I. **Introduction**

The Medical Laboratory Technician Program at Harcum College is a blended online Associate Degree program designed to prepare individuals for immediate employment in a clinical laboratory environment.

The Medical Laboratory Technician Program at Harcum College is structured primarily as an online program with limited on-site requirements to offer students flexibility to earn their Associate’s Degree on a full-time or part-time basis. All MLT courses, designated as MLS, are offered over the internet in the WEBSTUDY online course management system. Student labs are offered on 5 Saturdays from 9am–3pm throughout the semester. These labs are held on the Harcum College campus for students within a 2-hour driving distance from Harcum College. Labs can be performed on an individual basis, by students who reside a further distance from Harcum College, at an accredited clinical site of their choice. Students who choose the individualized lab must find a clinical site that is a full service laboratory. Students must have a designated clinical site coordinator at the hospital who will guide the student in completing the laboratory objectives. Lab objectives are available to the student and clinical coordinator by accessing the lab course (MLS 140, MLS 114, MLS 240) through the WEBSTUDY online course management system.

General education courses that are required in the MLT program, but not offered online at Harcum, may be taken at any accredited college/university and transferred to Harcum as long as the student completes the course with a grade of “C” or better. Courses required as part of the MLT program but **not currently offered online** include:

- CHE 111 General Chemistry 1 and Lab 4 credits
- BIO 205 General Microbiology and Lab 4 credits

A maximum of 30 credits is permitted for transfer.

MLT students attend a clinical practicum off campus during their final semester. During the practicum, students rotate through the various departments within the laboratory: Chemistry, Hematology, Coagulation, Urinalysis, Microbiology, Blood Bank, Immunology, and Phlebotomy. **The clinical practicum is currently offered Monday-Friday as a day program only**, with hours generally available between 7am-5pm. Students attend the practicum on a full-time basis. Part-time hours may be available at the discretion of the clinical site.

The MLT program at Harcum College is accredited by NAACLS:

The National Accrediting Agency for Clinical Laboratory Sciences
5600 N. River Road
Suite 720
Rosemont, IL  60018-5119
Phone: 847-939-3597
[www.naacls.org](http://www.naacls.org)
**Distance Student Labs**

Students who live at a driving distance from the college over 2 hours may complete student labs at a clinical facility in their geographic area accredited by at least one of the following agencies: CLIA, CAP, JACHO, COLA. All off-site lab students must acquire a clinical site coordinator in order to complete the lab objectives. The following documentation is required from the clinical site prior to the student beginning the student lab activities:

1. A signed affiliation agreement, stating the responsibilities of the clinical site and the college in providing student lab training. Harcum College does provide malpractice insurance for each student
2. Evidence that the clinical site coordinator is an Board of Certification, or equivalent, certified technologist/technician
3. Evidence that the clinical site is accredited

The MLT program director and clinical coordinator will work with each student to help them acquire a clinical site. Distance students are required to provide contact information for their desired site to the MLT clinical coordinator.

All student lab activities are consistent for campus and off-campus labs and are available through WEBSTUDY. However, since clinical sites may vary in their testing procedures, the coordinator at the clinical site may substitute a lab testing procedure as long as it fulfills the objectives for that lab session and are approved by the clinical coordinator.

Students receive a grade for the student labs that are independent of the lecture courses. The student lab activities are associated with certain MLT lecture courses and are usually taken simultaneously with the lecture. Distance students completing student labs at a clinical site may complete the student lab activities the following semester after successful completion of the lecture course with a grade of “C” or better.

Distance students are not required to follow the same lab schedule as students attending labs on-campus. Distance students will work out a schedule that is convenient for both the student and the laboratory staff. All laboratory activities must be completed prior to the end of the semester.

Student lecture courses and associated lab courses:

Lecture course: MLS 101 Intro to MLT
Associated lab course: MLS 140 Applied Lab Techniques I

Lecture course: MLS 113 Basic Hematology and Clinical Microscopy Associated
Associated lab course: MLS 114 Applied Hematology and Microscopy Lab

Students qualify to take MLS 240 Applied Lab Techniques II simultaneously with the MLS 210, 211, 212, 213, 214 senior lecture courses or upon successful completion of these courses.
Clinical Staff and students completing the lab activities off-site will have access to all information pertaining to the MLS 140, MLS 114, and MLS 240 laboratory sessions through the WEBSTUDY online course management system. Lab objectives, lab activities and checklists, as well as lab quizzes will be accessed through the online system in the same manner as the lecture courses. Off-site students and their clinical coordinators can communicate with the on-campus lab instructor concerning lab procedures.

Log-on information will be provided prior to the start of the semester. Both the student and the coordinator at the clinical site will be given access to the online student lab courses.

**Completion of Student Lab Paperwork**

All lab paperwork is accessible to the student through the WEBSTUDY online course management system. Once the student has completed the lab activities, and they have been graded by the clinical site coordinator, the completed paperwork is mailed or faxed to the clinical instructor at Harcum College. Refer to page 6 for mail/fax information. All paperwork must be received by the WEBSTUDY lab instructor at least one week prior to the end of the semester in order for the student to receive a grade.

**Program Goals and Mission Statement**

The mission of the Medical Laboratory Technician Program is to prepare individuals, from diverse backgrounds, for employment as knowledgeable and technically skilled medical laboratory technicians who are capable of higher order critical thinking processes and are aware of the importance of continuing education in their field.

The goals of the Harcum College MLT program are:

1. To graduate competent Medical Laboratory Technicians
2. Meet the current standards of the National Accrediting Agency for Clinical Laboratory Science
3. Provide an opportunity for the student to obtain the necessary academic and technical skills in all areas of the clinical laboratory
4. Provide an opportunity for students to obtain the proper clinical experience in all areas of the clinical laboratory
5. Provide a strong undergraduate curriculum
6. Develop in students the professional attitudes and ethics required of clinical laboratory scientists
7. Educate students in the merits of continuing education
8. Provide the region served by the program with graduate clinical laboratory scientists who can function at career entry levels and who can assume leadership roles as health professionals
Upon completion of program requirements, MLT students are eligible to sit for the Board of Certification examination. The granting of a degree from Harcum College is not contingent upon the passing of the certification examination.

**Program Officials, Faculty, and Other Contact Numbers**

**Harcum College President:** Dr. Jon Jay DeTemple

**Vice president of Academic And Legal Affairs:** Julia Ingersoll, J.D.

**Program Director:** Donna Broderick
MS,MLS(ASCP)
Office Telephone Number: 610-526-6662
Email: dbroderick@harcum.edu
Fax: 610-526-1861

**Clinical Coordinator:** Julie Donato MLS(ASCP)
610-526-6154
jdonato@harcum.edu
MLT Office Fax: 610-526-1861

**Harcum College Mailing Address:** Dept. of Laboratory Science
Harcum College
750 Montgomery Ave
Bryn Mawr, PA 19010

**Clinical Lab Educator:** Karen Gatewood MLS(ASCP)
Office Telephone Number: 610-526-6152
Email: kgatewood@harcum.edu

**MLT Office Fax:** 610-526-1861

**Fax for Practicum paperwork only:** 610-675-2666

**Financial Aid Office:** 610-526-6156

**Office of Student Accounts:** 610-526-6003

**Office of Student Records:** 610-526-6010

**College Store:** 610-526-6041
MLT Faculty:

Ms. Donna Broderick MS, MLS(ASCP)
Associate Professor
Program Director
dbroderick@harcum.edu

Ms. Julie Donato MLS(ASCP)
Instructor
MLS 211 Clinical Chemistry
jdonato@harcum.edu

Ms. Karen Gatewood MLS(ASCP)
Clinical Lab Educator, Instructor
MLS 113 Basic Hematology and Body Fluids
MLS 114 student lab
MLS 212 Hematology and Coagulation
MLS 213 Immunohematology
MLS 240 student lab
kgatewood@harcum.edu

Ms. Alina Boesteanu, Ph.D
Adjunct Faculty: Instructor
MLS 130 Immunology
aboesteanu@harcum.edu

Ms. Cynthia McGauley MS, MLS(ASCP)
Instructor
MLS 101 Intro to MLT
MLS 140 student lab
MLS 214 Clinical Microbiology
cmcguauley@harcum.edu

Ms. Rebecca Suppi PBT(ASCP) CTBS, FD
Adjunct Faculty: Instructor
MLS 210 Phlebotomy
rsuppi@harcum.edu

Admissions Requirements

A. Minimum Entrance Requirements:

- High School Algebra 2 and Geometry
- 2 units of High School Science
- 3 units of High School English
- Current SAT scores
- 1 letter of recommendation
- Completed essay
- GPA of 2.0 or greater
B. Provisional Acceptance:

Students with a GPA of less than 2.0 may be admitted on a provisional basis. This decision is based upon a review of records and college placement test scores. Satisfactory performance is defined as earning a 2.0 or greater after completing 12 credits. Students with a high school GPA of 2.0 or less are recommended to participate in the Early Entry Program which takes place on the Harcum Campus during the summer months before the first year or extend their education for a period of 3 years.

Admissions Procedure

Students seeking admission to the MLT Program should apply to the Harcum College Office of Admissions. Admission applications are reviewed by the admissions staff and the MLT Program Director.

Students may apply for admission during any semester or summer session. Fall semester starts are recommended for students who meet all admission requirements. Spring or summer starts are recommended for provisional students since they may require an extra semester to complete preliminary course work.

Admission questions should be directed to the Admissions Office at 610-526-6050. Program specific questions should be directed to the MLT Program office at 610-526-6662, or email at dbroderick@harcum.edu.

MLT Basic Competencies / Career Entry Skills

Upon graduation, and at the time of employment, a medical laboratory technician should be able to demonstrate the following entry-level competencies:

Medical Laboratory Technicians are proficient in:

a. Collecting, processing and analyzing biological specimens and other substances.

b. Performing analytical tests on blood, body fluids, and other substances.

c. Recognizing factors that affect procedures and results, and taking appropriate actions, within predetermined limits, when corrections are indicated.

d. Performing and monitoring quality assurance and quality control within predetermined limits.
e. Performing preventive and corrective maintenance of equipment and instruments or referring to appropriate source for repairs.

f. Applying principles of safety.

g. Demonstrating professional conduct and interpersonal communication skills with patients, laboratory personnel, other health care professions, and with the public.

h. Recognizing the responsibilities of other laboratory and health care personnel and interacting with them with respect for their jobs and patient care.

i. Applying basic scientific principles in learning new techniques and procedures.

j. Relating laboratory findings to common disease processes.

k. Establishing and maintaining continuing education as a function of growth and maintenance of professional competence.

Program Requirements: Essential Functions

A. Cognitive Functions:

The MLT student must possess the following intellectual skills:

- communicate effectively in written and spoken English
- possess and apply mathematical skills
- possess the psychological health required for full utilization of abilities: reasoning, sound judgment, analytic ability

B. Psychomotor Functions:

The MLT student must be able to:

- move freely from one location to another in physical locations such as the clinical laboratory, patient care areas, corridors, and elevators
- possess sufficient eye motor coordination to allow delicate manipulations of specimens, instruments, and tools
- grasp and release small objects (test tubes, pipettes, microscope slides)
- manipulate other laboratory materials (reagents, manual and automated pipettes, etc)
- identify and distinguish objects macroscopically and microscopically
- lift and move objects of at least 20 pounds
- possess a sense of touch and temperature discrimination
- use hands for repetitive activity

C. Affective Functions

The MLT student must be able to:

- follow written and verbal directions
- work under time constraints
- work independently
• prioritize requests and work concurrently on at least two different tasks
• maintain alertness and concentration during a normal work period
• apply knowledge, skills, and values learned from course work and life experiences to new situations
• work safely with potential chemical, radiological, and biologic hazards using universal precautions
• show respect for self and others
• projects an image of professionalism including appearance, dress, and confidence

D. Professional Appearance

The students are required to wear a lab coat provided by the clinical site when present in the laboratory. Many students prefer to wear hospital-style scrubs. These can be purchased through:
Allheart Medical Store
866-947-5684
www.allheart.com

The hospital will provide laboratory coats for use in the facility. Students will adhere to the dress code of the hospital and are expected to dress neatly and professionally. Hair should be secured from the face in an orderly manner. Only modest jewelry and minimum fragrance is appropriate. Students must wear a lab coat, gloves, and use protective splash shields for all clinical lab classes. Closed-toed shoes (no sandals) are required.

E. Student Health Requirements

All MLT students must complete the Harcum College Health Center medical requirements and clearances prior to registration for classes. Students will complete these requirements through CertifiedBackground.com

Students who have failed to complete these requirements will not be registered for student labs.

Students are also required to maintain general health insurance coverage throughout the program.

To access the CertifiedBackground.com site go to:
www.CertifiedBackground.com
enter correct 6 character package code as outlined below:

HF39 + State of Residence Abbreviation – Background Check, Drug Test & Medical Document Manager
(Examples: HF38pa, HF38ny, HF38ca)
HF39dt – Drug Test ONLY package (Please order your drug test within 30 days of practicum)

You will then be directed to set up your CertifiedProfile account. CertifiedProfile is a secure platform that allows you to order your Background Check, Medical Document Manager & Drug Test online.

Below are lab tests/documentation to be completed through CertifiedBackground:

- Current flu vaccine
- If PPD is positive, documentation of a chest X-ray is required
- 3 doses of Hepatitis B vaccine or a positive Hepatitis B antibody
- Measles (Rubeola) Immunity
- German measles (Rubella) Immunity
- Chicken Pox (Varicella) Immunity
- Mumps Immunity
- Tdap (tetanus, diphtheria, pertussis) within past 10 years
- Criminal Background Check
- Child Abuse Clearance
- Physical exam

In addition, students will need to complete the following tests at the time of entrance into the MLT program and within 30 days of beginning the MLT practicum:

- Tuberculosis Skin Test (PPD)
- If PPD is positive, documentation of a chest X-ray is required
- Drugs of Abuse Screen

Students who are currently employed at clinical sites can use the information on file at their employee health department.

In addition to the medical information, all distance students must supply a current photo with ID (such as a driver’s license copy)

F. Clinical Placement Policy

The following policy will be implemented in the event that student enrollment exceeds clinical placement availability:

MLT students qualify for clinical placement if they maintain a grade point average of 2.0 or higher in all MLS and General Science/Math (CHE, BIO, MTH) courses, as well as maintain a minimum grade point average of 2.0. If the number of students qualifying for practicum placement exceeds the clinical positions available, you may be placed on a waiting list for clinical assignments.
Placement at the clinical site from the waiting list will be based on program admission date and successful completion of all courses in the program prior to the clinical practicum. Completion of the practicum objectives will be organized for distance students in the same manner as the student labs. The student will acquire a clinical site coordinator who will check that each activity is completed, and assign a grade for each activity. Distance students usually maintain the same clinical site and mentor from their student labs.

**Requirements for Online Courses**

Students are required to have audio/visual capabilities (computer microphone and camera) for interaction and presentations essential for online and blended courses.

Students are provided log-on information to all WEBSTUDY courses at least one week prior to the start of each course. It is strongly recommended that students order textbooks as soon as possible. It is the responsibility of the student to learn how to navigate the Webstudy online course management system. Assistance with webstudy navigation is available through the Webstudy Orientation course, available to all online students one week prior to the start of classes.

The following computer capabilities are required for success in Harcum’s online courses:

- **Computer**
  You should have a minimum of a 133 MHz processor and 64 MB of memory.

- **Operating System**
  Most courses are created for PCs. You should be running Windows 2007 or greater. If you have a Macintosh, contact your instructor before registering for the course.

- **Web Browser**
  Online course material is best viewed with Internet Explorer (IE) version 6.0 or higher.

- **Internet Service Provider (ISP)**
  The Distance Learning Department does not provide technical support for your Internet connection. Make sure your ISP is reliable.

- **Email**
  You need to have a reliable program that will give you at least 2 MB of storage and will allow you to send attachments. If you are sending graphic files or spreadsheets, you will need even more capacity. Check with your teacher for individual class requirements.

- **Modem**
  You should have at least a 28.8 bps modem. Most course material will download faster with a 56k modem. DSL or cable modems are recommended for faster file download speeds and to handle larger files.

- **Other Software**
  Some courses will require that you have the most recent version of the software available or require that you download a program or plug-in.
**Program Description**

The MLT Program is designed to consist of four (4) semesters and one (1) summer session of general and clinical laboratory education. The final semester (Spring) consists of an off-campus clinical practicum. Successful fulfillment of the program leads to the conferral of the Associate Degree.

**Course Description**

Listed below are required courses as noted on the curriculum outline found on page 20. The curriculum outline shows the criteria for progression through the MLT program.

**Description of MLT required courses:**

**Biology:**

**101 General Biology I**

This course is designed to enable the student to gain a comprehensive understanding of the natural world. Topics include cytology, genetics, and an introduction to molecular biology. Laboratory exercises will emphasize the application of the scientific method to resolving biological problems.

**205 Microbiology**

This course presents a study of bacteria, viruses and fungi relative to their size, shape, life processes, cultural characteristics and classifications. Bacterial disease, immunity and sterilization are considered. Laboratory work includes the making of specific uses of culture media plus specific training in staining techniques.

**Chemistry:**

**111 General Chemistry I**

This course is the first semester of a two-semester course in general chemistry, which includes the fundamental principles of chemistry and their applications in the laboratory and science fields. This course is intended for non-chemistry majors, especially those in the Allied Health fields. The first semester includes discussions of the properties of matter, atomic theory, the periodic table, gas laws, bonding and stoichiometry and atomic and hybrid orbits. A laboratory that is coordinated with the lecture portion of the course is an integral part of this course. Prerequisite: A grade of "C" or higher in MTH 113. A laboratory fee is charged.
**Math:**

113 College Mathematics
Essentials of algebra as well as certain more advanced pre-calculus topics that are of basic importance in the technical programs are discussed. Topics include simplification and manipulative techniques of linear, quadratic and higher-degree algebraic expressions, applied problems and graphs involving algebraic equations of one and two unknowns, exponents, and radicals. College Mathematics is required before taking CHE111. Prerequisite: MTH 100 or equivalent (two years of high school algebra), with a grade of "C" or higher.

**Psychology:**

111 Introductory Psychology
This course is an introductory, general survey course in the study of human behavior and current and past theories. The course includes basic material on the history of psychology, principles of learning, the psychological processes of motivation, perception, emotion and sensation, intelligence, measurement, elementary concepts of personality, frustration and conflict and the influence of the brain on behavior.

**Diversity:**

SOC 109 Principles of Sociology
This course is an introduction to the basic concepts necessary for the systematic study of human interaction and social structure. The course provides a sociological perspective for the analysis of culture, personality, social institutions, groups, social structure, social processes and interrelations. Integrative and disintegrative aspects of social organizations are examined in their relation to social order and social change.

**English:**

101 Composition I
This course in basic writing provides instruction in principles of written and oral expression centering on the writing of themes using literary modes. Short stories and essays are studied for understanding of content, structure and form.

102 Composition II
This course continues with instruction in principles of written and oral expression with further emphasis on the writing of themes using literary modes. Plays and poems are studied for understanding of content, structure and form. Prerequisites: ENG 101 with a grade of "C" or higher.
**Humanities:**

101 Introduction to Humanities: Human Liberty
This is a course in the general field of the humanities, using "human liberty" philosophy and ethics, science, art and music as the basic material of the course. Students will be expected to discuss, to evaluate and to write about works which are fundamental to an understanding of the meaning of human liberty within Western culture.
Prerequisite: ENG 101

**Computer Studies:**

AHS 103: Research Methods and Computer Applications
This course will serve as an introduction for students to develop effective research strategies in accessing information from various online resources and will impart basic computer literacy skills necessary to utilize Microsoft software applications efficiently (Word, Excel, PowerPoint and Publisher).

**Clinical Courses:**

MLS101 Introduction to MLT
This course will introduce the student to the many aspects of Medical Technology focusing on specimen collection, safety and infection control, quality control, legal/ethical considerations, and application of computers in the laboratory setting. Laboratory practice focusing on manual methods and instrumentation will be introduced during lab sessions.

MLS 140 Applied Laboratory Techniques I
This course introduces the student to basic hands-on application of lab testing. Manual methods and instrumentation are introduced in the areas of specimen collection, urinalysis, hematology, coagulation, clinical chemistry, immunology and blood banking

MLS 113 Basic Hematology and Microscopy
This course introduces the student to the fundamentals of hematology including normal and abnormal cell development, differentiation of blood cells, and cellular abnormalities that indicate disease. The significance of cells found in urine, spinal fluid, and other body fluids is also discussed
**MLS114 Applied Hematology and Microscopy Lab**  
This course will introduce the student to the proper use of the compound light microscope and its use in the clinical lab to evaluate blood cells, urine, and other body fluids. A review of basic instrumentation is included.

**MLS130 Immunology**  
This course will cover the basics of immunologic theory and testing and will study laboratory methods used to identify disease states. Students will study the pathological conditions normally encountered in the immunology laboratory.

**MLS210 Phlebotomy**  
This course will prepare students for the Phlebotomy rotation as part of the hospital practicum by reviewing equipment used in phlebotomy, procedures and safety practices.

**MLS211 Clinical Chemistry**  
This course will prepare students for their chemistry laboratory rotation as part of the hospital practicum by reviewing chemical constituents of the human body, disease states, and instrumentation used in chemistry analysis. Case studies will be used to identify pathologic conditions.

**MLS212 Clinical Hematology and Coagulation**  
This course will explore how the diagnosis of the many forms of anemia and leukemia are made in the clinical hematology laboratory. Case studies will be reviewed to reinforce the theory presented. The coagulation process, laboratory tests, and diseases associated with coagulation will also be discussed.

**MLS213 Clinical Immunohematology**  
This course will prepare students for their Blood Bank rotation as part of the hospital practicum by reviewing standards and specialized immunohematology procedures required to successfully transfuse a patient. Students will discuss transfusion reaction case studies.

**MLS214 Clinical Microbiology**  
This course will introduce the student to the wide variety of pathological microorganisms which can affect man, and how to differentiate these pathogens from normal flora. It will explore the many aspects of identification using specialized media and biochemical testing. A review of processing patient specimens in the microbiology lab will be included, as well as comparing antibiotics used to fight infection.
**MLS 240 Applied Lab Techniques II**
This course introduces students to more complex levels of laboratory testing using manual and instrumentation methods in areas of chemistry, urinalysis, blood banking, hematology, coagulation, immunology and microbiology.

**Practicum Courses:**

The following courses are held at the clinical site. The student will rotate through each section of the laboratory, learning hands-on techniques in laboratory practices. Students attend the practicum on a full-time day schedule, Monday through Friday, during the final semester.

- MLS 220  Applied Laboratory Techniques in Phlebotomy
- MLS 221  Applied Laboratory Techniques in Chemistry
- MLS 222  Applied Laboratory Techniques in Hematology
- MLS 223  Applied Laboratory Techniques in Immunohematology
- MLS 224  Applied Laboratory Techniques in Microbiology
- MLS 225  Applied Laboratory Techniques in Serology
- MLS 226  Applied Laboratory Techniques in Coagulation
- MLS 227  Applied Laboratory Techniques in Urinalysis

**MLS 230 MLT Certification Prep Seminar**
This course will provide the student with the tools to prepare for success on the ASCP MLT Board of Certification Exam. The student will access pre and post-tests in all areas of Clinical Laboratory Science and will receive personal instruction to overcome areas of weakness.
Clinical Site Information:

Harcum College has an ongoing relationship with many clinical sites. Clinical site availability may change from year to year. Listed below are clinical sites that have hosted students within the past 2 years. An updated site list will be provided by the clinical coordinator prior to registration for the practicum.

**Abington Memorial Hospital**
1200 Old York Rd
Abington, Pa. 19001

**Fulton County Medical Center**
214 Peach Orchard Road
McConnellsburg, PA 17233

**Health Network Labs**
2024 Lehigh Street
Allentown, PA 18103

**Main Line Health Labs**
**Lankenau Hospital**
100 Lancaster Ave
Wynnewood, PA 19096

**North Country Health System**
North Country Hospital
189 Prouty Dr
Newport, VT 05855

**Saint Mary Medical Center**
1201 Langhorne-Newtown Rd
Langhorne, PA 19047

**Titusville Hospital**
Titusville Area Hospital
406 West Oak Street
Titusville, PA 16354

**Lawrence + Memorial Hospital**
365 Montauk Ave
New London, CT 06320
**Progression through the Program:**

Students must maintain a C average in the following courses to progress through the program:

- MLS 101
- MLS 140 lab
- MLS 130
- MLS 113
- MLS 114 lab
- MLS 210
- CHE 111
- MLS 211
- MLS 212
- MLS 213
- MLS 214
- MLS 240 lab
- BIO 205
- MTH 113

**Curriculum Outline:**

The MLT curriculum outline is designed to aid the students in their progression in the program.

The total number of credits for completion of the MLT program at Harcum College is 78.

Courses in the MLT curriculum are offered as online courses or Face2Face (on-campus) courses as indicated below:

- MLS 101, 113, 130, 211, 212, 213, 214 are offered online only
- Bio 205 and Che 111 Are offered on-campus only. These courses can be transferred from other accredited colleges
- The MLT on-campus labs: MLS 140, MLS 114, MLS 240 are held on 5 Saturdays throughout the semester from 9am-3pm

A copy of the course outline is provided on the following page:
# Medical Laboratory Technician Program

Completion of the courses listed below is required for your degree. Please refer to the current Harcum College catalog for course descriptions as well as course pre-requisites and/or co-requisites.

On the blank lines next to each course, note the semester you took the course and the grade you earned. Also note if you transferred credits for any of these courses or had any of these courses waived.

<table>
<thead>
<tr>
<th>FIRST SEMESTER – Fall</th>
<th>Semester</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng 101 Composition I</td>
<td>3 cr.</td>
<td>_____</td>
</tr>
<tr>
<td>MLS 101 Intro to MLT</td>
<td>3 cr.</td>
<td>_____</td>
</tr>
<tr>
<td>MLS 140 Applied Lab Techniques I</td>
<td>1 cr.</td>
<td>_____</td>
</tr>
<tr>
<td>MTH 113 College Math</td>
<td>3 cr.</td>
<td>_____</td>
</tr>
<tr>
<td>AHS 103 Research and Comp. App.</td>
<td>3 cr.</td>
<td>_____</td>
</tr>
<tr>
<td>BIO 101 Gen. Biology I &amp; lab</td>
<td>4 cr.</td>
<td>_____</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>17 cr.</strong></td>
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</tr>
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<table>
<thead>
<tr>
<th>SECOND SEMESTER - Spring</th>
<th>Semester</th>
<th>Grade</th>
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</thead>
<tbody>
<tr>
<td>ENG 102 Composition II</td>
<td>3 cr.</td>
<td>_____</td>
</tr>
<tr>
<td>CHE 111 General Chemistry I &amp; Lab</td>
<td>4 cr.</td>
<td>_____</td>
</tr>
<tr>
<td>BIO 205 Microbiology &amp; Lab</td>
<td>4 cr.</td>
<td>_____</td>
</tr>
<tr>
<td>MLS 113 Basic Hematol. &amp; Microscopy</td>
<td>3 cr.</td>
<td>_____</td>
</tr>
<tr>
<td>MLS 114 Applied Hematol. &amp; Micro. Skills</td>
<td>1 cr.</td>
<td>_____</td>
</tr>
<tr>
<td>MLS 130 Immunology</td>
<td>3 cr.</td>
<td>_____</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>18 cr.</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SUMMER SESSION</th>
<th>Semester</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 109 Principles of Sociology</td>
<td>3 cr.</td>
<td>_____</td>
</tr>
<tr>
<td>HUM Humanities Elective</td>
<td>3 cr.</td>
<td>_____</td>
</tr>
<tr>
<td>PSY 111 Intro to Psychology</td>
<td>3 cr.</td>
<td>_____</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>9 cr.</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>THIRD SEMESTER – Fall</th>
<th>Semester</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLS 210 Phlebotomy</td>
<td>3 cr.</td>
<td>_____</td>
</tr>
<tr>
<td>MLS 211 Clinical Chemistry</td>
<td>3 cr.</td>
<td>_____</td>
</tr>
<tr>
<td>MLS 212 Clinical Hemo. &amp; Coag.</td>
<td>3 cr.</td>
<td>_____</td>
</tr>
<tr>
<td>MLS 213 Clinical Immunohematology</td>
<td>3 cr.</td>
<td>_____</td>
</tr>
<tr>
<td>MLS 214 Clinical Microbiology</td>
<td>3 cr.</td>
<td>_____</td>
</tr>
<tr>
<td>MLS 240 Applied Lab Techniques 2</td>
<td>1 cr.</td>
<td>_____</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>16 cr.</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>FOURTH SEMESTER – Spring</th>
<th>Semester</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLS 230 MLT Certification Prep Seminar</td>
<td>1 cr.</td>
<td></td>
</tr>
<tr>
<td>MLS 220, 221, 222, 223, 224, 225, 226, 227</td>
<td>17 cr.</td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>18 cr.</strong></td>
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</tr>
</tbody>
</table>

**Total Program credits = 78**
XII. **Academic Standards and Graduation Requirements**

A student enrolled in the Medical Laboratory Technician Program at Harcum College is expected to maintain a 2.0 GPA (grade point average), and a "C" grade for all science, mathematics. Clinical laboratory and clinical lecture components in the curriculum. Failure to meet these standards will result in:

A. **Academic Probation:**

GPA less than 2.0 or below a "C" in one mathematics or science course or clinical component. A student who withdraws from or unsatisfactorily completes any mathematics or science course or clinical component in the MLT curriculum will be placed on probation until the deficiency is corrected.

If the student is placed on academic probation, he/she will be notified of this in writing and will remain on probation and have up to one year to correct the deficiency. If the student is on probation at the clinical affiliate site, the student's progress will be reviewed at weekly intervals. If there has been little or no improvement, the student may be dismissed from the program. If a student wishes, he/she may appeal the final decision and present evidence for consideration to the MLT Program Director and the MLT Advisory Committee.

B. **Dismissal From the Program:**

GPA less than 2.0, or below "C", or withdrawal in two or more mathematics or science courses or clinical components or any combination of two of these. This will be the decision of the MLT Program Director in conjunction with the MLT Advisory Committee. The student may wish to appeal this decision and may present evidence for consideration by the committee at this time. Within fifteen calendar days of the student's awareness of the Committee's decision, if a satisfactory resolution still has not been achieved, the student should proceed with the college's grievance procedure as noted in the college catalog.
Non-Academic Standards:

A student enrolled in the Medical Laboratory Technician Program is required to comply with the policies of the college and the clinical affiliate regarding attendance, dress, conduct, etc. Failure to comply with these rules and regulations may result in non-academic probation.

Non-Academic Probation/Appeal:

If a student has failed to comply with the policies of the college or the clinical affiliate regarding attendance, punctuality, dress, conduct, etc., he/she may be given a maximum of two written warnings. If the unsatisfactory behavior still continues, the student will be placed on probation. The student will be informed of this in writing. At weekly intervals, the student's progress will be reviewed by the MLT Program Director and Clinical Site Coordinator. A decision will be made to continue the probation or dismiss the student. If the student wishes to appeal this decision, he/she may present evidence for consideration to the MLT Advisory Committee.

C. Grading System:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Numerical Grade</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>95-100</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>90-94</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>83-86</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td>73-76</td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td>70-72</td>
<td>1.7</td>
</tr>
<tr>
<td>D+</td>
<td>67-69</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td>63-66</td>
<td>1.0</td>
</tr>
<tr>
<td>D-</td>
<td>60-62</td>
<td>0.7</td>
</tr>
<tr>
<td>F</td>
<td>Below 60</td>
<td>0.0</td>
</tr>
</tbody>
</table>

W Withdrawal - Assigned when a student withdraws from a course before the date indicated on the academic calendar.

WP Withdrawal Passing - Assigned when a student withdraws from a course after the “W” period, and is passing at the time of withdrawal.

WF Withdrawal Failing - Assigned when a student withdraws from a course after the “W” period, and is failing at the time of withdrawal.
D. **Other Policies:**

**Repeating a Course:**

If a student repeats a course, all grades received for that course will appear on the record. However, the last grade achieved for the course will be used in the computation of the cumulative grade point average. **MLT students may only repeat a course one time.**

**Audit Policy:**

The audit grade is given at the discretion of the instructor in consultation with the student. Anyone wishing to audit any or all clinical courses may be granted permission after discussion with the MLT Program Director.

**Course Changes:**

Students are permitted to add or drop courses during the scheduled "Add and Drop" period. Check the current academic calendar for add/drop dates. Students must contact the MLT Program Director to add or drop courses.

**Program Changes:**

Students who are presently enrolled at Harcum College but wish to enter the MLT program should contact the MLT Program Director. A "Change of Program" form must be completed by the student, the new and the former Program Director.

If a student who is presently enrolled in the MLT program wishes to withdraw from the program or the college, or is dismissed for academic or non-academic reasons, they must contact the MLT Program Director who will guide them through the withdrawal process.
E. Academic Appeal:

Academic Appeal/Grade

The student may appeal grading by a faculty member up to within two weeks of the following semester. The student must, in writing, document why she considers the grade to be unfair and present it to the faculty member who will respond within ten business days. The student must present supporting evidence, i.e., tests, papers, and other supporting documents, to the faculty member. If this appeal is denied, the student may appeal to the Program Director in writing within ten days. If this appeal is denied, the student may appeal to the Executive Dean of the College, in writing, who will respond within ten business days. If still denied, the student may appeal to the President of the College.

Academic Appeal/Other Grievances

If a student has a cause for grievance in academic matters, the student is requested to meet with the faculty member involved. If an agreeable decision is not reached, the student should then request a meeting with the Program Director to discuss the matter. There are four academic divisions of the college: Health Science, Business and Professional Studies, Liberal Arts, and Science and Math.

If further steps are necessary, the Executive Dean of the College should be consulted. The Executive Dean of the College may convene an ad hoc grievance board consisting of two faculty members, two students, and a fifth member from the College community. Board members will be approved by both parties and will act in an advisory capacity to the Dean.

Complete Appeal Procedure can be found on in the Harcum College Student Handbook for non-academic matters and the Harcum College Catalog for academic matters. The Harcum College Student Handbook is located online through the Harcum website at: www.harcum.edu/studenthandbook

Return for Additional Study

The College reserves the right to invite only those students whose progress and conduct have been satisfactory to return for a consecutive second year of study.
F. **Attendance:**

Consistent attendance and punctuality are essential characteristics for a responsible professional in the clinical laboratory field. Therefore, the student is strongly advised to follow the schedules established in the online courses and not miss time during the student labs or clinical training. To do so may result in course failure or unfavorable evaluations at the conclusion of the program.

The student will be requested to withdraw from the internship if habitual tardiness or absenteeism develops. If such a withdrawal is requested, the student will not be placed in another clinical site.

G. **Graduation Requirements**

In order to receive an Associates’s Degree from Harcum College, the following criteria must be met:

- Earn the required number of credits in the MLT program. The MLT curriculum consists of 78 credits
- Enrollment in Harcum courses during the final semester is mandatory. The MLT practicum is considered a Harcum course
- Maintain a minimum GPA of 2.0
- All financial obligations to the college must be fulfilled. A graduation fee is required by all graduates

XIII. **Textbooks:**

**MEDICAL LABORATORY TECHNICIAN TEXTBOOK LIST**

**MLS 101: Intro. to MLT**
Palko’s Medical Laboratory Procedures 3rd Edition
Phyllis Cox, Danielle Wilken
ISBN# 978-0-07-340195-9
[www.mhhe.com](http://www.mhhe.com)

Mathematics for the Clinical Laboratory
Lorraine J. Douchette
2nd edition
ISBN# 978-1-4377-0179-1
[www.us.elsevierhealth.com](http://www.us.elsevierhealth.com)

**MLS 140 Lab**
Palko’s Medical Laboratory Procedures 3rd Edition
Phyllis Cox, Danielle Wilken
ISBN# 978-0-07-340195-9
[www.mhhe.com](http://www.mhhe.com)
Mathematics for the Clinical Laboratory
Lorraine J. Douchette
2nd edition
ISBN# 978-1-4377-0179-1
www.us.elsevierhealth.com

**MLS 113: Hematology and Microscopy**
Clinical Hematology and Fundamentals of Hemostasis 5th Edition
Denise Harmening
ISBN #0-8036-1732-1
www.FADavis.com

Urinalysis and Body Fluids 5th Edition
Strasinger, DiLorenzo
ISBN# 0-8036-1697-X
www.FADavis.com

Mathematics for the Clinical Laboratory
Lorraine J. Douchette
2nd edition
ISBN# 978-1-4377-0179-1
www.us.elsevierhealth.com

**MLS 114 Lab: Hematology and Microscopy Lab**
Clinical Hematology and Fundamentals of Hemostasis 5th Edition
Denise Harmening
ISBN #0-8036-1732-1
www.FADavis.com

Mathematics for the Clinical Laboratory
Lorraine J. Douchette
2nd edition
ISBN# 978-1-4377-0179-1
www.us.elsevierhealth.com

**MLS 130: Immunology**
Immunology and Serology in Laboratory Medicine 5th edition
Mary Louise Turgeon
www.us.elsevierhealth.com

**MLS 210: Phlebotomy**
Phlebotomy Essentials 5th edition
McCall, Tankersley
ISBN 978-160-547-6377
www.lww.com

Phlebotomy Exam Review 4th edition
McCall and Tankersley
www.lww.com
MLS 211: Clinical Chemistry
Clinical Chemistry: Techniques, Principles, and Correlation 7th edition
Bishop, Fody, Schoeff
ISBN 978-1-4511-1869-8
www.lww.com

Mathematics for the Clinical Laboratory
Lorraine J. Douchette
2nd edition
ISBN# 978-1-4377-0179-1
www.us.elsevierhealth.com

MLS 212: Clinical Hematology and Coagulation
Clinical Hematology and Fundamentals of Hemostasis 5th Edition
Denise Harmening
ISBN #0-8036-1732-1
www.FADavis.com

MLS 213: Clinical Immunohematology
Modern Blood Banking and Transfusion Medicine 6th Ed.
Denise M. Harmening
ISBN # 978-0-8036-2682-9
www.FADavis.com

ML S214: Clinical Microbiology
Bailey and Scott’s Diagnostic Microbiology 12th edition
Forbes, Sahm, Weissfeld
ISBN# 978-0-323-03065-6
www.us.elsevierhealth.com

MLS 240 Lab: Applied Lab Techniques 2 and all Practicum Labs
Board of Certification Study Guide for the Clinical Laboratory Certification Examinations
Patricia Tanabe, E. Blair Holladay
5th edition
ISBN: 9780891895879
www.ascp.org
HOW DO I ORDER BOOKS??

Textbooks are ordered through the online bookstore:
Follet Virtual Bookstore:


or access at:

www.harcum bkstr.com
HOW TO ACCESS YOUR ONLINE COURSES

Harcum Hatch Portal Access and Course Registration using Self-Service

Follow these steps to access the Harcum Hatch Portal.

1. Go to the Harcum College website at www.harcum.edu and click on the LOG IN box in the upper right corner of your screen
2. Enter username and password:
   Username: first initial last name last 4 digits of your student ID #
   Password: Full Harcum College Student ID, preceded by an upper case P!
   (example: if your name is Mary Smith and your student ID # is P000014175, your username and password would be:
   Username: msmith4175
   Password: P000014175
   For security reasons, we recommend that you change this password immediately

To Access the Self-Service Registration module, Click on the box, as seen below

Click on the register tab
Click on traditional courses
Select the correct period (year/term)
Click on section search
Type in course code or keywords
Click search
Click on the add button to the far right of the courses
Click on the proceed to registration button in Add Course pop-up window
Click next to review schedule
Click next to finalize registration
Log out and close the browser to avoid security risks!

When you have selected your courses, an email will be sent to your advisor for approval

For support, contact the Harcum IT department:
610-526-1867
support@harcum.edu
Student Email and Webstudy Access

Go to the Harcum College website at www.harcum.edu and click on the LOG IN box in the upper right corner of your screen to access the Harcum Hatch Portal
Enter username and password

**EMAIL ACCESS:**
Click on the box, as seen below, to access Harcum email

![Google Apps / Gmail](image)

**WEBSTUDY ACCESS:**
Click on the box, as seen below, to access Webstudy courses

![Webstudy](image)

For support, contact the Harcum IT department:
610-526-1867
support@harcum.edu
I have received the MLT Student Handbook. I agree to read the handbook and affirm that I will be responsible for all the data therein. I understand and am aware of the contents listed below, as indicated by my initials.

Please initial each item and indicate the page number where each item was found:

_____Program Accreditation p._____
_____Program information p._____
_____Essential Functions p._____
_____Requirements for online courses p._____
_____Graduation requirements p._____
_____Academic Standards p._____
_____Curriculum and course sequence p._____
_____Clinical Placement Policy p._____
_____Progression through the Program p._____
_____Student Health requirements p._____
_____Ordering Textbooks p._____
_____Practicum hours p._____
_____Acknowledgement of required computer audio/visual capability p._____

I agree to abide by all the rules, policies, and procedures of the program.

Print Name:____________________________________________________________
Signature:_______________________________________________________________
Month/Year of handbook (see cover page)____________________________________
Date of Signature:_______________________________________________________