

Medical Laboratory Technology Program Admission Requirements

Dear Prospective MLT Student,

Thank you for your interest in Volunteer State's new program in Medical Laboratory Technology. This two-year Associate of Applied Science Degree Program will provide the general education core, sciences, and clinical laboratory courses necessary for career-entry preparation. Medical Laboratory Technicians perform various laboratory tests which greatly influence the medical treatment a patient receives, and job opportunities are excellent at the present time.

Enclosed you will find additional information on the Medical Laboratory Technician (MLT) profession and our MLT program. Please feel free to contact me if you have any further questions (230-3363).

Sincerely,

Lisa Lee-Biggs, MS, MT (ASCP)
Director, Medical Laboratory Technology Program
615.230.3363, Lisa.lee-biggs@volstate.edu

Description of the Medical Laboratory Technician Profession:

Medical Laboratory Technology (also known as Clinical Laboratory Science) is a profession which combines the challenges and rewards of both medicine and science. A medical laboratory technician performs a wide range of laboratory tests that aid in monitoring health, helping a patient's recovery, or diagnosing diseases such as AIDS, diabetes, or cancer. At career entry, the MLT performs routine clinical laboratory tests such as hematology, clinical chemistry, blood bank, microbiology, serology/immunology, coagulation, molecular, and other emerging diagnostic tests. Clinical laboratory science is a dynamic profession that continually changes as new medical knowledge is discovered.

Purpose of Program:

The purpose of the Medical Laboratory Technician (MLT) Program is to prepare students for an entry-level position in the medical laboratory as well as for their national board certification exam.

Students learn the theory and principles behind the tests they perform and learn to correlate test results with a patient's conditions. Additionally, students earn general education credits, including anatomy and physiology, humanities, computer applications and communications which lead to an Associate in Applied Science (A.A.S.) Degree.

Program Goals:

Upon completion of the program, the student will:

- Demonstrate the ability to comprehend, apply, and evaluate clinical information relevant to their role as a Medical Laboratory Technician.
- Demonstrate the technical proficiency in all skills necessary to fulfill their role as a Medical Laboratory technician.
- Demonstrate personal behaviors consistent with professional and employer expectations as a Medical Laboratory technician.

Time Course of Program:

The Associate of Applied Science degree in Medical Laboratory Technology is a "one-plus-one" program of study. The first year is considered "Pre-MLT" and consists of general education courses. At the end of the spring semester while enrolled in MLT 100 Introduction to Medical Laboratory course, students apply for admission to the MLT program. After admission into the program, students are considered to be MLT students and will begin the second year. The second year is a three-semester, full time program of study starting in May of each year. The summer is spent in the classroom and student laboratories. The fall and spring are spent in clinical rotations. Clinical rotations consist of 8 hours/day, Monday through Thursday. Additional classroom instruction occurs on Friday mornings during the Fall and Spring semesters. Students are involved in the educational training for a period of twelve months in order to meet requirements of the program and to fulfill requirements of the Associate of Applied Science Degree. This is a

nontraditional course of study so hours of study and length of semester may not parallel Volunteer State Community College semesters, holidays, and/or breaks. Accreditation of this program has been granted through the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS).

Location of program:

The program director has an office on the Volunteer State Community College’s main campus in Gallatin. All MLT courses except the clinical practicums are taught at St. Thomas Hospital in Nashville, TN. Clinical practicums take place in area hospitals including:

Centennial Medical Center	Hendersonville Med. Center	Baptist Hospital
Maury Regional Hospital	St. Thomas Hospital	Skyline Medical Center
University Medical Center	Sumner Regional Med Center	Cookeville Regional Med. Center
Maury Regional Med. Center	Middle TN Med. Center	Southern Hills Med. Center

Admission requirements:

To be considered a “Pre-MLT” student, the following criteria must be met:

1. A completed formal application submitted to Volunteer State Community College, Admissions and Records Office, with a \$10 nonrefundable application fee.
2. All high school transcripts, GED scores, and previous college transcripts forwarded to Admissions and Records. Transcripts must be **official**. Copies are not acceptable. University courses taken in another country must be evaluated by a credential evaluation agency. (A suggested website is <http://www.naces.org/>.)
3. If you are a new college student, you will be required to take the Compass test unless you have recent, satisfactory ACT or SAT test scores. These tests are used to evaluate your proficiency level in reading, writing, basic mathematics, and algebra. The Testing Office (ext. 3475) will schedule this and notify you. The results of the tests will determine if you will be required to take any on the remedial/developmental courses prior to any college level courses.
4. VSCC students are required to demonstrate computer competency. This may be demonstrated through passing the Computer Competency Exam (provided through the Testing Office) or by taking CIS 100-Computer Information Systems.
5. A completed and submitted Application to the Allied Health Careers indicating MLT as the anticipated field of study.

To be considered for admission into the MLT program, the following criteria must be met:

1. Completion of (or current enrollment in) BIOL 2020-Anatomy and Physiology II, BIOL 2230-Microbiology (or CHEM 1030-Fundamentals of Chemistry) and MLT 100-Introduction to Medical Technology with a grade of C or better.
2. Completion of the majority of general education courses by the end of the spring semester.
3. If not already done, application to the MLT program by completion of the Application to the Allied Health Careers. **Application must be received by the Allied Health Division no later than March 15th to be considered for the MLT program beginning in May.**
4. Cumulative GPA of 2.0 or better.
5. Completion of an interview for screening purposes. Applicants will be contacted at the end of March for interview dates.
6. Before official admission into this program, students must pass a background check and a drug screen.
7. Color blindness test. Many laboratory tests require the ability to distinguish between colors. Therefore, students must be able to distinguish colors, hues and color intensity.

Selection and Notification:

- Submission of program application by **March 15**.
- Completion of prerequisite/core courses with a C or better
- GPA of 2.0
- Acceptable background check
- Interview

NOTE Special consideration is given to those with previous health-care experience, high GPA in science courses, knowledge of profession, and a good interview score.

- A selection committee will review applications, and students will be notified of acceptance in writing.
- Following acceptance into the Program, students must respond **in writing** within **10 days** after the postmarked date of their acceptance letters. A student who fails to respond will **forfeit** his/her place in the class.
- 12 students are accepted each year into the MLT program. Preference is given to in-state residents.

Professional Resources:

You may wish to further research the Medical Laboratory Technology field by reviewing professional journals or visiting professional websites. Suggested journals (many of which are on the web), professional websites, and websites for national board certification exams include:

Journals:

LabMedicine <http://www.labmedicine.com/>

Advance for Laboratory Professionals <http://laboratorian.advanceweb.com/>

Medical Laboratory Observer <http://www.mlo-online.com/>

Professional and Licensing websites:

Tennessee Medical Laboratory Board <http://www2.state.tn.us/health/boards/medlab/>

American Society of Clinical Pathologists <http://www.ascp.org/>

American Society for Clinical Laboratory Science <http://www.ascls.org/>

National Accrediting Agency for Clinical Laboratory Science <http://www.naacls.org/>

National Credentialing Agency for Laboratory Personnel <http://www.nca-info.org/>

American Medical Technologists <http://www.amt1.com/>

Accreditation:

Accreditation for this program has been granted through:

NAACLS (National Accrediting Agency for Clinical Laboratory Science)

5600 N River Rd, Suite 720

Rosemont, IL 60018

(847) 939-3597 www.naacls.org

Volunteer State Community College

Medical Laboratory Technician Student Check List

Name: _____ Date: _____

Required General Education Courses:		Hrs	Taken
BIOL 2010	Human Anatomy & Physiology I(Lecture and Lab)	4	
BIOL 2020	Human Anatomy & Physiology II (Lecture and Lab)	4	
ENGL 1010	English Composition I	3	
MATH 1130	College Algebra	3	
MLT 100	Intro to Medical Laboratory	3	
PHYS 1030	Non calculus based Physics	3	
PSY 101	General Psychology	3	
Fine/Arts/Humanities Choose one	ART 1030-Intro to Art MUS 1030-Music Appreciation ENGL 1030-Intr Film	3	
Elective Choose one	BIOL 2230-microbiology (Lecture and Lab) CHEM 1030-Fundamentals of Chemistry (Lecture and Lab)	4	
Elective Choose two	AHC 115-Medical Terminology CIS 100-Computer Information Systems COM 100-Fundamentals of Speech Comm	3 3	
Total General Education Courses		23	

Summer	Course	Hrs	Taken
MLT 105	Hematology/Coagulation	3	
MLT 110	Clinical Chemistry	3	
MLT 113	Clinical Microbiology	3	
Total Fall		9	

Fall	Course	Hrs	Taken
MLT 111	Urinalysis	2	
MLT 112	Blood Bank/Serology	3	
MLT 200	Clinical Seminar I	1	
MLT 205C	Clinical Practicum I	7	
Total Spring		13	

Spring	Course	Hrs	Taken
MLT 210	Clinical Seminar II	1	
MLT 215C	Clinical Practicum II	8	
Elective	See Gen Ed Requirements-Social/Behavioral Sciences	3	
Total Summer		12	

**Medical Laboratory Technology Program
A.A.S.
Average Program Costs**

1. Tuition per Semester	As stated in the VSCC catalog for full time students	
2. Books (estimated)	Summer semester	\$300.00
	Fall semester	100.00
	Spring semester	50.00
3. Clinical costs (estimated)		
	Physical examination	Student Health- No cost
	Disease screening (titers)	60.00
	Hepatitis B immunization and titer	110.00
	Measles, Mumps, Rubella Vaccination	55.00
	Chicken pox Vaccination	20.00
	Tuberculosis (TB) screen	4.00
	Color blindness test	Student Health- No cost
	Malpractice Insurance	35.00
	Health Insurance	Dependent on provider
	Lab Coat	No cost
	FBI background check	75.00
	TN State Training License	No cost
	Drug screen test	25.00
	Professional dress/scrubs	150.00
4. Graduation Fee		25.00
5. After Graduation Fees	National Board Certification exam (only one of the following is required:	
	ASCP <u>or</u>	150.00
	NCA <u>or</u>	125.00
	AMT	125.00
	State Licensure	60.00

Suggested Schedule
MEDICAL LABORATORY TECHNICIAN PROGRAM

Freshman Year

		Fall
BIOL 2010	Human Anatomy and Physiology	4
ENGL 1010	English Composition	3
Elective	Mathematics	3
PSY 101	General Psychology	3
Elective	Computers (CIS 100) or Speech (COM 100)	<u>3</u>
Total		16

		Spring
BIOL 2020	Human Anatomy and Physiology II	4
CHEM 1030	Fundamentals of Chemistry	4
(BIOL 2230)	Microbiology	(4)
Elective	Humanities/Fine Arts	3
Elective	CIS 100, COM 100, or Medical Term (AHC 115)	3
MLT 100	Intro to Medical Laboratory	<u>3</u>
Total		17

		Summer
MLT 105	Hematology/Coagulation	3
MLT 110	Clinical Chemistry	3
MLT 113	Clinical Microbiology	<u>3</u>
Total		9

Sophomore Year

		Fall
MLT 111	Urinalysis	2
MLT 112	Blood Bank/Serology	3
MLT 200	Clinical Seminar I	1
MLT 205C	Clinical Practicum I	<u>7</u>
Total		13

		Spring
MLT 210	Clinical Seminar II	1
MLT 215C	Clinical Practicum II	8
Elective	Social/Behavioral Sciences	<u>3</u>
Total		12

PROGRAM TOTAL 67

MLT COURSE DESCRIPTIONS

MLT 100 Intro to Medical Laboratory- 3 hour credit

An introduction to the clinical laboratory sciences which includes care and use of equipment, lab safety, basic lab math, medical terminology, quality control, phlebotomy, and preparation of chemical solutions.

MLT 105 Hematology/Coag- 3 hours credit

Study of blood cells, disease, theory of coagulation, and diagnostic procedures relating to whole blood are considered. Instruction in blood collecting techniques, handling of clinical specimens, and basic patient care is included.

MLT 110 Clinical Chemistry- 3 hours credit

Basic instruction in manual and automated clinical chemistry techniques: tests for glucose, urea, creatinine, uric acid, proteins, bilirubin, enzymes, and electrolytes are included. Colorimetric and photometric techniques used in examining normal and abnormal clinical specimens are introduced along with special procedures as RIA and electrophoresis.

MLT 111 Urinalysis- 2 hours credit

Physical, chemical and microscopic examination of urine specimens and related tests on other body fluids such as semen, gastric contents, duodenal contents, as well as pregnancy tests. A general review of the anatomy and physiology of the kidney is included.

MLT 112 Blood Bank/Serology- 3 hours credit

The theories of blood group antigens, antibodies, ABO grouping, RH typing, cross matching, antibody screening, and identification techniques are included as well as special procedures. Donor history and physical, record keeping, and special emphasis on quality control.

MLT 113 Clinical Microbiology- 3 hours credit

Processing and handling of clinical materials for microbiological culture with emphasis on aseptic technique, sterilization procedures, and specimen handling and treatment. Use of media and special reagents for proper identification of microorganisms are included as well as antibiotic susceptibility testing, blood culture techniques, and differential staining.

MLT 200 Clinical Seminar I- 1 hour credit

Case presentations in hematology, urinalysis, immunology, and coagulation. Continued lectures during clinical rotations.

MLT 205C Clinical Practicum I- 7 hours credit

Includes laboratory performances during progressive rotation through the affiliated clinical labs.

MLT 210 Clinical Seminar II- 1 hour credit

A continuation of Seminar I

MLT 215C Clinical Practicum II- 8 hours credit

Completion of laboratory assignments during progressive rotation through clinical lab.