



Medical Laboratory Technician Program

Program & Application Information

The MLT program is designed to teach students the skills to function as a technician in the hospital laboratory setting. Students study math, biology, chemistry and medical laboratory related courses to prepare them for their job as a laboratory professional. Information about courses that need to be completed before acceptance, what it takes to start the program, and what a MLT does is included in this packet. We would love to have you in our program.

Currently Accepting Applications for Spring 2021

FACULTY:



Lucy Rucker, MLS (ASCP)^{cm}
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Phone: 740.588.1228
lrucker1@zanestate.edu

***Occasionally, applications will be taken after the deadline.**

Contact the Program Director for more information.

The MLT Program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)
5600 N. River Road, Suite 720
Rosemont, IL 60018-5119
773.714.8880
www.naacls.org

Medical Laboratory Technician Program

GENERAL INFORMATION

Laboratory medicine may be a good career field for you, if:

- You enjoy science and particularly enjoy biology
- You would prefer to work in a lab behind a microscope over being with patients
- You enjoy solving mysteries or finding answers
- You like a challenge

What is a laboratory professional?

Laboratory workers look at and analyze body fluids and cells. They look for bacteria and parasites (things that make you sick, yuck!); analyze the chemical content of fluids; match blood for blood transfusions for patients that are anemic; and test for drugs of abuse. Technicians also prepare patient samples, count cells, and look for abnormal cells in blood and body fluids. They use microscopes, cell counters, and other high-tech laboratory equipment. They also use automated equipment and computerized instruments to test patient samples. After testing and examining a sample, they send the results to the doctors that use them to treat sick patients.

Why is laboratory medicine important?

Have you ever wondered who does the laboratory testing for your yearly physical exam, such as cholesterol (lipids) and glucose (sugar) levels, and analyzes the results? Or who conducts testing for genetic disorders like sickle cell disease? How about those who identify an antibiotic resistant infection like Methicillin Resistant Staphylococcus aureus (MRSA) and determine which antibiotic is required to save someone's life? Well, if you thought that it was your doctor, or perhaps a nurse or someone else you see at your doctor's office or in the hospital, you would be incorrect. It's the laboratory! As a matter of fact Rodney Forsman, Administrative Director Emeritus of the Mayo Clinic Medical Laboratories and President of the Clinical Laboratory Management Association, stated that 94 percent of the objective medical data in the patient record comes from laboratory professionals. WOW!!

Doctors rely on fast and accurate laboratory test results to determine what is making a patient sick. Patient history along with physical signs and symptoms are important, but most diagnoses need confirmation that only laboratory tests can provide. The laboratory professionals also contribute to wellness testing, guiding treatment, and keeping track of patient progress. As a laboratory professional, you will play a huge role in the processing and analysis of laboratory samples. In turn, you are also responsible for the accuracy of laboratory data and the quality of care that patients receive.

Are medical laboratory technicians in demand?

The job demand for Medical Laboratory Technicians is predicted to increase 13 percent between 2016-2026 twice that of other jobs according to the US Bureau of Labor Statistics. Please see information found at the following link: <https://www.bls.gov/ooh/Healthcare/Medical-and-clinical-laboratory-technologists-and-technicians.htm>. Also, the Medical Laboratory Technician was ranked 13th in the "Best Jobs 2012" column written by US News and World Report. The strong job market and the favorable salary ranges make this field an excellent career choice.

What is the career ladder for a laboratory professional?

The certified Medical Laboratory Technician can continue their education at various universities throughout the country. After the completion of a 4-year degree the graduate will be able to sit for the ASCP National Certification Exam to be then recognized as a Medical Laboratory Scientist. Further education tracks would include Masters of Science, Masters of Education, Pathologist's Assistant among many others. Local colleges offering Bachelor's degree completion programs are Muskingum University (online), The Ohio State University, University of Cincinnati (online), and Youngstown State University (online).

What are essential functions?

It is important that technicians performing laboratory testing are proficient. This means that students must meet certain educational and technical standards that have been set by American Society for Clinical Laboratory Science (ASCLS), American Association of Clinical Pathologists (ASCP), American with Disabilities Act (PL101-336), and National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). All students applying for admission to the Medical Laboratory Technician Program must be able to meet the essential functions as included in this packet or request reasonable accommodations. These essential functions include a sound intellect; good motor skills; effective communication skills; professional skills; and hold sound psychological health and stability. A more detailed list of these essential functions is included in this packet. Please review this list and make sure you can meet all the requirements.

To learn more about the MLT program, you may e-mail to make an appointment to speak with the Program Director. Other informative websites about the laboratory profession include the following:

- www.ascp.org www.naacls.org
- www.ascls.org www.bls.gov

Please be aware that we can accept only 20 students into the MLT courses, which begin each fall semester. The program will consider all applications until 20 students have been accepted even after the common application deadline has passed. The minimum requirements for acceptance to the MLT program are as follows:

- **GPA of 2.5 in either high school or college courses (at least 2 semesters/sessions), whichever is most recent**
- **Placement into ENGL1500 and MATH 1650**
- **Satisfactory completion (C or better), of the following courses by the end of Summer Session 2020:**
 - **CHEM 1010***
 - **BIOL 1210***
 - **BMCA 1010, 1020, or 1050**

***High school courses (Chemistry and/or Advanced HS Biology course) may fulfill these requirements if they have been taken within the past 3 years. Please make an appointment or email the program director if you have questions regarding this statement. A copy of your HS transcript will be necessary for consideration.**

If you have been accepted to Zane State College, congratulations! Some students will still be working towards the requirements for the MLT program, that's ok, you may enroll in the ASCI (Associate of Science) program. This program allows you to complete courses towards the MLT degree as well as other health technologies offered at Zane State College. Earning awesome grades in these courses will enhance your application to the MLT program. Please contact a Success Coach in the Zane State College Student Services office at 740-588-5000.

*****PLEASE READ: All MLT students will be required to complete a BCI background check between their first and second year. According to various sections of the Ohio law, persons convicted of certain felonies and misdemeanors may be refused clinical placement and/or employment by healthcare facilities. If you would like more information about specific charges, please contact the Program Director as soon as possible.***

Zane State College Medical Laboratory Technician Program current clinical sites

Genesis Healthcare, Zanesville, Ohio
Southeastern Ohio Regional Medical Center, Cambridge, Ohio
Fairfield Medical Center, Lancaster, Ohio
Nationwide Children’s Hospital, Columbus, Ohio
Licking Memorial Healthcare, Newark, Ohio
University Hospitals-Samaritan Regional, Ashland, Ohio
Ohio Health-Riverside Methodist, Columbus, Ohio
The Ohio State University Wexner Medical Center, Columbus, Ohio

The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) requires that at least one current outcomes measure be included in the program’s published materials. The following information includes three outcome measures that are reported to NAACLS as part of annual report submissions. The current benchmark for these outcomes are 70% over a running three-year period.

Medical Laboratory Program Outcomes
Classes of 2018-2020

American Society of Clinical Pathology exam pass rates (as of 7/7/20)

Year	Class of 2018	Class of 2019	Class of 2020
Total number of exam takers	6	5	6
Total number of exam takers who passed	6	5	6
ZSC ASCP certification pass rate	100%	100%	100%
National average ASCP pass rate	83%	83%	83%

Three-year average: ZSC= 100%, NAACLS benchmark is >/= 70%

Zane State College graduation rates

Year	Class of 2018	Class of 2019	Class of 2020
Total number of students that started the final half of the program that complete the first half of the program at ZSC	10	8	6
Total number of students that graduated	6	5	6
ZSC Graduation rate	70%	70%	100%

Three year average: ZSC= 71%, NAACLS Benchmark is >/= 70%

Zane State College job placement rates (as of 7/7/20)

Year	Class of 2018	Class of 2019	Class of 2020
Total number of program graduates	6	5	7
Graduates that found employment as a MLT or continued their education within six months	6	5	5
ZSC graduate placement rate	100%	100%	71%

Three year average: ZSC= 89%, NAACLS Benchmark is >/= 70%

Essential Functions Required of Medical Laboratory Technician Students

I. Observational Requirements

The MLTP student must be able to:

- Observe laboratory demonstrations in which biological (i.e., body fluids, culture materials, tissue sections, and cellular specimens) are tested for their biochemical, hematological, immunological, and histochemical components.
- Characterize the color, odor, clarity, and viscosity of biological specimens, reagents, or chemical reaction products.
- Employ a clinical grade binocular microscope to discriminate among fine structural and color (hue, shading, and intensity) differences of microscopic specimens.
- Read and comprehend text, numbers, and graphs displayed in print and on a computer monitor.

II. Movement Requirements

The MLTP student must be able to:

- Move freely and safely about a laboratory.
- Reach laboratory benchtops and shelves, patients lying in hospital beds or patients seated in specimen collection furniture.
- Travel to clinical laboratory sites for practical experience.
- Perform moderately taxing continuous physical work, often requiring prolonged sitting, over several hours.
- Maneuver phlebotomy and culture acquisition equipment to safely collect valid laboratory samples.
- Control laboratory equipment (i.e. pipettes, inoculating loops, test tubes) and adjust instruments to perform laboratory procedures.
- Use a keyboard to operate laboratory instruments and to calculate, record, evaluate, and transmit laboratory information.

III. Communicate Requirements

The MLTP student must be able to:

- Read and comprehend technical and professional materials (i.e. textbooks, magazine and journal articles, handbooks, and instruction manuals).
- Follow verbal and written instructions to correctly and independently perform laboratory test procedures.
- Clearly instruct patients prior to specimen collection.
- Effectively, confidentially, and sensitively converse with patients regarding laboratory tests.
- Communicate professionally with faculty members, fellow students, staff, and other health care professionals verbally and in a recorded format (writing, typing, graphics, or telecommunication).
- Independently prepare papers, prepare laboratory reports, and take paper, computer, and laboratory practical examinations.

IV. Intellectual Requirements

The MLTP student must:

- Possess intellectual skills: comprehension, measurement, mathematical calculation, reasoning, integration, analysis, comparison, self-expression, and criticism.
- Exercise sufficient judgment to recognize and correct performance deviations.

V. Behavioral Requirements

The MLTP student must:

- Manage the use of time and be able to systemize actions in order to complete professional and technical tasks within realistic constraints.
- Possess the emotional health necessary to effectively employ intellect and exercise appropriate judgment.
- Provide professional and technical services while experiencing the stresses of task-related uncertainty (i.e. ambiguous test ordering, ambivalent test interpretation), emergent demands (i.e. "stat" test orders), and a distraction environment (i.e. high noise levels, crowding, complex visual stimuli).
- Be flexible and creative and adapt to professional and technical change.
- Recognize potentially hazardous materials, equipment, and situations and proceed safely in order to minimize risk of injury to patients, self, and nearby individuals.
- Adapt to working with unpleasant biological specimens.
- Support and promote the activities of fellow students and of health care professionals. Promotion of peers helps furnish a team approach to learning, task completion, problem solving, and patient care.
- Be honest, compassionate, ethical, and responsible. The student must be forthright about errors or uncertainty. The student must be able to critically evaluate his or her own performance, accept constructive criticism, and look for ways to improve (i.e. participate in enriched educational activities). The student must be able to evaluate the performance of fellow students and tactfully offer constructive comments.

(Essential functions as listed in *Clinical Laboratory Science* Vol. 9, No. 1 Jan/Feb 1996)

I have reviewed the essential functions and feel that I can meet all requirements.

Signature

Date

Printed Name

HEALTH ALERT

MEDA, MLTP, OTAP, PTHA, RADT

ENTERING STUDENTS

Federal legislative action through the Occupational Safety and Health Act (OSHA) now mandates that facilities employing individuals who come in contact with hazardous and infectious materials, i.e., body fluids such as blood, semen, vaginal secretions, cerebrospinal fluid, pleural fluid, synovial fluid, peritoneal fluid, amniotic fluid, saliva, or any fluid contaminated with blood must offer their employees Hepatitis B immunization.

While Zane State College does not fall under OSHA regulations, most of the clinical affiliates for the above identified programs do and must comply with the law. Students are not employees of the hospitals or clinical affiliates. Therefore, these facilities are not required to provide the immunization for students but they can limit the college's access to their facilities if students are perceived to be at risk and without appropriate opportunity for immunization.

Consequently, ALL STUDENTS ENTERING MEDA, MLTP, OTAP, PTHA, or RADT, MUST ACQUIRE THE HEPATITIS B IMMUNIZATION SERIES OF THREE INJECTIONS (OVER A SIX MONTH PERIOD). New students in these programs must provide the college with documentation of the first Hepatitis B injection no later than August 1, of the entering year. Entering students who fail to provide the appropriate documentation by the designated timeline will be withdrawn from their programs and their places will be given to alternates. Current freshmen students who fail to comply with this requirement will be unable to register for technical courses and, hence, unable to complete their programs. Students failing to complete the series of three injections will be unable to register and/or complete their programs.

ALL COSTS ASSOCIATED WITH MEETING THE HEALTH/IMMUNIZATION REQUIREMENTS OF HEALTH PROGRAMS ARE THE SOLE RESPONSIBILITY OF THE STUDENT. Students should not begin Hepatitis B immunization until they have been fully accepted into the program of choice. Notification of acceptance into your program will be official when coming from the following faculty:

**MEDA (Medical Assisting) – Shay Brooks
MLTP (Medical Laboratory Technology) – Lucy Rucker
OTAP (Occupational Therapy Assistant) – Rachel Milliner
PTHA (Physical Therapist Assistant) – Lori Wahl
RADT (Radiologic Technology) – Jen Fox**

The following pages contain forms needed for your application folder.

HEALTH PROGRAMS APPLICATION COVER PAGE

Name: _____

Address: _____

Phone #: _____

E-Mail: _____

Student ID #: _____

Programs Applying For:

- Applicants may apply to a maximum of three programs/degrees, ordered according to your preference as number 1, 2, or 3. You are encouraged to apply to at least two programs.
- You must submit **ALL** required application materials for **EACH** of your program selections below. Duplicate requirements for two or more programs can be noted as, "See page ___ of ___ section."

Selective Programs

___ Medical Laboratory Technician (MLTP)

___ Occupational Therapy Assistant (OTAP)

___ Physical Therapist Assistant (PTHA)

___ Radiologic Technology (RADT)

Non-selective Programs

___ Health Information Management (HIMT)

___ Medical Assisting (MEDA)

___ Associate of Science (ASCI)

Zane State College is partnering with Rhodes State to offer a Respiratory Care degree. If you would like more information, please contact Julia Griffin at 740-588-4174 or jgriffin@zanestate.edu.

Completed folders are to be submitted in one of two ways:

1. **Mailed to:**
Zane State College/Health Science Hall
1555 Newark Road
Zanesville OH 43701
2. **OR dropped off in the reception area of Health Science Hall, H325**

This will be page one in your application folder.

COMMON HEALTH PROGRAMS APPLICATION CHECKLIST for 2021-2022 Academic Year

- **PUT YOUR NAME, ADDRESS, AND STUDENT ID# ON THE FRONT OF THE FOLDER**
- **Folders must be three-pronged – not three ringed.**
- **Include and complete this checklist as the second page of your application folder.**
- **Place all items in numbered page protectors, and include one tab divider for each program to which you are applying. Label these dividers with the four letter program code indicated on the Application Cover Page. The tab(s) is/are to be placed after Page 6 from the list below.**

<input type="checkbox"/>	Page 1	Health Programs Application Cover Page
<input type="checkbox"/>	Page 2	Common Health Programs Application Checklist (this page)
<input type="checkbox"/>	Page 3	<p>Unofficial Zane State College transcripts that include current GPA. If you have not previously taken Zane State classes, insert a page with that information noted.</p> <p>Unofficial transcripts from <u>all other</u> colleges you have attended. These should include grades through the end of fall semester prior to application. If none, insert a page and indicate you have not attended another college.</p>
<input type="checkbox"/>	Page 4	Copy of transfer credit awarded by Zane State College for courses taken at other institutions. <u>Submission of official transcripts to the Registrar’s Office should be no later than December 17, 2020, so that there is ample time for review.</u>
<input type="checkbox"/>	Page 5	Copy of ACT scores and/or Health Occupations Aptitude Exam score. Required for MLTP, OTAP, PTHA, and RADT.
<input type="checkbox"/>	Page 6	<p>Evidence of readiness for or completion of BIOL 2400/2410 by indicating the following:</p> <p>___ I have taken a high school level advanced biology or anatomy and physiology (A&P) in the past three years and passed it with a “C” or higher.</p> <p>___ I have taken college level A&P in the past five years and passed both lecture and lab sections with a “C” or higher. This course, if taken at another institution, has been approved for transfer credit by the Zane State College Registrar’s Office.</p> <p>___ I have taken college-level A&P greater than 5 years ago and understand that I will be required to retake and successfully complete both lecture and lab sections with a “C” better.</p> <p>___ I have taken BIOL 1210 and passed it with a “C” or better.</p> <p>___ I am scheduled to take BIOL 1210 ___ semester.</p> <p>___ I am currently or scheduled (circle one) to take BIOL 2400/2410 _____ (semester/year).</p>

NOTE: No page should be left blank. If the item required on a page is not applicable to you, please provide a brief explanation as to why it does not pertain to you on the appropriate page.

Program Specific Requirements: Following Page 6, place your program specific documents behind the appropriately labeled tab divider. Each document should be in a numbered page protector. They are to be in the order specified in the program specific requirements checklist. Duplicate requirements for two or more programs can be noted as, “See page ___ of section ___.”

- **Sample application folders are available for review in Student Services and in the Health Science Hall reception area. The sample may also be viewed on the College website under each health program’s tab.**

Medical Laboratory Technician Program – Application Checklist

The MLT program is a selective program that admits only 20 students per year due to a limited number of clinical sites available. To be considered for the class starting in Fall 2021 you must complete all the following and submit appropriate documentation to the program director by **Tuesday, March 16, 2021, at 4:00 p.m.***

***Occasionally, applications will be taken after this deadline.** Contact the Program Director for more information.

Place this checklist after the tab divider labeled MLTP. Include ALL applicable materials in your application folder in the order they are listed.

<input type="checkbox"/>	MLTP Page 1	Medical Laboratory Technician Program Application Checklist (this page) to ensure you have included all items.
<input type="checkbox"/>	MLTP Page 2	Evidence of successful completion (grade C or better) or high school general chemistry course or CHEM 1010 within the last three years. A typed and signed statement regarding when and where this was accomplished should be included as page 2.
<input type="checkbox"/>	MLTP Page 3	Evidence of computer literacy (completion of BMCA 1010, 1020 or 1050). Include a note that indicates where to locate this information on your official transcript. This may also be met by testing out of BMCA 1020 which is the minimum requirement. Please contact the Testing Center for more information.
<input type="checkbox"/>	MLTP Page 4	Evidence of placement into MATH 1650 or higher. Include a note that indicates where to locate this information on your official transcript.
<input type="checkbox"/>	MLTP Page 5	Include a self-composed research paper regarding the profession of a Medical Laboratory Technician. This requirement is meant to encourage each applicant to research the profession before applying to the program. Please utilize the websites included on page 3 of this packet to help guide you. You may add additional information regarding life experience after the paper. This paper should be a least two pages double spaced, and referenced as needed.
<input type="checkbox"/>	MLTP Page 6	Review the Essential Functions of MLT Students sign and date the form documenting that you feel you meet these requirements. (See pages 5 & 6 in the information packet.)
<p>*Students <u>officially</u> accepted into the MLTP program are required to obtain a physical, Hepatitis B, and a TB skin test at their own expense. This form can be obtained from the Health Science Hall Receptionist or the MLT Program Director. Additionally, the student will need to have a background check performed in the summer between the first and second years of the program.</p>		



Medical Laboratory (MLTP) Course of Study 2020-2021

Fall I				
Course ID	Course Name	T/B/G	Credits	Ck off
BIOL 2400	Anatomy & Physiology I	G	3	
BIOL 2410	Anatomy & Physiology I Lab	G	1	
CHEM 1210	General Chemistry I	G	4	
ENGL 1500	Composition I	G	3	
FYEX 1010	First Year Experience	B	1	
MLTP 1000	Introduction to Medical Laboratory Science	T	2	
Total:			14	

Spring I				
Course ID	Course Name	T/B/G	Credits	Ck off
BIOL 2420	Anatomy & Physiology II	G	3	
BIOL 2430	Anatomy & Physiology II Lab	G	1	
CHEM 1220	General Chemistry II	G	4	
MLTP 1100	Clinical Hematology I	T	3	
MLTP 1200	Clinical Immunology	T	2	
	*English Elective	G	3	
Total:			16	

Summer Session I				
Course ID	Course Name	T/B/G	Credits	Ck off
BIOL 2010	General Microbiology	G	3	
MATH 1650	Statistics	G	3	
	*Communication Elective	G	3	
Total:			9	

Curriculum Summary: General (G)/Basic (B)= 35 Hours

Technical (T)= 33 Hours

Total Curriculum Hours= 68

Fall II				
Course ID	Course Name	T/B/G	Credits	Ck off
MLTP 2000	Clinical Body Fluids	T	2	
MLTP 2100	Clinical Hematology II	T	3	
MLTP 2200	Clinical Chemistry	T	4	
MLTP 2300	Clinical Microbiology	T	4	
MLTP 2400	Clinical Immunohematology	T	3	
Total:			16	

Spring II				
Course ID	Course Name	T/B/G	Credits	Ck off
MLTP 2500	Directed Practice I: Clinical Chemistry	T	2	
MLTP 2510	Directed Practice II: Clinical Immunohematology	T	2	
MLTP 2520	Directed Practice III: Clinical Hematology and Coagulation	T	2	
MLTP 2530	Directed Practice IV: Clinical Microbiology and Immunology	T	2	
MLTP 2600	Medical Laboratory Technician Seminar	T	2	
	*Arts & Humanities Elective	G	3	
Total:			13	

Summer Session II				
Course ID	Course Name	T/B/G	Credits	Ck off
Total:				

****NOTE:** Students must complete the computer literacy requirement in order to graduate which may be met through competency testing or completion of a program specific computer course. Refer to the degree audit and consult with the program advisor for the appropriate course(s) that meet the computer literacy requirement.

ADDITIONAL INFORMATION ON REVERSE

**Medical Laboratory (MLTP)
Course of Study 2020-2021
Page 2**

Arts & Humanities Electives		
PHIL 1020	Introduction to Ethics	3
PHIL 1030	Critical Thinking	3

Communication Electives		
COMM 1220	Interpersonal Communication	3
COMM 2610	Public Speaking	3

English Electives		
ENGL 2500	Composition II	3
ENGL 2800	Professional Writing	3