

**Medical Laboratory Technician**  
**AAS Degree**  
Preferred Course Sequence

Preadmission Requirements	Preadmission Requirements	Summer	Fall	Spring
Human Anatomy BCS 140 or Anatomy & Physiology I BCS 145  4	Human Physiology BCS 150 or Anatomy & Physiology II BCS 146  4	<sup>4</sup> Intro to Communication COM 100  3	Hematology MLT 200  4	Immuno- hematology MLT 220  4
English Composition I ENG 101  3	<sup>1</sup> Intermediate Algebra MTH 110  3	Phlebotomy Clinical PLB 101  1	Clinical Chemistry MLT 210  4	Clinical Microbiology MLT 230  4
Medical Terminology HIT 191  3	<sup>2</sup> Introduction to Psychology PSY110  3	<b>4</b>	Urinalysis & Body Fluids Analysis MLT 215  2	Clinic Seminar & Review MLT 240  2
Introductory Chemistry CHM 101  4	Intro to the Medical Lab MLT 100  1		Clinical Practicum II MLT 260 (2 <sup>nd</sup> 8 weeks)  8	Clinical Practicum III MLT 270 (2 <sup>nd</sup> 8 weeks)  8
<sup>3</sup> American Gov't & Politics PLS 101  3	Microbiology BCS 200  4		<b>18</b>	<b>18</b>
<b>17</b>	Introduction to Phlebotomy PLB 100  2			
	<b>17</b>			

**AAS Degree: 74 Hours**

All courses must be completed with a grade of "C" or higher.

Pre-admission requirements must be completed or be in the process of being completed prior to the selective admission phase.

The courses within bold border represent the selective admission portion of the program and require a full time, daytime commitment.

<sup>1</sup>Or higher level math course

<sup>2</sup>Or higher Social Science Elective

<sup>3</sup>Must satisfy Missouri law to include instruction in Federal and State Constitutions by completing either PLS 101 or HST 120 *and* HST 130.

<sup>4</sup>Or other Communication elective; however other COM courses may have a prerequisite. COM may also be taken prior to admission to the program.

This block diagram is provided to aid in advising students and tracking course completion.

OTC reserves the right to modify course titles, sequences and content in accordance with college procedures.

For more information, please refer to OTC's website at [www.otc.edu](http://www.otc.edu).

Ozarks Technical Community College  
 Medical Laboratory Technician Program  
 Course Descriptions

<b>General Education Requirements</b>		<b>34</b>
BCS 145	Anatomy & Physiology I	4
BCS 145	Anatomy & Physiology II	4
BCS 200	Microbiology	4
CHM 101	Introductory Chemistry	4
COM 100	Human Communication (or) Communication elective	3
ENG 101	Composition I	3
HIT 191	Medical Terminology	3
MTH 110	Intermediate Algebra (or) higher level Math course	3
PLS 101	American Government & Politics (or) courses to satisfy Missouri law to include instruction in Federal & State Constitution	3
PSY 110	Introduction to Psychology	3
<b>Program Specific Courses</b>		
MLT 100	<b>Introduction to the Medical Laboratory</b> Introduces the field of medical laboratory science, including the use and care of the microscope and other laboratory supplies and equipment, safe specimen handling, bloodborne pathogens, basic quality control, lab organization and professional etiquette.	1
MLT 200	<b>Hematology</b> A study of the blood to include the function, identification, and testing of cellular components. Skills will be developed in the analysis of hemoglobin, hematocrit, blood cell counts and blood cell morphology. The mechanism of coagulation will also be explored and the function and analysis of platelets and proteins in blood coagulation will be related to changes in normal and disease states.	4
MLT 210	<b>Clinical Chemistry</b> This course will cover methods of analysis of chemical levels within the body, the testing methodologies for those constituents, and the correlation of abnormal results with various disease states. Topics include carbohydrates, creatinine, uric acid, acid-base balance, electrolytes, toxicology, cholesterol, triglycerides, blood urea nitrogen, bilirubin, protein electrophoresis testing principles, quality control, laboratory mathematics, and professional issues.	4
MLT 215	<b>Urinalysis and Body Fluids Analysis</b> This course will present the normal and abnormal composition of urine, testing procedures, sources of error and clinical correlation. Testing of cerebrospinal, synovial, pleural, pericardial, and peritoneal fluids will also be covered.	4
MLT 220	<b>Immunology and Serology</b> Presents the concepts of basic immunology. Review the principles and theories of antigen-antibody reactions as related to blood grouping and cross match procedures, testing methods, donor selection, blood components, anticoagulants, and transfusion reactions. The principles involved in various serologic tests will be discussed.	4
MLT 230	<b>Clinical Microbiology</b> A study of pathogenic bacteria, medically important fungi, and human parasites. The course will include bacterial culturing and identification, as well as microscopic fungal and parasite identification relating to human disease. The processing, handling, and work-up of clinical specimens for microbiological study are thoroughly addressed.	4
MLT 240	<b>Professional Issues and Laboratory Management</b> This course reviews specific topics to prepare the student for certification examinations. The student will continue to develop the skill, knowledge, and attitude required to function in a professional manner in the clinical laboratory setting. In addition, students will explore new concepts in health care and clinical sciences.	2
PLB 100 & PLB 101	<b>Phlebotomy Clinical</b> Students are assigned to various clinical facilities to develop skills in phlebotomy. Skill development will include performing a variety of blood collection methods using proper techniques and universal precautions. Includes vacuum collection devices, syringes, capillary skin puncture, butterfly needles and blood culture, and specimen collection on adults, children, and infants. Emphasis on infection prevention, proper patient identification, labeling of specimens and quality assurance, specimen handling, processing, and accessioning.	2 +1 3
MLT 260	<b>Clinical Practicum II</b> Students are assigned to various clinical laboratories to become familiar with the laboratory's organization and to gain experience in dealing with patients and in performing procedures required of a laboratory technician.	4
MLT 270	<b>Clinical Practicum III</b> Supervised clinical practice in the laboratory of cooperating health agencies. The laboratory settings for this course are varied and may include a physician's office laboratory, rural hospital laboratory, or other specialized laboratory setting. Basic procedures will be reviewed and advanced methodologies will be introduced within each assigned department and affiliate laboratory.	4