

Bachelor of Science (BS)

Medical Laboratory Science

Medical laboratory science (also referred to as clinical laboratory science and medical technology) is a branch of medicine that uses laboratory analyses to diagnose, detect and treat disease. Laboratory analyses are performed on blood, body fluids and tissue. Physicians use these laboratory results to determine the presence, extent and cause of disease in their patients. The role of the medical laboratory scientist is critical since the analyses must be performed quickly and reliably. Most medical laboratory scientists are employed in hospitals. However, employment opportunities also exist in medical and diagnostic labs, offices of physicians and outpatient care facilities. The medical laboratory scientist's training is versatile enough to allow some to pursue other opportunities in medicine, health law, health care administration, dentistry, veterinary science, public policy development, medical writing and higher education. Students who desire a challenging and vital profession in the health sciences with excellent employment opportunities should consider medical laboratory science.

The medical laboratory science program at Southeast is a 3+1 program meaning that the student takes a three-year pre-clinical program at Southeast, which is followed by one year of clinical work at one of our clinical affiliates.

Becoming Career Ready...

/ Faculty-mentored learning and guidance will help you develop the professional skills needed for success in a competitive job market and/or advanced study in graduate and professional programs.

/ The medical laboratory science curriculum will prepare you for a career in clinical analysis, public health, industry, higher education and research. The program also provides an excellent basis for graduate and professional areas of study. Example job titles include medical laboratory scientist, clinical chemist, immunologist, hematologist, environmental health administration, pharmaceutical sales rep, medical writer and laboratory director.

/ Medical laboratory science students will get training in all areas of the clinical laboratory, i.e. blood bank, chemistry, hematology, immunology, microbiology and molecular diagnostics. Upon completion of the program, medical laboratory science graduates will be eligible for national certification as a medical laboratory scientist.

/ 100% of Southeast programs offer real-world experience. Medical laboratory science students earn this experience through completing a one-year of clinical study at a clinical program that holds accreditation status from the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS).

/ The path to a successful career starts with you! You can maximize your career development by working closely with Career Services and Southeast faculty – they are here to help you connect your passions, interests and skills to jobs and opportunities in the field. Career Services provides professional career counseling and coaching, resume critiques, practice interviews, job search strategies, career events, networking opportunities and more.

Clinical Affiliates:

- Cox Health
- North Kansas City Hospital
- Owensboro Medical Health System
- Mercy Hospital Joplin
- Mercy Hospital St. Louis
- Southeast Health

Career Information

To learn more about career opportunities in medical laboratory science visit: <https://www.ascls.org/what-is-a-medical-laboratory-science-professional>.

According to the United States Bureau of Labor Statistics, there were 335,700 medical laboratory science related jobs in 2016. This number is expected to increase by 13% by 2026. Source: <https://www.bls.gov/oo/healthcare/medical-and-clinical-laboratory-technologists-and-technicians.htm#tab-3>.

Transfer and Dual Credit Students

If you have dual credit or transfer credit, please visit our transfer course equivalencies guide at semo.edu/transfercredit.

To learn more
 Office of Admissions
 (573) 651-2590
admissions@semo.edu
semo.edu

To explore
 the College of Science,
 Technology, Engineering and
 Mathematics online, visit
semo.edu/stem

For advising
 Center for Academic Advising
semo.edu/advising

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This is a guide based on the 2021-2022 Undergraduate Bulletin and is subject to change. The time it takes to earn a degree will vary based on several factors such as dual enrollment, remediation, and summer enrollment. Students will meet with an academic advisor each semester and use Degree Works to monitor their individual progress.

CURRICULUM CHECKLIST

"Critical Courses" are italicized and bolded. Data shows that students who have completed this course in the first two years and have earned the noted grade are most likely to complete this program of study.

Required Courses:

- ___ BI173 Cell & Organismal Biology (4)
- ___ BI283 Genetics (4)
- ___ **BI310 General Microbiology (4)**
- ___ BI442 Immunology (4)
- ___ BI543 Pathogenic Microbiology (4)
- ___ **CH184 General Chemistry I Lab (1)**
- ___ **CH185 General Chemistry I (3)**
- ___ **CH186 General Chemistry II (3)**
- ___ CH187 General Chemistry II Lab (1)
- ___ CH271 Foundations of Analytical Chemistry (5)
- ___ **CH340 Essentials of Organic Chemistry (5)**
- ___ CH531/UI331 Foundations of Biochemistry (3)
- ___ MA116 Precalculus A (3)
- ___ MA223 Elementary Probability and Statistics (3)

Choose one course:

- ___ BS332 Human Physiology (3)
- ___ ZO331 Animal Physiology (3)

Clinical Year Program – 30 hours required - off campus

- ___ MT300 Clinical Chemistry (8-10)
- ___ MT301 Clinical Microscopy (1-2)
- ___ MT302 Hematology and Coagulation (6-8)
- ___ MT303 Serology Immunology (2-4)
- ___ MT304 Clinical Microbiology (7-9)
- ___ MT305 Blood Bank Immunohematology (3-4)
- ___ MT306 Special Topics in Medical Technology (1-4)

General Education Requirements – some requirements may be fulfilled by coursework in major program

- Social and Behavioral Sciences – 6 hours
- Constitution Requirement – 3 hours
- Written Communication – 6 hours
- Oral Communication – 3 hours
- Natural Sciences – 7 hours (from two disciplines, one to include a lab)
- Mathematics – 3 hours
- Humanities & Fine Arts – 9 hours (from at least two disciplines)
- Additional requirements – 5 hours (to include UI100 for native students)
- Civics examination

SAMPLE FOUR-YEAR PLAN

	Fall Semester		Spring Semester	
	Course #	Hrs	Course #	Hrs
FIRST YEAR	UI100	1	BI173/073	4
	EN100	3	CH186	3
	CH184/CH185	4	CH187	1
	MA116	3	General Education	3
	General Education	3	General Education	3
	Total	14	Total	14
Milestone: maintain 2.0 cumulative GPA				
SECOND YEAR	BI283	4	BI310	4
	BS332 or ZO331	3	General Education	3
	CH271/071	5	General Education	3
	CH340/040	5	General Education	3
			General Education	3
Total	17	Total	16	
Milestone: maintain 2.0 cumulative GPA				
THIRD YEAR	BI442/042	4	BI543	4
	MA223	3	General Education	4
	UI331 or CH531	3	Elective	3
	General Education	3	Elective	2
	General Education	3		
Total	16	Total	13	
Milestone: maintain 2.0 cumulative GPA				
FOURTH YEAR	Clinical Year Program	15	Clinical Year Program	15
	Total	15	Total	15
Milestone: maintain 2.0 cumulative GPA				

A "Milestone" signifies a significant stage for a student in the completion of a degree.

Degree requirements for all students: a minimum of 120 credit hours, completion of the General Education program, and completion of 39 senior division hours (300-599). Refer to the Undergraduate Bulletin or Degree Works for additional graduation requirements for your program.

A minimum 2.0 GPA in the major and overall are required to graduate with a BS degree.