

## Bachelor of Science (BS)

# Medical Technology

Medical laboratory science is a branch of medicine that uses laboratory analyses to diagnose 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.

The medical laboratory scientist's training is versatile allowing some to pursue other opportunities in medicine, health law, health care administration, dentistry, veterinary science, public policy development and medical writing. Students who desire a challenging and vital profession in the health sciences should consider medical laboratory science.

### Medical Technology students will...

- Develop lab skills in chemistry, biology, and math in the context of a broad university education.
- Study in modern learning environment provided by the recently renovated Magill Hall of Science.
- Complete one-year of clinical study at a clinical program that holds accreditation status from The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS).
- Be eligible for national certification as a medical laboratory scientist upon completion of the B.S. degree.
- Have excellent employment opportunities upon completion of the program.

### Career Planning

Career preparation is part of the mission of Southeast. In fact, more than 90% of Southeast students participate in internships, clinical opportunities, student teaching, research assistantships, and study abroad. The demand for medical laboratory scientists is likely to stay high in the immediate future. Most medical laboratory scientists work in hospitals, but job opportunities also exist in physicians' laboratories, clinics, commercial laboratories, research facilities, public health centers, veterinary laboratories, higher education, and the armed forces. During the past ten years, all Southeast graduates from this program have found employment in the field and many of these have had employment offers prior to graduation.

Professional career counselors are available for all students. The Office of Career Services in Academic Hall 057 can provide students with professional career counseling, resume critiques, practice interviews, job search strategies, career events, networking opportunities, and more.

| Demonstrated Career Proficiency is a Requirement of all Southeast Students |                |                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CL001/CL002                                                                | First Semester | Complete the FOCUS2 assessment and develop a Career Action Plan.                                                                                                                                                                    |
| CL003                                                                      | Junior Year    | Students gain information about career planning and job searching resources.                                                                                                                                                        |
| CL004                                                                      | Senior Year    | Students demonstrate advanced proficiency by identifying a position in their field, developing a cover letter, and tailoring a resume for the position. Materials are critiqued to ensure preparedness for a successful job search. |

### Clinical Affiliates

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

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

**To explore the College of Science, Technology and Agriculture online, visit**  
www.semo.edu/costa

**For advising**  
Center for Academic Advising - North  
(573) 651-5090  
www.semo.edu/advising  
advisingnorth@semo.edu

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This is a guide based on the 2016-2017 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 DegreeWorks 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 (3)
- \_\_\_ BI543 Pathogenic Microbiology (2)
- \_\_\_ BI544 Pathogenic Microbiology Laboratory (1)
- \_\_\_ **CH185 General Chemistry (5) (Physical Systems)**
- \_\_\_ **CH186 Foundations of Inorganic Chemistry (3)**
- \_\_\_ CH187 Inorganic Chemistry and Qualitative Analysis Laboratory (2)
- \_\_\_ CH271 Foundations of Analytical Chemistry (5)
- \_\_\_ **CH341 Foundations of Organic Chemistry (4)**
- \_\_\_ CH342 Organic Chemistry Laboratory I (1)
- \_\_\_ CH531/UI331 Foundations of Biochemistry (3)
- \_\_\_ MA134 College Algebra (3) (Logical Systems)
- \_\_\_ 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)

**University Studies Requirements (not already listed above):**

UI100 First Year Seminar, EN100 English Composition, Artistic Expression, Written Expression, Oral Expression, Literary Expression, Behavioral Systems, Living Systems\*, Development of a Major Civilization, Economic Systems, Political Systems, Social Systems, one IU/UI3XX\*\*, and one UI4XX.

\*\*\* Note: Living Systems required if not taken as part of major required courses. Two IU/UI3XX courses are required if CH531 Foundations of Biochemistry is taken rather than UI331 Foundations of Biochemistry.

**SAMPLE FOUR-YEAR PLAN**

|                                        | Fall Semester            |           | Spring Semester        |           |
|----------------------------------------|--------------------------|-----------|------------------------|-----------|
|                                        | Course #                 | Hrs       | Course #               | Hrs       |
| <b>FIRST YEAR</b>                      | UI100                    | 3         | BI173                  | 4         |
|                                        | EN100                    | 3         | <b>CH186</b>           | 3         |
|                                        | <b>CH185/CH085/CH005</b> | 5         | CH187                  | 2         |
|                                        | MA134                    | 3         | Social Systems         | 3         |
|                                        | Artistic Expression      | 3         | Written Expression     | 3         |
|                                        | <b>Total</b>             | <b>17</b> | <b>Total</b>           | <b>15</b> |
| Milestone: maintain 2.0 cumulative GPA |                          |           |                        |           |
| <b>SECOND YEAR</b>                     | BI283                    | 3         | <b>CH341</b>           | 4         |
|                                        | <b>BI310</b>             | 3         | CH342                  | 1         |
|                                        | CH271                    | 5         | Develop of a Major Civ | 3         |
|                                        | BS332 or ZO331           | 3         | Literary Expression    | 3         |
|                                        | Economic Systems         | 3         | Oral Expression        | 3         |
|                                        | <b>Total</b>             | <b>17</b> | <b>Total</b>           | <b>14</b> |
| Milestone: maintain 2.0 cumulative GPA |                          |           |                        |           |
| <b>THIRD YEAR</b>                      | BI442                    | 3         | BI543                  | 2         |
|                                        | MA223                    | 3         | BI544                  | 1         |
|                                        | UI331 or CH531           | 3         | IU/UI3XX               | 3         |
|                                        | Behavioral Systems       | 3         | UI4XX                  | 3         |
|                                        | Political Systems        | 3         | Electives              | 3         |
|                                        | <b>Total</b>             | <b>15</b> | <b>Total</b>           | <b>12</b> |
| Milestone: maintain 2.0 cumulative GPA |                          |           |                        |           |
| <b>FOURTH YEAR</b>                     | Clinical Year Program    | 15        | Clinical Year Program  | 15        |
|                                        | <b>Total</b>             | <b>15</b> | <b>Total</b>           | <b>15</b> |
| 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 University Studies program, career proficiencies (CL001-004), Writing Proficiency Exam (WP003), and completion of the Measure of Academic Proficiency and Progress (MAPP) at the senior level.

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

Refer to the Undergraduate Bulletin or DegreeWorks for additional graduation requirements (i.e. minimum GPA and coursework) for your program of study.