

B.S. Medical Laboratory Science

Bachelor of Science in Medical Laboratory Science

The B.S. in Medical Laboratory Science prepares students as medical/clinical laboratory scientists or medical technologists and for graduate level programs in medical laboratory science or related disciplines. Students develop a strong background in the broad areas of microbiology, molecular biology, chemistry, hematology, transfusion medicine, biotechnology, and their medical and/or clinical applications. Medical Laboratory Science students gain the ability to carry out standard microbiological, molecular, biological and clinical techniques in the laboratory and to participate in research development, planning, and implementation. The B.S. in Medical Laboratory Science prepares students to have a reasonable expectation of passing a national qualifying exam for the medical laboratory profession and prepares students to be qualified to work at the professional experience level in a variety of settings. The General Education Requirements (<http://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/>) (all Objectives--36 credits minimum) and Total University Credit Requirements must be met. A minimum of 120 credits are required for graduation; 36 of these must be upper division credits.

A student may be awarded a B.S. degree in Medical Laboratory Science by fulfilling the following requirements:

A minimum of 120 semester credit hours to include:

1. Completion of the university General Education Requirements (8 out of 9 Objectives are required--see the General Education Requirements (<http://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/>) in the Academic Information section of this catalog). The following Objective courses also satisfy specific program requirements: 1) Objective 3, MATH 1153, Introduction to Statistics; 2) Objective 5 is met by the program's biology and chemistry requirements.
2. Completion of the following required courses:

Code	Title	Credits
MATH 1143	College Algebra	3
BIOL 2206 & BIOL 2207	Cell Biology and Cell Biology Laboratory	4
BIOL 2235 & 2235L	General Microbiology and General Microbiology Lab	4
BIOL 3301 & 3301L	Advanced Human Anatomy and Physiology 1 and Advanced Human Anatomy and Physiology 1 Lab	4
BIOL 3358	Genetics	3
BIOL 4451	Immunology	3
BIOL 4463 or BIOL 3305	Human Pathophysiology or Introduction to Pathobiology	3-4

In addition, enough additional credits of Chemistry courses to reach 16 credits of Chemistry, which may include organic, inorganic, biochemistry, and/or analytical chemistry.

3. Completion of the Medical Laboratory Science Professional degree requirements (38 credits).
4. Completion of elective courses. Elective courses should be selected according to the student's interests and career needs, in conjunction with a faculty advisor.

The total number of elective credit hours may include course prerequisites for general education requirements.

5. Credits earned in the required prerequisites or Medical Laboratory Science professional block with a grade of lower than a "C-" will not be counted towards the Medical Laboratory Science requirement, but will be calculated in the total credit calculation toward graduation.

A minimum of 120 credits is required for graduation. Students who have completed the requirements for a B.S. degree in a related discipline at an accredited university, with preparation similar to that described above for the B.S. in Medical Laboratory Science degree may apply to the program and, if accepted, complete the Medical Laboratory Science Professional Block, which would result in the award of a second B.S. degree. Completion of the minimum of a B.S. degree and the professional block will qualify the student to sit for national certification exams. Credit may be given for experience and coursework at the discretion of the Medical Laboratory Science program director. Students whose preparation does not include the required courses listed under the B.S. in Medical Laboratory Science may be required to take additional courses outside the professional block at the discretion of the Medical Laboratory Science program director. University policy requires a minimum of 32 additional credits earned beyond the first B.S. degree in order to award a second B.S. degree. Credits used to satisfy the requirements for the first degree may not be used toward the second degree's 32 credit requirement.

Required Courses:

Code	Title	Credits
MLS 4410	Phlebotomy Practicum	1
MLS 4412	Urinalysis and Body Fluids	1
MLS 4414	Hematology and Hemostasis	3
MLS 4416	Medical Microbiology I	3
MLS 4418	Medical Chemistry and Instrumentation	3
MLS 4420	Medical Immunology	2
MLS 4422	Basic Concepts in Transfusion Medicine	2
MLS 4424	Medical Laboratory Fundamentals	1
MLS 4431	Medical Microbiology II	3
MLS 4433	Medical Laboratory Science Management and Education	2
MLS 4435	Molecular Diagnosis	3
MLS 4437	Critical Analysis of Lab Information	3
MLS 4439	Advanced Concepts in Transfusion Medicine	2
MLS 4441	MLS Research ¹	1-3
MLS 4455	MLS Student Laboratory Practices	2
MLS 4490	General Site Practicum	1-6
MLS 4491	Microbiology Practicum	2
MLS 4492	Hematology and Urinalysis Practicum	2
MLS 4493	Transfusion Blood Bank Practicum	1
MLS 4494	Chemistry and Automation Practicum	1
Total Credits		39-46

¹ This is a 1-credit course that may be taken for up to 3 credits.

A total of 6 credits of Practicum experiences (minimum of 480 hours) is required to be eligible to take Board of Certification (BOC) national examinations. One (1) credit of Practicum experience (80 hours) is required for a B.S. in Medical Laboratory Science but the graduate will NOT be eligible for BOC national certification.