

Bachelor of Science in Medical Laboratory Science

The National Accrediting Agency for Clinical Laboratory Sciences provides the following description for medical laboratory scientist: At career entry, the medical laboratory scientist will be proficient in performing clinical laboratory tests in areas such as hematology, clinical chemistry, immunohematology, microbiology, serology/immunology, coagulation, and molecular and other emerging diagnostics, and will be able to play a role in the development and evaluation of test systems and interpretive algorithms. Graduates will have diverse responsibilities in areas of analysis and clinical decision-making, regulatory compliance with applicable regulations, education, and quality assurance/performance improvement. They will also possess basic knowledge, skills and relevant experience in:

- Communications to enable consultative interactions with members of the health care team, external relations, customer service and patient education.
- Financial operations, marketing and human resource management of the clinical laboratory to enable cost-effective, high-quality, value-added laboratory services.
- Information management to enable effective, timely, accurate and cost-effective reporting of laboratory-generated information.
- Research design/practice sufficient to evaluate published studies as an informed consumer.

Upon graduation and initial employment, the medical laboratory scientist should be able to demonstrate entry-level competencies in the above areas of professional practice. Graduates are eligible to sit for national certification examinations in medical laboratory science after completion of the program.

The Medical Laboratory Scientist performs and makes clinical decisions in urinalysis, hematology, microbiology, transfusion services, and clinical chemistry. This provides valuable patient information to assist in medical diagnosis and treatment. The Medical Laboratory Science program prepares students to become skilled members of the healthcare team.

The Bachelor of Science (BS) Medical Laboratory Science degree articulates with the undergraduate Medical Laboratory Technician degree program. The BS Medical Laboratory Science program is accredited through the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS).

Admission Requirements

- Complete the Application and Admission Requirements for Baccalaureate Programs (<http://catalog.uaa.alaska.edu/undergraduateprograms/>).
- Complete, or be in the process of completing, the following courses with a minimum grade of C within two attempts:

- BIOL A111 and BIOL A111L
- BIOL A112 and BIOL A112L
- CHEM A103 and CHEM A103L, or CHEM A105 and CHEM A105L
- CHEM A104 and CHEM A104L, or CHEM A106 and CHEM A106L and CHEM A321
- Submit documentation of a minimum cumulative GPA of 2.50 including all transfer coursework.
- Submit a Medical Laboratory Science application according to instructions and deadlines on the program website (<https://www.uaa.alaska.edu/academics/college-of-health/departments/school-of-allied-health/medical-laboratory-science/>).
- Students may initially be admitted to a pre-major status. Admission to the pre-major status does not guarantee subsequent admission to the major. As a pre-major, students work with an advisor to assist them in completing pre-major requirements and preparing to apply for the full major.

Special Consideration

Prior to beginning practicum courses, student must provide documentation of:

- The following immunizations: Hepatitis B titer showing immunity, Hepatitis A, MMR, Tdap, Varicella, Influenza vaccine within the previous 12 months, and two step PPD test or Quantiferon Gold
- Current Basic Life Support certification
- State of Alaska background check
- Current health insurance (must be maintained throughout time in practicum)

Practicum sites may establish additional requirements including, but not limited to, drug screening and health physicals.

Graduation Requirements

- Complete the General University Requirements for Baccalaureate Degrees (<http://catalog.uaa.alaska.edu/undergraduateprograms/baccalaureaterequirements/>).
- Complete the General Education Requirements for Baccalaureate Degrees (<http://catalog.uaa.alaska.edu/undergraduateprograms/baccalaureaterequirements/ger/>).
- Complete the major requirements listed below with a minimum grade of C:

Code	Title	Credits
BIOL A111 & A111L	Human Anatomy and Physiology I and Human Anatomy and Physiology I Lab	4
BIOL A112 & A112L	Human Anatomy and Physiology II and Human Anatomy and Physiology II Lab	4
CHEM A103 & A103L	Introduction to General Chemistry and Introduction to General Chemistry Laboratory	4

or CHEM A105 & A105L	General Chemistry I and General Chemistry I Laboratory	
CHEM A104 & A104L	Introduction to Organic and Biochemistry and Introduction to Organic and Biochemistry Laboratory	4-7
or CHEM A106 & A106L & CHEM A321	General Chemistry II and General Chemistry II Laboratory and Organic Chemistry I	
MATH A151	College Algebra for Calculus	4
or any MATH course for which MATH A151 is a prerequisite		
PHIL A302	Biomedical Ethics	3
or PHIL A305	Professional Ethics	
STAT A200	Elementary Statistics	3-4
or STAT A253	Applied Statistics for the Sciences	
or any STAT course for which STAT A200 or STAT A253 is a prerequisite		
MEDT A132 & A132L	Phlebotomy and Specimen Processing Techniques and Phlebotomy and Specimen Processing Techniques Lab	4
MEDT A133	Basic Techniques in Laboratory Medicine	2
MEDT A134	Immunology and Serology	3
MEDT A202	Clinical Chemistry	4
MEDT A203	Clinical Microbiology	6
MEDT A204	Hematology and Coagulation	6
MEDT A208	Urine and Body Fluid Analysis	3
MEDT A211	Blood Banking	4
MEDT A250	Cultural Diversity in Health Care	1
MEDT A301	Molecular and Emerging Diagnostics	3
MEDT A302	Clinical Laboratory Education and Management	4
MEDT A303	Advanced Clinical Microbiology	6
MEDT A306	Advanced Immunology and Blood Banking	3
MEDT A307	Clinical Correlations	2
MEDT A401	Introduction to Research	2
MEDT A495	Medical Laboratory Science Practicum	22-23
or MEDT A395 & MEDT A495	Medical Laboratory Technology Practicum and Medical Laboratory Science Practicum	
Total		101-106

A minimum of 122 credits is required for the degree, of which 39 credits must be upper-division.

Honors in Medical Laboratory Science

Students majoring in Medical Laboratory Science are eligible to graduate with departmental honors by satisfying the following requirements:

1. Meet the requirements for a BS in Medical Laboratory Science.
2. Earn a grade point average of 3.50 or higher in courses applicable to the degree requirements. Only UAA and transfer courses taken within the last seven years will be included in the GPA for departmental honors.
3. Obtain approval to enroll in the honors elective from the program director.
4. Pass the honors elective course, MEDT A402.

Program Student Learning Outcomes

At career entry, the Medical Laboratory Scientist

- Demonstrate entry-level competencies for medical laboratory scientists in the following disciplines: hematology, chemistry, immunology, blood bank, urine and body fluid analysis, microbiology, and laboratory operations.
- Demonstrate professional behavior including sound work ethics, cultural responsiveness and appearance while interacting with patients and health care professionals.
- Evaluate published studies as an informed consumer.
- Demonstrate continuing competency by certification maintenance.
- Use educator skills to create and deliver an instructional unit.
- Use laboratory management skills to plan, organize, staff and cost out a new clinical laboratory service.
- Demonstrate a commitment to the laboratory profession through active involvement in a professional organization.