

# Medical Lab Science

Program Description	Type	Degree
Medical Laboratory Science, B.S. ( <a href="http://coursecat.isu.edu/undergraduate/college-of-health/medical-lab-science/bs-medical-lab-science/">http://coursecat.isu.edu/undergraduate/college-of-health/medical-lab-science/bs-medical-lab-science/</a> )	Degree	B.S.

The student majoring in Medical Laboratory Science (formerly called Clinical Laboratory Science or Medical Technology) is provided with a broad base of theoretical and practical knowledge that will qualify him or her either for an immediate career in medical laboratory science, biomedical research, or for further education in graduate or professional school. Medical laboratory scientists are vital healthcare detectives, uncovering and providing key medical information from laboratory analyses that assist physicians and other healthcare providers in making patient diagnoses and managing treatment, as well as in disease monitoring or prevention (maintenance of health). We use sophisticated biomedical instrumentation and technology, computers, and methods requiring manual dexterity to perform laboratory testing on blood and body fluids. Laboratory testing encompasses such disciplines as clinical chemistry, hematology, immunology, transfusion medicine, microbiology, and molecular biology.

## Description of the Program

Medical laboratory scientists perform, develop, evaluate, correlate, and assure validity of laboratory information, direct and supervise medical laboratory resources and operations, and collaborate in the diagnosis and treatment of patients. Medical laboratory scientists practice in a variety of settings including hospitals, private laboratories, research and development laboratories, public health laboratories, and regulatory agencies. They also find positions in health care education and management.

## Accreditation

The Idaho State University Medical Laboratory Science program is accredited by:

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)  
5600 N. River Rd., Ste. 720  
Rosemont, IL 60018-5119

## Degree Alternatives

The Medical Laboratory Science Program at Idaho State University offers two degree alternatives at the baccalaureate level:

1. B.S. in Medical Laboratory Science
2. A second B.S. in Medical Laboratory Science for students who have completed degree requirements in related disciplines from accredited institutions, have all required prerequisites, and complete the Idaho State University program's 38-credit professional block of courses.

## Medical Laboratory Science Program Prerequisites

Minimum of **16 credits of chemistry** to include: CHEM 1111 (<http://coursecat.isu.edu/search/?P=CHEM%201111>), General Chemistry, CHEM 1112 (<http://coursecat.isu.edu/search/?P=CHEM%201112>), General Chemistry, and additional credits such as Organic, Biochemistry, Analytical Chemistry, or Instrumental Analysis.

Minimum of **16 credits of biology** to include: Microbiology, Anatomy and Physiology, Immunology, Cell Biology, Genetics and Introduction to Pathobiology OR Human Pathophysiology.

*Statistics* is highly recommended.

## Admission Criteria

Admissions are competitive. The deadline for priority admissions to the Medical Laboratory Science professional block of 38 credits for a start of the fall semester is February 28. At that time, up to 20 students at the Meridian and Pocatello campuses, and up to 10 students at the Idaho Falls campus will be selected. The qualified alternates, along with any late applicants, will be evaluated by August 1 for inclusion in the class if additional seats become available. Progression in the program is dependent upon successful academic progress as determined by Medical Laboratory Science faculty evaluation in December and May of the program year. Application materials, including criteria for selection and progression, are available from the School of Health Professions and may be downloaded from the Medical Laboratory Science website at <http://www.isu.edu/mls>. A program of study to permit progression through the Medical Laboratory Science curriculum over two years or online may be arranged with permission of the program director.

## Certification as a Medical Laboratory Scientist (formerly Clinical Laboratory Scientist or Medical Technologist)

Certification by a national credentialing examination (Board of Certification) qualifies the graduate to practice as a medical laboratory scientist in hospitals and other practice venues where credentialing is required. Successful completion of the 32 academic credits and a minimum of 6 practicum credits of the Medical Laboratory Science professional block (total 38 credits) will permit the graduate to be eligible to sit for the national credentialing exam in Medical Laboratory Science.

The B.S. degree in Medical Laboratory Science may be awarded with the minimum number of credits in clinical laboratory practicum (1 credit hour), as long as the 120 total credit hour graduation requirement is satisfied. Such a degree could be of interest to students preparing for Medical Laboratory Science-related careers, but not for employment in hospitals as medical/clinical laboratory scientists (medical technologists) where certification credentials are required.

Students planning to attend other professional schools after completing the degree in Medical Laboratory Science are strongly advised to check the requirements of those professional schools, particularly regarding requirements in physics, organic chemistry, and specific course prerequisites. Other professional programs may require different courses or prerequisites than outlined for the B.S. in Medical Laboratory Science.

## Professional Block

The Medical Laboratory Science professional block is offered in live lecture/lab classes and via Moodle (course electronic delivery) in Pocatello, Idaho Falls, and Meridian (with the exception of the Practicum). With permission of the program director, the Medical Laboratory Science professional block may be taken online. The clinical laboratory practicum experience is arranged by Idaho State University Medical Laboratory Science faculty through clinical-affiliated hospitals and clinic sites throughout Idaho and adjacent states.

Admission to the Medical Laboratory Science courses that make up the professional block is by application to the program.

## Program Level Student Outcomes

Upon completion of the ISU Medical Laboratory Science program, students should be able to:

1. Develop, establish, oversee and perform the pre-analytical, analytical, and post-analytical phases of testing on body fluids, cells and other specimens.
2. Ensure appropriate laboratory utilization to optimize full value patient outcomes.
3. Apply statistical analysis of data for use in laboratory epidemiology, examining the relationships of tests to treatment decisions, and to health care outcomes.
4. Establish and use quality assurance and performance measurements to develop solutions to problems, and to assure the validity and accuracy of information concerning laboratory data, generated both within and external to the laboratory.
5. Advocate for patients by utilizing the results of laboratory diagnostic procedures and employing algorithms to achieve optimal, full value patient outcomes.
6. Comply with regulations and guidelines of relevant governmental and non-governmental agencies.
7. Implement laws, regulations and accrediting standards within the operating requirements of the organization to minimize risks and maximize patient outcomes.

Faculty (<http://coursecat.isu.edu/undergraduate/college-of-health/medical-lab-science/faculty/>)

Medical Laboratory Science Courses (<http://coursecat.isu.edu/undergraduate/allcourses/mls/>)