



Crookston Campus

Medical Laboratory Science B.S.

Math, Science and Technology

Academic Affairs

- Program Type: Baccalaureate
- Requirements for this program are current for Spring 2018
- Required credits to graduate with this degree: 126
- Required credits within the major: 87
- This program requires summer terms.
- University of North Dakota in Grand Forks, ND. The spring and summer semesters of students' junior year and their final year of the program will be taught through an agreement with the University of North Dakota School of Medicine. The final year is in a clinical setting.
- Degree: Bachelor of Science

The BS in medical laboratory science will give students a degree that will provide life-long mobility, flexibility and opportunity. Individuals who enjoy science, solving problems, and working as part of a team may find medical laboratory science to be a rewarding career. A medical lab scientist is part of a healthcare team that performs a variety of fact-finding tests that are used by physicians in making 70 to 80 percent of medical decisions. In addition, this degree provides a great background for individuals interested in entering fields of forensic science or medicine (medical doctors, dentists, pharmacists, etc.).

Modern medicine would be impossible without the problem solving skills of medical lab scientists. MLS scientists run tests that encompass areas of clinical chemistry, clinical microbiology, hematology, clinical urology, immunology, immunohematology, and molecular diagnostics. Each test run will find an additional clue in the final patient diagnosis, which will assist the physicians in determining the best treatment for the patients. Due to the national shortage of medical lab scientists, MLS graduates will have excellent opportunities in nearly all areas of the United States.

Program outcomes for graduates:

Demonstrate competencies in the following areas: collection, safe handling and analysis of biological specimens; principles of continuous assessment of data collection and analysis; compliance with laboratory safety regulations; and ethical behavior and professionalism.

Demonstrate oral and written communications skills.

Effectively work with others in groups and be able to take on leadership roles when appropriate.

Demonstrate a disposition for an entry-level, professional position in the medical laboratory sciences for the 21st century.

Learn to think critically to solve problems.

Evaluate published scientific studies through a context of research design.

Demonstrate an understanding of the significance of cultural sensitivity and awareness as it applies to the profession.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

Admission to year four of the program requires a minimum GPA of 2.8, no more than one "D" in any math or science course, and recommendation by the student's academic advisor.

For information about University of Minnesota admission requirements, visit the [Office of Admissions website](#).

General Requirements

All students are required to complete general University and college requirements. For more information, see the [graduation requirements](#).

Program Requirements

Students must complete 40 upper division credits.

A maximum of two D grades are allowed for courses required under core, biology, chemistry, MLS and technology requirements. This includes grades earned at UMC or transferred in from another institution.

Core Program Requirements

Required courses - 12 credits

[PHIL 2002](#) - Introduction to Ethics [HUMANITIES, ETH/CIV RE] (3.0 cr)

[WRIT 3303](#) - Writing in Your Profession (3.0 cr)

Take 2 or more course(s) totaling 6 or more credit(s) from the following:

- [MATH 1031](#) - College Algebra [MATH THINK] (3.0 cr)
- [MATH 1150](#) - Introduction to Statistics [MATH THINK] (3.0 cr)
- [MATH 1250](#) - Precalculus [MATH THINK] (4.0 cr)
- [MATH 1271](#) - Calculus I [MATH THINK] (4.0 cr)

Biology Requirements

Required Courses - 20 credits

[BIOL 2012](#) - General Zoology (4.0 cr)

[BIOL 2032](#) - General Microbiology (4.0 cr)

[BIOL 2103](#) - Human Anatomy and Physiology I (4.0 cr)

[BIOL 2104](#) - Human Anatomy and Physiology II (4.0 cr)

Choose one of the following:

[BIOL 1009](#) - General Biology [BIOL SCI, PEOPLE/ENV] (4.0 cr)

or [BIOL 1009H](#) - Honors: General Biology [BIOL SCI, PEOPLE/ENV] (4.0 cr)

Chemistry Requirements

Required Courses - 16 credits

[CHEM 1061](#) - Chemical Principles I [PHYS SCI, PEOPLE/ENV] (3.0 cr)

[CHEM 1062](#) - Chemical Principles II (3.0 cr)

[CHEM 1065](#) - Chemical Principles I Laboratory [PHYS SCI, PEOPLE/ENV] (1.0 cr)

[CHEM 1066](#) - Chemical Principles II Laboratory (1.0 cr)

[CHEM 2301](#) - Organic Chemistry I (3.0 cr)

[CHEM 2310](#) - Organic Chemistry Laboratory I (2.0 cr)

Choose one of the following:

[BIOL 3027](#) - Cell Biology (3.0 cr)

or [CHEM 3021](#) - Biochemistry I (3.0 cr)

MLS Requirements

Required Courses - 51 credits

[MLS 2234](#) *{Inactive}* (2.0 cr)

[MLS 3301](#) *{Inactive}* (3.0 cr)

[MLS 3325](#) *{Inactive}* (3.0 cr)

[MLS 3326](#) *{Inactive}* (1.0 cr)

[MLS 3336](#) *{Inactive}* (1.0 cr)

[MLS 3340](#) *{Inactive}* (2.0 cr)

[MLS 3394](#) *{Inactive}* (2.0 cr)

[MLS 4411](#) - Clinical Chemistry I (UND) (2.0 cr)

[MLS 4472](#) *{Inactive}* (1.0 cr)

[MLS 4473](#) *{Inactive}* (2.0 cr)

[MLS 4474](#) *{Inactive}* (2.0 cr)

[MLS 4413](#) - Clinical Immunohematology I (UND) (2.0 cr)

[MLS 4477](#) *{Inactive}* (1.0 cr)

[MLS 4414](#) - Clinical Microbiology I (UND) (3.0 cr)

[MLS 4479](#) *{Inactive}* (2.0 cr)

[MLS 4423](#) - Clinical Immunohematology II (UND) (2.0 cr)

[MLS 4421](#) - Clinical Chemistry II (UND) (2.0 cr)

[MLS 4483](#) *{Inactive}* (1.0 cr)

[MLS 4424](#) - Clinical Microbiology II (UND) (3.0 cr)

[MLS 4485](#) *{Inactive}* (1.0 cr)

[MLS 4487](#) *{Inactive}* (1.0 cr)

[MLS 4488](#) *{Inactive}* (2.0 cr)

[MLS 4489](#) *{Inactive}* (1.0 cr)

[MLS 4490](#) *{Inactive}* (3.0 cr)

[MLS 4491](#) *{Inactive}* (2.0 cr)

[MLS 4433](#) - Clinical Immunohematology III (UND) (2.0 cr)

[MLS 4494](#) - Clinical Immunology (UND) (1.0 cr)

[MLS 4434](#) - Clinical Microbiology III (UND) (2.0 cr)

[MLS 4498](#) *{Inactive}* (2.0 cr)

Liberal Education Requirements:

A minimum of 40 liberal education credits are required. Students must complete the 10 goal areas of the Minnesota Transfer



Curriculum with the following specific liberal education courses required:

[COMP 1011](#) - Composition I [COMMUNICAT] (3.0 cr)

[COMP 1013](#) - Composition II [COMMUNICAT] (3.0 cr)

[COMM 1101](#) - Public Speaking [COMMUNICAT] (3.0 cr)

Technology Requirements

Students must take 3 credits from the following courses. (If applicable, the course selected from below may be used to satisfy both the program and technology requirements.)

CA 1xxx

or CA 2xxx

or [CHEM 3022](#) - Fate and Analysis of Chemicals (4.0 cr)

or [MATH 1150](#) - Introduction to Statistics [MATH THINK] (3.0 cr)

Electives

Students must take enough electives to satisfy the 126 credit graduation requirement.