

# Certificate in Medical Laboratory Science

Students that have earned a Bachelor's of Science (BS) or Bachelor's of Arts (BA) degree from a regionally accredited college or university are eligible for the Certificate in Medical Laboratory Science (MLS) program. The Certificate in MLS curriculum includes pre-requisite and Bachelor's of MLS Professional Year II (PYII) coursework. Students must apply and be accepted to the MLS program in order to begin PYII coursework (see BS in MLS for specific admission requirements). Once admitted, specific BS in MLS tuition will be assessed.

Upon successful completion of Certificate in MLS curricular requirements, the student receives a certificate from UND and is eligible for national American Society for Clinical Pathology (ASCP) Board Certification and entry-level practice as a Medical Laboratory Scientist (MLS; also sometimes referred to as a CLS or MT). If a student wishes to earn a second Bachelor's Degree in Medical Laboratory Science from UND (instead of a certificate), the student must also have completed coursework to meet UND Essential Studies requirements.

## Prerequisite Courses

Code	Title	Credits
<b>NON-MLS COURSES</b>		
General Chemistry		8
Biochemistry		3
General Biology		6
Anatomy & Physiology		6
Basic Science Electives (2) *		6
College Algebra or higher (Statistics Recommended)		3
<b>MLS COURSES **</b>		
MLS 220	Introduction to Clinical Laboratory Operations	2
MLS 226	Introduction to Clinical Immunology	3
MLS 332	Introduction to Clinical Hematology	3
MLS 334	Introduction to Clinical Microbiology	3
MLS 340	Introduction to Molecular Diagnostics	1

\* Microbiology, Organic Chemistry, Analytical Chemistry, Molecular Biology, Cell Biology, Genetics, or other advisor-approved basic science course

\*\* Available online from the UND MLS Program

## MLS Professional Year Coursework

Professional Year 1		Credits
MLS 411	Clinical Chemistry I	2
MLS 412	Clinical Hematology Hemostasis I	3
MLS 413	Clinical Immunohematology I	2
MLS 414	Clinical Microbiology I	3
MLS 415	Clinical Urinalysis Body Fluids I	2
MLS 416	Clinical Immunology Molecular Diagnostics	1
MLS 420	Clinical Laboratory Operations	2
MLS 421	Clinical Chemistry II	2
MLS 422	Clinical Hematology Hemostasis II	3
MLS 423	Clinical Immunohematology II	2
MLS 424	Clinical Microbiology II	3
MLS 425	Clinical Urinalysis Body Fluids II	2
MLS 431	Clinical Chemistry Urinalysis III	2
MLS 432	Clinical Hematology Hemostasis III	2
MLS 433	Clinical Immunohematology III	2
MLS 434	Clinical Microbiology III	2
MLS 449	Capstone in Medical Laboratory Science	3

MLS 450	Advanced Clinical Applications in Medical Laboratory Science	1
<b>Credits</b>		<b>39</b>
<b>Total Credits</b>		<b>39</b>

## Medical Laboratory Science Categorical Certificates

The Categorical Certificate program route allows students to become eligible for certification and professional employment at the Medical Laboratory Science (MLS) level within a specific categorical area of the laboratory. Categorical certificates are available in the following areas: Clinical Chemistry; Hematology; Immunohematology (Blood Bank); and Microbiology.

Upon successful completion of Categorical Certificate requirements the student receives a certificate(s) from UND, and is eligible for entry-level practice and national American Society for Clinical Pathology (ASCP) Board of Certification (BOC) examination(s) at the MLS level in specific certificate area(s), as follows:

- Clinical Chemistry Certificate: ASCP BOC Chemistry (C) Exam
- Hematology Certificate: ASCP BOC Hematology (H) Exam
- Immunohematology Certificate: ASCP BOC Blood Bank (BB) Exam
- Microbiology Certificate: Microbiology (M) Exam
- All four of the above Certificates: ASCP BOC Medical Laboratory Scientist (MLS) Exam

## Admission Requirements

To be eligible for admittance to the UND MLS Categorical Program(s), the student must:

- Hold a baccalaureate degree from a regionally accredited college or university
- Have a minimum of 20 semester credit hours in the biological, chemical and/or medical sciences (these credits can be part of, or in addition to the B.S. degree)
- Have the support of an accredited medical laboratory to facilitate the student's clinical experience

## Clinical Chemistry Certificate

Code	Title	Credits
MLS 220	Introduction to Clinical Laboratory Operations	2
MLS 340	Introduction to Molecular Diagnostics	1
MLS 411	Clinical Chemistry I	2
MLS 415	Clinical Urinalysis Body Fluids I	2
MLS 416	Clinical Immunology Molecular Diagnostics	1
MLS 420	Clinical Laboratory Operations	2
MLS 421	Clinical Chemistry II	2
MLS 425	Clinical Urinalysis Body Fluids II	2
MLS 431	Clinical Chemistry Urinalysis III	2
MLS 449	Capstone in Medical Laboratory Science	3
MLS 450	Advanced Clinical Applications in Medical Laboratory Science	1
<b>Total Credits</b>		<b>20</b>

\* This course is required *only for students completing all four categorical certificates* (Clinical Chemistry, Hematology, Immunohematology, and Microbiology)

## Hematology Certificate

Code	Title	Credits
MLS 220	Introduction to Clinical Laboratory Operations	2
MLS 332	Introduction to Clinical Hematology	3
MLS 340	Introduction to Molecular Diagnostics	1
MLS 412	Clinical Hematology Hemostasis I	3

MLS 415	Clinical Urinalysis Body Fluids I	2
MLS 416	Clinical Immunology Molecular Diagnostics	1
MLS 420	Clinical Laboratory Operations	2
MLS 422	Clinical Hematology Hemostasis II	3
MLS 432	Clinical Hematology Hemostasis III	2
MLS 449	Capstone in Medical Laboratory Science	3
MLS 450	Advanced Clinical Applications in Medical Laboratory Science	1
<b>Total Credits</b>		<b>23</b>

\* This course is required *only for students completing all four categorical certificates* (Clinical Chemistry, Hematology, Immunohematology, and Microbiology)

### Immunohematology Certificate

Code	Title	Credits
MLS 220	Introduction to Clinical Laboratory Operations	2
MLS 226	Introduction to Clinical Immunology	3
MLS 340	Introduction to Molecular Diagnostics	1
MLS 413	Clinical Immunohematology I	2
MLS 416	Clinical Immunology Molecular Diagnostics	1
MLS 420	Clinical Laboratory Operations	2
MLS 423	Clinical Immunohematology II	2
MLS 433	Clinical Immunohematology III	2
MLS 449	Capstone in Medical Laboratory Science	3
MLS 450	Advanced Clinical Applications in Medical Laboratory Science	1
<b>Total Credits</b>		<b>19</b>

\* This course is required *only for students completing all four categorical certificates* (Clinical Chemistry, Hematology, Immunohematology, and Microbiology)

### Microbiology Certificate

Code	Title	Credits
MLS 220	Introduction to Clinical Laboratory Operations	2
MLS 340	Introduction to Molecular Diagnostics	1
MLS 334	Introduction to Clinical Microbiology	3
MLS 414	Clinical Microbiology I	3
MLS 416	Clinical Immunology Molecular Diagnostics	1
MLS 420	Clinical Laboratory Operations	2
MLS 424	Clinical Microbiology II	3
MLS 434	Clinical Microbiology III	2
MLS 449	Capstone in Medical Laboratory Science	3
MLS 450	Advanced Clinical Applications in Medical Laboratory Science	1
<b>Total Credits</b>		<b>21</b>

\* This course is required *only for students completing all four categorical certificates* (Clinical Chemistry, Hematology, Immunohematology, and Microbiology)