

Medical laboratory science professionals are vital healthcare detectives, uncovering and providing information from analysis of blood and body fluids. The results assist clinicians in patient diagnosis and treatment, as well as in disease monitoring or prevention (maintenance of health). Medical laboratory science professionals generate accurate laboratory data that are needed to aid in detecting cancer, heart attacks, leukemia, diabetes, infectious diseases, as well as drugs of abuse. Our MLT and MLS programs include on-campus courses in several disciplines such as clinical chemistry, hematology, immunology, blood bank, microbiology, and molecular biology. Students get experience using sophisticated biomedical instrumentation, computer information systems and learn to perform analytical methods that require manual dexterity. After completion of the courses on campus, students are assigned to a medical laboratory for an internship. Graduates of the MLT and MLS program are eligible to sit for a national board exam and become a certified laboratory professional.

**Communication Competency Course Requirements**

FSU Course	FSU Course Title	FSU Cr. Hrs.	NMC Equiv.	NMC Course Title	NMC Cr. Hrs.
COMM 105 or COMM 121 or COMM 221	Interpersonal Communication or Fundamentals of Public Speaking or Small Group Decision Making	3	No Equivalent or COM 111 or No Equivalent	No Equivalent or Fundamentals of Public or No Equivalent	3
ENGL 150	English 1	3	ENG 111	College Composition 1	3
ENGL 250	English 2	3	ENG 112	Critical Thinking & Writ	3
ENGL 311 or ENGL 321	Advanced Technical Writing or Advanced Composition	3	No Equivalent	No Equivalent	No Equivalent

**Quantitative Literacy Course Requirements – met in Program Requirements**
**Natural Sciences Competency Course Requirements - 1 course with lab**

FSU Course	FSU Course Title	FSU Cr. Hrs.	NMC Equiv.	NMC Course Title	NMC Cr. Hrs.
BIOL 103	Biological Concepts	4	BIO 110 and BIO 110L	Essential Biology and Essential Biology Lab	4
CHEM 121	Introduction to General Chemistry	4	CHM 150 and CHM 150L and CHM 150R	General Chemistry 1 and General Chemistry 1 Lab and General Chemistry Recitation	5
or CHEM 122	or General Chemistry 2		or CHM 151 and CHM 151L and CHM 151R	or General Chemistry 1 and General Chemistry 2 Lab and General Chemistry 2 Recitation	

**Self and Society Competency Course Requirements – Minimum 9 credits from 2 different disciplines with 1 course at 200 level or higher**

FSU Course	FSU Course Title	FSU Cr. Hrs.	NMC Equiv.	NMC Course Title	NMC Cr. Hrs.
Varies	FSU General Education – Self and Society Competency	9	Varies	Varies	Varies

**Culture Competency Course Requirements - Minimum 9 credits from 2 different disciplines with 1 course at 200 level or higher**

FSU Course	FSU Course Title	FSU Cr. Hrs.	NMC Equiv.	NMC Course Title	NMC Cr. Hrs.
Varies	FSU General Education - Culture Electives	9	Varies	Varies	Varies

[Ferris State University General Education Program](#)

Students are encouraged to work with an advisor to select appropriate general education courses

**Qualifying Requirements**

FSU Course	FSU Course Title	FSU Cr. Hrs.	NMC Equiv.	NMC Course Title	NMC Cr. Hrs.
MATH 117 or MATH 115	Contemporary Mathematics or Intermediate Algebra	3-4	MTH 120 or MTH 111	Mathematical Explorations or Intermediate Algebra	3 or 4
BIOL 108 or BIOL 286	Medical Microbiology or General Microbiology	3	BIO 208 and BIO 208L or No Equivalent	Microbiology and Microbiology Lab or No Equivalent	4
BIOL 205	Human Anatomy and Physiology	5	BIO 227 and BIO 228	Human Anatomy/Physiology and Human Anatomy/Physiology	8
CHEM 321 & CHEM 322	Organic Chemistry 1 & Organic Chemistry 2	10	CHM 250 & CHM 250L and CHM 251 and	Organic Chemistry 1 and Organic Chemistry 1 Lab and Organic Chemistry 2 and	10
or CHEM 214	or Fundamentals of Organic Chemistry	or 4	or CHM 251L or No Equivalent	or Organic Chemistry 2 Lab or No Equivalent	

**Ferris State University and Northwestern Michigan College - Medical Laboratory Science Bachelor of Science - Transfer Guide**

Effective Fall 2018; Updated BIO and CHM Spring 2019

Ferris State University is an equal opportunity institution. For information on the University's Policy on Non-Discrimination, visit [ferris.edu/non-discrimination](http://ferris.edu/non-discrimination).

**Major Requirements**

<b>FSU Course</b>	<b>FSU Course Title</b>	<b>FSU Cr. Hrs.</b>	<b>NMC Equiv.</b>	<b>NMC Course Title</b>	<b>NMC Cr. Hrs.</b>
BIOL 300	Pathophysiology	3	BIO 255	Pathophysiology	4
CHEM 324	Fundamental of Biochemistry	3	No Equivalent	No Equivalent	No Equivalent
CLLS 101	Clinical Laboratory Science Orientation	1	No Equivalent	No Equivalent	No Equivalent
CLLS 122	Introduction to Specimen Collection	2	No Equivalent	No Equivalent	No Equivalent
CLLS 123	Specimen Collection Laboratory	1	No Equivalent	No Equivalent	No Equivalent
CLLS 216	Clinical Chemistry	3	No Equivalent	No Equivalent	No Equivalent
CLLS 217	Clinical Chemistry Laboratory	1	No Equivalent	No Equivalent	No Equivalent
CLLS 218	Body Fluid Analysis	1	No Equivalent	No Equivalent	No Equivalent
CLLS 219	Hemostasis	1	No Equivalent	No Equivalent	No Equivalent
CLLS 220	Body-Fluid Hemostasis Laboratory	1	No Equivalent	No Equivalent	No Equivalent
CLLS 231	Hematology	2	No Equivalent	No Equivalent	No Equivalent
CLLS 232	Hematology Laboratory	1	No Equivalent	No Equivalent	No Equivalent
CLLS 236	Diagnostic Microbiology	2	No Equivalent	No Equivalent	No Equivalent
CLLS 237	Diagnostic Microbiology Laboratory	2	No Equivalent	No Equivalent	No Equivalent
CLLS 241	Medical Virology/Mycology/Parasitology	2	No Equivalent	No Equivalent	No Equivalent
CLLS 242	Medical Virology/Mycology/Parasitology Laboratory	1	No Equivalent	No Equivalent	No Equivalent
CLLS 252	Introduction to Clinical Immunology	2	No Equivalent	No Equivalent	No Equivalent
CLLS 253	Introduction to Clinical Immunology Laboratory	1	No Equivalent	No Equivalent	No Equivalent
CLLS 258	Immunohematology	2	No Equivalent	No Equivalent	No Equivalent
CLLS 259	Immunohematology Laboratory	1	No Equivalent	No Equivalent	No Equivalent
CLLS 356	Advanced Clinical Chemistry	2	No Equivalent	No Equivalent	No Equivalent
CLLS 357	Advanced Clinical Chemistry Laboratory	1	No Equivalent	No Equivalent	No Equivalent
CLLS 431	Advanced Hematology	2	No Equivalent	No Equivalent	No Equivalent
CLLS 432	Advanced Hematology Laboratory	1	No Equivalent	No Equivalent	No Equivalent
CLLS 436	Advanced Diagnostic Microbiology	2	No Equivalent	No Equivalent	No Equivalent
CLLS 437	Advanced Diagnostic Microbiology Laboratory	2	No Equivalent	No Equivalent	No Equivalent
CLLS 456	Simulated Laboratory for MLS	3	No Equivalent	No Equivalent	No Equivalent
CLLS 458	Advanced Immunohematology	1	No Equivalent	No Equivalent	No Equivalent
CLLS 459	Advanced Immunohematology Laboratory	1	No Equivalent	No Equivalent	No Equivalent
CLLS 465	Management of the Clinical Laboratory	3	No Equivalent	No Equivalent	No Equivalent
CLLS 480	Clinical Laboratory Science Applications	1	No Equivalent	No Equivalent	No Equivalent
CLLS 491	Clinical Laboratory Practice	10	No Equivalent	No Equivalent	No Equivalent
CLLS 494	Management Practice in Clinical Laboratory Science	1	No Equivalent	No Equivalent	No Equivalent

**Core Curriculum for Health Professions Requirements**

<b>FSU Course</b>	<b>FSU Course Title</b>	<b>FSU Cr. Hrs.</b>	<b>NMC Equiv.</b>	<b>NMC Course Title</b>	<b>NMC Cr. Hrs.</b>
COHP 100	Orientation to Medical Vocabulary	1	HAH 101	Medical Terminology	3
COHP 101	The U.S. Health Care Systems	3	No Equivalent	No Equivalent	No Equivalent
COHP 102	Safety Issues in Health Care	1	No Equivalent	No Equivalent	No Equivalent
COHP 350	Statistics in Health Care	3	No Equivalent	No Equivalent	No Equivalent
COHP 450	Evidence- Based Health Practice	3	No Equivalent	No Equivalent	No Equivalent

**Total Credits Required for Degree****127**

## Program Contact Information:

### Main Campus, Big Rapids

### College of Health Professions

(231) 591-2270 | [College of Health Professions Email](#) | [College of Health Professions Webpage](#)

[Transfer Partnerships Webpage](#)

## Delivery Locations

This degree and the Ferris courses are offered at the following locations:

- Ferris State University, Main Campus, Big Rapids
- Select courses may be delivered online and/or in a mixed delivery format (i.e. a mix of online and face-to-face instruction at the Ferris Main Campus or at an off-campus location).

## General Admission Criteria

### Transfer Students

- Must have a 2.0 GPA

## Advising Notes

It is recommended that potential applicants meet with an advisor to review the degree, course schedule, and have any questions answered prior to completing an application. Students who are completing the MTA may have different general education course requirements for the particular degree selected. Meeting with a Ferris advisor prior to the selection of general education or elective course work may reduce the chance of completing a course that will not apply toward the selected degree. Once admitted, students must continue to meet with an advisor as they work toward graduation.

## Transfer Student Orientation

All new students to Ferris State University are required to complete an orientation.

## Ferris State University Residency Requirements

- Earn a minimum of 120 total credits for a bachelor's degree
- Earn a minimum of 30 credits from Ferris State University for a bachelor's degree

## Reverse Transfer Agreement

The Community College and Ferris have entered into a partnership in order to work collaboratively and creatively to increase student completion of associate and bachelor degrees. The partners work together to provide a seamless transfer experience and increase student retention and completion at both the community college and Ferris.

## Michigan Transfer Agreement (MTA)

Ferris participates in the Michigan Transfer Agreement (MTA). This agreement will facilitate the transfer of general education requirements from one Michigan institution to another. Students may complete the MTA as part of a degree program or as a stand-alone package. The MTA consists of a minimum of 30 general education credit hours as identified by the college or university.

Students transferring to Ferris with the Michigan Transfer Agreement (MTA) and entering a degree program will have met a 30-hour block of lower-level general education courses. However, this does not exempt students from completing program specific prerequisites or higher-level general education course requirements. Students should contact their advisor regarding classes that meet the MTA.

Students must work with their Ferris advisor to declare a Minor or Concentration and for selection of Directed Electives.

## Disclaimer

This is a guide for students who plan to transfer to Ferris State University. This guide is not intended to be a contract with Ferris. The information on this guide is subject to change. Students should contact their community college or Ferris to keep informed of changes. Final responsibility for verifying all transfer information lies with the student. Please refer to effective and/or revised date on the bottom of this guide.