

BS IN MEDICAL LABORATORY SCIENCE

This degree program prepares you for certification as a Medical Laboratory Scientist. You will complete three years of baccalaureate college work, and then complete 12 months of hospital based clinical training in medical laboratory science. A certification examination is taken at the successful completion of a hospital training program. The requirements for certification are established by the Board of Certification of the American Society of Clinical Pathologists.

Acceptance into the clinical year of the program is competitive and application is made during the fall of the Junior year. In order to be admitted to the clinical year, completion of 90 semester hours of college work with an accumulated GPA of no less than 2.5 overall and a grade of C or better in the pre-clinical science courses is required.

The following foundational science and math courses are required to be completed with a grade of C or better prior to beginning study in the clinical year.

CHEM 1230 General Chemistry I
 CHEM 1280 General Chemistry Lab I
 CHEM 1240 General Chemistry II
 CHEM 1290 General Chemistry Lab II
 CHEM 2410 Organic Chemistry I
 CHEM 2460 Organic Chemistry Laboratory I for Non-Majors
 CHEM 2420 Organic Chemistry II
 CHEM 2470 Organic Chemistry Laboratory II for Non-Majors

BIOL 2170 Fundamentals of Life Science: Biomolecules, Cells, and Inheritance
 BIOL 2180 Fundamentals of Life Science Laboratory: Biomolecules, Cells, and Inheritance
 BIOL 2150 Fundamentals Of Life Science: Diversity Of Life, Evolution And Adaptation
 BIOL 2160 Fundamentals Of Life Science Laboratory: Diversity Of Life, Evolution And Adaptation
 BIOL 3010 Molecular Genetics
 BIOL 3030 Cell Biology
 BIOL 3070 Human Physiology
 Human or Vertebrate Anatomy with lab (either EXSC 2510 & EXSC 2520 or BIOL 3510)

BIOL 4030 & BIOL 4040 Microbiology with Laboratory

BIOL 4050 & BIOL 4060 Immunology With Laboratory

PHYS 2070 General Physics I
 PHYS 2080 General Physics II

MATH 1320 College Algebra
 MATH 2600 Introduction To Statistics

MEDT 2010 Clinical Laboratory Techniques

The recommended Composition II option for students in the Medical Laboratory Science program is ENGL 2950 Science And Technical Report Writing.

The clinical program in the fourth year includes externship sites including sites at the University of Toledo Medical Center laboratory and ProMedica hospital laboratories.

A grade of C or better is required in all the clinical year courses (MEDT 4000+) in order to successfully complete the program. Upon successful completion, you will be awarded the degree of Bachelor of Science in Medical Laboratory Science and you are then eligible to take the national certification examination.

Below is a sample plan of study. Consult your degree audit for your program requirements. The medical laboratory advisor will assist students in planning the sequence in which the pre-clinical courses are taken during the student's years at the university. Therefore, interested applicants should consult with the medical technology program advisor before selecting this professional career option.

Below is a sample plan of study. Consult your degree audit for your program requirements.

First Term		Hours
BIOL 2170	Fundamentals of Life Science: Biomolecules, Cells, and Inheritance	4
BIOL 2180	Fundamentals of Life Science Laboratory: Biomolecules, Cells, and Inheritance	1
CHEM 1230	General Chemistry I	4
CHEM 1280	General Chemistry Lab I	1
ENGL 1110	College Composition I	3
NSM 1000	Natural Sciences & Mathematics	2
Hours		15
Second Term		Hours
BIOL 2150	Fundamentals Of Life Science: Diversity Of Life, Evolution And Adaptation	4
BIOL 2160	Fundamentals Of Life Science Laboratory: Diversity Of Life, Evolution And Adaptation	1
CHEM 1240	General Chemistry II	4
CHEM 1290	General Chemistry Lab II	1
ENGL 2950	Technical Writing	3
MATH 1320	College Algebra	3
Hours		16
Third Term		Hours
BIOL 3030	Cell Biology	3
CHEM 2410	Organic Chemistry I	3
CHEM 2460	Organic Chemistry Laboratory I for Non-Majors	1
MATH 2600	Introduction To Statistics	3
Social Sciences Core		3
Arts/Humanities Core		3
Hours		16
Fourth Term		Hours
BIOL 3010	Molecular Genetics	3
CHEM 2420	Organic Chemistry II	3
EXSC 2510	Human Anatomy	3
EXSC 2520	Human Anatomy Lab	1

CHEM 2470	Organic Chemistry Laboratory II for Non-Majors	1
MEDT 2010	Introduction to Medical Laboratory Techniques	2
Arts/Humanities Core		3
Hours		16
Fifth Term		
BIOL 4050	Immunology	3
BIOL 4060	Immunology Laboratory	1
PHYS 2070	General Physics I	5
Social Sciences Core		3
Diversity of US		3
Apply for clinical year (terms 7-10) during this term		
Hours		15
Sixth Term		
BIOL 3070	Human Physiology	3
PHYS 2080	General Physics II	5
BIOL 4030	Microbiology	3
BIOL 4040	Microbiology Laboratory	1
Non-US Diversity		3
Must be accepted into the program at this point		
Hours		15
Seventh Term		
MEDT 4020	Clinical Hematology	5
MEDT 4030	Clinical Urinalysis, Body Fluids and Hemostasis	3
MEDT 4100	Clinical Virology	2
MEDT 4080	Clinical Immunohematology	5
Hours		15
Eighth Term		
MEDT 4040	Clinical Chemistry	5
MEDT 4050	Clinical Microbiology	5
MEDT 4060	Clinical Immunology	3
MEDT 4070	Clinical Parasitology	2
Hours		15
Ninth Term		
MEDT 4090	Clinical Mycology	2
MEDT 4950	Clinical Externship: Management	1
MEDT 4500	Clinical Research and Clinical Correlations	3
MEDT 4951	Clinical Externship: Microbiology	4
Hours		10
Tenth Term		
MEDT 4952	Clinical Externship: Chemistry	4
MEDT 4953	Clinical Externship: Hematology	3
MEDT 4954	Clinical Externship: Immunohematology	3
Hours		10
Total Hours		143

- Perform routine and complex analytical tests on all specimens received in the laboratory, such as blood, body fluids and other types of specimens.
- Operate routinely used laboratory instruments and follow their preventive maintenance protocols. Be able to identify malfunctions and make minor repairs or adjustments.
- Utilize basic scientific principles in developing new techniques and procedures and be able to evaluate the usefulness and practicality for the laboratory situation presented, i.e., finance, personnel, physical space.
- Correlate data from other sections of the laboratory in deciding whether results are correct and accurate; confirm abnormal findings and timely report critical findings according to the institution's established protocols.
- Examine and evaluate quality control results and institute correcting procedures if results are out of control.
- Demonstrate concern for and cooperation with other members of the health care team, patients, their family members and visitors.
- Recognize the need for continued educational growth within the profession to ensure progress toward professional competence.
- Respect patients' rights and privacy and the confidentiality of patient's health information.
- Abide by the laboratory's safety policies. Recognize unsafe conditions, correct them and/or report them to the supervisor.
- Abide by the code of ethics for the profession.
- If placed in a supervisory position, understand and apply the principles of management and supervision.

- Demonstrate a level of knowledge of the field that is commensurate with that expected for ASCP certified Medical Laboratory Scientists.