

Medical Laboratory Science, M.S.

Department website: <http://medicine.wvu.edu/biomedical-laboratory-diagnostics/>

Degree Offered

- Master of Science

Nature of the Program

Medical laboratory scientists are healthcare professionals educated in all aspects of clinical laboratory analysis, including test development, performance, and evaluation. Medical laboratory scientists may work in many areas, including clinical chemistry, hematology, immunohematology, immunology, clinical microbiology, and molecular diagnostics.

Practice settings for medical laboratory scientists include hospital, clinic, public health, or private clinical laboratories; research, cytogenetic, pharmaceutical, or in-vitro fertilization laboratories; technical or sales representatives for medical manufacturers and suppliers; biotechnology; and state or federal forensics laboratories.

Students in the program receive both didactic instruction and practical experience at one or more of the affiliated hospital laboratories. Students must provide their own transportation and housing during the clinical rotations.

ADMINISTRATION

VICE CHAIR AND PROGRAM DIRECTOR, MEDICAL LABORATORY SCIENCE

- Michelle Butina - PhD, MLS (ASCP) (University of Georgia)
Associate Professor

FACULTY

ASSOCIATE PROFESSORS

- Michelle Butina - PhD, MLS(ASCP) (University of Georgia)
Vice Chair, Laboratory Sciences Division and Program Director, Medical Laboratory Science
- Jason V. Evans - PhD, MLS(ASCP) (West Virginia University)
- Michelle Herdman - PhD, MLS(ASCP) (Marshall University)

ASSISTANT PROFESSORS

- Amara Sugalski - MA, MLS(ASCP) (University of Michigan)

ASSOCIATE PROFESSORS EMERITI

- Barbara J. Gutman
- Kerry Harbert
- Beverly Kirby
- Mary Ellen Koenn
- Karen S. Long

Admissions for 2025-2026

1. Bachelor's degree from a regionally accredited U.S. college or university*
2. Minimum cumulative GPA of 3.0 or higher
3. Pre-requisite courses:
 - a. 12 credit hours of chemistry (including one course in organic or biochemistry)
 - b. 12 credit hours of biological sciences (including one course in microbiology)
 - c. 3 credit hours of college algebra or higher
4. Written statement of goals that clearly identifies how admission to the program will facilitate his/her professional goals
5. Resume
6. Qualified applicants will be interviewed by the Medical Laboratory Science Admissions Committee.

*Disclaimer: Excluding those that have completed a NAACLS accredited medical laboratory science program.

Major Code: 8353

Degree Requirements

Code	Title	Hours
A minimum GPA of 2.75 is required.		
A minimum grade of C- is required in all coursework.		
PALM 412	Molecular Diagnostics Laboratory	1
PALM 422	Immunochemistry Laboratory	2
PALM 432	Clinical Chemistry Laboratory	2
PALM 442	Clinical Hematology Laboratory	2
PALM 446	Hemostasis Laboratory	1
PALM 452	Clinical Microbiology Laboratory	2
PALM 462	Urinalysis and Body Fluids Laboratory	1
PALM 465	Medical Laboratory Management	2
PALM 510	Molecular Diagnostics	2
PALM 520	Immunochemistry	3
PALM 525	Immunochemistry Practicum	4
PALM 530	Clinical Chemistry	3
PALM 535	Clinical Chemistry Practicum	4
PALM 540	Clinical Hematology	3
PALM 544	Hemostasis	1
PALM 545	Clinical Hematology Practicum	4
PALM 550	Clinical Microbiology	3
PALM 554	Clinical Mycology & Parasitology	2
PALM 555	Clinical Microbiology Practicum	4
PALM 560	Urinalysis and Body Fluids	1
PALM 580	Medical Immunology	3
PALM 602	Leadership Theory	1
PALM 604	Educational Theory	1
PALM 606	Graduate Seminar	1
Total Hours		53

Suggested Plan of Study

First Semester	Hours
PALM 554	2
PALM 560	1
PALM 462	1
PALM 530	3
PALM 432	2
PALM 540	3
PALM 442	2
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Second Semester	Hours
PALM 580	3
PALM 544	1
PALM 446	1
PALM 604	1
PALM 606	1
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Third Semester	Hours
PALM 510	2
PALM 412	1

PALM 520	3
PALM 422	2
PALM 550	3
PALM 452	2
PALM 465	2

Fourth Semester	Hours	15
PALM 525		4
PALM 535		4
PALM 545		4
PALM 555		4
PALM 602		1
		17

Total credit hours: 53

Major Learning Outcomes

MEDICAL LABORATORY SCIENCE

Upon graduation, students will:

1. Demonstrate entry level knowledge for a laboratory medicine professional.
2. Perform accurate and reliable qualitative and quantitative test procedures using sophisticated instrumentation.
3. Model the professional traits of a laboratory medicine practitioner in a workplace setting (e.g., during clinical rotations).
4. Communicate effectively in written and oral forms appropriate to a laboratory medicine professional.
5. Apply fundamental principles of administration and leadership to clinical laboratory practice.
6. Use educational principles and methodologies to teach and/or inform students, colleagues, patients, members of patient care team, and public on clinical laboratory topics or general healthcare topics.

Accreditation

The WVU Biomedical Laboratory Diagnostics tracks in Medical Laboratory Science and Histotechnology are accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Road, Suite 720, Rosemont, IL 60018, and (773) 714-8880. Graduates of the Medical Laboratory Science and Histotechnology programs are eligible for certification by the Board of Certification of the American Society for Clinical Pathology (ASCP).