

POST-BACCALAUREATE CERTIFICATE IN MOLECULAR DIAGNOSTIC SCIENCES

Given the rise of commercialized, at-home DNA testing kits and recently proven medical capabilities particularly in cancer diagnosis and treatment, the need for diagnostic molecular scientists who can ethically and properly manage the challenges of molecular testing and the data it provides is great.

The post-baccalaureate certificate in molecular diagnostic sciences is designed to help students launch their laboratory careers with a curriculum dedicated to the up-and-coming field of molecular diagnostic testing. This online program gives students the knowledge and hands-on experience to work with DNA, RNA, proteins, and lipids to detect, diagnose, and monitor disease and select optimal therapies.

Program participants learn the specific clinical laboratory techniques to detect and identify biomarkers at the nucleic acid levels in major areas of medicine including genetic disorders, infectious diseases, cancer, pharmacogenetics, and identity testing. Through a series of online coursework and a clinical practicum, they complete the certificate ready for a career in helping people get well through effective testing and diagnostics.

Graduates of the molecular diagnostic science certificate program are prepared to work as technologists in a diagnostic molecular laboratory, public health laboratory, research institution, law enforcement agency, the molecular section of hospital laboratories, reference laboratory, biotechnology firm, or pharmaceutical company. They are prepared to:

- Take the Molecular Biology (MB) Board of Certification examination offered by the American Society for Clinical Pathology (ASCP).
- Explain the methods of collection, transport, and handling of various specimen types for molecular analysis.
- Apply molecular-based testing for laboratory utilization and clinical decisions for patient/client outcomes.
- Implement preventive and corrective maintenance programs for equipment and assays.
- Troubleshoot and evaluate appropriate actions for problem resolution.

Visit the program website (<https://smhs.gwu.edu/biomedical-laboratory-sciences/programs/>) for more information.

REQUIREMENTS

The following requirements must be fulfilled: 24 credits in required courses.

Code	Title	Credits
MLS 4158	Laboratory Management and Operations	
MLS 4170	Introduction to Molecular Biology	
MLS 4171	Human Genetics	
MLS 4172	Molecular Diagnostics Capstone	
MLS 4217	Molecular Techniques	
MLS 4242	Applications of Molecular Testing	
MLS 4266	Molecular Diagnostics Practicum	