

# BACHELOR OF SCIENCE IN HEALTH SCIENCES WITH A MAJOR IN MOLECULAR DIAGNOSTIC SCIENCES

The bachelor of science in health sciences with a major in molecular diagnostic sciences program provides students with the theoretical knowledge and practical skills needed for positions in diagnostic clinical molecular laboratories, public health laboratories, biotechnology companies, government agencies, law enforcement agencies, and research institutes. In addition, students who complete the program are eligible to take the Molecular Biology Board of Certification examination offered by the American Society for Clinical Pathology (ASCP).

This program is offered in hybrid and fully online options.

Visit the program website (<https://bls.smhs.gwu.edu/programs/bshs-molecular-diagnostic-sciences/>) for more information.

## ADMISSIONS

Admission Fall: July 15

Deadlines

Spring: November 15

Summer: March 15

Standardized SAT/ACT optional test scores:

Recommendation One letter of recommendation from an academic instructor who can strongly attest to your academic ability, and/or an Individual who served in a supervisory capacity for you, and who can strongly attest to your work ethic.

Prior academic records Transcripts are required from all colleges and universities attended (including via dual enrollment), whether or not credit was earned, the program was completed, or the credit appears as transfer credit on another transcript. Transcripts must be forwarded in their original sealed envelopes. Official transcript may also be sent electronically directly from the institution.

Applicants may receive credit for college-level coursework through International Baccalaureate (IB) or College Board Advanced Placement (AP) examinations. Official score results must be forwarded directly from the College Board. #Please refer to GW Undergraduate Admissions (<https://undergraduate.admissions.gwu.edu/>) for information on maximum credits, minimum scores, and GW course equivalents for AP and IB credits.

Non-traditional credit sources may be considered on a case-by-case basis (i.e. military coursework, credit-by-exam, and non-college based health programs). Information on transfer credit eligibility may be found in the Bulletin under Regulations (see Transfer Credit/Advanced Standing for Undergraduates), including minimum letter grade requirements.

Statement of purpose All applicants are required to submit a 250–500 word essay describing your reasons for undertaking study at the George Washington University. Focus on your academic objectives, career goals and related qualifications, including collegiate, professional, and extra-curricular activities relevant to your program of interest. Include any substantial accomplishments not already mentioned on the application form as well as obstacles you have overcome that influenced your desire to pursue this program of study.

Additional requirements The program of study consists of a hybrid format offered at VSTC or a fully online format for applicants with MLT certification. Applicants with MLT certification are required to submit verification of national MLT certification, such as ASCP or AMT or has graduated from an accredited MLT program within the past 6 months.

All students must meet Essential Functions requirements, and successfully meet the criminal background check and drug screen requirements (<https://smhs.gwu.edu/academics/health-sciences/academics/admissions/background-checks-and-drug-screenings>) (<https://smhs.gwu.edu/academics/health-sciences/academics/admissions/background-checks-and-drug-screenings/>)

A resumé or curriculum vitae is required.

The minimum acceptable grade is C for coursework to be applied toward an undergraduate degree (grades of C- and below do not transfer to GW SMHS programs).

Prerequisites At least 45 semester hours of college with a minimum cumulative GPA of 2.7 and science GPA of 2.5 from a regionally accredited institution of higher learning. Students applying under a Guaranteed Admission Agreement must have a cumulative GPA of 2.75. All should include the following coursework:

English composition (6 credits)

General Biology with lab (8 credits) Hands on lab required

General or inorganic chemistry with lab (8 credits) - Hands on lab required

Microbiology with lab (4 credits) Hands on lab required

Organic chemistry or biochemistry (3 credits)

College mathematics (college algebra, statistics or above—3 credits)

International applicants only The hybrid and fully online options are not visa eligible. Permanent residents or those with a valid visa (e.g. work), if eligible, may apply to the hybrid program.

International students with an MLT certification may apply to the online program without needing a visa if they have an approved clinical site in their geographic region.

Official transcripts from institutions outside the U.S. must be accompanied by an official transcript evaluation from an accredited independent evaluating agency. Please be sure you request a detailed evaluation that includes all course titles, credit hours, grades, U.S. degree equivalency, grade-point averages (GPA), and date of degree conferral. For a list of acceptable foreign credential evaluation services, please click here (<https://www.naces.org/members.php>).

Applicants who are not U.S. citizens are required to submit official test scores for either Test of English as a Foreign Language (TOEFL) or Pearson's Test of English (PTE) Academic or the academic International English Language Testing System (IELTS). The following are the minimum scores for admission consideration: TOEFL: 100 on the Internet-based exam, PTE: overall score of 68, or IELTS: an overall band score of 7.0, with no individual band score below 6.0

International applicants who meet the following conditions may be considered for admission without submitting TOEFL, PTE or IELTS scores: They are a citizen of countries where English is the official language (as identified by GW ISO list of Exempt countries) OR; They hold at least a bachelor's degree from a country where English is the official language as well as language of instruction OR; They hold at least a bachelor's degree from an institution accredited by a U.S. regional accrediting agency.

### Supporting documents not submitted online should be mailed to:

George Washington University  
ATTN: Transcript Processing Center  
8300 Norman Center Dr  
Suite 400  
Bloomington, MN 55437

Alternatively, official electronic transcripts can be sent to [transcripts@hsprograms.gwu.edu](mailto:transcripts@hsprograms.gwu.edu).

### Contact for questions:

[hsphora@gwu.edu](mailto:hsphora@gwu.edu)  
202-994-0384 (phone)  
202-994-0870 (fax)  
Hours: 9 am to 5 pm, Monday through Friday

## REQUIREMENTS

The following requirements must be fulfilled: 120 credits in required and elective courses; at least 60 of these credits must be taken at GW.

Code	Title	Credits
<b>Required prerequisite courses</b>		
6 credits of English composition		
8 credits in general biology with laboratory		
8 credits in general chemistry with lab		
3 credits in humanities		
3 credits in quantitative reasoning (college algebra, statistics, or higher)		
6 credits in social sciences		
11 credits in elective courses		
<b>Required and elective courses that may be transferred in or taken at GW</b>		
3 credits in biotechnology (HSCI 1106 if taken at GW)		
3 credits in organic chemistry or biochemistry (MLS 3003 if taken at GW)		
4 credits in microbiology w/lab (HSCI 3106 and HSCI 3108 if taken at GW)		
5 credits in elective courses		
<b>Required courses and electives that must be taken at GW</b>		
CERT 3005	Current Topics in Biomedical Sciences	
MLS 2007W	Microbes and Society	
or HSCI 2112W	Writing in the Health Sciences	
or HSCI 4112W	Research and Writing in Health Sciences	
MLS 3000	Clinical Laboratory Mathematics	
MLS 3001W	Professional Ethics for Medical Laboratory Scientists	
MLS 4141	Immunology and Serology	
MLS 4151	Molecular Diagnostics	
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

**Additional required courses for the hybrid program option only.**

MLS 4251 Molecular Diagnostics Laboratory

MLS 4252 Applications of Molecular Testing Laboratory

**Electives—hybrid and online program options**

Students pursuing the hybrid option must take 15 credits in HSCI, MLS or CERT elective courses.

Students pursuing the fully online option must take 18 credits in HSCI, MLS or CERT elective courses.

**Optional concentrations**

All students may choose to complete one of the following concentrations. Credits taken in the concentration count toward the elective requirement.

**Microbiology concentration**

MLS 2005 Plagues, Pandemics, and Epidemics

MLS 2007 Microbes and Society (Online option only)

MLS 4116 Clinical Bacteriology I

MLS 4117 Clinical Bacteriology II

MLS 4119 Parasitology, Mycology, and Virology

MLS 4164 Clinical Microbiology Practicum

MLS 4216 Clinical Bacteriology Laboratory (hybrid option only)

MLS 4219 Parasitology, Mycology, and Virology Laboratory (hybrid option only)

**Assisted reproductive technology concentration:**

CERT 3004 Endocrinology for Health Sciences

CERT 4010 Clinical Human Embryology

CERT 4012 Clinical Human Andrology

CERT 4014 Human Reproductive Cryobiology

MLS 3001 Professional Ethics for Medical Laboratory Scientists

Health Sciences in the field of clinical microbiology (<https://bulletin.gwu.edu/medicine-health-sciences/undergraduate-programs/bshs-molecular-diagnostic-sciences-mshs-clinical-microbiology/>)

## COMBINED PROGRAM

### Combined program

- Dual Bachelor of Science in Health Sciences with a major in molecular diagnostic sciences and Master of Science in