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 is offered both in fully online and hybrid formats. The 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).

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

ADMISSIONS

Admission Deadlines
Fall: July 15
Spring: November 15
Summer: March 15

Standardized test scores: SAT/ACT optional

Recommendation: 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.

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 requirement: 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 (ASCP, AMT, or AAB) MLT certification in order to be considered for the fully online format.

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/)

A resume 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 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 (3 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 or 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 degree from a country where English is the official language as well as language of instruction OR
  - They hold at least a bachelor degree from an institution accredited by a U.S. regional accrediting agency.

Supporting Documents not Submitted Online should be Mailed to:
Office of Admissions
Health Sciences Programs
The George Washington University
2600 Virginia Avenue
Suite 104
Washington, DC 20037

Alternatively, official electronic transcripts can be sent to hsphora@gwu.edu

Contact for Questions:
hsphora@gwu.edu – 202-994-0384 (phone) – 202-994-0870 (fax)

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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td></td>
<td><strong>General Education Requirement</strong></td>
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<tr>
<td></td>
<td>3 credits of English composition</td>
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<tr>
<td></td>
<td>8 credits in biology (lecture and lab)</td>
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<tr>
<td></td>
<td>4 credits in microbiology (lecture and lab)</td>
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</tr>
<tr>
<td></td>
<td>8 credits in chemistry (lecture and lab)</td>
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<tr>
<td></td>
<td>3 credits in organic chemistry or biochemistry</td>
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<tr>
<td></td>
<td>3 credits in college mathematics (algebra, statistics, or higher)</td>
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<tr>
<td></td>
<td>3 credits in humanities</td>
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<td></td>
<td>6 credits in social sciences</td>
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<tr>
<td>MLS 3001W</td>
<td>Professional Ethics for Medical Laboratory Scientists</td>
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And one of the following courses:
- HSCI 2112W  Writing in the Health Sciences
- HSCI 4112W  Research and Writing in Health Sciences
- MLS 2007W  Microbes and Society

**Required for the major**

- HSCI 1106  Introduction to Biotechnology for Health Sciences
- HSCI 3117  Principles of Biostatistics for Health Sciences
- HSCI 4106  Introduction to Epidemiology for Health Sciences
- MLS 3000  Clinical Laboratory Mathematics
- MLS 4141  Immunology and Serology
- MLS 4151  Molecular Diagnostics
- MLS 4158  Laboratory Management and Operations
- MLS 4170  Introduction to Molecular Biology

Bachelor of Science in Health Sciences with a Major in Molecular Diagnostic Sciences
<table>
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<th>Course Code</th>
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<tbody>
<tr>
<td>MLS 4171</td>
<td>Human Genetics</td>
</tr>
<tr>
<td>MLS 4172</td>
<td>Molecular Diagnostics Capstone</td>
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<tr>
<td>MLS 4217</td>
<td>Molecular Techniques</td>
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<tr>
<td>MLS 4242</td>
<td>Applications of Molecular Testing</td>
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<tr>
<td>MLS 4266</td>
<td>Molecular Diagnostics Practicum</td>
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**Additional requirements for the fully-online BSHS program**

- 9 credits in elective courses selected in consultation with the advisor.

**Additional requirements for the hybrid BSHS program**

- MLS 4251 Molecular Diagnostics Laboratory
- MLS 4252 Applications of Molecular Testing Laboratory

**Additional school-specific requirements and electives**

Depending on their prior academic record, students complete additional coursework to fulfill school-specific requirements in consultation with their academic advisor. Such courses, as well as appropriate elective selections, are taken from the following list. Alternative electives may be approved by the Program Director.*

<table>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>HSCI 2102</td>
<td>Pathophysiology</td>
</tr>
<tr>
<td>HSCI 3106</td>
<td>Microbiology for Health Sciences</td>
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<tr>
<td>HSCI 3108</td>
<td>Microbiology for Health Sciences Laboratory</td>
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<tr>
<td>HSCI 3501</td>
<td>Human Anatomy and Physiology I</td>
</tr>
<tr>
<td>HSCI 3502</td>
<td>Human Anatomy and Physiology II</td>
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<tr>
<td>MLS 3003</td>
<td>Biochemistry for Laboratory Science</td>
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<tr>
<td>MLS 4116</td>
<td>Clinical Bacteriology I</td>
</tr>
<tr>
<td>MLS 4117</td>
<td>Clinical Bacteriology II</td>
</tr>
<tr>
<td>MLS 4119</td>
<td>Parasitology, Mycology, and Virology</td>
</tr>
<tr>
<td>MLS 4164</td>
<td>Clinical Microbiology Practicum</td>
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**Clinical and laboratory sciences**

- HSCI 2102 Pathophysiology
- HSCI 3106 Microbiology for Health Sciences
- HSCI 3108 Microbiology for Health Sciences Laboratory
- HSCI 3501 Human Anatomy and Physiology I
- HSCI 3502 Human Anatomy and Physiology II
- MLS 3003 Biochemistry for Laboratory Science
- MLS 4116 Clinical Bacteriology I
- MLS 4117 Clinical Bacteriology II
- MLS 4119 Parasitology, Mycology, and Virology
- MLS 4164 Clinical Microbiology Practicum

**Health data analytics**

- INFR 4101 Introduction to Medical Informatics
- INFR 4110 Biomedical Data Science

**Topics in healthcare**

**CERT 3005** Topics in Biomedical Science

**COHM 4110** Strategic Communication for Healthcare Professionals

**EHS 2109** Infectious Diseases and Bioterrorism

**HSCI 2105** Current Issues in Bioethics

**HSCI 3114** Management of Health Science Services

**MLS 2005** Plagues, Pandemics, and Epidemics

*Advanced standing from eligible transfer credit may also be considered. Credit from non-traditional sources, i.e., other than from academic coursework, may be considered on a case-by-case basis; this may include military coursework, credit-by-exam, and non-college based health programs.

**COMBINED PROGRAM**

- Dual Bachelor of Science in Health Sciences with a major in molecular diagnostic sciences and Master of Science in Health Sciences in the field of clinical microbiology (http://bulletin.gwu.edu/medicine-health-sciences/undergraduate-programs/bshs-molecular-diagnostic-sciences-mshs-clinical-microbiology/)