

# DIAGNOSTIC GENETIC SCIENCES (BS)

The Diagnostic Genetic Sciences (DGS) major is an educational and clinical training program in genetic and genomic testing leading to a Bachelor of Science degree. Genetic and genomic testing information is used for screening, diagnosing, prognosticating and monitoring many human diseases. Diagnostic genetic scientists are credentialed professionals critical to the research, application and translation of genetics and genomics to personalized or precision medicine. Students in the DGS professional degree program complete requirements for diagnostic molecular sciences which is accredited by the:

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)  
5600 N. River Rd, Suite 70  
Rosemont IL 60018-5119  
Phone: 773-714-8880

The DGS curriculum includes on-campus didactic and laboratory coursework and an off-site clinical and research internship at an affiliated laboratory. Graduates are eligible to sit for the American Society for Clinical Pathology (ASCP) Board of Certification examination in molecular biology (MB) immediately upon graduation.

## Requirements

The course requirements listed below may also be used to satisfy the University's General Education requirements.

Course	Title	Credits
<b>Mathematics and Science Courses</b>		
Select one of the following:		8
CHEM 1124Q & CHEM 1125Q	Fundamentals of General Chemistry I and Fundamentals of General Chemistry II	
CHEM 1127Q & CHEM 1128Q	General Chemistry I and General Chemistry II	
CHEM 2241 or CHEM 2443	Organic Chemistry Organic Chemistry	3
BIOL 1107	Principles of Biology I	4
Select one of the following:		
MATH 1060Q MATH 1125Q	Precalculus (or above)	
MCB 2400 or MCB 2410	Human Genetics Genetics	3
MCB 2610	Fundamentals of Microbiology	4
STAT 1000Q or STAT 1100Q	Introduction to Statistics I Elementary Concepts of Statistics	4
<b>Professional Courses</b>		
AH 2001	Medical Terminology	2
AH 3021	Environment, Genetics and Cancer	3
AH 3121	Immunology for the Medical Laboratory Sciences	3
AH 4241	Research for the Health Professional	2
DGS 3100	Cytogenetic Technologies	3
DGS 4234W	Diagnostic Molecular Technologies	3
DGS 4235	Laboratory in Molecular Diagnostics	2
DGS 4236	Case Studies in Molecular Pathology	1

MLSC 4500	Laboratory Operations and Professional Practice	2
Four related cognates, 2000 level or above as approved by their DGS advisor		8
<i>Molecular Practicum Courses</i>		
DGS 4402	Specimen Preparation, Nucleic Acid Isolation and Assessment	4
DGS 4503	Amplification Methods	6
DGS 4604	Sequencing Techniques and Data Analysis	3
DGS 4850	Investigative Topics in Laboratory Genetics	1
DGS 4997	Honors Research	3
Select one of the following:		2
DGS 4510	In Situ Hybridization Methods	
DGS 4512	Cloning Techniques	
DGS 4513	Blotting Applications	
DGS 4515	Microbiological Applications of Molecular Diagnostics	
<b>Writing in the Major</b>		
DGS 4234W	Diagnostic Molecular Technologies	3
<b>Total Credits</b>		<b>77</b>

## Information Literacy

Competencies will be met through successful completion of program major courses.

## Supplemental Academic Standards

The Department of Allied Health Sciences requires a cumulative grade point average of not less than 2.2 in order to gain admission to the professional majors. Thereafter, students must maintain the following standards of scholastic achievement to continue in the professional major. Students who fail to maintain the minimum grade point averages or minimum course standard in any of these areas are subject to dismissal from the professional program and in some cases the Department of Allied Health Sciences.

- Students must maintain a minimum semester grade point average of 2.2.
- Students must maintain a minimum cumulative grade point average of 2.2.
- Students must maintain a minimum major grade point average of 2.2. Major GPA includes all courses offered with the following departmental designations: AH, DGS, and MLSC.
- Students must obtain a "C" or better in all courses required for graduation that are in the Department of Allied Health Sciences (AH, DGS, and MLSC).
- No student may take a course in the Department of Allied Health Sciences for which another course in the department is a prerequisite unless that student has earned a grade of "C" or better in that prerequisite course.
- No course in the Department of Allied Health Sciences may be repeated more than once (for a total of two times).

For information about admission and clinical placement requirements, please see "Department of Allied Health Sciences Professional Majors" at the end of the College of Agriculture, Health and Natural Resources section of this catalog.

## **Diagnostic Genetic Sciences Certificate Program**

The Department of Allied Health Sciences also offers a Diagnostic Genetic Sciences Certificate. Please see the University of Connecticut Graduate Catalog for more information.

## **University General Education Requirements**

Every student must meet a set of core requirements to earn a baccalaureate degree, in addition to those required by the student's major course of study and other requirements set by the student's school or college. For more information about these requirements, please see General Education Requirements (<https://catalog.uconn.edu/undergraduate/gen-ed-requirements/>).

## **College of Agriculture, Health and Natural Resources Degree Requirements**

Students must meet a set of requirements established by the college in addition to the University's General Education requirements. For more information, see the College of Agriculture, Health and Natural Resources (<https://catalog.uconn.edu/undergraduate/agriculture-health-natural-resources/#requirementstext>) section of this catalog.