

# CELL AND MOLECULAR BIOLOGY GRADUATE CERTIFICATE

**Banner Code:** SC-CERG-CMB

Website: <https://science.gmu.edu/academics/departments-units/systems-biology>

The Graduate Certificate in Cell and Molecular Biology prepares students for graduate-level studies or laboratory work in cell and molecular biology. Students will be introduced to research, experimental design, and laboratory methods. Students will gain knowledge in the cellular and molecular aspects of human cell functioning and its pathophysiology. Upon graduation, students will be able to analyze and interpret the results of experiments such as cell cultures, blood tests, and tumor biomarker tests. Graduates will also be prepared to apply to graduate programs in biology and related science disciplines.

## Admissions & Policies

### Admissions

University-wide admissions policies can be found in the Graduate Admissions Policies (<http://catalog.gmu.edu/admissions/graduate-policies/>) section of this catalog.

To apply for this program, please complete the George Mason University Admissions Application (<https://www2.gmu.edu/admissions-aid/apply-now/>).

Applicants must possess an earned baccalaureate degree in a biological field, a chemical field, a closely related field of study, or be enrolled in the Enlisted to Medical Degree Preparatory Program (EDMP2). Additionally, applicants should hold an undergraduate GPA of 3.00.

To be considered for admission, applicants must submit the George Mason University Admissions Application (<https://www2.gmu.edu/admissions-aid/apply-now/>), all undergraduate transcript(s), three letters of recommendation, and a statement of interest.

### Policies

Students may not enroll initially in any College of Science master's or doctoral program and later transfer into this certificate program.

For policies governing all graduate programs, see AP.6 Graduate Policies (<http://catalog.gmu.edu/policies/academic/graduate-policies/>).

### Premium Tuition

This certificate charges students a differential tuition rate of \$100 per credit hour, which is added to the standard graduate tuition rate (regardless of in or out of state status).

## Requirements

### Certificate Requirements

Total credits: 15

This certificate may be pursued on a full-or part-time basis.

Students should refer to the Admissions & Policies tab for specific policies related to this program.

### Core Courses

Code	Title	Credits
BIOL 566	Cancer Genomics	3
BIOL 682	Advanced Eukaryotic Cell Biology	3
BIOL 691	Current Topics in Biology (when the topic is "Creativity and Innovation")	3
Total Credits		9

### Restricted Electives

Code	Title	Credits
Select at least 6 credits from the following courses. All restricted electives must be approved by an advisor.		6
BIOL 506	Selected Topics in Microbiology (when the topic is "Medical Microbiology")	
BIOL 516	Mammalian Neurobiology	
BIOL 553	Advanced Topics in Immunology	
BIOL 562	Personalized Medicine	
BIOL 568	Advanced Topics in Molecular Genetics	
BIOL 572	Human Genetics	
BIOL 583	General Biochemistry	
BIOL 666	Human Genetics Concepts for Health Care	
BIOL 667	Signal Transduction in Cancer	
BINF 630	Bioinformatics Methods	
BINF 633	Molecular Biotechnology	
Total Credits		6