

# BIOINFORMATICS AND COMPUTATIONAL BIOLOGY GRADUATE CERTIFICATE

Banner Code: SC-CERG-BCB

## Academic Advising

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Science and Technology Campus

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This graduate certificate addresses the growing national and regional demand for trained computational biologists by combining a solid foundation in biotechnology with computational skills relevant to bioinformatics. With online and in-classroom courses, the flexibility of this certificate's structure permits students to custom design their curriculum under an advisor's guidance, making the graduate certificate especially relevant for students employed in today's diverse Northern Virginia high-technology workplace. Ideal candidates for this certificate are those who have a background in biological and computer sciences, and are currently working in or planning to enter the fields of biotechnology or bioinformatics. The certificate is also highly relevant for students who are interested in advancing their career goals but may not have adequate time available to undertake a graduate degree program.

All courses are also offered online, allowing students to participate in class without having to travel to campus. Further information can be found with Mason Online (<http://masononline.gmu.edu>).

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

## Admissions & Policies

### Admissions

University-wide admissions policies can be found in the Graduate Admissions 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 should hold a BA or BS degree in a discipline related to biological or computer science from a regionally accredited university, with a minimum GPA of 3.00. Applicants should have taken courses in molecular biology, computer science, calculus, physical chemistry, or statistics, and should also possess working knowledge of a computer programming language. To apply, prospective students should complete a George Mason University Admissions Application (<https://www2.gmu.edu/admissions-aid/apply-now>), supply two copies of official transcripts from each college and graduate institution attended, and a current résumé. TOEFL scores are required of all international applicants.

### Policies

For policies governing all graduate programs, see AP.6 Graduate Policies.

## Premium Tuition

The certificate is a professional certification program that charges students at a differential (premium) tuition rate, with an additional \$100 per credit added to the standard George Mason University graduate tuition rate for students who enroll in this certificate program, regardless of in-state or out-of-state status. The differential tuition is used to fund continuing improvements in the College of Science's (COS) educational facilities used to support the certificate program.

Students may not pursue this certificate concurrently with any other graduate degree program or certificate program offered by COS. In addition, students may not apply previous credit hours from another certificate, degree, or non-degree studies to this certificate program because of the differential (premium) tuition rate.

## Requirements

### Certificate Requirements

Total credits: 15

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

### Required Courses

BINF 630	Bioinformatics Methods	3
BINF 631	Molecular Cell Biology for Bioinformatics	3
BINF 634	Bioinformatics Programming	3
Total Credits		9

### Electives

Select two courses from the following courses, or other courses as approved by the coordinator: 6

BINF 633	Molecular Biotechnology
BINF 636	Microarray Methodology and Analysis
BINF 639	Introduction to Biometrics
BINF 730	Biological Sequence and Genome Analysis
BINF 731	Protein Structure Analysis
BINF 732	Genomics
BINF 733	Gene Expression Analysis
BINF 734	Advanced Bioinformatics Programming
BINF 739	Topics in Bioinformatics

Total Credits 6