

# COMPUTATIONAL SOCIAL SCIENCE GRADUATE CERTIFICATE

**Banner Code:** SC-CERG-CSS

**Academic Programs Administrator**

227 Research Hall  
Fairfax Campus

Phone: 703-993-9298  
Email: cds@gmu.edu  
Website: [science.gmu.edu/academics/departments-units/computational-data-sciences/computational-social-science-graduate](https://science.gmu.edu/academics/departments-units/computational-data-sciences/computational-social-science-graduate)

This program is designed for students who seek training in computer simulation and related computational methods for analyzing social systems and processes. The program is open to all students with graduate standing at George Mason University and all students who hold a bachelor's degree from a regionally accredited university. The Computational Social Science (CSS) certificate allows students with social science or computational backgrounds to acquire new knowledge and modeling skills to improve their qualifications and attractiveness to employers in government, academia, or industry. The core courses provide a common foundation; additional elective courses allow for a variety of student interests across diverse social domains.

This graduate 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 (<https://catalog.gmu.edu/admissions/graduate-policies/>) section of this catalog. International students and students having earned international degrees should also refer to Admission of International Students (<https://catalog.gmu.edu/admissions/international-students/>) for additional requirements.

### Eligibility

Applicants should have an undergraduate degree from an institution of higher education accredited by a Mason-recognized U.S. institutional accrediting agency or international equivalent with a GPA of at least 3.00.

### Application Requirements

To apply for this certificate, prospective students should submit the George Mason University Admissions Application (<https://www2.gmu.edu/admissions-aid/apply-now/>) and its required supplemental documentation.

The GRE is not required for admission into this certificate.

### Policies

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

Students intending to obtain the CSS certificate must apply to the certificate before beginning any coursework intended to satisfy its requirements.

Coursework plans must be approved by the director.

### Transferring Previous Graduate Credit into this Certificate

Previously earned and relevant graduate credits may be eligible for transfer into this certificate; details can be found in the Credit by Exam or Transfer (<https://catalog.gmu.edu/policies/academic/graduate-policies/>) section of this catalog.

## 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 certificate.

### Core Courses

Code	Title	Credits
CSS 600	Introduction to Computational Social Science	3
CSS 610	Agent-based Modeling and Simulation	3
<b>Total Credits</b>		<b>6</b>

### Electives

Code	Title	Credits
Nine credits of electives, selected from:		9
CSS 605	Object-Oriented Modeling in Social Science	
CSS 620	Origins of Social Complexity	
CSS 692	Social Network Analysis	
Other graduate courses in the fields of computational social science, social science, computer science, statistics, and other quantitative methods such as data visualization, information technology, and geographic information science. <sup>1</sup>		
<b>Total Credits</b>		<b>9</b>

<sup>1</sup> These courses should be selected in conjunction with, and approved by, the student's advisor. Students may include a maximum of 3 credits of programming courses to meet the elective requirements. Procedural, object-oriented languages, or other approved programming approaches may be used with permission of the director. Some courses on computational techniques, modeling, or statistics, such as visualization, graphics, and statistical and database packages may also be used to meet the requirements with prior approval of the director.