COMPUTATIONAL SOCIAL SCIENCE (CSS)

Merging social science with computer programming and modeling

Program Highlights
Computational Social Science (CSS) is an interdisciplinary field in which social science questions are investigated with modern computational tools. Mason’s program was the first CSS MA in the world and continues to advance the study of social science through computational methods (e.g., agent-based modeling, social network analysis, and big data). The greatest strength of the CSS program lies in its ability to foster and promote interdisciplinary research that crosses traditional domain boundaries. Students use computationally intensive methods to solve current problems.

Who’s in the Program
Students range from recent college graduates to mid-career professionals. The CSS program is for students who seek a master’s degree that integrates knowledge from several disciplines. While some computer knowledge is useful, students in the CSS program are not expected to be programmers. A background in one of the social sciences, computer science, or engineering and undergraduate courses in these and related areas are preferred.

Why Mason
Besides taking introductory classes in theories and practices of social, geo-social, economic, and network modeling, you will have the opportunity to work one-on-one with faculty on your project or thesis of interest. Additionally, Mason’s proximity to the Washington, D.C., area provides an excellent opportunity to attend seminars offered by NGOs, visiting professors, and government employees.

Career Paths
Graduates have gone on to pursue doctorates at Mason and top research universities. Others have pursued careers in government or the private sector, in organizations such as the U.S. Army, MapR Technologies, CACI, Logistics Management Institute, DARPA, and Ninja Analytics, Inc.
Faculty and Research
The faculty and students within the program have a diverse set of interests focused around complex social systems, computational modeling and related techniques. Research areas include design science, economics, geography, geographical information systems (GIS), public policy, political science, network science, cognitive science, international relations and anthropology. Our faculty members are internationally recognized for their pioneering work in CSS, including authoring the first textbook in the field, and have written numerous books and articles on topics such as growing artificial societies, modeling geographical systems, and sustainability. Research in the program has been funded by the National Science Foundation, United States Agency for International Development, National Geospatial-Intelligence Agency, the Defense Threat Reduction Agency, the Defense Advanced Research Projects Agency, and NASA.

Degree Requirements - 36 Total Credits
Required Courses - 11 Credits
MAIS 796 ProSeminar
MAIS 797 Interdisciplinary Studies Proposal
CSS 600 Introduction to Computational Social Science
CSS 605 Object-Oriented Modeling in Social Science
CSS 610 Agent-based Modeling and Simulation
Research Course - 3 Credits
Capstone Project or Thesis - 1 or 4 Credits
Electives - 18-21 Credits
Electives credits are chosen from any Mason master’s-level courses in computational social science, social science, computer science, computational science and informatics, statistics, or other quantitative methods.

How to Apply
Along with the completed Application for Graduate Admission and application fee, applicants should submit:

• Official transcripts from previous institutions of higher education attended
• Goals statement
• Two letters of recommendation
• Resume
• Formal writing sample of at least 1,000 words

See chss.gmu.edu/admissions for complete details on the application process.

An Accelerated Master’s pathway (BAM) is available to current undergraduates. For more information about this program, visit: chss.gmu.edu/accelerated-masters/about

MAIS: A Master’s With A Mission
The Interdisciplinary Studies (MAIS) program in the College of Humanities & Social Sciences consists of multiple established degree paths that exist in partnership with academic units and faculty across the University. It offers a home for students with broad academic interests who seek a master’s degree that will help them to create a better world. While their degree paths may vary dramatically, our students share a desire to address critical problems facing the world today.

Available Degree Paths
Computational Social Science - Energy and Sustainability
Individualized Studies - Religious Studies - Social Entrepreneurship
Social Justice and Human Rights - War and the Military in Society
Women and Gender Studies

Contact Information
Interdisciplinary Studies
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