

Government Analytics Minor (Schar/ Computational and Data Sciences)

Overview

Government analytics involves the use of cutting-edge tools of data science and analysis to address political, policy, and governance problems at federal, state, local, and organizational levels. This minor introduces students to the tools and context that are now commonly employed by government entities and agencies, as well as by the non-profit and private sectors. In particular, students will work with canonical programming languages (R and Python) and apply these tools to substantive issues in political science, public administration, and international relations. The minor integrates a technical curriculum with real-world applicability and gives students the flexibility and independence to develop unique expertise and hone research skills. The curriculum also introduces students to issues of copyright and privacy that are integral to ethical government analytics.

The interdisciplinary minor in Government Analytics is offered jointly by the Schar School of Policy and Government and the College of Science's Department of Computational and Data Sciences.

Faculty (Schar)

Robert McGrath (minor advisor for Schar)
Jennifer Victor

Faculty (CDS)

Joseph Marr

Admissions

This minor is available to all Mason undergraduate students.

Policies

For policies governing all minors, see [AP.5.3.4 Minors](#).

Minor Requirements

Total credits: 17-20; 9 credits must be unique to minor

Coursework

- 1) CDS 101: *Introduction to Computational and Data Sciences* (3 credits)
- 2) CDS 102: *Introduction to Computational and Data Sciences Lab* (1 credit)
- 3) CDS 230: *Modeling and Simulation I* (3 credits)
- 4) CDS 301: *Scientific Information or Data Visualization*/CDS 302: *Scientific Data and Databases*/CDS 303: *Scientific Data Mining* /or STAT 463 - *Introduction to Exploratory Data Analysis* (3 credits)
- 5) Upper division GOVT class (3 credits) - Choose from¹
 - a) GOVT 300: *Research Methods and Analysis*
 - b) GOVT 307: *Legislative Behavior*
 - c) GOVT 308: *The American Presidency*
 - d) GOVT 311: *Public Opinion and Electoral Behavior*
 - e) GOVT 312: *Political Parties and Campaigns*
 - f) GOVT 313: *Political Psychology*
 - g) GOVT 318: *Interest Groups, Lobbying, and the Political Process*
 - h) GOVT 343: *International Political Economy*
 - i) GOVT 351: *Administration in the Political System*
 - j) GOVT 354: *Third-Party Government and the Nonprofit Sector*
 - k) GOVT 355: *Public Personnel Administration*
 - l) GOVT 356: *Public Budgeting and Finance*
 - m) GOVT 357: *Urban Governance and Planning*
 - n) GOVT 358: *Nonprofit Financial Planning*
 - o) GOVT 361: *Introduction to Environmental Policy*
 - p) GOVT 362: *Intermediate Environmental Policy*

¹ An alternative 300-level GOVT course, especially including GOVT 319: *Issues in Government and Politics*, or any 400-level GOVT course, may be substituted for any other GOVT course with the permission of the minor director, depending on the specific topic.

- q) GOVT 364: *Public Policy Making*
 - r) GOVT 365: *State and Regional Public Policy*
 - s) GOVT 366: *Public Policy Analysis*
 - t) GOVT 367: *Money, Markets and Economic Policy*
 - u) GOVT 368: *Tools for Economic Policy Analysis*
 - v) GOVT 400: *Issues in Political Analysis*
- 6) Upper division GOVT class (3 credits) - Choose from²
- a) GOVT 300: *Research Methods and Analysis*
 - b) GOVT 307: *Legislative Behavior*
 - c) GOVT 308: *The American Presidency*
 - d) GOVT 311: *Public Opinion and Electoral Behavior*
 - e) GOVT 312: *Political Parties and Campaigns*
 - f) GOVT 313: *Political Psychology*
 - g) GOVT 318: *Interest Groups, Lobbying, and the Political Process*
 - h) GOVT 343: *International Political Economy*
 - i) GOVT 351: *Administration in the Political System*
 - j) GOVT 354: *Third-Party Government and the Nonprofit Sector*
 - k) GOVT 355: *Public Personnel Administration*
 - l) GOVT 356: *Public Budgeting and Finance*
 - m) GOVT 357: *Urban Governance and Planning*
 - n) GOVT 358: *Nonprofit Financial Planning*
 - o) GOVT 361: *Introduction to Environmental Policy*
 - p) GOVT 362: *Intermediate Environmental Policy*
 - q) GOVT 364: *Public Policy Making*
 - r) GOVT 365: *State and Regional Public Policy*
 - s) GOVT 366: *Public Policy Analysis*
 - t) GOVT 367: *Money, Markets and Economic Policy*
 - u) GOVT 368: *Tools for Economic Policy Analysis*
 - v) GOVT 400: *Issues in Political Analysis*
- 7) GOVT 490: Government Analytics Capstone Seminar (3 credits)
- a) This capstone course will be offered yearly and cover
 - i) Open Government Data, in theory and practice
 - ii) Supervision of individual capstone projects
 - b) Enrollment in the GA capstone section is limited to GA minors and is controlled by permission of the instructor

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- c) GA minors must take *at least one* of the (preferably both) upper division GOVT classes, and *at least two* (preferably all three) of the CDS courses required for the minor before enrolling in GOVT 490.

Related Programs

- Government and International Politics, BA
- Public Administration, BS
- American Government Minor
- Public Policy and Management Minor
- Political Communication Minor