QUANTITATIVE SOCIAL DATA ANALYSIS, UNDERGRADUATE CERTIFICATE (DEPARTMENT OF POLITICAL SCIENCE)

The Certificate in Quantitative Social Data Analysis is designed to meet the growing need of employers for a workforce that is fluent in data-driven decision-making. Students in the certificate program are exposed to a breadth of data analysis topics, including research methods, Geographical Information System (GIS), multiple regression, and advanced electives on a variety of quantitative topics in various social science fields, as well as software packages that are in common use in the business world. The program is interdisciplinary - it draws on courses from 9 social science-related departments (Africology, Anthropology, Communications, Criminal Justice, Economics, Geography, Psychology, Political Science, and Sociology) and is intended to complement students' social science major with concrete quantitative skills in data analysis.

Students will take courses in statistics, regression, GIS, and research methods and will frequently be able to choose a course specific to their major. For example, a sociology major can choose "Research Methods in Sociology" to satisfy the research methods course requirement while a psychology student may choose "Research Methods in Psychology." These options allow students to focus their certificate training in their own field.

Eligibility

The certificate is open to current UWM undergraduates, UWM bachelor's degree holders, or graduates of other accredited four-year colleges; to be admitted to the certificate program, students must have a current overall GPA of 3.0 at UWM or their bachelor's degree institution. Students completing the certificate not in conjunction with a degree are not eligible for financial aid.

Requirements

To obtain the certificate, the student must earn a grade of at least C in any course used to satisfy the certificate requirements, and a cumulative GPA of 3.0 over all courses used for the certificate. Twelve of the 15-18 required credits must be earned in residence at UWM. Nine of the credits must be on the 300-level or above. Courses for the certificate may not be taken on a credit/no credit basis.

Students currently enrolled at UWM who have fulfilled some of the program's requirements prior to the program's approval may have their credits applied retroactively to the certificate program.

Students are required to take one course each from 5 areas:

1. Introductory statistics (3-4 credits);
2. Research methods (3-4 credits);
3. GIS/Programming for Social Data Analysis (3 credits);
4. Multiple regression (3 credits); and
5. Electives (3-4 credits).

Code	Title	Credits
Introductory Statistics		**3-4**
Choose one:		
AFRIC 220	Introduction to Statistics in African and African Diaspora Studies	
ECON 210	Economic Statistics	
GEOG 247	Quantitative Analysis in Geography	
HIST 595	The Quantitative Analysis of Historical Data	
PSYCH 210	Psychological Statistics	
SOCIOL 261	Introduction to Statistical Thinking in Sociology	
Research Methods		**3-4**
Choose one:		
AFRIC 301	Research Methods in African & African Diaspora Studies	
COMMUN 370	Quantitative Research in Communication	
POL SCI 203	Introduction to Political Science Research	
PSYCH 325	Research Methods in Psychology	
SOCIOL 361	Research Methods & Data in Sociology	
PH 455	Public Health Research Methods II	
CRM JST 662	Methods of Social Welfare Research	
GIS/Programming for Social Data Analysis		**3**
Choose one:		
ANTHRO 380	Anthropological Applications of GIS	
CRM JST 520	Analysis Oriented Technology: Spatial Data Analysis; Crime Mapping; ArcGIS	
GEOG 215	Introduction to Geographic Information Science	
GEOG 325	Data Science and Environmental Applications	
PSYCH 401	Data Science for Psychology	
Multiple Regression		**3**
Choose one:		
ANTHRO 568	Introduction to Anthropological Statistics	
ECON 310	Introduction to Econometrics and Data Science	
ECON 413	Statistics for Economists	
ECON 513	Introduction to Econometrics	
POL SCI 390	Political Data Analysis	
PSYCH 610	Experimental Design	
SOCIOL 461	Social Data Analysis Using Regression	
Electives		**3-4**
Choose one: [1]		
ECON 411	Economic Forecasting Methods	
GEOG 525	Geographic Information Science	
GEOG 547	Spatial Analysis	
POL SCI 392	Survey Research	
PSYCH 510	Advanced Psychological Statistics	

SOCIOL 352	Social Networks	
Total Credits		**15-18**

[1] Other courses not on this list but relevant to quantitative social data analysis may be accepted with the approval of the Certificate Program Coordinator. A student making such a request must submit syllabi from the courses involved to the coordinator.

Awarding the Certificate

Students currently involved in baccalaureate studies who successfully complete the requirements of the program will be awarded the certificate at the time of graduation. Students who already have a bachelor's degree will receive the certificate upon completion of the program requirements.

Advising

Certificate advising is provided by one of the coordinators, Professor Aki Roberts (aki@uwm.edu) or Professor Hong Min Park (hmpark1@uwm.edu).

To declare the Quantitative Social Data Analysis Certificate, simply complete the following steps:

1. Click on Declaration of Certificate (https://uwm.edu/sociology/students/undergraduates/declare-your-certificate/) Form.
2. Fill out the Declaration of Certificate Form.
3. Submit the Declaration of Certificate Form.

Prospective students not yet enrolled at UWM can contact the college admissions office at (414) 229-7711 or let-sci@uwm.edu (let-sci@uwm.edu).