Applied Quantitative Methods and Social Analysis, MS

The Master of Science in Applied Quantitative Methods and Social Analysis is an interdisciplinary, flexible, and innovative degree that focuses on quantitative research methods for social analysis strategies and techniques. The program integrates the interdisciplinary perspectives and methodological and analytical tools across the College of Social Sciences and Humanities. The program seeks to educate ambitious social scientists and analysts primed to deploy computational tools for social analysis and tackle social science questions of equity, hierarchy, social organization, and social systems. The 21st-century economy will increasingly demand a workforce capable of collecting, processing, analyzing, and interpreting large-scale data on human attributes, personal preferences, social attributes, and political behavior. In response, this program provides students with rigorous training in quantitative research and social science methods to address important questions of social inquiry. Emphasizing public dissemination of findings, the program prepares students to inform policymakers, decision makers in the private and public sectors, and the broader community. These skills prepare graduates to pursue analytical or research careers in corporations, nonprofits, and public services or to continue their education.

Students in this degree program will have the opportunity to gain advanced training in statistical analysis and research methodology aligned to key areas of strength in CSSH, including data analytics in the social sciences, computational social science, network analysis in the social sciences, statistical methods in the social sciences, information ethics for social analysis, geospatial analysis, and the digital humanities. Students will also have the opportunity to stack a range of graduate certificate programs into the master's degree.

The program will take advantage of various co-op opportunities—positions such as policy analysts, network scientists, econometricians, and crime analysts—that provide students a professional environment to integrate quantitative skills and social analysis. The learning opportunities in professional settings (private sector, government, or nonprofit sector) reinforce the development of advanced quantitative skills and their applied nature to contemporary social issues. Ultimately, the Master of Science in Applied Quantitative Methods and Social Analysis will position students to enter the labor force with the competitive advantage of these experiences and skills.

CSSH Graduate Programs General Regulations (https://catalog.northeastern.edu/graduate/social-sciences-humanities/general-regulations/)

Program Requirements

- Concentrations and course offerings may vary by campus and/or by program modality. Please consult with your advisor or admissions coach for the course availability each term at your campus or within your program modality.
- Certain options within the program may be *required* at certain campuses or for certain program modalities. Please consult with your advisor or admissions coach for requirements at your campus or for your program modality.

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Core Requirements		
INSH 6300	Research Methods in the Social Sciences	4
INSH 6500	Statistical Analysis	4

Required Concentration

Complete one of the following concentrations:

- Computational Social Science (p. 2)
- Data Analytics in the Social Sciences (p. 2)
- Information Ethics for Social Analysis (p. 2)
- Network Analysis in the Social Sciences (p. 2)
- Statistical Methods in the Social Sciences (p. 2)

ELECTIVES

Code	Title	Hours
Complete 12 semester hours from the following:		12
Concentration courses may not be double counted as elective courses.		
CRIM, INSH, POLS, PPUA, and/or SOCL at the 5000 level or higher		

Optional Co-op Experience

Code	Title	Hours
Four-month co-ops require registration at 1 semester hour for one term. Longer co-ops require registration at 1 semester hour per term for two consecutive terms.		1-2
INSH 6864	Experiential Integration	
INSH 6964	Co-op Work Experience	

Program Credit/GPA Requirements

32 total semester hours required (33-34 with optional co-op)
Minimum 3.000 GPA required

COMPUTATIONAL SOCIAL SCIENCE

Code	Title	Hours
Concentration Requirements		
INSH 5302	Information Design and Visual Analytics	4
or INSH 5304	Social Network Analysis	
or POLS 7334	Social Networks	
or PPUA 5262	Big Data for Cities	
or PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
INSH 5303	Machine Learning in the Social Sciences	4
or DA 5030	Introduction to Data Mining/Machine Learning	
INSH 6406	Analyzing Complex Digitized Data	4
or INSH 5301	Introduction to Computational Statistics	

DATA ANALYTICS IN THE SOCIAL SCIENCES

Code	Title	Hours
Concentration Requirements		
DA 5020	Collecting, Storing, and Retrieving Data	4
or DA 5030	Introduction to Data Mining/Machine Learning	
INSH 5301	Introduction to Computational Statistics	4
INSH 5302	Information Design and Visual Analytics	4

INFORMATION ETHICS FOR SOCIAL ANALYSIS

Code	Title	Hours
Concentration Requirements		
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	4
PHIL 5001	Global Justice	4
or PHIL 5002	Ethics and Public Policy	
or PHIL 5010	AI Ethics	
PHIL 5005	Information Ethics	4

NETWORK ANALYSIS IN THE SOCIAL SCIENCES

Code	Title	Hours
Concentration Requirements		
INSH 5301	Introduction to Computational Statistics	4
INSH 5302	Information Design and Visual Analytics	4
INSH 5304	Social Network Analysis	4
or POLS 7334	Social Networks	

STATISTICAL METHODS IN THE SOCIAL SCIENCES

Code	Title	Hours
Concentration Requirements		
INSH 5301	Introduction to Computational Statistics	4

INSH 7400	Quantitative Analysis	4
INSH 7500	Advanced Quantitative Analysis	4