APPLIED URBAN SCIENCE AND INFORMATICS (ADVANCED CERTIFICATE)

Department Website (https://engineering.nyu.edu/academics/programs/applied-urban-science-and-informatics-ac/)

NYSED: 35796 **HEGIS:** 0799.00 **CIP:** 11.0104

Program Description

City agencies, non-profit organizations, technology companies, consulting firms, and other public and private organizations are increasingly looking for data scientists and analytics experts to unlock the potential of their data. NYU CUSP's Online Advanced Certificate offers training in these in-demand skills to propel your career in the field of urban science. Our expert faculty members will serve as your mentors in using data for social good – helping cities around the world become more productive, livable, equitable, and resilient.

Using synchronous online coursework with support videos and materials, you will explore how data analytics can help solve challenges faced by growing cities worldwide.

The Online Advanced Certificate is designed for:

- Anyone with previous studies or professional experience in Urban Informatics.
- Public officials or city employees without a STEM background with a desire to learn how to use data to improve urban policy making or city operations.
- Working professionals interested in the intersection of data and cities.
- Researchers or consultants currently working to solve complex urban problems.
- International students or professionals interested in using data for social good in cities around the world

Admissions

To be eligible for consideration to the CUSP Online Advanced Certificate, you must submit the following. For more details on each aspect of your application please refer to NYU Tandon's application requirements (https://engineering.nyu.edu/admissions/graduate/apply/requirements/#chapter-id-29051).

- Online Application Form
- Application Fee
- Personal Statement
- Resume
- Official Transcripts and Degree Conferral
- GRE Scores (optional)
- 2 Letters of Recommendation
- Supplemental Questions
- English Language Proficiency Testing (if applicable)
  - All applicants for the Online Advanced Certificate must demonstrate excellent English language skills in reading, writing, speaking, and comprehension. Please review the English Language Requirement Waiver Form (https://engineering.nyu.edu/admissions/graduate/apply/requirements/english-language-proficiency-testing/) to see if you are eligible to waive this requirement.

Program Requirements

Students are required to complete 4 courses (12 credits) from the following course list:

Course	Title	Credits
Course Requirements		
Select four courses from the following:		12
CUSP-GX 7013	Introduction to Applied Data Science	
CUSP-GX 7043	Civic Analytics and Urban Intelligence	
CUSP-GX 8093	Data Visualization	
CUSP-GX 6023	Introduction to Programming for Solving Urban Challenges	
CUSP-GX 7053	Innovative City Governance	
CUSP-GX 5053	Geographic Information Systems	
Total Credits		**12**

Sample Plan of Study

Two-Semester Plan

Course	Title	Credits
1st Semester/Term		
CUSP-GX 7043	Civic Analytics and Urban Intelligence	3
CUSP-GX 8093	Data Visualization	3
	Credits	**6**
2nd Semester/Term		
CUSP-GX 7053	Innovative City Governance	3
CUSP-GX 6053		3
	Credits	**6**
	Total Credits	**12**

Four-Semester Plan

Course	Title	Credits
1st Semester/Term		
CUSP-GX 7043	Civic Analytics and Urban Intelligence	3
	Credits	**3**
2nd Semester/Term		
CUSP-GX 6053		3
	Credits	**3**
3rd Semester/Term		
CUSP-GX 8093	Data Visualization	3
	Credits	**3**
4th Semester/Term		
CUSP-GX 7053	Innovative City Governance	3
	Credits	**3**
	Total Credits	**12**

Learning Outcomes

Upon successful completion of the program, graduates will:

1. Develop smart data-driven urban policies and innovative solutions to help make cities more efficient and equitable.
2. Operationalize questions on urban challenges as actionable, data-driven analyses, and build robust analyses of these questions using reproducible code.

3. Present and communicate data-driven insights on urban challenges to key stakeholders, including city governments and policy decision makers.
4. Understand the application of data analysis and programming tools to social and behavioral sciences, business operations, and urban sciences.
5. Address the ethical implications of data collection and analysis in urban environments.
6. Apply frameworks by which to assess whether data is addressing or exacerbating urban challenges, such as racial inequity.

Policies
NYU Policies

University-wide policies can be found on the New York University Policy pages (https://bulletins.nyu.edu/nyu/policies/).

Tandon Policies

Additional academic policies can be found on the Tandon academic policy page (https://bulletins.nyu.edu/graduate/engineering/academic-policies/).