APPLIED DATA ANALYTICS AND VISUALIZATION (STEM) (BS)

Department Website (https://www.sps.nyu.edu/homepage/academics/bachelors-degrees/bs-in-applied-data-analytics-and-visualization.html)

NYSED: 37753 **HEGIS:** 1702.00 **CIP.** 27.0501

Program Description

With the proliferation of highly sophisticated software applications and the staggering amounts of information available on the Internet, organizations, government agencies, and corporations around the globe have access to seemingly limitless amounts of data. To take advantage of this plethora of new intelligence, these entities must hire professionals possessing broad-based skills in information systems, quantitative and qualitative analytical skills, and mastery of data visualization software to uncover the relevant and critical insights that will position them for success.

The Bachelor of Science in Applied Data Analytics and Visualization imparts this knowledge, preparing students to aggregate large data sets and transform them—through analysis and visualization—into critical information required by decision-makers in industries as varying as healthcare, education, business, and science, among others. Graduates of this program will be prepared to pursue a broad array of employment opportunities in this growing and evolving field, including those within corporations, service industries, government agencies, political organizations, consulting firms, nonprofit organizations, marketing and advertising agencies, and media companies.

Admissions

New York University's Office of Undergraduate Admissions supports the application process for all undergraduate programs at NYU. For additional information about undergraduate admissions, including application requirements, see How to Apply (https://www.nyu.edu/admissions/undergraduate-admissions/how-to-apply.html).

Program Requirements

This program requires the completion of 128 credits, comprised of a required set of core courses (32 credits), liberal arts electives (16 credits), required foundation courses (32 credits), data science and visualization courses (32 credits), data science and visualization electives (12 credits), and a graduation project (4 credits).

Course	Title	Credits
Writing		
The following courses may be required based on a writing placement assessment, and should be successfully completed within the first three semesters:		8-10
EXWR1-UC 7501	Introduction to Creative and Expository Writing	
EXWR1-UC 7502	Writing Workshop I	
EXWR1-UC 7503	Writing Workshop II	
Critical Thinking		
HUMN1-UC 6401	Critical Thinking	4
Quantitative Reasoning		
Students, in close consultation with their adviser, select Math 1 and Math II or one of the following other courses based on a math placement assessment:		4
MATH1-UC 1101 & MATH1-UC 1141	Math I and Math II	
MATH1-UC 1105	Mathematical Reasoning	
MATH1-UC 1171	Precalculus	
MATH1-UC 1174	Calculus W/Applications to Business & Economics	
Scientific Issues		
Select one of the following:		4
SCNC1-UC 2001	Human Biology	
SCNC1-UC 3203	Environmental Sustainability	
SCNC1-UC 3207	Stars, Planets, & Life	
SCNC1-UC 3215	Biology of Hunger & Population	
Historical Perspectives		
Select one of the following:		4
HIST1-UC 5804	Renaissance to Revolutn	
HIST1-UC 5820	The American Experience	
HIST1-UC 5821	Classical & Medieval World	
HIST1-UC 5822	Contemporary World	
Global Perspectives		
Select one of the following:		4
ANTH1-UC 5011	World Cultures: Africa	
ANTH1-UC 5012	World Cultures: Middle East	
ANTH1-UC 5013	World Cultures: Asia	
ANTH1-UC 5014	World Cultures: Latin America & The Caribbean	
Literary and Artistic Expressions		
Select one of the following:		4
ARTS1-UC 5438	History of Music	
ARTH1-UC 5443	Visual Expressions in Society	
LITR1-UC 6201	Contemporary Global Literature	
LITR1-UC 6209	Oral Traditions in Literature	
Liberal Arts Electives		
Other Elective Credits (by advisement)		16
Foundation: Quantitative Courses		

MATH1-UC 1172	Statistical Methods	4
MATH1-UC 1171	Precalculus	4
MATH1-UC 1174	Calculus W/Applications to Business & Economics	4
MATH1-UC 1180	Linear algebra	4
Foundation: Information Systems Courses		
ISMM1-UC 746	Fundamentals of Computing	4
ISMM1-UC 702	Database Design	4
ISMM1-UC 752	Systems Analysis	4
Data Science and Visualization Courses		
ADAV1-UC 1000	Applied Data Analytics I	4
ADAV1-UC 1001	Applied Data Analytics II	4
ISMM1-UC 742	Business Intelligence	4
ISMM1-UC 731	Introduction to Cloud Computing	4
MKAN1-UC 5100	Cultural and Legal Implications of Digital Technology	4
ADAV1-UC 1005	Data Visualization	4
ADAV1-UC 1010	Designing Data: Infographics	4
ADAV1-UC 1015	Visual Analytics	4
Electives in Applied Data Analytics and Visualization		
Other Elective Credits (by advisement)		16
ADAV1-UC 7990	Spc Tpcs in Applied Data Analytics and Visualization:	
Graduation Project		
Select one of the following:		4
ADAV1-UC 7991	Senior Project: Seminar	
ADAV1-UC 7992	Senior Project: Internship	
ADAV1-UC 7993	Independent Study	
Total Credits		**128**

Sample Plan of Study

Course	Title	Credits
1st Semester/Term		
EXWR1-UC 7502	Writing Workshop I	4
MATH1-UC 1171	Precalculus	4
Global Perspectives/Historical Perspectives		4
Quantitative Reasoning		4
	Credits	**16**
2nd Semester/Term		
EXWR1-UC 7503	Writing Workshop II	4
MKAN1-UC 5100	Cultural and Legal Implications of Digital Technology	4
ISMM1-UC 746	Fundamentals of Computing	4
Scientific Issues		4
	Credits	**16**
3rd Semester/Term		
HUMN1-UC 6401	Critical Thinking	4
ISMM1-UC 702	Database Design	4
MATH1-UC 1174	Calculus W/Applications to Business & Economics	4
Global Perspectives/Historical Perspectives		4
	Credits	**16**
4th Semester/Term		
MATH1-UC 1172	Statistical Methods	4
ISMM1-UC 751	Networking	4
ISMM1-UC 752	Systems Analysis	4
Literary & Artistic Expressions		4
	Credits	**16**
5th Semester/Term		
ISMM1-UC 742	Business Intelligence	4
ADAV1-UC 1005	Data Visualization	4
ISMM1-UC 731	Introduction to Cloud Computing	4
MATH1-UC 1180	Linear algebra	4
	Credits	**16**
6th Semester/Term		
ADAV1-UC 1000	Applied Data Analytics I	4
ADAV1-UC 1010	Designing Data: Infographics	4
ADAV1-UC 1015	Visual Analytics	4
Liberal Arts Elective		4
	Credits	**16**
7th Semester/Term		
ADAV1-UC 1001	Applied Data Analytics II	4
Applied Data Analytics & Visualization Elective		4
Liberal Arts Elective		4
Liberal Arts Elective		4
	Credits	**16**
8th Semester/Term		
Senior Project: Seminar **or** Internship		4
Applied Data Analytics & Visualization Elective		4
Applied Data Analytics & Visualization Elective		4
Liberal Arts Elective		4
	Credits	**16**
	Total Credits	**128**

Learning Outcomes

Upon successful completion of the program, graduates will:

1. Setup systems to retrieve, aggregate, and process large data sets.
2. Employ techniques/tools to separate big data into manageable and logical components.
3. Eliminate “noise” by cleaning data.
4. Perform data analysis with the goal of extracting useful information
5. Provide a clear representation of data using visualization techniques.
6. Use graphics software to tell data stories.
7. Design with form and function to communicate information.
8. Apply data to decision-making and creative problem solving.

Policies

NYU Policies

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

School of Professional Studies Policies

Additional academic policies can be found on the School of Professional Studies academic policy pag (https://bulletins.nyu.edu/undergraduate/professional-studies/academic-policies/)e.