

# Data Science and Journalism, BS (Boston)

The data science and journalism combined major offers students an opportunity to gain the skills to be able to engage in both the print and digital worlds of journalism. Students study the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data. Combined with learning the principles, practices, and responsibilities of journalism, students can extract meaning from massive information flows and utilize it in effective investigative reporting.

## Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

## Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (<https://catalog.northeastern.edu/undergraduate/university-academics/university-wide-requirements/>).

## NUPath Requirements

All undergraduate students are required to complete the NUPath Requirements (<https://catalog.northeastern.edu/undergraduate/university-academics/nupath/>).

## Data Science Courses

Code	Title	Hours
<b>Computer Science Overview</b>		
CS 1200 or JRNL 1000	First Year Seminar Journalism at Northeastern	1
CS 1210 or EEAM 2000	Professional Development for Khoury Co-op Professional Development for Co-op	1

### Computer Science Required Courses

All students can take a self-assessment to attempt to place out of CS 2000 and CS 2001. Students who place out of CS 2000 and CS 2001 will instead substitute 4-5 SH of CS, CY, or DS coursework at the 3000 level or higher not otherwise required in the degree.

CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2000 and CS 2001	Introduction to Program Design and Implementation and Lab for CS 2000	5
CS 3200	Introduction to Databases	4
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	4

### Programming Sequence Pathways

Choose one of the two options: 9

#### Computer Science Option

CS 2100 and CS 2101	Program Design and Implementation 1 and Lab for CS 2100	
CS 3100 and CS 3101	Program Design and Implementation 2 and Lab for CS 3100	

#### Data Science Option

DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	

### Data Science Foundations

DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
DS 4420	Machine Learning and Data Mining 2	4

### Khoury Approved Electives

With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.

Complete 4 credits from within the following options:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
MKTG 4606	Digital, Analytics, Technology, and Automation Research Practicum	

## Journalism Major Requirements

Students transferring from outside institutions must complete a minimum of five 4-semester-hour journalism courses at Northeastern, and these must include:

Code	Title	Hours
JRNL 2201	Journalism 2: Intermediate Reporting	
JRNL 2301	Visual Storytelling in Journalism	
JRNL 4650	Ethics and Diversity in the News Media	

Code	Title	Hours
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### Journalism Courses

A grade of C or higher is required:

JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 2201	Journalism 2: Intermediate Reporting	4
JRNL 2301	Visual Storytelling in Journalism	4
JRNL 3610	Digital Storytelling and Social Media	4

### Required Journalism

JRNL 1150	Understanding Today's News	4
JRNL 3550	The First Amendment and the Media	4
JRNL 4650	Ethics and Diversity in the News Media	4

### Journalism Electives

Complete three JRNL courses.		12
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## Supporting Courses

Code	Title	Hours
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### Mathematics Requirement

MATH 1341	Calculus 1 for Science and Engineering	4
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### Statistics Foundation

ECON 2350	Statistics for Economists	4
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### Computing and Social Issues

Complete one of the following:		4
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AFCS 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
DS 1300 or PHIL 1300	Knowledge in a Digital World Knowledge in a Digital World	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
JRNL 3700	Data Storytelling	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Technology and Society	

## Writing Requirement

Code	Title	Hours
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### College Writing

ENGW 1111	First-Year Writing	4
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### Advanced Writing in the Disciplines

This course already fulfills a Journalism requirement above.

JRNL 2301	Visual Storytelling in Journalism
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### Integrative Requirement

Code	Title	Hours
Complete one of the following:		4
JRNL 3700	Data Storytelling	
JRNL 5500	Coding for Digital Storytelling	

### Required General Electives

Code	Title	Hours
Complete 20 semester hours of general electives.		20

### NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Understanding Societies and Institutions
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

### Khoury College GPA Requirement

Minimum cumulative 2.000 GPA required in all CS, CY, DS, IS courses

### Journalism GPA Requirement

Minimum 2.000 GPA required in all JRNL courses

### Program Requirement

131 total semester hours required

### Plan of Study

#### Sample Plan of Study

#### Four Years, Two Co-ops in Summer Second Half/Fall

##### Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or JRNL 1000		1 CS 3200		4 DS 3000		4 General Elective	4
CS 1800 and CS 1802		5 DS 2500 and DS 2501		5 MATH 1341		4 General Elective	4
CS 2000 and CS 2001		5 JRNL 1101 and JRNL 1102		5			
JRNL 1150		4 JRNL 3550		4			
ENGW 1111		4 EEAM 2000 (For CAMD students)		1			
	19		19		8		8

##### Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
DS 3500		4 CS 1210 (For Khoury students)		1 ECON 2350		4 Co-op	0
JRNL 2201		4 DS 4200		4 General Elective		4	
JRNL 2301		4 DS 4300		4			

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Computing and social issues	4	JRNL 3610	4					
		JRNL 3700 or 5500	4					
	16		17		8			0
<b>Year 3</b>								
<b>Fall</b>	<b>Hours</b>	<b>Spring</b>	<b>Hours</b>	<b>Summer 1</b>	<b>Hours</b>	<b>Summer 2</b>		<b>Hours</b>
Co-op	0	DS 4400		4 General Elective		4 Co-op		0
		JRNL 4650		4 General Elective		4		
		JRNL elective 1		4				
		Khoury Elective		4				
	0		16		8			0
<b>Year 4</b>								
<b>Fall</b>	<b>Hours</b>	<b>Spring</b>	<b>Hours</b>					
Co-op	0	CY 4170		4				
		DS 4420		4				
		JRNL elective 2		4				
		JRNL elective 3		4				
	0		16					

Total Hours: 135

### Four Years, Two Co-ops in Spring/Summer First Half

<b>Year 1</b>								
<b>Fall</b>	<b>Hours</b>	<b>Spring</b>	<b>Hours</b>	<b>Summer 1</b>	<b>Hours</b>	<b>Summer 2</b>		<b>Hours</b>
CS 1200 or JRNL 1000	1	DS 2500 and DS 2501		5 DS 3000		4 General Elective		4
CS 1800 and CS 1802	5	ECON 2350		4 MATH 1341		4 General Elective		4
CS 2000 and CS 2001	5	JRNL 1101 and JRNL 1102		5				
JRNL 1150	4	JRNL 3550		4				
ENGW 1111	4	EEAM 2000 (For CAMD students)		1				
	19		19		8			8
<b>Year 2</b>								
<b>Fall</b>	<b>Hours</b>	<b>Spring</b>	<b>Hours</b>	<b>Summer 1</b>	<b>Hours</b>	<b>Summer 2</b>		<b>Hours</b>
CS 1210 (For Khoury students)	1	Co-op		0 Co-op		0 General Elective		4
DS 3500	4					General Elective		4
JRNL 2201	4							
JRNL 2301	4							
Computing and social issues	4							
	17		0		0			8
<b>Year 3</b>								
<b>Fall</b>	<b>Hours</b>	<b>Spring</b>	<b>Hours</b>	<b>Summer 1</b>	<b>Hours</b>	<b>Summer 2</b>		<b>Hours</b>
DS 4200	4	Co-op		0 Co-op		0 Khoury Elective		4
DS 4300	4					General Elective		4
JRNL 3610	4							
JRNL 3700	4							
	16		0		0			8
<b>Year 4</b>								
<b>Fall</b>	<b>Hours</b>	<b>Spring</b>	<b>Hours</b>					
DS 4400	4	CY 4170		4				

JRNL 4650	4 DS 4420	4
CS 3200	4 JRNL elective 2	4
JRNL elective 1	4 JRNL elective 3	4
	<b>16</b>	<b>16</b>

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**Total Hours: 135**