

Artificial Intelligence and Health Science, BS (Boston)

The artificial intelligence and health science combined major offers a solid academic and experiential foundation integrating studies in health administration, computer science, mathematics, and statistics. This program reflects the impact of data in modern healthcare and is designed to prepare students for success in careers in health administration, community-based health promotion, public health, and Big Data analysis.

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/general-education-requirements/#nupathtext>).

Artificial Intelligence Requirements

Code	Title	Hours
Computer Science Overview		
Complete the following in alignment with your home college:		
CS 1200 or HSCI 1000 or INPR 1000	First Year Seminar College: An Introduction First-Year Interdisciplinary Seminar	1
CS 1210 or HSCI 2000	Professional Development for Khoury Co-op Professional Development for Bouvé Co-op	1
Fundamental 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 semester hours of CS, CY, or DS coursework at the 3000 level or higher not otherwise required in the degree.		
CS 1800	Discrete Structures	4
CS 2000 and CS 2001	Introduction to Program Design and Implementation and Lab for CS 2000	5
CS 2100 and CS 2101	Program Design and Implementation 1 and Lab for CS 2100	5
CS 3200	Introduction to Databases	4
DS 3500	Advanced Programming with Data	4
Human Computer Interaction Requirement		
CS 2484	Principles of Human-Computer Interaction	4
Artificial Intelligence Foundations		
DS 3000	Mathematical Foundations of Artificial Intelligence	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning	4

Supporting Courses for Artificial Intelligence

Code	Title	Hours
MATH 1341 or MATH 1241	Calculus 1 for Science and Engineering Calculus 1	4

Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111 or ENGW 1102	First-Year Writing First-Year Writing for Multilingual Writers	4

Advanced Writing in the Disciplines

ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The U.S. Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4

Supporting Courses for Health Science

Code	Title	Hours
Statistics		
Complete one of the following:		4-5
ECON 2350	Statistics for Economists	
ENVR 2500	Biostatistics	
and ENVR 2501	and Lab for ENVR 2500	
and ENVR 2502	and Recitation for ENVR 2500	
MATH 3081	Probability and Statistics	
PHTH 2210	Foundations of Biostatistics	
PSYC 2320	Statistics in Psychological Research	
Philosophy		
Complete one of the following:		4
PHIL 1145	Technology and Human Values	
PHIL 1165	Moral and Social Problems in Healthcare	
Science Requirement		
BIOL 1111	General Biology 1	5
and BIOL 1112	and Lab for BIOL 1111	
BIOL 1113	General Biology 2	5
and BIOL 1114	and Lab for BIOL 1113	
CHEM 1161	General Chemistry for Science Majors	5
and CHEM 1162	and Lab for CHEM 1161	
and CHEM 1163	and Recitation for CHEM 1161	
PSYC 1101	Foundations of Psychology	4

Upper-Division Elective

Code	Title	Hours
Complete four semester hours from within the following ranges:		4
CS 2300 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
HSCI 4000 or higher		
PHTH 4000 or higher		

Integrative Requirement

Code	Title	Hours
DS 4420	Advanced Machine Learning	4

Required General Electives

Code	Title	Hours
Complete 16 semester hours of general electives.		16

Health Sciences Major Requirement

A grade of C or higher is required for the PHTH core, statistics, and science requirements. Students who take HSCI 1000 and HSCI 2000 must achieve a C or higher.

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Engaging Differences and Diversity
- 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.

Program Requirement

135 semester hours required