The computer science and linguistics combined major emphasizes the robust ties between the two fields, resulting from the relationship between the structure of natural languages and programming languages. The program’s strong focus on abstract thinking and exceptional analytical skills creates a gateway to a wide variety of fields.

**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.

**University-Wide Requirements**
All undergraduate students are required to complete the University-Wide Requirements [link](http://catalog.northeastern.edu/undergraduate/university-academics/university-wide-requirements).

**NUpath Requirements**
All undergraduate students are required to complete the NUpath Requirements [link](http://catalog.northeastern.edu/undergraduate/university-academics/nupath).

### Computer Science Courses

#### Computer Science Overview
- **CS 1200**  Computer Science/Information Science Overview 1  
- **CS 1210**  Computer Science/Information Science Overview 2: Co-op Preparation 1

#### Computer Science Fundamental Courses
A grade of C– or higher is required:
- **CS 1800**  Discrete Structures and Seminar for CS 1800  
  or **CS 1801**  Recitation for CS 1800  
- **CS 2500**  Fundamentals of Computer Science 1 and Lab for CS 2500  
  and **CS 2501**  Fundamentals of Computer Science 2 and Lab for CS 2510  

#### Computer Science Required Courses
- **CS 3500**  Object-Oriented Design  
- **CS 3800**  Theory of Computation (Integrative course)  
- **CS 4100**  Artificial Intelligence (Integrative course)  
- **CS 4120**  Natural Language Processing (Integrative course)  
- **CS 4400**  Programming Languages (Integrative course)  
- **CS 4500**  Software Development  
- **CS 4800**  Algorithms and Data

#### Computer Science Senior Seminar
- **THTR 1170**  The Eloquent Presenter 1

#### Computer Science Elective Course
With advisor approval, directed study, project study, and appropriate graduate-level courses may also be taken as upper-division electives.
Complete one course in the following range: 4
- **CS 2500** or higher, except **CS 5010**
- **IS 2000** or higher, except **IS 4900**
- **DS 2000** or higher, except **DS 4900**

### Linguistics Requirements

#### Introductory Linguistics
- **LING 1150**  Introduction to Language and Linguistics 4

#### Intermediate/Advanced Linguistics
- **LING 2350**  Linguistic Analysis (Integrative course) 4
- **LING 3412**  Language and Culture 4
- **LING 3422**  Phonetics and Phonology 4
- **LING 3450**  Syntax (Integrative course) 4

#### Intermediate/Advanced Linguistics Elective
- **LING 3424**  Morphology 4  
  or **LING 3452**  Semantics

#### Psychology Requirements
- **PSYC 1101**  Foundations of Psychology 4
- **PSYC 2320**  Statistics in Psychological Research 4
- **PSYC 3464**  Psychology of Language 4

#### Laboratory/Directed Study
Complete one of the following: 4
- **LING 4891**  Research Seminar in Linguistics
- **LING 4991**  Directed Study Research
- **LING 4996**  Experiential Education Directed Study
- **PSYC 4610**  Laboratory in Psycholinguistics

#### Seminar Requirement
- **LING 4654**  Seminar in Linguistics 4  
  or **PSYC 4658**  Seminar in Psycholinguistics

#### Linguistics Elective
Complete one of the following: 4
- **DEAF 2700**  ASL Linguistics
- **LING 3402**  African-American English
- **LING 3424**  Morphology
- **LING 3428**  African Languages
- **LING 3430**  Applied Linguistics
- **LING 3432**  Romance Linguistics
- **LING 3434**  Bilingualism
- **LING 3436**  Structure of Spanish
- **LING 3438**  Structure of French
- **LING 3442**  Sociolinguistics
- **LING 3444**  Linguistics in Education
- **LING 3448**  Issues in Linguistics
- **LING 3452**  Semantics
- **LING 3454**  History of English
- **LING 3456**  Language and Gender
- **LING 3458**  Topics in Linguistics
LING 3460  Historical Linguistics
LING 4654  Seminar in Linguistics
PHIL 1215  Symbolic Logic
PHIL 4540  Philosophy of Language
PSYC 3466  Cognition
PSYC 4520  Language and the Brain
PSYC 4522  Psychology of Reading
PSYC 4524  Cognitive Development
PSYC 4610  Laboratory in Psycholinguistics
PSYC 4658  Seminar in Psycholinguistics
PSYC 4660  Seminar in Cognition
PSYC 4674  Seminar in Cognitive Neuroscience

With prior approval, directed study research, independent study, and Honors Project courses can also be counted:
LING 4891  Research Seminar in Linguistics
LING 4970  Junior/Senior Honors Project 1
LING 4971  Junior/Senior Honors Project 2
LING 4991  Directed Study Research
LING 4993  Independent Study
PSYC 4991  Directed Study Research

Supporting Courses
Mathematics Requirement
MATH 1341  Calculus 1 for Science and Engineering 4
Computing and Social Issues
Complete one of the following: 4
PHIL 1145  Technology and Human Values
SOCL 1280  The 21st-Century Workplace
SOCL 3485  Environment, Technology, and Society
SOCL 4528  Computers and Society
ANTH 3418  Wired/Unwired: Cybercultures and Technopolitics
IA 5240  Cyberlaw: Privacy, Ethics, and Digital Rights
INSH 2102  Bostonography: The City through Data, Texts, Maps, and Networks

Computer Science Writing Requirement
College Writing
ENGW 1111  First-Year Writing 4
Advanced Writing in the Disciplines
ENGW 3302  Advanced Writing in the Technical Professions 4
or ENGW 3315  Interdisciplinary Advanced Writing in the Disciplines

Required General Electives
Complete five general electives.

Major GPA Requirement
Minimum 2.000 GPA required in all CS and IS courses

NUpath Requirements Satisfied
- Engaging with the Natural and Designed World
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Engaging Difference and Diversity
- 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
133 total semester hours required

Plan of Study
Sample Patterns:
Four Years, One Co-op in Summer 2/Fall

Year 1
Fall  Hours  Hours  Hours  Hours
CS 1200  1  CS 2510  and CS 2511  5  Vacation  Vacation
CS 1800  5  LING 2350  4
and CS 1802
CS 2500  5  Elective  4
and CS 2501
LING 1150  4  PSYC 1101  4
ENGW 1111  4

Year 2
Fall  Hours  Hours  Hours  Hours
CS 3500  4  CS 1210  1  Vacation  Co-op
MATH 1341  4  CS 3800  4
LING 3412  4  CS 4800  4
PSYC 3464  4  LING 3422  4
PSYC 2320  4

Year 3
Fall  Hours  Hours  Hours  Hours
Co-op
CS 4120  4  Elective  4  Vacation
CS 4400  4  Elective  4
LING 3450  4
ENGW 3302  4
THTR 1170  1

Year 4
Fall  Hours  Hours  Hours
CS 4500  4  CS 4100  4  Elective  4
LING 4610  4  Elective  4

Computing and social issues
4  LING 3452 or 3424  4
### Five Years, Three Co-ops in Summer 2/Fall

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