

# COMPUTER SCIENCE (MINOR)

## Program Description

Computer Science is a practical art that has led to revolutionary innovations in entertainment, the humanities, health, business, the news media, communications, education, scientific research, and the arts. It is also a science rooted in mathematics and engineering. Although it is a relatively young field, computer science has produced many of the advances in modern life that we now take for granted. It has given medical researchers tools to understand and cure diseases, enabled physicists to reshape our understanding of the universe, allowed neuroscientists to uncover the secrets of our brains, and helped biologists decipher the human genome. Computer Science has rewritten the rules of the entertainment industry and has transformed the way humans communicate with each other.

The minor in Computer Science provides a focused learning experience that emphasizes the design and analysis of algorithms incorporating appropriate data structures, the realization of these algorithms and data structures by means of programming languages, and the honing of programming skills through a variety of programming projects. The minor requires completion of five courses: CS-UH 1001 Introduction to Computer Science, CS-UH 1002 Discrete Mathematics, CS-UH 1050 Data Structures, CS-UH 1052 Algorithms, and one additional Computer Science minor elective from the allowed list.

## Program Requirements

Course	Title	Credits
CS-UH 1001	Introduction to Computer Science (see note)	4
CS-UH 1002	Discrete Mathematics	4
CS-UH 1050	Data Structures	4
CS-UH 1052	Algorithms	4
Complete 1 Computer Science minor elective (see list below)		4
<b>Total Credits</b>		<b>20</b>

**Note:** ENGR-UH 1000 Computer Programming for Engineers can be used in place of CS-UH 1001 Introduction to Computer Science, but only if a grade of A- or above is achieved.

## Computer Science Minor Electives

*Topics and credits for ENGR-UH 4560 Selected Topics in Information and Computational Systems may vary each term, therefore approval by the Computer Science Program Head is required for it to count as a CS elective.*

Code	Title	Credits
CS-UH 2012	Software Engineering	4
CS-UH 2214	Database Systems	4
CS-UH 2216	Natural Language Processing	4
CS-UH 2218	Algorithmic Foundations of Data Science	4
CS-UH 2219E	Computational Social Science	4
CS-UH 2220	Machine Learning	4
CS-UH 2221	Arabic Computational Linguistics	4
CS-UH 3010	Operating Systems	4
CS-UH 3012	Computer Networks	4
CS-UH 3210	Computer Security	4

CS-UH 3211	Quantum Computing	4
CS-UH 3212	Advanced Topics in AI and Machine Learning	4
CS-UH 3260	Special Topics in Computer Science	4
ENGR-UH 3332	Applied Machine Learning	4
ENGR-UH 4560	Selected Topics in Information and Computational Systems	2-4
MATH-UH 3410	Number Theory and Cryptography	4

## Policies

### NYU Policies

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

### NYU Abu Dhabi Policies

A full list of relevant policies can be found on NYU Abu Dhabi's undergraduate academic policies page (<https://bulletins.nyu.edu/undergraduate/abu-dhabi/academic-policies/>).