

COMPUTER SCIENCE EDUCATION (MINOR)

Department Website (<https://steinhardt.nyu.edu/degree/minor-computer-science-education/>)

Program Description

The Computer Science Education (CSE) minor is an 18-credit program designed to allow undergraduate students to develop expertise in teaching computer science (CS) to children and adolescents. The minor provides opportunities for students interested in teaching CS in a variety of settings, including schools, after-school programs, museums, and community centers, to develop research-based knowledge about the teaching and learning of CS. Courses cover CS disciplinary content as well as evidence-based teaching practices and curricular issues for different ages.

The CSE minor provides undergraduate students in the Department of Teaching and Learning who already have some foundational knowledge of education and educational theory the opportunity to broaden their teaching repertoire to include CS, an important and increasingly popular discipline.

Undergraduates outside the Department of Teaching and Learning will be able to develop expertise in issues around education, including methods of supporting student learning and curricular theory related to CS.

The minor requires both CS and CSE courses. In the three required CS courses students will learn foundational CS content, including programming, the design and implementation of algorithms and data structures, how the internal structure of computers is organized, and how machine (assembly) language programming works. In the CSE courses students examine and use methods of instruction associated with CSE for children and adolescents, including the design, implementation, and revision of lesson units. Additionally, students will investigate the spectrum of curricular and teaching approaches utilized in the US and internationally, familiarizing themselves with the terrain of research and practice in computer science education, preparing them to make informed, evidence-based decisions in their future teaching.

Minor Declaration

To request declaration of a minor, Steinhardt students should discuss requirements with the minor department's advising team and complete the Minor Application (<https://www.nyu.edu/students/student-information-and-resources/registration-records-and-graduation/forms-policies-procedures.html>) in Albert. To request declaration of a cross-school minor, Steinhardt students should complete the online Minor Application available in their Albert Student Center. Students may also use the Minor Application (<https://www.nyu.edu/students/student-information-and-resources/registration-records-and-graduation/forms-policies-procedures.html>) in Albert to request cancellation of a Steinhardt or cross-school minor. For questions related to the declaration or cancellation of a minor, students can contact the Steinhardt Advisement and Registration Team at steinhardt.advisement.registration@nyu.edu.

Program Requirements

Course	Title	Credits
Required Computer Science Courses		
Complete 12 credits in one of the following school options:		12

College of Arts and Science

CSCI-UA 101	Intro to Computer Science
CSCI-UA 102	Data Structures
CSCI-UA 201	Computer Systems Org

Tandon School of Engineering

CS-UY 1134	Data Structures and Algorithms
CS-UY 2124	Object Oriented Programming
CS-UY 2204	Digital Logic and State Machine Design
or CS-UY 2214	Computer Architecture and Organization

Computer Science Education Courses

MTHED-UE 1080	Teaching of Computer Science	3
MTHED-UE 1110	Introduction to Computer Science Education	3
Total Credits		18

Note: Students who are taking any of these courses as a part of their major should refer to their department's policy on double counting courses toward a major and a minor. If students need one or more additional courses, they may take additional CS courses or an education course from the list.

Additional Education Electives

Those who are taking one or more of the required CS courses as a part of their major may choose from the following electives:

Course	Title	Credits
Human Development Courses		
APSY-UE 20	Human Development I	2
And one of the following:		2
APSY-UE 21	Human Development II: Application for Early Childhood Educators	
APSY-UE 22	Human Development II: Application for Childhood Educators	
APSY-UE 23	Human Development II: Early Adolescents and Adolescents	
Other Electives		
MTHED-UE 1043	Teaching of Secondary Schools Mathematics	3
MTHED-UE 1122	Sociopolitical Contexts of STEME Education.	3
SCI-UE 1039	Communicating and Teaching Science to Everybody.	3
SOED-UE 1015	Educ as Soc Institution	4
TCHL-UE 1	Inquiries Into Teaching & Learning I	4
TCHL-UE 1030	Teaching Language and Literacy in the Disciplines	4
SPCED-UE 83	Foundations of Spec Educ	3
SPCED-UE 1005	Teach Stu With Disabili in General Ed Class Rm	4
SPCED-UE 1010	Principles & Strategies for Teaching Students with Low Incidence Disabilities ¹	3

¹ Prerequisite: SPCED-UE 83 Foundations of Spec Educ

Additional courses may be available upon approval from the department. Email teachlearn.advise@nyu.edu (<https://bulletins.nyu.edu/undergraduate/culture-education-human-development/programs/computer-science-education-minor/teachlearn.advise@nyu.edu>) for additional information.

Policies

Program Policies

Minimum Grades

All students must maintain a minimum 2.0 GPA in minor courses to complete the minor.

NYU Policies

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

Steinhardt Academic Policies

Additional academic policies can be found the Steinhardt academic policies page (<https://bulletins.nyu.edu/undergraduate/culture-education-human-development/academic-policies/>).