Computer Science Major

CLASS OF 2021

Below is a template showing the undergraduate curriculum requirements for students majoring in Computer Science in the Class of 2021. Note that students need not take courses in this exact order, as long as all requirements are met and students earn at least 128 credit hours.

First Year

Fall 2017		Spring 2018	
CSCI 1100 Computer Science I[1]	4	CSCI 1200 Data Structures	4
MATH 1010 Calculus I	4	MATH 1020 Calculus II	4
PHYS 1100 Physics I[2]	4	BIOL 1010 Intro. to Biology[2]	3
HASS Elective	4	BIOL 1015 Intro. to Biology Lab[2]	1
		HASS Elective	4

Second Year

Fall 2018		Spring 2019		Summer 2019	
CSCI 2200 Foundations of CS[3]	4	CSCI 2300 Intro. to Algorithms	4	CS Option/Capstone[5]	4
CSCI 2500 Computer Organization[4]	4	CSCI 2600 Principles of Software	4	CS Option/Capstone or Free Elec.[5]	4
Mathematics Option I	4	Mathematics Option II	4	HASS Elective	4
HASS Elective	4	HASS Elective	4	Free Elective	4

Third and Fourth Year (with Fall 2019 as Summer Arch Away Semester)

Spring 2020		Fall 2020		Spring 2021	
CSCI 4210 Operating Systems[6]	4	CSCI 4430 Programming Languages[6]	4	Free Elec. or CS Option/Capstone	4
CS Option/Capstone	4	CS Option/Capstone	4	Free Elective	4
Science Option	4	HASS Elective	4	Free Elective	4
Free Elective	4	Free Elective	4	Free Elective	4

Third and Fourth Year (with Spring 2020 as Summer Arch Away Semester)

Fall 2019		Fall 2020		Spring 2021	
CSCI 4430 Programming Languages[6]	4	CS Option/Capstone	4	CSCI 4210 Operating Systems[6]	4
CS Option/Capstone	4	HASS Elective	4	Free Elec. or CS Option/Capstone	4
Science Option	4	Free Elective	4	Free Elective	4
Free Elective	4	Free Elective	4	Free Elective	4

[1] Students with sufficient background in computer science may skip CSCI 1100 and replace it with four credits of other CSCI course(s) at the 2000 level or above.

[2] If no prior experience in MATH 1010, we recommend taking BIOL 1010 and BIOL 1015 in the fall semester of the first year; otherwise, we recommend taking PHYS 1100 in the fall semester of the first year.

[3] Students may not receive credit for both CSCI 2200 and MATH 2800.

[4] Dual majors may replace CSCI 2500 with ECSE 2660; students should take only one of these courses.

[5] Pending availability of instructors.

[6] CSCI 4430 is only offered in fall semesters; CSCI 4210 is only offered in spring semesters.

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Science Option: A four-credit course chosen from the following: astronomy, biology, chemistry, earth and environmental science, and physics. The Pass/No Credit option cannot be used for this course. The course ERTH 1030 cannot be used to satisfy this requirement.

Mathematics Options: Two additional courses in mathematics. Mathematics Option I must be one of the following courses: MATH 2010, MATH 4030, MATH 4040, MATH 4100, or MATP 4600. Mathematics Option II must be any course in MATH/MATP at the 2000 level or above (excluding MATH 2800). Independent study courses cannot be used to satisfy this option. The Pass/No Credit option cannot be used for these courses. Note that although some courses are cross-listed as both MATH and CSCI, if a course is used to fulfill the Mathematics Option requirement, it cannot also be used as a CS Option/Capstone course.

Computer Science (CS) Options: Four additional computing courses of three or four credits at the 4000 or 6000 level, i.e., courses in the series CSCI 4xxx and CSCI 6xxx. Reading and independent study courses cannot be used for these courses. Further, the Pass/No Credit option cannot be used for these courses.

Computer Science Capstone: A culminating experience selected from one of the two categories below (note that the Pass/No Credit option cannot be used for any of the courses below):

(1) The research-focused capstone consists of a 4-credit Undergraduate Research Project (URP) supervised by a CSCI (or CSCI-affiliated) faculty member. The student will complete a formal written research project report or paper approved by the faculty supervisor.

(2) The coursework concentration capstone consists of three 4000- or 6000-level CSCI (or CSCI cross-listed) courses in one of the following topic areas:

Theory and Algorithms
Systems and Software
Artificial Intelligence and Data
Vision, Graphics, Robotics, and Games

All 4000- and 6000-level CSCI catalog courses that are not part of the required undergraduate core are assigned to one or more topic areas. Similarly, all 4000- and 6000-level special topics courses (i.e., with 496x, 497x, 696x, and 697x course numbers) are assigned to one or more topic areas when the given course is listed. Note that the courses taken also count as Computer Science (CS) Option courses.