Computer Science Bachelor of Science Program
Catalog year 2021-2022

FRESHMAN YEAR

First Semester	Credits	Second Semester	Credits
Lab Science[1]	4	Lab Science[1]	4
MATH 1131Q – Calculus I	4	Math 1132Q – Calculus II	4
CSE 1010 – Intro Computing for Engineers	3	CSE 1729 – Intro to Principles of Programming	3
ENGR 1000 – Orientation to Engineering	1	ENGL 1007 – Seminar in Writing	4
Area 2 (Social Sciences)	3		15
	15		

SOPHOMORE YEAR

First Semester	Credits	Second Semester	Credits
Lab Science[1]	4	CSE 2304 or 3666 – Computer Architecture	3
CSE 2500 – Intro to Discrete Systems	3	CSE 3500 – Algorithms and Complexity	3
CSE 2050 – Data Structures & Object-Oriented Design	3	CSE 3100 – Systems Programming	3
MATH 2110Q – Multivariable Calculus or	4 or 3	Area 2 (Social Science)	3
MATH 2410Q – Elem. Differential Equations		PHIL 1104 (Area 1) – Phil. and Soc Ethics	3
Area 1 (Arts and Humanities)	3		15
	17 or 16		

JUNIOR YEAR

First Semester	Credits	Second Semester	Credits
CSE xxxx - Concentration course 1	3	CSE xxxx - Concentration course 2	3
CSE 3140 – Cybersecurity Lab	2	Area 4 Course (Diversity and Multiculturalism)	3
STAT 3025Q-Stat. Methods	3	CSE 3000 -Contemporary Issues in CSE	1
MATH 2210Q-Linear Algebra	3	CSE Elective[2]	3
Elective	3	Elective	3
	14	Elective	3
			16

SENIOR YEAR

First Semester	Credits	Second Semester	Credits
CSE 4939W – CSE Design Project I	3	CSE 4940 – CSE Design Project II	3
CSE xxxx - Concentration course 3	3	CSE xxxx - Concentration course 4	3
Area 4 (Diversity and Multiculturalism)	3	CSE Elective	1+
Elective	3	Elective	3
Elective	3	Elective[3]	4 to 5
	15		13 to 16

Additionally the program must include one W course (other than CSE 4939W) and one E course, which may be used to satisfy other requirements or Free Electives.

[1] A two-course sequence must be selected from one of the following sequences. CHEM 1127Q, 1128Q; CHEM 1147Q,1148Q; CHEM 1137Q, 1138Q; PHYS 1401Q, 1402Q; PHYS 1601Q, 1602Q; PHYS 1501Q, 1502Q. An additional course must be selected from the department not selected for the sequence or from BIOL 1107, BIOL 1108, BIOL 1110, or GSCI 1050.

[2] If needed to get at least 43 credits in CSE courses.

[3] Sufficient to make 120 credits.

Computer Science Concentration Requirements

Every Computer Science major must satisfy the requirements for a concentration. A concentration consists of four courses within a defined set of alternatives (one or more of the courses may be required for the concentration). A student must declare a single concentration to count toward graduation; that is the one that will be listed on his or her transcript. There are currently 8 concentrations available, these are listed below. For information about the concentration requirements, see the ***Guide to Course Selection,*** linked from the CSE department web page under Undergraduate Studies.

Concentration 1: Theory and Algorithms

Concentration 2: Systems and Networks

Concentration 3: Cybersecurity

Concentration 4: Bioinformatics

Concentration 5: Software Design and Development

Concentration 6: Computational Data Analytics

Concentration 7: Unspecialized

For the Unspecialized concentration, students must take required courses from 3 different concentrations, plus any other 2000+ level CSE course not used to fulfill another requirement.

Concentration 8: Individually Designed

Students may propose an individually-designed concentration to fit their academic or career interests. This will be a minimum of 12 credits at the 2000+ level, proposed by the student and approved by the student's advisor and the CSE Department Undergraduate Committee. The expectation is that such a concentration will have a strong unifying theme. This may include non-CSE courses, but the student will still be subject to the overall requirement of 43 CSE credits.