

Suggested Course Sequence – B. S. in Computer Science and Engineering – AY 20-21

131-134 Credits

Fall	Freshman	Spring	
CS 114 (Fund. of Computing I)	4	CS 115 (Fund. of Computing II)	4
M 144 (Calculus I)	4	M 145 (Calculus II)	4
ES 143 (Engineering & Design)	3	PHY 112 (Calculus-Based Physics I)	4
FYS 100P (First Year Seminar)	3	Humanities Elective ^{1,4}	3
DIA 100 (Freshman Dialog)	1	WRT 110W (Academic Writing I)	3
<i>Total Credits</i>	15	<i>Total Credits</i>	18
Fall	Sophomore	Spring	
CS 220P (Data Structures)	3	CS 320 (Programming Languages)	3
M 221W (Discrete Math I)	4	ECE 231 (Digital Logic Design)	3
PHY 113 (Calculus-Based Physics II)	4	ECE 232 (Digital Logic Design Lab)	1
WRT 210W (Foundations of Argument)	3	M 242 (Differential Equations)	3
UISC (Cultural and Historical Interpretation) ⁷	3	ES 242 (Engineering by Design)	3
		UISS 340D (Ethics in the Professions)	3
		CRD 200 (Career Preparation)	1
<i>Total Credits</i>	17	<i>Total Credits</i>	17
Fall	Junior	Spring	
CS 211 (Arch. & Assembly Lang.)	4	CS 342 (Algorithms & Complexity)	3
CS 365 (Principles of Database Systems)	3	CS 355 (Networks)	3
CS 451 (Operating Systems)	3	ECE 382 (Sensors, Transducers, & Data Acq.)	3
ECE 255 (Fund. of Circuits & Electronics)	4	ES 342 (Engineering Practice)	1
Humanities ^{1,4} or Arts ^{3,4} Elective	3	UIST (Natural, Scientific, and Technological Exploration) ⁷	3
		Social Science Elective ^{2,4}	3
<i>Total Credits</i>	17	<i>Total Credits</i>	16
Fall	Senior	Spring	
CSE 471 (Capstone Design)	3	CSE 472P (Capstone)	3
CS 340 (Formal Lang. & Automata)	3	CS/ECE Elective ⁵	3
CS/ECE Elective ⁵	3	Mathematics Elective ⁵	3
CH 110 (General Chemistry)	4	Social Science Elective ^{2,4}	3
UISA (Artistic and Creative Expression) ⁷	3	LBC Elective (Learning Beyond the Classroom)	0-3
<i>Total Credits</i>	16	<i>Total Credits</i>	12-15

¹ Humanities electives from 3 different disciplines: literature (ENG, but not writing classes), foreign language (ARA, FR, GER, HBR, ITA, SPA), history (HIS), and philosophy (PHI).

² Social science electives from 2 different disciplines: economics (EC), politics (POL), psychology (PSY), and sociology (SOC).

³ Arts elective from: art history (ART), music history (HLM), cinema (CIN), or drama (DRA).

⁴ One Diversity and one Community/Citizenship from Humanities, Social science, and Arts electives.

⁵ CS electives include 200+ courses. ECE electives include ECE 234 and 300+ courses. Math electives include 200+ courses.

⁶ LBC elective is internship, practicum, student teaching placement, preceptorship, honors thesis, independent research, study abroad, teaching assistantship, service learning/civic or community engagement.

⁷ One Diversity designated course from UIS (University Interdisciplinary Studies) electives.