Student Name:

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Updated:

B.S. in COMPUTER ENGINEERING
Suggested 4-Year Academic Flowchart

Updated By:

This document displays only your course requirements at the time of publication of the catalog. You must use your Degree Progress Report to track all your graduation requirements.

2022-2026 Catalog

Updated 7/6/2022

FRESHMAN

Fall	Winter	Spring
Computer Engineering Orientation **CPE 100 (1)**	*Fundamentals of Computer Science* **CPE/CSC 101 (4)** *	*Data Structures* **CPE/CSC 202 (4)** (CPE/CSC 101 w/min C- or Instr. Consent)
Introduction to Computing **CPE/CSC 123 (4)[1]** (Basic computer literacy)		*Digital Design* **CPE/EE 133 (4)[3]** (CPE 100 & CPE/CSC 101)
General Chemistry for Physical Science & Engineering I **CHEM 124 (4)[2]** (MATH 118 or 330; Recom: HS Chemistry) [B1 & B3]	*General Physics I* **PHYS 141 (4)[2]** [MATH 141 w/min C-; MATH 142 or 182†] [Area B Elective]	
Calculus I **MATH 141 (4)[2]** * [B4]	*Calculus II* **MATH 142 (4)[2]** (MATH 141 w/min C- or Instr. Consent) [B4]	*Calculus III* **MATH 143 (4)[2]** (MATH 142 w/min C- or Instr. Consent) [Area B Elective]
Oral Communication **COMS 101 or 102 (4)*** [A1] Can be taken anytime during Freshman Year		
Expository Writing **ENGL 133 or 134 (4)*** [A2] Can be taken anytime during Freshman Year		

Reasoning, Argumentation, & Writing [A3]
COMS 126, 145, ENGL 145, 147, ES 145, PHIL 126, or WGQS 145 (4)*
(Completion of GE A2 with a C- or better)
Can be taken anytime between Winter of Freshman and Winter of Sophomore Years.

Unit totals (Freshman): 17 | 16 | 16

SOPHOMORE

Fall	Winter	Spring
Computer Design and Assembly Language Programming **CPE/EE 233 (4)** (CPE/EE 133)	*Project-Based Object-Oriented Programming & Design* **CPE/CSC 203 (4)** (CPE/CSC 202 w/min C- or Instr. Consent)	Computer Architecture Course: **CPE 315 (4)** OR **CPE 333 (4)** *
Electrical & Electronic Circuits & Lab I **EE 115 (3)** AND **EE 145 (1)** (MATH 141. Coreq: CHEM 124† & PHYS 143†)	*Electrical & Electronic Circuits & Lab II* **EE 215 (3)** AND **EE 245 (1)** (EE 115)	*Systems Programming* **CPE/CSC 357 (4)** *
		Discrete Structures **CSC 248 (4)** (w/ min C- in CSC/CPE 202 & 203; or Instr. Consent)
General Physics III **PHYS 143 (4)** (PHYS 141; MATH 142. Recom: MATH 241)	*General Physics II* **PHYS 142 (4)** (PHYS 141; MATH 142 or 182)	*Electrical & Electronic Circuits III* **EE 315 (4)** (CPE/EE 133 & EE 215)
Calculus IV **MATH 241 (4)** (MATH 143)	*Linear Analysis I* **MATH 244 (4)** (MATH 143)	*Choose a Philosophy Course:[2]* **PHIL 230 (4)** OR **PHIL 231 (4)** (GE Area A w/min C-) [C2]

Unit totals (Sophomore): 16 | 16 | 16

JUNIOR

Fall	Winter	Spring
Signals and Systems Course: **CPE 327 (3) &** **CPE 367 (1)** OR **EE 228 (4)** *	*Introduction to Operating Systems* **CPE/CSC 453 (4)** (CSC/CPE 357; CSC 225, CPE/EE 229, or CPE/EE 233)	
	Introduction to Computer Networks **CPE 464 (4)** (CSC/CPE 357. Recommended: STAT 312, 321, or 350)	
	Choose a Security Course: **CPE 321, CPE 422, OR CPE 426 (4)** *	
		Microcontrollers Course: **CPE/EE 329 or CPE 316 (4)** *
Approved Technical Elective (4)[4,6] ***	**Approved Technical Elective** (3)[4,6] ***	**Choose an Ethnic Studies Course:** **ES 350 (4)** OR **ES 351 (4)** *
Choose an Ethics Course:[2] **PHIL 323 (4), PHIL 327 (4), PHIL 328 (4), PHIL 339 (4), or PHIL 340 (4)** * [Upper-Division C]		**GE (4)** **
GE (4) **	**GE (4)** **	**GE (4)** **

Graduation Writing Requirement **GWR***
(Students can attempt to fulfill the requirement after 90 earned units; students should complete the requirement before senior year)

Unit totals (Junior): 16 | 15 | 16

SENIOR

Fall	Winter	Spring
Capstone I **CPE 350 (4)[5]** (CPE 316† or EE 329†)	*Capstone II* **CPE 450 (3)[5]** (CPE 350)	**Approved Technical Elective** (4)[4,6] ***
Probability and Random Processes for Engineers **STAT 350 (4)[2]** * [Upper-Division B]	**Choose One Series:[4]** *Senior Project I & II* **CPE 461 (3)** (CPE 350) **OR** **CPE 462 (2)** (CPE 450)	
	Research Senior Project I & II **CSC 497 (2)** (CSC 307 or 309; Instr. Consent) **CSC 498 (2)** (CSC 497; Instr. Consent)	
	Approved Technical Elective (4)[4,6] ***	**Approved Technical Elective** (4)[4,6] ***
GE (4) **	**GE (4)** **	**GE (4)** **

Unit totals (Senior): 16 | 17-18 | 14

TOTAL: 191-192

Notes:

MOST GENERAL EDUCATION COURSES CAN BE TAKEN IN ANY ORDER AS LONG AS PREREQUISITES ARE MET

* Refer to current catalog for prerequisites.

** One course from each of the following GE areas must be completed: A1, A2, A3, C1, C2, Lower-Division C Elective, Upper-Division C, D1, Area D Elective, Lower-Division E, & F. Upper-Division C should be taken only after Junior standing is reached (90 units).

Refer to online catalog for GE course selection, United States Cultural Pluralism (USCP) and Graduation Writing Requirement (GWR).

USCP requirement can be satisfied by some (but not all) courses within GE categories: C1, Upper-Division C, D1, D2, Upper-Division D, or E.

*** Refer to current catalog for course selection and restrictions.

Course subject is also Home Department designation, unless noted in red.

† Course can be taken previously or concurrently.

[1] An additional 4 units of Approved Technical Electives may be substituted, although new students are strongly encouraged to take CSC/CPE 123.

[2] Required in Major/Support; also satisfies GE.

[3] CPE 133 is often offered as 100% online courses during the summer.

[4] Consultation with advisor is recommended prior to selecting Approved or Technical Electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals. No double-counting with other degree requirements.

[5] ENGR 459, 460, 461, & CPE 400 (7), or ENGR 463, 464, 465, & CPE 400 (7) may substitute for CPE 350 and CPE 450 (7).

[6] The following courses may not be used to satisfy this requirement: COOP units; BUS 499; CSC 304, 320, 364, CSC 400, CSC 500; EE 321, EE 322, EE 361, EE 400, EE 460, EE 500, EE 563. A student with credit in CPE 327/367 cannot take EE 328/368 for credit.

Legend:

Course Title
Course # (Units)
(Prerequisite)
[GE Area]

- Major (99-100) — yellow
- Support (52) — orange
- General Ed. (40) — green

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