BS COMPUTER ENGINEERING
2022-2026

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.

Note: No Major or Support courses may be selected as credit/no credit.

MAJOR COURSES		
CPE 100	Computer Engineering Orientation	1
CPE/CSC 101	Fundamentals of Computer Science	4
CPE/CSC 123	Introduction to Computing [1]	4
CPE/EE 133	Digital Design	4
CPE/CSC 202	Data Structures	4
CPE/CSC 203	Project-Based Object-Oriented Program & Design	4
CPE/EE 233	Computer Design & Assembly Lang Programming	4
CPE 315 or CPE 333	Computer Architecture Computer Hardware Architecture and Design	4
CPE/EE 329 or CPE 316	Microcontroller-Based Systems Design Microcontrollers and Embedded Applications	4
CPE/CSC 357	Systems Programming	4
CPE 350	Capstone I [2]	4
CPE 450	Capstone II [2]	3
CPE/CSC 453	Introduction to Operating Systems	4
Select from the following: [3] CPE 461 & CPE 462 or CSC 497 & CSC 498	 Senior Project I **and** Senior Project II Research Senior Project I **and** Research Senior Project II	4-5
CPE 464	Introduction to Computer Networks	4
CSC 248	Discrete Structures	4
CPE 327 & CPE 367 or EE 228	Digital Signals and Systems and Digital Signals and Systems Laboratory Continuous-Time Signals and Systems	4
CPE 321 or CPE 422 or CPE 426	Introduction to Computer Security Network Security Introduction to Hardware Security	4
EE 115 & EE 145	Electrical and Electronic Circuits I and Electrical and Electronic Circuits I Lab	4
EE 215 & EE 245	Electrical and Electronic Circuits II and Electrical and Electronic Circuits II Lab	4
EE 315	Electrical and Electronic Circuits III	4
Technical Electives, select from the following: [3,4,5] Select from the following: Any 300-500 level CPE Course (up to 4 units of CPE 400) Any 300-500 level CSC or EE Course Up to 8 units of any 200-500 level course offered by the College of Engineering or College of Science & Mathematics		19
Total Major Units		**99-100**

SUPPORT COURSES		
CHEM 124	Gen CHEM for Physical Science & Engr I (B1 & B3) [6]	4
Select from the following: (C2) [6] PHIL 230 PHIL 231	 Philosophical Classics: Knowledge and Reality (C2) [6] Philosophical Classics: Ethics & Political Philosophy	4
Select from the following: (Upper-Division C) [6] PHIL 323 PHIL 327 PHIL 328 PHIL 339 PHIL 340	 Ethics, Science and Technology Robot Ethics Technologies and Ethics of Warfare Biomedical Ethics Environmental Ethics	4
ES 350 or ES 351	Gender, Race, Culture, Science & Tech (UD-B; USCP) Gender, Race, Class, Nation in Global Engineering, Tech & Int'l Development [7] (UD-D)	4
MATH 141	Calculus I (B4) [6]	4
MATH 142	Calculus II (B4) [6]	4
MATH 143	Calculus III (Area B Electives) [6]	4
MATH 241	Calculus IV	4
MATH 244	Linear Analysis I	4
PHYS 141	General Physics IA (Area B Electives) [6]	4
PHYS 142	General Physics II	4
PHYS 143	General Physics III	4
STAT 350	Prob & Random Process for Engrs (Upper-Division B) [6]	4
Total Support Units		**52**

GENERAL EDUCATION		
Area A English Language Communication and Critical Thinking		
A1	Oral Communication	4
A2	Written Communication	4
A3	Critical Thinking	4
Area B Scientific Inquiry and Quantitative Reasoning		
B1	Physical Science (4 units in Support) [6]	0
B2	Life Science	4
B3	One lab taken with either a B1 or B2 course	
B4	Math/Quantitative Reason (8 units in Support) [6]	0
Upper-Division B (4 units in Support) [6]		0
Area B Electives (8 units in Support) [6]		0
Area C Arts and Humanities		
Lower-division courses in Area C must come from three different subject prefixes.		
C1	Arts	4
C2	Humanities [6]	0
Lower-Div C Elective - Select a course from C1 or C2 (NO **PHIL**)		4
Upper-Division C (4 units in Support) [6]		0
Area D Social Sciences		
D1	American Institutions (Title 5, Section 40404 Req)	4
Area D Elective - Select either a lower- D2 or upper-division D course. [7]		4
Area E Lifelong Learning and Self-Development		
Lower-Division E		4
Area F Ethnic Studies		
F	Ethnic Studies	4
Total GE Units		**40**
FREE ELECTIVES [7]		**0**
TOTAL DEGREE UNITS		**191-192**

FOOTNOTES

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

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

3 Consultation with an 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.

4 Courses taken to meet the Technical Electives requirement cannot be double-counted to satisfy another Major or Support requirement.

5 The following courses may not be used to satisfy this requirement: COOP units; BUS 499; CSC 304, CSC 320, CSC 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/CPE 367 cannot take EE 328/EE 368 for credit.

6 Required in Major or Support; also satisfies General Education (GE) requirement.

7 If a General Education (GE) course is used to satisfy a Major or Support requirement, additional units of Free Electives may be needed to complete the total units required for the degree.