2011-13 Cal Poly Catalog

Computer Engineering Program

BS COMPUTER ENGINEERING

- 60 units upper division
- GWR
- 2.0 GPA
- USCP

* = Required in Major/Support; also satisfies GE

Note: No major or support courses may be taken as credit/no credit.

MAJOR COURSES

CPE 100 Computer Engineering Orientation ............ 1
CPE 123 Intro to Computing .................................. 4
CPE 101 Fundamentals Computer Science I ............ 4
CPE 102 Fund Computer Science II or CPE 108
Accelerated Intro to Computer Science ............ 4
CPE 103 Fund Computer Science III ......................... 4

CPE 129, 169 Digital Design and Lab (3)(1) or
CPE/EE 133 Digital Design (4) ......................... 4
CPE 229, 269 Comp Des/Assembly Lang Prog, Lab
(3)(1) or CPE/EE 233 Comp Des/Assembly Lang Prog (4) 4
CPE 315 Computer Architecture ......................... 4
CPE 329 Progr Logic/Micro-Based Sys Des ................ 4
CPE 350 Capstone I ........................................... 4
CPE 357 Systems Programming .............................. 4
CPE 450 Capstone II ........................................... 4
CPE 453 Operating Systems I ................................ 4
CPE 461, 462 Senior Project I, II ............................. 3,2
CPE 464 Introduction to Computer Networks ............ 4
CSC 141 Discrete Structures I or CSC 348 (9/29/15) ... 4
EE 112 Electric Circuit Analysis I ......................... 2
EE 211, 241 Electric Circuit Analysis II and Lab ....... 3,1
EE 212, 242 Electric Circuit Analysis III and Lab ...... 3,1
EE 228 Continuous-Time Signals and Systems .......... 4
EE 306, 346 Semiconductor Device Electr, Lab ......... 3,1
EE 307, 347 Digital Integrated Electronics and Lab .... 3,1

Technical electives ......................................... 12

Select 12 units from the following:
Any 300-500 level CPE, CSC, EE or Course 3;
CPE 400 (up to 4 units);
Up to four units from the following:
BMED 440, 450 (Topic: Tissue Engineering);
CHEM 312, 316;
CSC 300;
ENGR 551 (Topic: Microcirculation);
IME 301, 303, 314, 319, 351, 401, 457;
IME/MATE 458/CPE 488;
MATE 325, 326, 327, 430, 435, 550, (10/5/15)
MATE/ME 555;
MATH 304, 408, 409, 412, 413, 414, 417, 432, 451*, 453;
ME 318, 341, 342, 343, 405, 415;
PHYS 322, 323, 403, 408, 412, 424, 452;
UNIV/HNRS 424 (3/27/12) (3/1/13)

SUPPORT COURSES

BIO 213 and ENGR/BRAE 213 (B2)* ...................... 2,2
CHEM 124 Gen Chem for Engineering (B3/B4)* .......... 4

1. Approved CSC, EE, Math or Science elective. ....... 3

Select from:
CHEM 125, CSC 349, EE 328;
    MATE 210/215 (both needed), or ME 211
ENGL 149 Technical Writing for Engineers (A3)* .... 4
IME 156/IME 157/IME 458 ................................. 2
MATH 141, 142 Calculus I, II (B1)* ..................... 4,4
MATH 143 Calculus III (Add’l Area B)* ............... 4
MATH 241 Calculus IV ....................................... 4
MATH 244 Linear Analysis I ............................... 4
PHYS 141 General Physics IA (Add’l Area B)* 4
PHYS 132, 133 General Physics II, III .................. 4,4
PHYS 211 Modern Physics I ............................... 4
STAT 350 Prob/Random Processes Engr (B6)* ....... 4

GENERAL EDUCATION (GE)

72 units required, 32 of which are specified in Major/Support.
 → See page 39 for complete GE course listing.
 → Minimum of 8 units required at the 300 level.

Area A Communication (8 units)

A1 Expository Writing ................................. 4
A2 Oral Communication .............................. 4
A3 Reasoning, Argumentation, and Writing * 4 units in Support 0

Area B Science and Mathematics (no add’l units reqd)

B1 Mathematics/Statistics * 8 units in Support 0
B2 Life Science * 4 units in Support 0
B3 Physical Science * 4 units in Support 0
B4 One lab taken with either a B2 or B3 course
B5 (not required for Engineering students)
B6 Upper-division Area B * 4 units in Support 0
Additional Area B units * 8 units in Support 0

Area C Arts and Humanities (16 units)

C1 Literature ................................................. 4
C2 Philosophy ............................................... 4
C3 Fine/Performing Arts .................................. 4
C4 Upper-division elective ................................ 4

Area D/E Society and the Individual (16 units)

D1 The American Experience (40404) ............... 4
D2 Political Economy ...................................... 4
D3 Comparative Social Institutions .................... 4
D4 Self Development (CSU Area E) ...................... 4

FREE ELECTIVES .............................................. 0

1 Consultation with advisor is recommended prior to selecting approved elective; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals.
2 The courses selected to satisfy this requirement may not be used to satisfy other major, support, or general education requirements (no double counting of coursework).
3 The following courses may not be used to satisfy this requirement: COOP units; any 100 or 200 level course; BUS 499; CSC 302, 303, 310, 400, 500, EE 321, 361, 400, 460, 500, 563.
4 An additional 4 units of CSC/CPE approved technical electives may be substituted, although new students are strongly encouraged to take CPE/CSC 123, (2/7/12)/(4/2/12)
5 CPE 400 requires an approved course substitution form and up to 4 units may be used. (3/1/13)/(9/16/15)
If CPE 450 is taken for 3 units than 1 additional unit of Technical electives is required. (9/29/15)

† Not for students with credit in CSC 341 or 342 or 343.