2011-13 Cal Poly Catalog

Computer Science Department

BS SOFTWARE ENGINEERING

- 60 units upper division
- 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

2 CSC 123 Introduction to Computing......................... 4
2 CSC 101 Fundamentals of Computer Science I............. 4
2 CSC 102 Fundamentals of Computer Science II
   or CSC 108 Accelerated Intro Computer Science .... 4
2 CSC 103 Fundamentals of Computer Science III..... 4
2 CSC 141 Discrete Structures I or CSC 348 (8/25/15) .... 4
2 CSC 225 Intro to Computer Organization............ 4
2 CSC 300 Professional Responsibilities ............ 4
2 CSC 305 Individual Software Design & Dev............ 4
2 CSC 308 Software Engineering I .................. 4
2 CSC 309 Software Engineering II ................. 4
2 CSC 349 Design and Analysis of Algorithms.......... 4
2 CSC 357 Systems Programming................. 4
2 CSC 402 Software Requirements Engineering........ 4
2 CSC 405 Software Construction.................. 4
2 CSC 406 Software Deployment.................. 4
2 CSC 430 Programming Languages I ............ 4
2 CSC 453 Intro to Operating Systems ............ 4
2 CSC 484 User-Centered Interface Design & Dev. ... 4

3 CSC 491, 492 Senior Project Design Lab I, II ........ 2,2,3

1 Technical electives. ........................................ 20

Select from Category 1 and 2 in technical electives

guidelines, below.

SUPPORT COURSES

BIO 213 (2) and ENGR/BRAE 213 (2) or ............ 2,2
BIO 111 (4) or BIO 115 (4) or BIO 161 (4) or ...
BOT 121 (4) or MCRO 221 (4) or
MCRO 224 (5) (B2)* (4/3/12)
ENGL 149 Technical Writing for Engineers (A3)* .... 4
IME 314 Engineering Economics.................. 3
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
Select one from: MATH 248, 304, 335, 336, 451.... 4
PSY 201/202 General Psychology (D4)* .......... 4
PSY 350 Teamwork or PSY 351 Group Dynamics
   or COMS 217 (2/4/16) ............................ 4

Science electives (B3/4)* (Add’l 4 units Area B)* 12
Select either
   CHEM 124, 125, 129 or
   PHYS 141, 132, 133

STAT 312 Statistical Methods for Engineers (B6)* 4

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

191 - 192

GENERAL EDUCATION (GE)

72 units required, 36 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 req’d)

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 a 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 (12 units)

D1 The American Experience (40404) ............ 4
D2 Political Economy .................................. 4
D3 Comparative Social Institutions ............... 4
D4 Self Dev (CSU Area E) * 4 units in Support... 0

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Technical Electives Guidelines

BS Software Engineering

Courses used to satisfy any other major, support, or general
education requirement are not allowed to count toward
Technical Elective requirement. Credit/No Credit grading is
not allowed.

Contact the CSC Department for further information.

Category 1

Category 1a: Prerequisites and Individual Courses 8

Select 8 units from the following:

CSC/CPE 341/342, 365, 369, 448, 464, 471, 477,
480, 484, 488, 587

1 Consultation with advisor is recommended prior to selecting approved
   electives; bear in mind your selections may impact pursuit of post-
   baccalaureate studies and/or goals.

2 An additional 4 units of CSC/CPE technical electives may be
   substituted, although new students are strongly encouraged to take
   CSC/CPE 123. (2/27/12)

3 If CSC 492 is taken for 2 units the department waives the third unit.
   (10/15/15)
Category 1b: Specialization Areas

Select 4 units from each of two separate areas:

Graphics: CSC/CPE 473, 474, 475, 476, 478, or CSC 572
Databases: CSC/CPE 366, 466, 468, or CSC 560
Networks: CSC/CPE 465 or 564
Software Engineering: CSC/CPE 409, 437; CSC 508, or 509
Distributed Computing: CSC/CPE 469 or 569
OS: CSC/CPE 454, 456, 458, or CSC 550
Architecture: CSC/CPE 315, 316, 416, 459, 520, or CPE 482 "Robotics"
Languages/Compilers: CSC/CPE 431, 434, or CSC 530
GUI/HCI: CSC/CPE 435, 483, 487, 581, or CSC 486
Artificial Intelligence: CSC/CPE 416, 481, 485, 489, 580, 581, or CSC 482 "Autonomous Mobile Robots" or Multi-Robot Systems", Computational Sciences/Theory: CSC/CPE 449, CSC 343, 445, 540, or 541

Category 2

Select 4 units from the following:

Additional CSC/CPE Electives
Select CSC 570 or any unused course from Categories 1a or 1b or from upper division courses approved as technical electives by CSC Department; (5/14/13)

Auxiliary CSC/CPE Electives
Select from:
CSC 323, 358, 371, 400 (requires form/approval), 410, 424, 429, 477, 479 (maximum 2 units), 490; DATA 301 (7/5/12) (2/4/16)

External Electives
Select from:
AERO 450;
ART 384;
BUS 310, 320;
CHEM 216, 217, 218, 312, 316, 317, 318; (7/5/12)
ECON 339;
EE 201/251, 314, 336, 424;
ENVE 542;
GRC 316, 331, 338;
IME 301, 314, 356;
MATH 206, 242, 248, 304, 341, 350, 412;
ME 211, 212, 405;
PHIL 412, 422;
PSY 329, 333, 366, 457;
STAT 323, 324, 330