# **BS SOFTWARE ENGINEERING**

2015-2017

updated 10.04.16

Units Required 187-188

**NOTE:** This document can be used as a compact display of courses and other curricular requirements at the time of publication of the 2015-2017 catalog. The Degree Progress Report must be used to track students' progress in all degree requirements, throughout their Cal Poly career.

Note: No major or support courses may be selected as credit/no credit.		
MAJOR COURSES (92)	Units	
CSC/CPE 101 Fundamentals of Computer Sci I	4	
CSC/CPE 102 or CSC/CPE 108	4	
CSC/CPE 103 Fundamentals of Comp Science III	4	
CSC/CPE 123 Introduction to Computing <sup>2</sup>	4	
CSC/CPE 225 Intro to Computer Organization	4	
CSC/CPE 300 Professional Responsibilities	4	
CSC/CPE 305 Individual Software Des & Dev	4	
CSC/CPE 308 Software Engineering I	4	
CSC/CPE 309 Software Engineering II	4	
CSC 348 Discrete Structures	4	
CSC/CPE 349 Design & Analysis of Algorithms	4	
CSC/CPE 357 Systems Programming	4	
CSC/CPE 402 Software Requirements Engr	4	
CSC/CPE 405 Software Construction	4	
CSC/CPE 406 Software Deployment	4	
CSC/CPE 430 Programming Languages I	4	
CSC/CPE 484 User-Centerd Interface Des & Dev	4	
CSC 491 Senior Project Lab I	2	
CSC 492 Senior Project Lab II	2	
Technical Electives <sup>3,4,5</sup> (see reverse for list)	20	

## **SUPPORT COURSES (59-60)**

Select from: ENGR/BRAE 213 and BIO 213, BIO 111, 161;	4-5
BOT 121; MCRO 221, 224 (B2) <sup>1</sup>	
ENGL 149 Technical Writing for Engineers (A3) <sup>1</sup>	4
IME 314 Engineering Economics	3
MATH 141 Calculus I (B1) <sup>1</sup>	4
MATH 142 Calculus II (B1) <sup>1</sup>	4
MATH 143 Calculus III (Add'l Area B) <sup>1</sup>	4
MATH 241 Calculus IV	4
MATH 244 Linear Analysis I	4
Select from: MATH 248, 304, 335, 336, 451	4
PSY 201/202 General Psychology (D4) <sup>1</sup>	4
PSY 350 or PSY 351	4
Science Electives (B3/4, Additional 4 units Area B) <sup>1</sup>	12
CHEM 124, 125, 129 <i>or</i>	
PHYS 141, 132, 133	
STAT 312 Statistical Methods for Engineers (B6) <sup>1</sup>	4

GENERAL EDUCATION (GE)	36
72 units required, 36 of which are specified in Support	
Refer to <u>current schedule</u> or <u>http://www.ge.calpoly.edu</u> to choose GE courses. You will <u>not</u> receive credit for courses not on the approved lists.	
Minimum of 8 units required at the 300 level.	_
Area A Communication	8
A1 Expository Writing	4
A2 Oral Communication	4
A3 Reasoning, Argu & Writing (4 units in Support) <sup>1</sup>	
Area B Science and Mathematics (no add'l units req'd)	
28 units are listed in Support	
Area C Arts and Humanities	16
C1 Literature	4
C2 Philosophy	4
C3 Fine/Performing Arts	4
	4
C4 Upper-division elective	12
Area D/E Society and the Individual	12
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Area D/E Society and the Individual	4
Area D/E Society and the Individual D1 The American Exp (40404)	4

<sup>&</sup>lt;sup>1</sup> Required in Major/Support; also satisfies GE.

FREE ELECTIVES .....

# OTHER DEGREE REQUIREMENTS:

- Cal Poly, Higher Ed, and Major GPA must all be at least 2.00
- For students admitted Fall 2016 and after, a grade of C- or higher is required in GE A1, A2, A3, and one GE B1 course

## All students must complete:

- United States Cultural Pluralism Requirement
- Graduation Writing Requirement
- 60 units Upper Division (any 300-400 level classes)
- Upper Division units in the Major: 27
- Residency Requirements: See Degree Progress Report for details

<sup>&</sup>lt;sup>2</sup> An additional 4 units of CSC/CPE technical electives may be substituted, although new students are strongly encouraged to take CSC 123.

<sup>&</sup>lt;sup>3</sup> 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.

<sup>&</sup>lt;sup>4</sup> A total of 20 technical elective units selected from upper-division and graduate CSC and CPE courses that are open to those in the major and that are not otherwise required by the major. 24 units if CSC 123 is not taken.

# TECHNICAL ELECTIVES

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.

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Select Technical Electives from the following: 4
  CSC/CPE 301, 315, 321, 344, 365, 366, 369, 378, 409, 416, 419,
  431, 435, 436, 437, 448, 453, 454, 458, 464, 465, 466, 468, 471,
  473, 474, 476, 478, 480, 481, 483, 485, 486, 489, 515, 564, 569,
  580, 581;
  CSC 323, 358, 371, 400, 410, 424, 429, 445, 477, 479, 490, 508,
  509, 521, 530, 540, 550, 560, 566, 570, 572, 582;
  CPE 400^5, 482;
  CPE/EE 428:
  CPE 488/IME 458/MATE 458:
  DATA 301
The following restrictions must be satisfied.
4 units must be satisfied by a course that has as a prerequisite either
  1) An upper-division course required by the major (excluding CSC 357 & 348) or
  2) Another technical elective
Select from the following:
  CSC/CPE 366, 409, 416, 431, 435, 437, 454, 465, 466,
  468, 473, 474, 476, 478, 481, 483, 489, 515, 564, 580,
  CSC 410, 424, 429, 477, 479, 486, 508, 509, 521, 530, 540, 550, 560, 566, 572, 582;
Up to 4 units may be taken from CSC 358, CSC 400<sup>5</sup>, CPE 400<sup>5</sup>,
CSC 479 (maximum 2 units), or CSC 490.
Up to 4 units may be taken from approved external electives.
  Select from the following:
  AERO 450;
  ART 384;
  BUS 310;
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CHEM 216, 217, 218, 312;
ECON 339;
EE 201/251, 314, 424;
EE/CPE 336;
ENVE 542;
IME 301, 356;
MATH 206, 242, 248, 304, 341, 350, 412;
ME 211, 212, 405;
PHIL 412, 422;
PSY 329, 333, 351, 457;
STAT 313, 323, 324, 330, 331, 416, 418, 419
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<sup>&</sup>lt;sup>3</sup> Consultation with advisor is recommended prior to selecting approved electives; bear in mind your selections may impact pursuit of postbaccalaureate studies and/or goals.

<sup>&</sup>lt;sup>4</sup> A total of 20 technical elective units selected from upper-division and graduate CSC and CPE courses that are open to those in the major and that are not otherwise required by the major. 24 units if CSC 123 is not taken.

<sup>&</sup>lt;sup>5</sup>An approved course substitution form is required.