2009-11 Cal Poly Catalog

Civil & Environmental Engineering Department

Flowchart

BS CIVIL ENGINEERING

- 60 units upper division
- 2.0 GPA

*= Required in Support; also satisfies GE
Note: No major or support courses may be taken as credit/no credit.

MAJOR COURSES

CE 111 Introduction to Civil Engineering ................. 1
CE 112 Design Principles in Civil Engineering .......... 2
CE 113 Computer-Aided Drafting in Civ Engr ............ 2
CE 201 Mechanics of Materials (6) or CE 204, CE 207 Mechanics of Materials I, II (3)(3) ............ 6
CE 321, 322 Fund Transportation Engr and Lab ....... 3,2
CE 251 Numerical Methods in Civil Engineering ... 4
CE 259 Civil Engineering Materials ...................... 2
CE 336 Water Resources Engineering ..................... 4
CE 337 Hydraulics Laboratory ................................ 1
CE 351 Structural Analysis .................................. 4
CE 355 Reinforced Concrete Design ....................... 4
CE 356 Structural Steel Design ................................ 4
CE 381, 382 Geotechnical Engineering and Lab ...... 4,1
CE 461, 462 or CE 466, 467 or CE 468, 469 ...... 3,3

Select one of the following:.................................. 4
CE 422, 440, 454, 481, 522

2,3 Technical electives ........................................... 20

Select, in consultation with faculty advisor, from 400-500 level CE and ENVE courses not required in the major, and from the following courses (maximum 4 units):

ARCE 305, 372, 403;
BRAE 345, 446, 447, 532;
CE/ME 404;
CHEM 318, 341;
CM 333, 341, 342, 343, 364, 432, 435, 454;
CRP 404, 408, 420, 435;
GEOL 401, 402, 415;
IME 314;
MATE 425, 450;
MATH 344;
LA/NR 318;
SS 421, 423, 442

82 units required, 32 of which are specified in Support.

SUPPORT COURSES

BIO 213 and ENGR/BRAE 213 (B2)* ....................... 2,2
BRAE 239 Engineering Surveying ......................... 4
CHEM 124 Gen Chem for Engineering (B3/B4)* ....... 4
CHEM 125 Gen Chem for Engineering ..................... 4
ENGL 149 Technical Writing for Engineers (A3)* .... 4
ENVE 331 Intro to Environmental Engineering ...... 4
GEOL 201 Physical Geology ................................ 3
MATE 210 Materials Engineering .......................... 3
MATE 215 Materials Laboratory I ......................... 1
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
ME 211 Engineering Statics .................................. 3
ME 212 Engineering Dynamics .............................. 3
ME 302 Thermodynamics I .................................. 3
ME 341 Fluid Mechanics I .................................. 3
PHYS 141 General Physics IA (Add’l Area B)* ...... 4
PHYS 132, 133 General Physics II, III ................. 4,4
STAT 312 Statistical Methods for Engineers (B6)* .. 4

2,3 Approved engineering science elective ............... 3

Select 3 units from:
CSC 231, 234, 270, 341, 342;
EE 201;
IME 314;
MATH 206, 211, 304, 344

GENERAL EDUCATION (GE)

72 units required, 32 of which are specified in Support.

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 addl 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 either a B2 or B3 course
B5 (requirement for Liberal Arts students only)
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

1 CE 114 substitutes for CE 112 and CE 113. (7/24/09)
2 Consultation with advisor is recommended prior to selecting technical electives or approved electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals.
3 Additional guidelines for technical electives:
   a) More than 4 units of coursework outside CE/ENVE is only permitted in special/unusual cases and requires written justification by the student, and approval by the Department Chair.
   b) CE 400, 500 and ENVE 400, 500 require a course substitution form and no more than 4 total units are allowed.
   c) No more than 8 combined units of CE/ENVE 470, 471, 570, 571 can be credited.
   d) Co-op, graduate seminar, senior project/design, and thesis courses are not permitted.
   e) Only one course can be credited for CE 452/552.

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).

74 units required, 32 of which are specified in Support.

SS 421, 423, 442 (Updated 1/15/10)
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  
\[ \text{Total: 40 units} \]

FREE ELECTIVES .................................................. 0  
\[ \text{Total: 196 units} \]