

**2011-13 Cal Poly Catalog**  
**Civil & Environmental Engineering Department**

**BS ENVIRONMENTAL ENGINEERING**

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

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

**MAJOR COURSES**

|   |           |
|---|-----------|
| CE 113 Computer-Aided Drafting in Civ Engr .....                | 2         |
| <sup>6</sup> CE 201 or CE 204, 207 Mechanics of Materials ..... | 6         |
| CE 336 Water Resources Engineering .....                        | 4         |
| CE 337 Hydraulics Laboratory.....                               | 1         |
| CE 381 Geotechnical Engineering.....                            | 4         |
| CE 434 Groundwater Hydraulics and Hydrology.....                | 4         |
| ENVE 111 Intro to Env. Engineering Profession.....              | 1         |
| ENVE 264 Environmental Fluid Mechanics .....                    | 4         |
| ENVE 304 Thermodynamics of Processes.....                       | 3         |
| ENVE 309 Noise and Vibration Control.....                       | 3         |
| ENVE 325 Environmental Air Quality.....                         | 4         |
| ENVE 331 Intro to Environmental Engineering.....                | 4         |
| ENVE 411 Air Pollution Control .....                            | 3         |
| ENVE 421 Mass Transfer Operations.....                          | 4         |
| ENVE 426 Air Quality Measurements .....                         | 3         |
| ENVE 434 Water Chemistry and Water Quality Measurements .....   | 4         |
| ENVE 436 Intro Hazardous Waste Management .....                 | 4         |
| ENVE 438 Water & Wastewater Treatment Design .....              | 3         |
| <sup>4</sup> ENVE 439 Solid Waste Management .....              | 3         |
| ENVE 450 Industrial Pollution Prevention .....                  | 4         |
| ENVE 455 Environmental Health and Safety .....                  | 4         |
| ENVE 466, 467 Senior Project Design Lab .....                   | 2,2       |
| <sup>1,2</sup> Technical electives .....                        | 11        |
|   | <b>87</b> |

**SUPPORT COURSES**

|  |           |
|--|-----------|
| <sup>3</sup> CHEM 127 General Chemistry I (B3/B4)* ..... | 4         |
| CHEM 128 General Chemistry II.....                       | 4         |
| CHEM 129 General Chemistry III .....                     | 4         |
| CHEM 312 Survey of Organic Chemistry .....               | 5         |
| <i>(trans equiv CHEM 212)</i>                            |           |
| CSC 231 Programming for Engineering Students ....        | 2         |
| ENGL 149 Technical Writing for Engineers (A3)* .....     | 4         |
| 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         |
| MCRO 221 Microbiology (B2)* or                           |           |
| MCRO 224 General Microbiology I.....                     | 4         |
| ME 211 Engineering Statics .....                         | 3         |
| ME 302 Thermodynamics 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         |
|  | <b>69</b> |

**GENERAL EDUCATION (GE)**

72 units required, 32 of which are specified in 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 required)**

|  |   |
|--|---|
| B1 Mathematics/Statistics * 8 in Support.....  | 0 |
| B2 Life Science * 4 units in Support.....      | 0 |
| B3 Physical Science * 4 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 in Support.....   | 0 |
| Additional Area B units* 8 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 (PHIL 340 or NR 360 recommended)..... | 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 |

|                             |            |
|-----------------------------|------------|
|                             | <b>40</b>  |
| <b>FREE ELECTIVES</b> ..... | <b>0</b>   |
|                             | <b>196</b> |

**Technical Electives<sup>5</sup>**

Technical Electives may be chosen from all non-required 300-500 level CE/ENVE courses with the following exceptions: senior project, co-op, graduate seminar, comprehensive exam, and thesis; and ENVE 324, ENVE 330, ENVE 570, ENVE 571. Technical Electives cannot be used to satisfy other major, support, or general education requirements. No double counting is allowed.

**Air Quality and Climate**

ERSC/GEOG 415, 415; ME 359; PHYS 313

<sup>1</sup> To be selected in accordance with the A.B.E.T. 24-unit and Culminating Engineering Design requirement, in consultation with your academic advisor.  
<sup>2</sup> No more than 4 units of CE 400/ENVE 400, CE 500/ENVE 500, ENVE 405, ENVE 407, and ENVE 471 combined can be counted towards technical electives. Note: CE 400/ENVE 400 and CE 500/ENVE 500 require an individual course substitution form. (7/2/15)(10/15/15)  
<sup>3</sup> CHEM 124, 125 substitute for CHEM 127, 128.  
<sup>4</sup> An additional 3 units of technical electives may substitute. (1/6/14)  
<sup>5</sup> No more than 4 units of coursework other than CE/ENVE may be used to satisfy the ENVE Engineering technical elective degree requirement. (7/2/15)  
<sup>6</sup> If CE 207 is taken for 2 units then one additional unit of Technical Electives is required. (1/5/16)

**Appropriate Technology**

PSC/UNIV 491, 492

**Biology/Biochemistry/Microbiology**

BIO 401; ENGR/ENVE 581, MCRO 342, 436, MSCI 307, 328;  
SS 422

**Computer Applications and Computations**

GEOG/NR 317; STAT 313, 323

**Chemistry**

CHEM 313, 341, 340, 350; SS 423

**Energy**

BRAE 448; ECON 432; ME 350, 359, 415; PHYS 310

**Hydrology and Soils**

BRAE 532; ECON 435; SS 432, 442

**Law and Policy**

CM 334; CRP 342, CRP/NR 404; CRP/NR 408; ECON 431;  
IME 314; NR 416

(7/2/15)