

## ENGINEERING

### BACHELOR OF SCIENCE DEGREE REQUIREMENTS

The bachelor of science degree is granted upon completion of the following programs: civil, electrical, industrial, or mechanical engineering; surveying and photogrammetry. These programs include the general education and degree requirements of the university; students must consult their engineering advisors about meeting the requirements of the general education program. Foreign students taking I S C 10, 21, and 93 in their first year may postpone courses that are not prerequisite to courses in their major. A minimum G.P.A. of 2.0 must be maintained in all courses taken in the CSUF School of Engineering.

*For specific requirements see course outline under selected option.*

### CIVIL ENGINEERING

(74 units engineering; 134 units total)

FIRST SEMESTER		Units	SECOND SEMESTER		Units
S & P 11,L	Plane Surveying .....	3	S & P 12, L	Advanced Plane Surveying <sup>4</sup> .....	3
C E 85	Introduction to Civil Engineering .....	1	Engr 70	FORTRAN IV Programming .....	2
Engr 26	Engineering Graphics .....	3	Math 76	Mathematical Analysis II .....	4
Math 75	Mathematical Analysis I .....	4	Phys 5A	Principles of Physics I .....	5
Engl 1	Composition .....	3	Hist 11/12	American History .....	3
Gen Ed	(any area except area I) .....	1			
		15			17
THIRD SEMESTER			FOURTH SEMESTER		
Engr 20	Engineering Mechanics: Statics .....	3	Engr 31	Engineering Materials .....	3
Math 77	Mathematical Analysis III .....	4	Math 81	Applied Analysis .....	4
Phys 5B	Principles of Physics II .....	5	Pl Sc 2	American Govt and Institutions .....	3
Chem 1A	General Chem & Qual Analysis .....	5	*Chem 8	Elementary Organic Chemistry .....	3
		17	Geol 1	Physical Geology .....	4
					321
					17
FIFTH SEMESTER			SIXTH SEMESTER		
Engr 121, L	Mechanics of Materials .....	4	C E 123, L	Soil Mechanics .....	3
C E 150	Transportation Planning & Design .....	3	C E 130	Theory of Structures .....	3
Engr 112	Engineering Mechanics Dynamics .....	3	C E 142, L	Water Supply & Wastewater .....	4
Engr 116, L	Fluid Mechanics .....	4	Engr 136	Thermodynamics .....	3
Soc Sci	See <sup>2</sup> .....	3	Humanities	See <sup>3</sup> .....	3
		17			16
SEVENTH SEMESTER			EIGHTH SEMESTER		
C E 124	Concrete Laboratory .....	1	C E 133	Steel and Timber Structures .....	4
C E 132	Reinforced Concrete Design .....	3	C E 180	Senior Project .....	1
C E 185	Civil Engineering Practice .....	1	Engr 182W	Engineering Writing .....	2
Engr 160	Engineering Economy .....	2	App Elect	See <sup>1</sup> .....	6
Engr 90	Principles of Electrical Circuits .....	3	Humanities	See <sup>3</sup> .....	3
App Elect	See <sup>1</sup> .....	6	Soc Sci	See <sup>2</sup> .....	3
		16			19

<sup>1</sup> Approved Electives: Select from courses in one or more of the following groups; selection of asterisked courses requires the Dean's prior approval.

Surveying: S & P 23 & L, 41, 102, 135, 151.

Environmental Water Quality: C E 140, 144,

145; Biol 133 <sup>a</sup>.

Structures: Engr 122; C E 131, 134, 135.

Transportation: C E 140, 151, 152, 153; S & P 41.

Water Resources: C E 140, 141, 143, 144.

Additional approved electives: C E 161, 190, 191T, 193;

Engr 161, I E 110.

<sup>2</sup> Social Sciences: Select from Anth 2, 3, 4; As Am 15; B1 S 38, 135; Crim 1, 132; Econ 1A, 1B, 101; Geog 3, 4; Hist 4, 5; La R 3, 5; NAS 103; Pl Si 1; Psych 134; Soc 1, 2; W S 10.

<sup>3</sup> Humanities: Select from Art 1; Art H 10, 20; B1 S 25; Drama 1, 62; Engl 30, 76; Hist 1, 2; La R 7, 9; Phil 1; RTV 127, 128; W S 145, 168.

<sup>4</sup> Environmental Water Quality Students: With the Dean's approval, substitute Bot 10 for C E 2, L.  
\* or Chem 1B.