



## Required Courses

- 15 units of required mathematics, 12 units of physics, and 3 units of chemistry.
- 18 units of required lower division engineering courses and 31 units of required upper division courses
- 12 units of engineering elective courses, and 36 units of General Education courses
- Course prerequisites are strictly enforced. Students not meeting the prerequisites are subject to being administratively dropped.

## Required Math and Science Lower Division Courses

Course Number	Course Name	Units	Grade	SFSU or Transfer	Term Yr	Prerequisite
CHEM 180	Chemistry for the Energy and the Environment	3				Category I or II placement for QR/Math or Cat. III or IV need MATH 197© (see bulletin for full details)
MATH 226	Calculus I	4				MATH 198© or 199© or equivalent or etc, (see bulletin for full details)
MATH 227	Calculus II	4				MATH 226©
MATH 228	Calculus III	4				MATH 227©
MATH 245	Elementary Differential Equations & Linear Algebra	3				MATH 228©
PHYS 220/222	General Physics with Calculus I & Lab	4				High school physics or equivalent; MATH 226© & PHYS 222♥ & MATH 227♥
PHYS 230/232	General Physics with Calculus II & Lab	4				PHYS 220© & MATH 227© & PHYS 232♥ (MATH 228♥ recommended)
PHYS 240/242	General Physics with Calculus III & Lab	4				PHYS 220© & MATH 227© & PHYS 242♥ (MATH 228♥ recommended)

## Required Lower Division Courses for Civil Engineering

ENGR	Course Name	Units	Grade	SFSU or Transfer	Term Yr	Prerequisite
100	Introduction to Engineering	1				High school algebra and trigonometry
101	Engineering Graphics	1				ENGR 100♥
102	Statics	3				MATH 227 & PHYS 220
200	Materials of Engineering	3				CHEM 180 or CHEM 115
201	Dynamics	3				ENGR 102
205	Electric Circuits	3				PHYS 230 & MATH 245♥
235	Surveying	3				ENGR 100 & MATH 226©
271	Intro to MATLAB	1				MATH 226©

## Required Upper Division Courses for Civil Engineering

ENGR	Course Name	Units	Grade	SFSU or Transfer	Term Yr	Prerequisite
300	Engineering Experimentation	3				ENGR 200©- & 205©-
302	Experimental Analysis	1				ENGR 300 & ENGR 304♥ & ENGR 309
304	Mechanics of Fluids	3				ENGR 201, PHYS 240
309	Mechanics of Solids	3				ENGR 102 ENGR 200♥
323	Structural Analysis	3				ENGR 309
425	Reinforced Concrete Structures	3				ENGR 323♥
429	Construction Management	3				ENGR 235
430	Soil Mechanics	3				ENGR 309
434	Prin. of Environmental Engr.	3				ENGR 304♥ & CHEM 180 or CHEM 115
436	Transportation Engineering	3				ENGR 235 & ENGR 430 ♥
696	Engineering Design Project I	1				Senior standing with 21 upper-division units in engineering & ENGR 300 or ENGR 301 (see SFSU Bulletin for GWAR information)
697	Engineering Design Project II	2				ENGR 696©

♥ = Course must either be completed or taken concurrently

© = Course must have been passed with a grade of C or better

©- = Engineering Course must have been passed with a grade of C- or better



## Transferred Courses

Students wishing to transfer Math, Science and Engineering courses from other institutions *must* see the Program Head of Civil Engineering in their first term of residence at SFSU. If you haven't yet done your transfer credit evaluation with the Program Head, you may not be able to enroll for courses, *so do it now!* Students transferring from California institutions just need to bring in their transcripts and this worksheet. Transfers of courses from other institutions are evaluated on a case-by-case basis. Students from these institutions should bring all relevant supporting material, including course syllabi, books, etc.

Name: \_\_\_\_\_

ID # \_\_\_\_\_

Course Number	Course Name	Institution	Course	Units†	Term/Year	Grade	Approval
CHEM 115 or CHEM 180	General Chemistry I: Essential Concepts of Chemistry						
MATH 226	Calculus I						
MATH 227	Calculus II						
MATH 228	Calculus III						
MATH 245	Elementary Differential Equations & Linear Algebra						
PHYS 220/222	General Physics with Calculus I & Lab						
PHYS 230/232	General Physics with Calculus II & Lab						
PHYS 240/242	General Physics with Calculus III & Lab						
ENGR 100	Introduction to Engineering						
ENGR 101	Engineering Graphics						
ENGR 102	Statics						
ENGR 200	Materials of Engineering						
ENGR 201	Dynamics						
ENGR 205	Electric Circuits						
ENGR 235	Surveying						
ENGR 271	MATLAB						

† Express as semester units. Each quarter unit = 2/3 semester units

Examined by: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: \_\_\_\_\_

\*subject to change (see SFSU Bulletin for current information)