

Required Courses

- 15 units of required mathematics, 12 units of physics, and 5 units of chemistry.
- 19 units of required lower division engineering courses and 28 units of required upper division courses
- 17 units of engineering elective courses, a 3 unit technical elective course, and 33 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 115 | General Chemistry I: Essential Concepts of Chemistry | 5 | | | | 550 or above on Entry Level Math (ELM) exam or approved exemption, or MATH 70© and satisfactory score on chemistry placement exam. |
| MATH 226 | Calculus I | 4 | | | | Successful completion of ELM requirement; MATH 109© or equivalent. |
| 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© and MATH 227©; PHYS 232♥ |
| PHYS 240/242 | General Physics with Calculus III & Lab | 4 | | | | PHYS 220© and MATH 227©; PHYS 242♥ |

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 |
| 103 | Introduction to Computers (Lab) | 1 | | | | MATH 226 |
| 106 | Introduction to Engineering Lab | 1 | | | | ENGR 100♥ |
| 200 | Materials of Engineering | 3 | | | | CHEM 115 |
| 201 | Dynamics | 3 | | | | ENGR 102 |
| 205 | Electric Circuits | 3 | | | | PHYS 230; MATH 245♥ |
| 235 | Surveying | 3 | | | | ENGR 100, 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 or ENGR 206; ENGR 205 |
| 302 | Experimental Analysis | 1 | | | | ENGR 300, 304♥, 309 |
| 304 | Mechanics of Fluids | 3 | | | | ENGR 201, PHYS 240 |
| 309 | Mechanics of Solids | 3 | | | | ENGR 102, 200 |
| 323 | Structural Analysis** | 3 | | | S | ENGR 309 |
| 429 | Construction Management** | 3 | | | S | ENGR 235, ENGR 430 ♥ |
| 430 | Soil Mechanics** | 3 | | | S | ENGR 309 |
| 434 | Prin. of Environmental Engr.** | 3 | | | F | ENGR 304♥, CHEM 115 |
| 436 | Transportation Engineering** | 3 | | | S | ENGR 235, ENGR 430 ♥ |
| 696 | Engineering Design Project I* | 1 | | | F | Complete 21 upper division engineering units; JEPET or English 414♥ or English 410♥ or 411♥ |
| 697 | Engineering Design Project II** | 2 | | | S | ENGR 696 |

♥ = Course must either be completed or taken concurrently

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

* = Course offered in fall semester only

** = Course offered in spring semester only

