# FACILITIES ENGINEERING TECHNOLOGY (BS)

**Offered at: Solano Campus**

The Facilities Engineering Technology major provides an undergraduate education for industrial engineers employed in large-scale facilities; commercial buildings, power plants and manufacturing facilities. The curriculum provides a foundation in the fundamentals of mechanical and electrical system engineering, as well as practical training in the operation and maintenance of real-world commercial and industrial facilities.

The curriculum includes three practical training experiences; one sea training period aboard Training Ship *Golden Bear* and two industry co-operative education opportunities.

## Program Learning Objectives

1. An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline.
2. An ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline.
3. An ability to apply written, oral, and graphical communication in broadly-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.
4. An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes.
5. An ability to function effectively as a member as well as a leader on technical teams.

## Degree Requirements and Curriculum

In addition to the program requirements listed on this page, students must also satisfy requirements outlined in more detail in the Minimum Requirements for Graduation (https://catalog.calpoly.edu/academic-standards-policies/general-requirements-bachelors-degree/) section of this catalog, including:

- 40 units of upper-division courses
- 2.0 GPA
- Graduation Writing Requirement (GWR)
- U.S. Cultural Pluralism (USCP)

Note: No Major, Support or Concentration courses may be selected as credit/no credit. In addition, no more than 12 units of cooperative or internship courses can count towards your degree requirements.

| Code | Title | Units |
|---|---|---|
| **MAJOR COURSES** | | |
| CEP 2270 | Facilities Engineering Technology Industry Cooperative I | 3 |
| CEP 3370 | Facilities Engineering Technology Industry Cooperative II | 3 |
| COM 2220L | Programming Applications for Engineering Technology Lab | 1 |
| CRU 1150 | Sea Training I - Engine | 8 |
| EPO 1110 | Plant Operations I | 1 |
| EPO 1125 & 1125L | Introduction to Marine Engineering and Introduction to Marine Engineering Laboratory | 4 |
| EPO 2210 | Plant Operations II | 1 |
| EPO 2213 | Welding Laboratory | 1 |
| EPO 2214 | Boilers | 3 |
| EPO 2215 | Manufacturing Processes I | 1 |
| EPO 2220 & 2220L | Diesel Engineering I and Diesel Engineering I Laboratory | 2 |
| EPO 2230 | Steam Plant System Operations | 1 |
| EPO 2235 | Steam Plant Watch Team Management | 1 |
| EPO 3310 | Plant Operations III | 1 |
| EPO 3312 | Turbines | 3 |
| EPO 3315 | Manufacturing Processes II | 1 |
| EPO 3319 | Facilities Engineering Diagnostics Laboratory | 1 |
| EPO 3321 | Introduction to Power Generation Plants | 1 |
| ET 1110 | Introduction to Engineering Technology | 1 |

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|---|---|---|
| ET 2230 | Properties of Materials | 2 |
| ET 2230L | Properties of Materials Laboratory | 1 |
| ET 2232 | Statics | 3 |
| ET 2250<br>& 2250L | Electrical Circuits<br>and Electrical Circuits Laboratory | 4 |
| ET 3330 | Dynamics | 3 |
| ET 3332 | Strength of Materials | 3 |
| ET 3340<br>& 3340L | Fluid Mechanics<br>and Fluid Mechanics Laboratory | 4 |
| ET 3342<br>& 3342L | Refrigeration and Air Conditioning<br>and Refrigeration and Air Conditioning Laboratory | 3 |
| ET 3344 | Thermodynamics | 3 |
| ET 3350<br>& 3350L | Electrical Machinery<br>and Electrical Machinery Laboratory | 4 |
| ET 3370<br>& 3370L | Electronics<br>and Electronics Laboratory | 4 |
| ET 4400<br>& 4400L | Instrumentation and Measurement<br>and Instrumentation and Measurement Laboratory | 4 |
| ET 4442<br>& 4442L | Heating, Ventilation, and Air Conditioning<br>and Heating, Ventilation, and Air Conditioning Laboratory | 3 |
| ET 4460<br>& 4460L | Automation<br>and Automation Laboratory | 4 |
| ET 4470 | Engineering Management | 3 |
| ET 4490<br>& 4490L | Power Engineering Technology<br>and Power Engineering Technology Laboratory | 4 |
| **SUPPORT COURSES** | | |
| CHE 1110<br>& 1110L | General Chemistry<br>and General Chemistry Laboratory (5A & 5C) [1] | 4 |
| CHE 2205 | Chemistry of Power Plant Processes | 3 |
| DL 1105<br>& 1105L | Marine Survival<br>and Marine Survival Laboratory | 2 |
| DL 1105X | United States Coast Guard Lifeboatman's Exam | 0 |
| EGL 1100 | English Composition (1A) [1] | 3 |
| EGL 1110 | Speech Communication (1C) [1] | 3 |
| EGL 2220 | Critical Thinking (1B) [1] | 3 |
| ENG 1100 | Engineering Graphics | 2 |
| ENG 3310 | Engineering Ethics (Upper-Division 4) [1] | 3 |
| ENG 4472 | Facilities Management | 3 |
| FF 1100 | Basic Marine Firefighting | 0 |
| GOV 2200 | American Government (4A) [1] | 3 |
| LIB 1100 | Information Fluency in the Digital World | 2 |
| MTH 2210 | Calculus I (2) [1] | 4 |
| MTH 2211 | Calculus II | 4 |
| NAU 1104 | Shipboard Security and Responsibility | 1 |
| PE 1101 | Swim Competency Exam [2] | 0 |
| PHY 2200<br>& 2200L | Engineering Physics I<br>and Engineering Physics I Laboratory | 4 |
| PHY 2205<br>& 2205L | Engineering Physics II<br>and Engineering Physics II Laboratory | 4 |
| **GENERAL EDUCATION (GE)** | | |
| (See GE program requirements below) | | 21 |
| **FREE ELECTIVES** | | |

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|---|---|
| Free Electives | 0 |
| **Total Units** | **159** |

1 Required in Major or Support; also satisfies General Education (GE) requirement.

2 Swim assessments are required of all cadets during Orientation week. If PE 1101 is not passed with a grade CR, then enrollment in PE 1102 will be required.

## Coming soon