ENIRONMENTAL ENGINEERING
TECHNICAL ELECTIVES

All prerequisites are enforced

5 total, at least 1 from SIO. Generally all upper division MAE classes count as TEs:

- CENG 120 Chemical Process Dynamics and Control
- CENG 122 Separation Process
- CENG 124A/B Chemical Plant and Process Design I/II
- CENG 176A/B Chemical Engineering Process Lab I/II
- MAE 118 Introduction to Energy Systems
- MAE 120 Introduction to Nuclear Energy
- MAE 130A/B/C: Statics, Dynamics, and Vibrations
- MAE 131A/B/C: Solid Mechanics, I, II & III
- MAE 133 Finite Element Methods
- MAE 140 Linear Circuits
- MAE 143A/B Signals & Systems, Linear Control
- MAE 144 Embedded Control & Robotics
- MAE 145 Intro to Robotic Planning and Estimation
- MAE 142 Dynamics & Control of Aerospace Vehicles
- MAE 149 Sensor Networks
- MAE 150 Computer-Aided Analysis and Design
- MAE 154 Product Design and Entrepreneurship
- MAE 160 Mechanical Behavior of Materials
- MAE 166 Nanomaterials
- MAE 199 Independent Research (2-quarter sequence counts as 1 TE)
- MAE 210A/B/C Fluid Mechanics
- MAE 255 Renewable Energy Meteorology

Non-Departmental Technical Electives

Chemistry
- Chem 100A Analytical Chemistry Laboratory
- Chem 100B Fundamentals of Instrumental Analysis
- Chem 131/132 Physical Chemistry
- Chem 140 A/B/C Organic Chemistry I/II/III
- Chem 143A Organic Chemistry Laboratory
- Chem 172 Environmental Chemistry
- Chem 173 Atmospheric Chemistry

Economics (at most 1)
- Econ 131 Economics of the Environment
- Econ 132 Energy Economics
- Econ 135 Urban Economics
- MGT110/112 Business
- MGT121A/B Innovation to Market
- MGT 172 Business Project Management

Scripps Institute of Oceanography. All upper division

- SIO lecture classes count as TEs, e.g.:
  - SIO 101 California’s Coastal Oceanography
  - SIO 102 Intro to Geochemistry (requires SIO 50)
  - SIO 103 Intro to Geophysics (requires SIO 101)
  - SIO 106 Intro to Hydrogeology (requires SIO 50)
  - SIO 110 Intro to GIS / GPS
  - SIO 111 Ocean Waves and Tides
  - SIO 112 Urban Landscapes
  - SIO 113 Computations in Earth Sciences
  - SIO 115 Ice and the Climate System
  - SIO 117 The Physical Basis of Global Warming
  - SIO 135 Satellite Remote Sensing

Urban Studies and Planning (at most 1)
- USP 124 Land Use Planning
- USP 144 Environmental and Preventive Health Issues
- USP 170 Sustainable Planning
- USP 171 Sustainable Development
- USP 177 Urban Design Practicum

Scripps Institute of Oceanography. All upper division

- ENG100A/ENG100L (must take ENG 100A and 2 quarters of ENG100L for 1 TE)

Teams In Engineering Services -TIES
- SE 181 Geotechnical Engineering (requires MAE 131A)
- SE 182 Foundation Engineering (requires SE 181)
- SE 184 Ground Improvement (requires SE 181)

Recommended Tracks

Following a track is not required, but will add depth and coherence to your knowledge in your field of interest.

Renewable Energy:
- MAE 118, 120, 256, BIBC140, SIO 135, SIO 172, ECON 132

Environmental Sensing and Control:
- MAE 140, 143A/B, 144, 149, 150, 199

Environmental Chemistry:
- Chem 149A, 173 and choice of 3 out of (CENG 120, 122, 124A/B, 176A/B, SIO 263, Chem 172, 140B, 100A/B, 143A)

Earth Science: Atmospheric Science / Ocean Science / Geophysics:
- ERTH/SIO 102, 103, 110, 111, 112, 113, 117, 135, 142, 182A/B

For information about receiving TE credit for courses not on this list, please contact an MAE undergraduate advisor:
Mae-ugrad@eng.ucsd.edu