ENVIRONMENTAL ENGINEERING
TECHNICAL ELECTIVES

Env. Eng. majors following the Fall 2017 catalog must complete four TEs.
Env. Eng. majors following a pre-Fall 2017 catalog must complete five TEs.

At least one of your electives must be a Scripps Institute of Oceanography (SIO) course.

Generally all upper-division MAE classes (not already required for your major) count as TEs, e.g.:

MAE 101D Intermediate Fluid Dynamics
MAE 118 Introduction to Energy Systems
MAE 120 Introduction to Nuclear Energy
MAE 130 Advanced Vibrations
MAE 131A/B Solid Mechanics I/II
MAE 143A/B Signals & Systems/Linear Control
MAE 145 Intro to Robotic Planning & Estimation
MAE 148 Intro to Autonomous Vehicles
MAE 150 Computer-Aided Analysis and Design
MAE 154 Product Design and Entrepreneurship
MAE 160 Mechanical Behavior of Materials
MAE 166 Nanomaterials
MAE 255 Renewable Energy Meteorology

At least one of your electives must be a Scripps Institute of Oceanography (SIO) course.

Scripps Institute of Oceanography (SIO) - generally 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 50)
SIO 106 Intro to Hydrogeology (requires SIO 50)
SIO 110 Intro to GIS/GPS
SIO 111 Ocean Waves and Tides
SIO 113 Computational Earth Science (requires SIO 50)
SIO 115 Ice and the Climate System
SIO 117 The Physical Basis of Global Warming
SIO 135 Satellite Remote Sensing
SIO 173 Dynamics of the Atmosphere and Climate
SIO 182 Environmental and Exploration Geophysics
SIO 170 Sustainable Planning

Chemical Engineering
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

Structural Engineering
SE 181 Geotechnical Engineering (requires MAE 131A)
SE 182 Foundation Engineering (requires SE 181)
SE 184 Ground Improvement (requires SE 181)

Chemistry and Biological Sciences
CHEM 100A Analytical Chemistry Laboratory
CHEM 100B Fundamentals of Instrumental Analysis
CHEM 131/132 Chemical Physics: Stat Thermo I/II
CHEM 172 Environmental Chemistry
CHEM 173 Atmospheric Chemistry
BIBC 140 Our Energy Future: Sustainable Energy Solutions

Economics and Rady School of Management (MGT) – only one ECON or MGT course can be used for TE credit
Econ 131 Economics of the Environment
Econ 132 Energy Economics
Econ 135 Urban Economics
MGT 112 Global Business Strategy
MGT 121A/B Innovation to Market
MGT 164 Business and Org Leadership
MGT 172 Business Project Management

Urban Studies and Planning (USP) – only one USP course can be used for TE credit
USP 124 Land Use Planning
USP 144 Environmental & Preventive Health Issues
USP 170 Sustainable Planning
USP 171 Sustainable Development
USP 177 Urban Design Practicum

Global TIES: One quarter of ENG 100D and two consecutive quarters of ENG 100L can be used for one TE.
All TEs must be taken for a letter grade. No P/NP grades allowed except in MAE 199.

If you enroll in a course on this list and it is not shown on your degree audit, please notify an MAE undergraduate advisor.

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

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Optional 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, 255; BIBC 140; SIO 135, 172; ECON 132
Environmental Sensing & Control: MAE 143A/B, 144, 149, 150, 199
Environmental Chemistry: CHEM 173 and choice of 3 out of (CENG 120, 122, 124A/B, 176A/B; SIO 263; CHEM 172, 100A/B)
Earth Science: Atmospheric Science / Ocean Science / Geophysics:
   SIO 102, 103, 110, 111, 113, 117, 135, 173, 174, 182