ENVIRONMENTAL 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

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 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

Teams In Engineering Services -TIES
ENG100D/ENG100L (must take ENG 100D and 2 quarters of ENG100L for 1 TE)

Structural Engineering
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