Concern for the environment now influences a wide range of public, private and engineering decisions. Environmental Engineering is widely recognized as a discipline at the graduate and professional level, and undergraduate training in environmental issues and processes can provide the preparation necessary to pursue this career path, or serve as a useful complement to a career in any of the traditional areas of engineering. Sustainability issues are now considered critical across engineering disciplines. Effective preparation requires broad knowledge and skills in the areas of environmental engineering, sustainability, and environmental policy.

Faculty Advisors
The Environmental Engineering and Sustainability Program is a focus for faculty members from diverse engineering backgrounds. The faculty are actively engaged in teaching and conducting research in this field. Current faculty advisors are:

Biomedical Engineering: Robert Tilton
Chemical Engineering: Meagan Mauter
Civil and Environmental Engineering: Peter Adams and Scott Matthews
Electrical and Computer Engineering: Marija Ilic
Engineering and Public Policy: Edward Rubin
Mechanical Engineering: Ryan Sullivan
Materials Science and Engineering: Paul Salvador and Robert Heard

To declare this minor, submit a minor declaration form to the Department of Civil and Environmental Engineering.

Course Requirements for Environmental Engineering and Sustainability Minor
The requirements include two core courses, three technical electives and two policy electives.

Select one course from:
12-712 (co-listed as 19-717) Introduction to Sustainable Engineering
OR
12-714 (co-listed as 19-714) Environmental Life Cycle Assessment

A2. Core Courses in Environmental Engineering (9 units).
Select one course from:
12-351 Environmental Engineering (see note 4)
24-424 (cross-listed as 19-424) Energy and the Environment
12-651 Air Quality Engineering
24-425 Combustion and Air Pollution Control
12-702 Fundamentals of Water Quality Engineering
B. Technical Electives in Environmental Engineering and Sustainability (27 units):
Select three from the following list
03-121 Modern Biology
06-365 (co-listed as 19-365) Water Technology Innovation and Policy
09-106 Modern Chemistry II
09-510 Chemistry and Sustainability
12-201 Principles of Geology
12-351 Environmental Engineering
12-651 Air Quality Engineering
12-702 Fundamentals of Water Quality Engineering
12-657 Water Resources Engineering
12-658 Hydraulic Structures Design
24-424 Energy and the Environment (cross-listed as 19-424)
24-425 Combustion and Air Pollution Control
12-712 Introduction to Sustainable Engineering
12-714 (cross-listed as 19-714) Environmental Life Cycle Assessment
12-718 Sustainable Engineering Project
27-322 Processing of Metals (or 27-323 Powder Processing of Materials: but not both)
27-323 Powder Processing of Materials (or 27-322 Processing of Metals: but not both)
27-421 Processing Design (6 units; must be combined with three additional units)
27-367 Selection and Performance of Materials (6 units; must be combined with three additional units)
27-594 Electrochemical Processes in Materials
48-315 Environment I: Climate and Energy

79-289 Animal Planet: An Environmental History of People and Animals

* 6 unit courses must be combined with 3 additional units.
** Students may take either 27-322 Processing of Metals or 27-323 Powder Processing of Metals, but not both as technical electives for list B.

C. Policy Electives (18 units)
Select two or more to total 18 units from the following list of humanities/social science oriented courses:
06-365 (co-listed as 19-365) Water Technology Innovation and Policy
19-448 Science, Technology and Ethics
48-576 Mapping Urbanism
73-148 Environmental Economics
73-357 Regulation: Theory and Policy
73-358 Economics of the Environment and Natural Resources
73-359 Benefit-Cost Analysis
76-319 Environmental Rhetoric
79-303 Pittsburgh and the Transformation of Modern Urban America (6 credit mini)
79-336 American Environmental History
79-372 Perspectives on the Urban Environment
80-244 Environmental Ethics
88-220 Policy Analysis I
88-221 Policy Analysis II
88-223 Decision Analysis and Decision Support Systems
90-758 Ethics and Public Policy
90-765 Cities, Technology and the Environment
90-789 Sustainable Community Development
90-798 Environmental Policy and Planning

The following restrictions apply to the minor:

1. Courses cannot be double-counted for lists A and B.
2. Courses used to fulfill the first year restricted technical electives for CIT cannot be double counted for list B requirements.
3. A group of three environmental policy courses, from List C, excluding Heinz courses, MAY be counted as fulfilling the general education depth requirement required of all CIT students if and only if the student completes the Environmental Engineering and Sustainability Minor. Approval of the selected courses from List C is required from the student’s home department advisor.
4. Courses required within a student’s CIT major can be double counted for list A or B course requirements, with the exception that 12-351 Fundamentals of Environmental Engineering can be counted toward completion of the minor for non-CEE students only.
5. Students may take up to two list B courses in their home department. One list B course must be from outside their home department. EPP double majors should NOT consider EPP their home department. BME double majors should NOT consider BME their home department.
6. At most ONE 48-xxx course can be used as a List B course and one as a List C course. The 48-xxx courses may not be acceptable as technical electives by some CIT engineering departments.
7. Other Environmentally related technical electives with similar or related content may be substituted for List B courses only with written permission of the Director.
8. Other humanities and social science courses with similar or related content may be substituted for Type C courses only with written permission of the Director.
9. A list of available courses for the minor in each semester is provided to students who have declared the minor and to all faculty advisors for the minor.