

Environmental Engineering (EVE)

EVE 302 Foundations of Environmental Engineering 3 Hours
Foundational principles in environmental engineering, sources of contaminants, physics and chemistry of water, air, soil, concepts and tools for assessing sustainability.

EVE 103 First-Year Seminar 1 Hour
Introduction to the field of environmental engineering. Explore future opportunities for careers and research in environmental engineering.

EVE 107K, 207K, 307K Topics in Environmental Engineering 1-3 Hours

EVE 310 Sustainable Systems Engineering 3 Hours
Integration and optimization of engineering systems for water treatment, water reuse, and energy production processes given technical, economic, and environmental constraints.

EVE 312 Environmental Engineering and Science 3 Hours
Quantitative evaluations of environmental processes including mass and energy balances, mass and heat transfer, chemical kinetics, water quality modeling, water treatment, indoor and outdoor air quality, and risk analyses.

EVE 119S, 219S, 319S, 419S, 519S, 619S, 719S, 819S, 919S Topics in Environmental Engineering 1-9 Hours
This course is used to record credit the student earns while enrolled at another institution in a program administered by the University's Study Abroad Office. Credit is recorded as assigned by the study abroad adviser in the Department of Civil, Architectural and Environmental Engineering. University credit is awarded for work in an exchange program; it may be counted as coursework taken in residence. Transfer credit is awarded for work in an affiliated studies program.

EVE 129S, 229S, 329S, 429S, 529S, 629S, 729S, 829S, 929S Topics in Environmental Engineering 1-9 Hours
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EVE 350 Environmental Chemistry for a Sustainable World 3 Hours
Application of chemical concepts to understand the fate of contaminants in natural and engineered systems. Focus on the use of analytical and graphical tools for solving chemical equilibrium and kinetic problems.

EVE 360 Design for Air Quality Improvement 3 Hours
Analysis, synthesis, and integrated design of air pollution control systems for improvements in outdoor and indoor air quality. Design for reduction of high impact pollutants of local, regional and global significance with consideration of human inhalation exposure and climate impacts.

EVE 369N Novel Air Quality Measurement Techniques 3 Hours
Explore technological advancements in measurements of indoor and outdoor air quality. Discuss operation principles of novel real-time trace-gas sensors and mass spectrometers. Examine air quality measurements at different spatiotemporal scales, utilizing analytical instrumentation, data acquisition, and data processing. Explore research questions in air quality through hands-on laboratory and field measurements.

EVE 369Q Air Quality, Aerosols, and Health 3 Hours
Explore physicochemical processes governing indoor and outdoor air quality, human exposure to gas-phase and particle-phase pollutants, and factors affecting human health. Examine the connection between air quality, regulatory perspectives, engineering solutions and acute and chronic environmental issues impacting human exposure. Discuss research questions through efficient data retrieval and run simple dispersion models.

EVE 370 Design for Environmental Community Improvement 3 Hours
Application of engineering to a project that addresses a local, national or international community or design challenge. Problem statement, project objectives, stakeholder input, technical problem solving, environmental, social and economic assessment is performed collaboratively within a multidisciplinary team to develop a final design for a comprehensive service-learning project.

EVE 177K, 277K, 377K Topics in Environmental Engineering 1-3 Hours
Various specified topics or conference course.

EVE 177K.7, 277K.7, 377K.7 Independent Study 1-3 Hours
Conduct independent research with a tenure track faculty member in the Fariborz Maseeh Department of Civil, Architectural, and Environmental Engineering. Prepare a project proposal and a final report, each of which is evaluated by the faculty supervisor.

EVE 177R Internship 1 Hour