Environmental Engineering Technology (ENVT)

Course information contained within the Bulletin is accurate at the time of publication in June 2025 but is subject to change. For the most up-to-date course information, please refer to the Course Catalog.

ENVT 0845. The Environment. 3 Credit Hours.
In today's world characterized by rapid and global environmental changes, it is crucial that citizens have an understanding of the key concepts in environmental science. This course provides students with an introduction to the science behind critical environmental debates and breaks down the requirements for creating and maintaining sustainable ecosystems. A major focus of the course is to develop critical thinking skills and apply them to assess relevant questions such as: How do we predict trends in the growth of populations or climate change? How do human activities impact the nitrogen and phosphorus cycles and how does this in turn affect the environment? How can we quantify and value biodiversity? Should we eat lower on the food chain or are genetically modified crops a sustainable solution? What were the key outcomes of the 2015 U.N. Climate Change Conference in Paris and how will various countries carry out their commitments to protect the environment? This course will enhance awareness of the impacts that our everyday decisions have on the environment and will provide students with strategies to become better environmental stewards. NOTE: This course fulfills a Science & Technology (GS) requirement for students under GenEd and Science & Technology Second Level (SB) for students under Core. Students cannot receive credit for this course if they have successfully completed CEE 0845, CEE 0945, CEE 1051, ENVT 0945, or ENVT 1051.

Course Attributes: GS, SE, SF

Repeatability: This course may not be repeated for additional credits.

ENVT 0945. Honors: The Environment. 3 Credit Hours.
In today's world characterized by rapid and global environmental changes, it is crucial that citizens have an understanding of the key concepts in environmental science. This course provides students with an introduction to the science behind critical environmental debates and breaks down the requirements for creating and maintaining sustainable ecosystems. A major focus of the course is to develop critical thinking skills and apply them to assess relevant questions such as: How do we predict trends in the growth of populations or climate change? How do human activities impact the nitrogen and phosphorus cycles and how does this in turn affect the environment? How can we quantify and value biodiversity? Should we eat lower on the food chain or are genetically modified crops a sustainable solution? What were the key outcomes of the 2015 U.N. Climate Change Conference in Paris and how will various countries carry out their commitments to protect the environment? This course will enhance awareness of the impacts that our everyday decisions have on the environment and will provide students with strategies to become better environmental stewards. (This is an Honors course.) NOTE: This course fulfills a Science & Technology (GS) requirement for students under GenEd and Science & Technology Second Level (SB) for students under Core. Students cannot receive credit for this course if they have successfully completed CEE 0845, CEE 0945 CEE 1051, ENVT 0845 or ENVT 1051.

Course Attributes: GS, HO, SE, SF

Repeatability: This course may not be repeated for additional credits.

ENVT 1051. Introduction to the Environment. 3 Credit Hours.
Basic environmental issues, systems and change; biogeochemical cycles; human population; ecosystems and their management and restoration; biological diversity, productivity and energy flow; biogeography; environmental health, pollution and toxicology; energy; and global warming. Hands on laboratory exercises are an integral part of the course. The lab exercises are conducted within the class schedule at each campus. NOTE: This course can be used to satisfy the university Core Science & Technology Second Level (SB) requirement. Students cannot receive credit for this course if they have successfully completed CEE 0845, CEE 0945, CEE 1051, ENVT 0845 or ENVT 0945.

Course Attributes: SB

Repeatability: This course may not be repeated for additional credits.

ENVT 1117. Sanitary Chemistry and Microbiology. 3 Credit Hours.
Wet chemical analysis of environmental importance, sampling, data handling, standard tests, microbiology.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C- in (CHEM 1031 and CHEM 1033)

ENVT 2124. Environmental Instrumentation. 3 Credit Hours.
Optical, electrochemical, and instrumental methods of analysis, environmental applications.

Course Attributes: SF

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C- in ENVT 1117.

ENVT 2133. Environmental Field Operations. 4 Credit Hours.
Field aspects of environmental engineering, air and water sampling, stack sampling, bioassay, and environmental aspects of planning.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C- in ENVT 2124.

ENVT 4711. Air Pollution Control Systems. 3 Credit Hours.
Principles of design and operation of the major categories of air pollution control equipment. Theory and principles are presented to reinforce extensive application and design components.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C- in (ENGT 2521 and PHYS 1062)

ENVT 4721. Water and Wastewater. 3 Credit Hours.
Water treatment theory and design including sedimentation, coagulation, softening, iron removal, and chlorination, wastewater treatment theory and design, including grit chambers, activated sludge, trickling filter, and anaerobic digester.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of D- in ENGT 2521.

ENVT 4731. Hazardous Waste Management. 3 Credit Hours.
Collection and disposal: incineration, landfill, composting, recycling, special wastes, permitting.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C- in ENVT 1117.

ENVT 4741. Environmental Modeling. 3 Credit Hours.
Theory and modeling of pollutant transport and diffusion with particular emphasis on air. Applicable principles of boundary layer meteorology, plume rise, air pollution climatology, data selection, and modeling for design. Survey of available models. Demonstrations and student projects with computer applications.

Course Attributes: SE, SF

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: Minimum grade of C- (except where noted) in (MATH 1042 or 'Y' in MATW), PHYS 1062, and ENGT 2521 (D- or higher)

ENVT 4761. Environmental Regulations. 3 Credit Hours.
Environmental regulations at the federal, state, and local levels. Emphasis on procedures for compliance with surveillance and permit requirements.

Course Attributes: SF

Repeatability: This course may not be repeated for additional credits.

ENVT 4982. Honors Independent Study in Environmental Engineering Technology. 2 to 4 Credit Hours.
Student may complete a regular course during a semester in which the course is not offered to meet prerequisite or graduation requirements. An instructor is assigned to supervise the student.

Course Attributes: HO

Repeatability: This course may be repeated for additional credit.

ENVT 4983. Honors Directed Study in Environmental Engineering Technology. 1 to 4 Credit Hour.
An opportunity to study specialized topics not covered in currently available courses and providing significant progress towards the technical/professional objectives of the program. An instructor is assigned to define the scope and direct, supervise, and evaluate student progress.

Course Attributes: HO

Repeatability: This course may be repeated for additional credit.

ENVT 4991. Honors Independent Research in Environmental Engineering Technology. 2 to 4 Credit Hours.
A project conducted under the supervision of a faculty sponsor.

Course Attributes: HO

Repeatability: This course may be repeated for additional credit.