ENVIRONMENTAL ENGINEERING TECHNOLOGY (ENVE)

ENVE 1010 Introduction to Environmental Science (3 Credits)
This 3-credit, non-lab introductory environmental science course is suitable for science and non-science majors. Students will survey natural systems, humans' impacts on natural systems, and potential solutions to current and future environmental issues on global, regional, and local scales. Embedded in the course are explorations of interdisciplinary topics including, but not limited to, process of science; environmental ethics, attitudes, and laws; resource consumption; climate change; biodiversity loss; forests and soils; food systems, agriculture, and fisheries; land use planning; pollution and toxicology; mining and energy; water and waste management; sustainable development; ecological economics; and environmental justice. Active learning is an essential component of this course.
Prerequisites: eligibility for ENG 1010 with ENG 0910 (workshop)
General Education: Global Knowledge (GLKY), Scientific Knowledge & Understanding (SCKX)
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): EVS*100, BIO*180, EVS*114, BIO*181

ENVE 1010H Introduction to Environmental Science Honors (3 Credits)
General Education: Global Knowledge (GLKY), Scientific Knowledge & Understanding (SCKX)
Elective Code(s): Liberal Arts Elective (LART)

ENVE 1100 Environmental Regulations (3 Credits)
This 3-credit, majors-level course provides a broad view of federal, state, and municipal environmental regulations as they apply to industry, commercial establishments, local governmental facilities, and the individual citizen. It provides a practical approach to regulatory understanding to enable one to plan an effective and economically sound compliance program. Course topics include the Clean Air Act (CAA), Clean Water Act (CWA), Toxic Substance Control Act (TSCA), SARA Title III (Community Right-to-Know), and federal, state, and local regulations, covering such topics as hazardous material transportation, in-ground tank storage, and specific hazardous materials such as asbestos and PCBs.
Prerequisites: ENVE 1010 with a C or higher
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): ENV*110

ENVE 1200 Occupational Safety and Health (3 Credits)
This 3-credit course is an introduction to Occupational Safety and Health in the workplace. Students are introduced to the safety and health field, the application of engineering, management principles, and techniques to safety, health, and loss control. Topics include general safety, health, and risk assessment concepts and terms. Discussions will include historical developments, program management, problem identification, engineering assessment, hazard recognition, evaluation, and control. Coursework will also introduce students to measurement and evaluation systems, legal and regulatory requirements, environmental health and safety, industrial hygiene, safety engineering, product safety and public health, risk assessment analysis and management, accident investigation, ergonomics, and ethics and professionalism. A field visit is required.
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): ENV* 131

ENVE 1500 Geomatics Spatial Analysis (3 Credits)
This 3-credit course will provide students with the fundamentals of the discipline of Geomatics, a blending of the sciences of geography, measurement, and mapping. Coursework will include exercises utilizing geographic information systems (GIS) software, global navigation satellite systems (commonly GPS) mobile units, and more traditional measurement surveying tools. Students will also be introduced to the concept of three-dimensional modeling and develop simple and complex spatial models for multifaceted environmental processes and relationships.
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): ENV* 163

ENVE 1505 GIS for the Environment (3 Credits)
This introductory ArcGIS course provides a hands-on introduction to Geographic Information Systems (GIS) for both science and non-science majors. It is designed for students in Environmental Engineering Technology, Environmental Science, or anyone interested in GIS technology. The course builds foundational skills in GIS-based environmental analysis; covering key concepts such as data collection, spatial analysis, and mapping visualization, Through fieldwork, students will explore real-world applications in environmental science, engineering, land use, public health, and conservation - with a focus on climate change, water pollution, habitat fragmentation, biodiversity hotspots, and other critical environmental issues. Fieldwork is an essential component of this course.
Additional fees may apply

ENVE 1700 Environmental Research Project I (1 Credits)
This 1 credit course introduces and develops skills in microscopy techniques, field research, literature searches, field monitoring equipment usage, teamwork, and hands-on experience in the field and laboratory. Guest speakers will provide research study presentations, discussions, and analyses. Field and outside work (river bioassessments, gardening, and bioblitz work, etc.) are required.
Prerequisite or corequisite: ENVE 1010 If taken in prior semester a grade of C or higher and permission of the program coordinator.
Elective Code(s): Liberal Arts Elective (LART)
Additional fees may apply
Previous: Legacy Equivalent(s): ENV* 172

ENVE 2210 HAZWOPER (3 Credits)
This 3-credit course covers Hazardous Waste Operations Emergency Response (HAZWOPER). Topics are specifically designed for workers who are involved in agency clean-up operations; voluntary clean-up operations; emergency response operations; storage, disposal, or treatment of hazardous substances; and treatment of uncontrolled hazardous waste sites. It is mandatory for students to perform an off-site field exercise. This course meets the requirements of OSHA Standard 29 CFR 1910.120.
Prerequisites: Recommended: CHEM 1110 OR CHEM 1210 with C or higher
Previous: Legacy Equivalent(s): ENV* 220

ENVE 2300 Long Island Sound Conservation (3 Credits)
This 3-credit course is an environmental, ecological, and cultural study of the change of Long Island Sound, experienced from societal, economic, and physical influences. The course explores environmental impacts from pre-colonial development to the industrialized twenty-first century. The course will investigate the anthropogenic impacts from nonpoint source pollution, stormwater runoff to climate change and other human-caused factors that affect Long Island Sound's marine organisms and natural resources. The course concludes with examining how environmental engineering, and environmental laws and policies can protect our natural resources through conservation and remediation created by the CWA, Long Island Sound Study (LISS) and Long Island Sound (LIS) Blue Plan. Field trips are required.
Prerequisites: ENVE 1010 with a C or higher
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): ENV* 208

ENVE 2400 Hydrology (3 Credits)
This 3-credit course features an emphasis on groundwater. Topics covered include weather as it affects water resources, precipitation, stream flow, stream flow hydrographics, rainfall run-off relationships, the impact of natural and anthropocentric phenomena on water resources, and groundwater hydrology.
Prerequisites: MATH 1600 and ENVE 1010, both with C or higher
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): ENV* 242

ENVE 2410 Water Resources Engineering with Lab (0-4 Credits)
This 4-credit lab introduces methodology used in determining stormwater runoff for small urban areas. The theory and logic of both the Rationale Method and the Soil Conservation Services TR-55 are studied in detail. The quantity computations are covered as well as the understanding of gutter analysis. As part of the lab the student will design a storm drain system; including a cost estimate for the project.
Prerequisites: MATH 1600 and ENVE 1010, both with a C or higher
Elective Code(s): Liberal Arts Elective (LART)
Additional fees may apply
Previous: Legacy Equivalent(s): ENV* 245

ENVE 2500 Geomatics (4 Credits)
This 4-credit course offers students applications of Geographical Information Systems (GIS), GPS, spatial analyses, photogrammetry, and cartography providing understanding and field experience. Geomatics is increasingly used to evaluate the various data models and structures used in the input management analysis and output of geographic data used in the sciences, environmental sciences and engineering and natural resources management. Cartography is used in the area pertaining to preserving indigenous lands and documenting water and land rights, urban and transportation planning, wildlife habitat preservation and environmental impact analysis. Geomatics can be used to evaluate many issues, including but not limited to natural sciences and the environment. Research and modeling will be essential in the development, design and performance monitoring of a wide variety of spatial data. The Geomatics class supports the new paradigm for a renewed effort in geospatial analyses for charting and measuring the world.
Prerequisites: ENVE 1500 with a C or higher
Elective Code(s): Liberal Arts Elective (LART)
Additional fees may apply
Previous: Legacy Equivalent(s): ENV* 260

ENVE 2600 Fundamental Measurements and Applications (3 Credits)
This 3-credit course will familiarize students with environmental analysis, instrumentation, and sampling methods. Students will have hands-on training and experience with various sampling analysis equipment and techniques as well as software applications. Fieldwork is required.
Prerequisites: MATH 1600 and ENVE 1010 , both with a C or higher High school chemistry OR CHEM 1110 with a C or higher recommended
Elective Code(s): Liberal Arts Elective (LART)
Additional fees may apply
Previous: Legacy Equivalent(s): ENV* 265

ENVE 2694 Environmental Engineering Technology Co-op (1-4 Credits)
The Environmental Co-op allows students to receive college credit (typically 1-4 semester hour) for appropriate work experience. The student must spend at least 225 documents hours for 4 credits on the work for which credit is granted. the work should accomplish some project of educational value and can be paid or unpaid. Students are expected to help arrange their own co-op placements. There will be someone at the workplace willing to supervise the student and evaluate the quality of the student's work.
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): ENV* 291

ENVE 2700 Environmental Research II (1 Credits)
This 1-credit course introduces and develops skills in microscopy techniques, field research, literature searches, monitoring equipment usage, and teamwork, and provides hands-on experience in the field and laboratory. Students will mentor new students. Field labs are required.
Prerequisites: ENVE 1700 with a C or higher
Elective Code(s): Liberal Arts Elective (LART)
Additional fees may apply
Previous: Legacy Equivalent(s): ENV* 277

ENVE 2701 Environmental Research Project III (1 Credits)
This 1-credit course introduces and develops skills in microscopy techniques, field research, literature searches, monitoring equipment usage, and teamwork and provides hands-on experience in the field and laboratory. Students will mentor returning students and continue to mentor new students. Field labs are required.
Prerequisites: ENVE 2700 with C or higher
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): ENV* 278

ENVE 2702 Environmental Rsrch Proj IV (1 Credits)
This 1-credit course introduces and develops skills in microscopy techniques, field research, literature searches, monitoring equipment usage, and teamwork, and provides hands-on experience in the field and laboratory. Students will mentor returning students and continue to mentor new students. Field labs are required.
Prerequisites: ENVE 2701 with C or higher
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): ENV* 279

ENVE 2990 Environmental Issues Seminars (3 Credits)
This 3-credit, non-lab introductory environmental science course is suitable for science and non-science majors. Students will survey natural systems, humans' impacts on natural systems, and potential solutions to current and future environmental issues on global, regional, and local scales. Embedded in the course are explorations of interdisciplinary topics including, but not limited to, process of science; environmental ethics, attitudes, and laws; resource consumption; climate change; biodiversity loss; forests and soils; food systems, agriculture, and fisheries; land use planning; pollution and toxicology; mining and energy; water and waste management; sustainable development; ecological economics; and environmental justice. Active learning is an essential component of this course.
Prerequisites: ENVE 1010 and ENG 1010, both with C or higher
General Education: Global Knowledge (GLKY)
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): ENV* 295