ENVIRONMENTAL SCIENCE (ENV)

ENV 1000 Exploring Environmental Careers (1 Credits)
This 1 credit course is an introduction to environmental science career pathways and is suitable for science and non-science majors. Profiles of careers in the environmental field, including non-profit, industry, government, and education will include descriptions of the work and the skills and tools needed to be successful. The course will focus on environmental work in New England with connections to broader trends nationally and globally. Online discussions and assignments will accompany the materials presented. Open to anyone interested in environmental issues, sustainability, and career opportunities.
Previous: Legacy Equivalent(s): EVS* 135

ENV 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 workshop
General Education: Global Knowledge (GLKY), Scientific Knowledge & Understanding (SCKX)
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): ENV* 101, EVS* 100, BIO*180, EVS*114, BIO* 181

ENV 1010H Introduction to Environmental Science Honors (3 Credits)
This 3-credit non-lab honors introductory environmental science course is suitable for science and non-science majors. Students will survey 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. As this is an Honors course, students will be required to complete additional readings and a research paper or project. Permission of the Honors Program Coordinator needed.
General Education: Global Knowledge (GLKY), Scientific Knowledge & Understanding (SCKX)
Elective Code(s): Liberal Arts Elective (LART)

ENV 1010L Introduction to Environmental Science Lab (1 Credits)
This 1-credit natural science laboratory course accompanies ENV 1010 for majors or non-majors. Laboratory exercises and case studies will relate to core concepts learned in lecture and may include topics such as environmental chemistry, biodiversity, water and air pollution, soil composition, and energy. Some field labs may be required.
Elective Code(s): Liberal Arts Elective (LART)
Additional fees may apply

ENV 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: ENV 1010 with C or higher
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): ENV* 110

ENV 1120 Environmental and Energy Law and Regulations (3 Credits)
This 3-credit course discusses environmental and energy laws and regulations at various scales and how they are applied to a variety of sectors, from commercial establishments, industry to government and private citizens. Topics will include covering important federal, state, and local laws as they pertain to energy production and use, pollution, endangered species, toxins and hazardous waste, and others. Practical regulatory approaches are presented for those looking to pursue further study in compliance. Required by the Water Management Certificate of Achievement, Clean Water Management Certificate of Achievement and the Public Utility Management A.S. Degree Programs.
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): EVS* 112

ENV 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)

ENV 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)
Additional fees may apply

ENV 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

ENV 1700 Environmental Research Project I (1 Credits)
This1 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. Field labs are required.
Elective Code(s): Liberal Arts Elective (LART)
Additional fees may apply

ENV 1800 Sustainable Energy and the Environment (3 Credits)
This 3-credit course is suitable for science and non-science majors and is an introduction to the study of energy for electrical power generation and transportation, including sustainable and non-sustainable energy sources. This course investigates the relationship between population and consequences of increased energy demand, reliance on fossil fuels, anthropogenic climate change, and other impacts. Included is an examination of energy types including fossil fuels and nuclear power, as well as sustainable and renewable energy sources such as wind, solar, hydropower, geothermal, biofuels, fuel cells, and others. Electrical conservation and efficiency will be investigated. The social, economic and environmental impacts and effectiveness of these alternatives will be evaluated.
Prerequisites: Placement into MATH 1600
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): EVS* 130

ENV 2200 Toxicology (3 Credits)
This 3-credit course focuses on toxicological principles, including FDA requirements relating to new drugs. It address environmental and other factors affecting the toxicity of therapeutic agents, mechanisms to toxicity and clinical applications. Students will gain a broad base of scientific knowledge and methodologies in toxicology. Required for Environmental Science and Toxicology majors.
Prerequisites: ENV 1010 with a C or higher
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): ENV* 200

ENV 2210 HAZWOPER (Hazardous Waste Operations Emergency Response) (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.
Elective Code(s): Liberal Arts Elective (LART)

ENV 2295 Environmental Science & Toxicology Internship (3 Credits)
This course places students in a suitable, supervised internship in an industry of interest for a minimum of 150 hours of internship work.
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): ENV* 296

ENV 2300 Long Island Sound Conservation (3 Credits)
This 3-credit course is an environmental, ecological, and cultural study of the changes 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.
Elective Code(s): Liberal Arts Elective (LART)

ENV 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 ground water hydrology.
Elective Code(s): Liberal Arts Elective (LART)

ENV 2410 Water Resources Engineering with Lab (4 Credits)
This 4-credit lab course introduces methodology used in determining storm water 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.
Elective Code(s): Liberal Arts Elective (LART)
Additional fees may apply

ENV 2500 Geomatics (4 Credits)
This 4-credit course offers students applications of Geographical Information Systems(GIS), GPS, spatial analyzes, 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, 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. This Geomatics class supports the new paradigm for a renewed effort in geospatial analyzes for charting and measuring the world.
Elective Code(s): Liberal Arts Elective (LART)
Additional fees may apply

ENV 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.
Elective Code(s): Liberal Arts Elective (LART)
Additional fees may apply

ENV 2694 Environmental Engineering Technology Co-op (1-4 Credits)
The Environmental Co-op allows students to receive college credit (typically 1-4 semester hours) for appropriate work experience. The student must spend at least 225 documented 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 who is willing to supervise the student and evaluate the quality of the student's work.
Elective Code(s): Liberal Arts Elective (LART)

ENV 2700 Environmental Research Project 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.
Elective Code(s): Liberal Arts Elective (LART)
Additional fees may apply

ENV 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.
Elective Code(s): Liberal Arts Elective (LART)
Additional fees may apply

ENV 2702 Environmental Research Project 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.
Elective Code(s): Liberal Arts Elective (LART)
Additional fees may apply

ENV 2990 Environmental Issues Seminars (3 Credits)
This 3-credit, non-lab introductory environmental science and environmental engineering technology course is suitable for science and non-science majors. Students will survey 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 economies; and environmental justice. Active learning is an essential component of this course.
Prerequisites: ENG 1010 or permission of instructor
General Education: Global Knowledge (GLKY)
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): BIO*289

ENV 2995 Environmental Science Internship (1-6 Credits)
This course provides students the opportunity to apply classroom theory in an actual work setting. Credits will be determined based on the number of hours of on-site work. Students may choose to be placed in a variety of work settings as related to their program of study.
Prerequisites: Permission of faculty advisor and ENV 1010 with C or higher
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): ENV* 297

ENV 2998 Special Topics in Environmental Science (3-4 Credits)
This course will feature select topics in environmental science, sustainability, and natural resources. Topics will change by semester.
Prerequisites: Permission of instructor and ENV 1010 with C or higher
Elective Code(s): Liberal Arts Elective (LART)
Previous: Legacy Equivalent(s): EVS* 298