

Environmental Studies Courses Summer 2009

ENVS 095 Introduction to Herbalism

60710 / 3 credits / Barbara Raab / T,TR, 8:30am-12pm / Lafayette Room L308 / May 19-June 25

This course focuses on the science and art of using plants in the natural approach to healing. The present-day context of phytotherapy within the realms of both complementary and conventional allopathic medicines is explored. The harvesting, preparation, storage, and relative safety-toxicity of herbs are covered, in addition to lifestyle options and specific herbs for specific systems of the body. Field trips to Bramblewood Gardens and Shelburne Museum's Apothecary Shop are included. NOTE: Students are responsible for their entrance fees on the field trips.

ENVS 095 Biofuels

61003 / 1 Credit / Kenneth Edward Oldrid / Sun,F,Sat, TBA / Off-campus TBA / June 12-June 14

Do you want to slash your fossil fuel consumption? This workshop enables students to begin replacing fossil fuel with renewable fuel in a variety of applications. The heart of this intensive course is the adaptation of diesel engines to operate on straight vegetable oil. Students will perform all major operations in the design and construction of a heated fuel system, including electrical wiring, fuel filter and tank installation, coolant plumbing and controls. We will briefly explore biodiesel use and production, ethanol, methane, and locating/ growing fuel sources. There is the opportunity for up to three students to adapt their own vehicle during the workshop. Students interested in this should contact instructors at least 6 weeks prior to course starting date to arrange materials (at an additional cost). All Levels. Enrollment limit: 5.

ENVS 095 Biofuels

61004 / 1 Credit / Kenneth Edward Oldrid / Sun,F,Sat, TBA / Off-campus TBA / Aug 14-Aug 16

Same as description above. Enrollment limit: 5.

ENVS 095 Redesigning Wastewater

61012 / 3 credits / Pete Munoz, Harold Leverenz / Off-campus TBA / May 18-Aug 7

This weekend workshop will help you rethink wastewater. Using one of Yestermorrow's existing facilities as a case study, students will redesign its wastewater system from the groundwater up. In two days we will cover system analysis, site investigation, permitting, treatment options, design basics and material selection. The course will also cover design history and current design theory. We also hope to answer your questions regarding source separation, composting toilets, and nutrient cycling. After completing the course, students will be able to identify the major components of a wastewater treatment system and size individual treatment unit processes. All Levels. Please note: This class begins Friday evening at 7pm.

ENVS 095 Solar Design

60634 / 1 Credit / Hilton H. Dier III, John Ringel / Sun, Sat, TBA / Off-campus TBA / July 19- July 20

This workshop will present the basic design, theory and methods required to maximize the solar potential of your present or future home. Day one will use lectures, slide shows and tours to show how to use passive design for home heating, cooling and day lighting. Day two will cover the basics of photovoltaics for home power. The course will expand your understanding of how to use the sun's energy to brighten your life, heat your living spaces and water, and recharge your batteries for a more natural, comfortable and economical home. All Levels. Enrollment limit: 5

ENVS 095 Green Roof Design & Installation

61020 / 2 credits / Meghan Pierce-Delaney, Thandi Rosenbaum / Sun,M,T,W,TR,F / Aug 9-Aug 14

Green roofs are gaining popularity for several reasons. They are super efficient at insulating a home. They also minimize our ecological footprint by retaining and filtering water before it reaches our rivers and streams. In this course, we will explore intensive and extensive green roof systems. We will discuss various planning strategies including water retention and native habitat preservation. We will cover the theoretical and technical considerations of green roofs while gaining the hands-on experience of actually building one. Through evening lectures and discussions, we will examine layer buildup, drainage solutions, characteristics of growing medium, and plant palette selection. We will also introduce case studies from around the world to demonstrate the many ways green roofs have been used, from small scale residential projects to large scale commercial buildings. During the days, we will perform several installations. All Levels.

ENVS 095 Green Home Design

61023 / 1 credit / Danny Sagan / Sat, Sun / Off-campus TBA / June 27-June 28

This weekend workshop will help you make the leap from standard market-driven construction to a quality "green" home. We will discuss site design, building envelope design, climatic design, durable construction detailing, energy-efficiency, passive and active solar strategies, resource efficient material choices, and indoor air quality. This course is for students beginning the

design process for a new home or addition, as well as professionals who wish to increase their knowledge of green construction and design. All Levels.

ENVS 095 Greenhouse Design/Build

61025 / 1 credit / Matthew Lutz, David LaDuke / Sat, Sun / Off-campus TBA / May 23-May 24

This course will involve students in learning about the design and construction of greenhouses. A survey of structural principles, material limitations, macro/micro environmental design principles, enclosure options, and existing greenhouse archetypes will lead each student toward a schematic design that responds to their own particular criteria for a greenhouse. This course will also consider how a greenhouse enclosure can be integrated into, and influence, the interior spaces of existing buildings. This course is a primer in learning how to make solar energy operative in the earliest points of one's design process. Students will get an overview of the environmental principles and guidelines that designers employ in designing buildings that benefit from the natural energies that are ambient in our world. The course begins by presenting the sun and its movement through our sky and concludes by assembling a small, portable greenhouse.

ENVS 095 Green Building Materials

61033 / 1 Credit / Rodney Wilts / Sun,Sat, TBA / Off-campus TBA / Aug 15-Aug 16

This is an intensive two day workshop explaining the benefits and limitations of green building materials. This course will examine green materials choices for nearly all aspects of the home including: roofing, cabinets and flooring, siding, wall coverings, wall systems, framing, plumbing and more. Environmental impact, life cycle assessment, and indoor air quality ramifications will all be discussed for the various building materials. This course will help both amateurs and professionals to make best-possible environmental choices when designing and building a home. All levels. Enrollment limit: 4

ENVS 173 Landscape Natural History

60708 / 3 credits / Richard Paradis / M,W,F, 9am-5pm / TBA / May 18 – June 5

This field-based course examines patterns and processes on local landscapes from an interdisciplinary perspective, with an emphasis on geology, soil science, plant ecology, and ecosystem geography. Prerequisites: ENVS 1, sophomore standing.

ENVS 195 Greening Aiken: Summer Art Studio

60740 / 3 credits / Cameron Davis / M,T,W,TR, 9:00am-2pm / 305 Williams / July 27 – August 7

COURSE DESCRIPTION: Greening Aiken: Summer Art Studio: Participate in two exciting environmental art projects; the transformation of the George D. Aiken Center, home of UVM's Rubenstein School of the Environment and Natural Resources, and Burlington City Arts, Firehouse Gallery exhibition: Human=Landscape, Aesthetics for a Carbon Constrained Future. This summer intensive studio class is part of a three-year sequence designed in conjunction with the green renovation of the Aiken building. Students will have the opportunity to participate in design proposals that explore the common boundary of art, ecology and design. The class will focus on fundamental principles of design while building upon the work of the Ecological Design Studio, Place-Based Environmental Art, and the Greening Aiken Art and Architecture Studio classes. Students will develop and synthesize the greening Aiken design work to date while also introducing their own original solutions. The theme has been water. Field trips to water enabling observations and translations of patterns will be applied to design concepts. During our second week students will have the opportunity to work with international artist Patrick Marold installing his solar and wind sculpture as part of the Firehouse Gallery Human=Landscape exhibition. www.patrickmarold.com

ENVS 195 Introduction to Ecopsychology

60151 / 3 credits / Andy Fisher / Sun,T,W,TR,F,Sat, 9:30am-5:30 / Perkins Room 200 / May 22-May 31

This course introduces students to the full sweep of what is currently meant by the term "ecopsychology." Ecopsychologists assert that the relationship between humans and nature is definitive of human psychology, and thus view all psychological and spiritual matters within the context of our membership in the natural world. By expanding the focus of psychology to include the relationship between humans and nature, they aim not only to develop a truer picture of human psychology but also to draw attention to the psychological dimensions of the ecological crisis. Covering the psychological, philosophical, practical, and critical dimensions of ecopsychology, the course aims to foster an appreciation for the significance and potential of this new field. It also introduces students to the experiential nature of ecopsychology, both through classroom exercises and a wilderness outing which concludes the course. May 22 - May 31, 2009 (does not meet May 23, 24) Weekend retreat: May 29 - 31.

ENVS 195 SL: Nicaragua: Agro-Ecology & Agro-Forestry

60649 / 3 Credits / Michael Blazewicz / May 18-May 30 in Nicaragua

Students will travel to Nicaragua for 15 days of study in the practice, application and design of agro-forestry systems in Central America. A one week required pre-trip module will provide students with a conceptual basis in agroecology and agroforestry, and to contextualize them to the tropical environment in which they will be working in the field part of the course. Focus will be on the agro-forestry systems that are being managed on the Island of Ometepe by organic coffee growers and the experimental agro-forests of Project Bona Fide. Students will also visit agro-forestry sites managed by the forestry service of Nicaragua. The course will combine field visits, discussion, and practice of agro-forestry systems as well as include a survey of

agro-forestry systems worldwide. Special focus will include: home garden/dooryard food systems, indigenous forestry practices, medicinal plants, ethno-botany, fuel and fiber crops including bamboo and palm based agro-forestry systems as well as permaculture and its role in multi-strata agriculture. Students may take the pre-trip module only, for a total of 1 credit, if they do not wish to travel. Students who wish to travel to Nicaragua must take the pre-trip module for a total of 4 credits. For more information please go to: <http://learn.uvm.edu/?Page=worldwide.html>

ENVS 195 Community Design/Build

61015 / 3 credits / Jim Adamson, Steve Badanes / T,W,TR,F,S / July 26-Aug 7

Guided by Jersey Devil co-founder Steve Badanes, students will engage in a hands-on process of designing and building a full-scale public project. Past projects have included public playground structures, village green bandshells, park pavilions, and bus stops. The class will meet with the client, establish the program, work within a budget, propose and develop the design, schedule the work, and construct the project. Each phase is explored as a means of making the architecture more expressive, and sustainable building practices are emphasized throughout the process. Students will explore how this community-based, consensus approach to a project can build a sense of community as it creates a work of architecture. Evening lectures will focus on examples of individual and team processes as illustrated by Jersey Devil projects. Intermediate to Professional.

ENVS 195 Z1 Natural Materials: Shelters, Fences, Sculptures

60048 / 3 Credits / Susan Raber Bray / M,T,W,TR,F, 12:30pm-4:30pm / Mann 104 / June 15-June 26

Throughout human history and in all cultures people have created shelters, clothing, storage vessels and more using the local materials around them. In all this work we find the expression of human needs and, we see the expression of human desires. In this course we will explore a variety of old world techniques; twinning, plaiting, and Japanese stone weaving using natural materials that we will gather from the surrounding area (cattails, grapevine, Virginia creeper and more). We will be drawing inspiration from indigenous cultures worldwide and creating our own interpretations. Students will have the opportunity to work individually and in groups. Through this course students may become more aware of our environment as a source of materials, inspiration, and inquiry. We will look at artists Andy Goldsworthy, Chris Drury and Patrick Dougherty and explore how our current artwork relates to similar work done by people around the world over thousands of years.

ENVS 295 Introduction to Ecological Economics

60937 / 3 credits / Robert Costanza / On-line Course / July 6-Aug 14

The field of Ecological Economics was established to fill the growing need to integrate the study and management of "nature's household" (ecology) and "humankind's household"(economics). Ecological Economics is the name given to the effort to transcend traditional disciplinary boundaries in order to address the interrelationships between ecological and economic systems in a broad and comprehensive way. These relationships are central to most current environmental problems at local, state, regional, and global scales, and to building a sustainable future, but are not well covered by any existing discipline. Ecological economics is not intended to replace either ecology or economics, but to draw on the best of both disciplines without being bound by them in order to create an effective essential synthesis. This online course introduces students to principles of ecological economics and is a core course required for the Certificate of Graduate Study in Ecological Economics. <http://metacourses.org/ecologicaleconomics/>. On-line course; cross lstd w/ NR 285 crn # 60409.

ENVS 295 Environmental Conflict Resolution

60938 / 3 credits / Saleem Ali / On-line Course / Aug 3-Aug 28

This course explores the causes of conflict involving environmental concerns, without presuming that environmental disputes are necessarily a cause of conflict—indeed they may be a part of the solution to wider regional conflicts. The emerging field of environmental conflict resolution has its roots in various disciplines such as political science, economic game theory, systems analysis, sociology and anthropology. The study of conflict versus cooperation also has an important basis in natural science, particularly in evolutionary biology and ethology. Our aim in the first part of the class is to explore theories of conflict and cooperation from various disciplinary perspectives to glean common lessons that may be applied to “real-world” cases. The second part of the course will focus on the practice of conflict resolution and various approaches to resolving conflicts and their relative applicability in different parts of the world. Prerequisite: Jr or Sr standing; 100-level ENVS course. Enrollment Limit: 25. On-line course; cross lstd w/ NR 285 crn# 60726.