ENVS 001  SU: Introduction to Environmental Studies
90187  / 4 Credits / Amy Seidl  / MWF 10:50-11:40 am / Must register for lab
A broad based survey course intended to provide a comprehensive introduction to the multi-disciplinary field of environmental studies through a combination of lectures, discussion seminar, field walks, and site visits. This course examines the ecological, social and political-economic aspects of contemporary environmental issues from an interdisciplinary perspective. Grading is based on three exams and discussion seminar assignments. Prerequisite: First year or sophomore standing, or instructor permission. Students must register for the lecture and a lab section; see registrar’s website for details. Enrollment Limit: 264.

ENVS 095 B  Energy Alternatives
94478 / 3 Credits / Richard Watts / M 4:05 - 7:05 pm
This course introduces the concepts of energy, work, and power. Focuses include, energy conversion, utilization, conservation, and energy systems for rural areas. Students will also gain an understanding of alternatives to fossil fuels including solar, wind, biomass, etc. Cross-listed with CDAE 006 A. Enrollment Limit: 30.

ENVS 095 C  SU: Introduction to Vermont
94624 / 3 Credits / Richard Watts / TR 2:05 - 4:05 pm
This course surveys Vermont's geography, history, politics, social issues, ethnic populations, culture, and environment. Special emphasis on an interdisciplinary approach to the study of Vermont. Cross-listed with VS 052 A. Enrollment Limit: 5.

ENVS 107  SU: Human Health and the Environment
95540 / 3 Credits / Christine Vatovec / M 12:00 - 3:00 pm
This course offers an introduction to the field of “environmental health” through a lens of sustainability. We begin with the idea that sustainability is achieved by creating a balance between ecological flourishing and human well-being, and that health is a primary component of well-being. Building upon this foundation, we explore a range of traditional environmental health topics including the methods of environmental health science (toxicology and epidemiology), environmental hazards (physical, biological, and chemical), risk analysis, communication and management, vulnerable populations, and precautionary approaches and environmental health regulations. We apply this knowledge to understanding and identifying opportunities for mitigating a variety of current environmental health challenges including climate change, food production and access, energy production, water quality and access, and waste management. A focus of the course is how we, as individuals and as a society, may best achieve healthy lifestyles and healthy communities that are supportive of the ecological systems upon which our health depends. Prerequisites: Sophomore standing. Cross-listed with: HLTH 107, NR 107. Enrollment limit: 50.

ENVS 137 Landscape Design Fundamentals
91345 / 4 Credits / Stephanie Hurley / MWF 1:10 - 3:45 pm
Landscape Design Fundamentals is a studio course that introduces students to the principles of landscape design. Students in this class will examine the world in new and different ways, including observations of natural and cultural phenomena, and studies of form and function on small and largescale sites. We will explore the process of landscape design, from site inventories and analyses to conceptual and schematic plans, and learn the basics of planting plans, section drawings, and design details. Students will learn to use graphic media and materials and will be expected to keep a sketchbook practicing their skills. This class will work on two major design projects during the semester, at least one of which will be in collaboration with partners from the Vermont community. Typically, the first is a team project that introduces students to field observation, drawing, and analysis techniques. The second is an individual project, which requires critical thinking about a real design challenge and will include schematic planning and design details. Students will work on graphic and verbal presentation skills, and learn to give their peers constructive criticism. Students will share their work with faculty, professionals, and community partners during mid-term and final presentations. Cross-listed with: NR 137 A and PSS 137 A. Prerequisites: Minimum junior standing; at least one course in drawing, design, or mapping; instructor permission required. Enrollment Limit: 20.

ENVS 141 Introduction to Ecological Economics
92406 / 3 Credits / Jon Erickson / MWF 9:40-10:30 am
This course will introduce ecological economics as a transdisciplinary framework to economic, social, and environmental problem solving. "Transdisciplinary" implies a problem-orientation that draws from a diverse web of knowledge across the natural sciences, social sciences, and humanities. As such, the class will build on a diverse body of student knowledge and experience from across the UVM campus, draw on each perspective to address complex problems, and build a shared understanding of solutions that are sustainable in scale, equitable in distribution, and efficient in allocation. The class serves two broad goals: (1) to establish a knowledge base in ecological economics from which to build subsequent problem-based learning courses at UVM, and (2) acquire problem solving skills to address complex social challenges. To serve these goals, weekly readings from a textbook in ecological economics will introduce topics, and student groups will then apply course material to a class project. Cross-listed with: NR 141. Prerequisite: Sophomore standing. Enrollment Limit: 85.

ENVS 142 Introduction to Environmental Policy
93164 / 3 Credits / Curtis Ventris / MW 3:30 - 4:45 pm
This course covers the basic literature on policy formulation and implementation as it relates to major issues in environmental policy. This course will expose students to policy approaches ranging from climate change to land use issues. Case studies will be an integral part of this course. Students will also be involved in doing a policy analysis on an environmental issue of their choosing. Cross-listed with: NR 153 A and POLS 195 C. Prerequisite: Minimum sophomore standing; NR 014 or POLS 021. Enrollment Limit: 40.
ENVS 153 D2: Ethnobotany
93161 / 3 Credits / Kit Anderson / TR 10:05-11:20 am
Ethnobotany is the study of people-plant interactions as mediated by culture. It includes how people use and think about plants, as well as how plants in turn influence humans and their habitats. This course considers plants used for food, medicine, shelter, transportation, household items, ornament and ritual by different cultural groups. Many examples will be drawn from within our region here in the Northeast. They will be used to demonstrate applied and theoretical aspects of ethnobotany including the role of plants in cultural identity, strategies for maintaining and passing on local knowledge, links with conservation and biodiversity, and projects intended to address specific social needs. Prerequisites: ENVS 001 or 002, or NR 001 or 002, or ENSC 001. Enrollment Limit: 25.

ENVS 156 SU: Permaculture
91375 / 3 Credits / Keith Morris / T or R 4:25 - 7:25 pm / First of a two-part course – 156 can be taken as a stand-alone introduction to the topic. To receive certification you must be co-enrolled with ENVS/PSS 195 Permaculture Fundamentals.
Permaculture is the study and practice of the way human beings - as individuals and communities - can participate in the creation of ethical (socially just and ecologically regenerative) perennial support systems. We present a whole systems approach that integrates plants, animals, buildings, people, communities, economies, and the landscapes that surround us through careful analysis and thoughtful design. This course introduces students to the principles and practice of permaculture design through collaboration on real-world projects with an eye towards repairing, restoring, and regenerating human ecosystems. This is the first of a two-part course. Taken together, these two courses fulfill the requirements for an internationally recognized Permaculture Design Certification Course. Part one, ‘Fundamentals’ will cover the theory of permaculture design, including the history of permaculture and ecological design, permaculture ethics and principles, and explore the application of ecological, anthropological, ethnobiological, and evolutionary sciences to agriculture and human ecosystems, the built environment, as well as social and economic organization (‘invisible structures’). Skills and techniques for ‘reading the landscape,’ developing site-responsive design, and representing interpretations and plans through visual maps and public presentations will be developed through a collaborative design by students in groups. Students explore various food production, energy production, waste management, water and shelter systems, and assess their potential for integration to meet human needs while improving ecosystem health. Field trip scheduled for 10/1 and 10/2 from 8 AM to 6 PM. Cross-listed with: PSS 156 A. Prerequisites: 3 credits in basic biology, ecology, or permission. Enrollment Limit: 22 in each section.

ENVS 167 D2: Global Environmental History
91963 / 3 Credits / Frank Zelko / TR 4:25 - 5:40 pm
In addition to introducing students to the basic principles and concepts of environmental history, this course will explore the influence of nature—climate, topography, plants, animals, and microorganisms—on human history and the way people, in turn, have influenced the natural world around them. Global in scope, this course will examine how humans have interacted with their environment from the Paleolithic era to modern times. In particular, it will focus on how some of the world’s major civilizations changed their environment, how the environment limited their development, and how they coped—or failed to cope—with the environmental problems that civilizations inevitably produce. Assessment: Exams and quizzes. Cross-listed with HST 067. Prerequisites: ENVS 002 or NR 002. Enrollment Limit: 55.

ENVS 170 A Nature Drawing
91792 / 3 Credits / Libby Davidson / T 1:15 - 5:40 pm
The core of this course will be our on-site drawing sessions in the field. Along the river, at UVM natural areas, in the woodlands, fields and gardens of the Intervale we will cover a range of methods and tools for translating what we observe into meaningful graphic form. Our practice will be informed by the study of the prints, journals, sketchbooks and drawings of natural history, botanical and landscape artists. We will also explore and employ some of the distinctive pictorial conventions of East-Asian and western landscape traditions. Students will be guided in advancing their confidence in drawing skills, producing a portfolio of drawings and a final graphic project. Prerequisites: Minimum sophomore standing; ENVS 001 or 002 or NR 002. Enrollment Limit: 15.

ENVS 170 B Landscape Photography
96125 / 4 Credits / Dan Wells / R 1:15 – 5:40 pm
This is a relatively unconventional course combining photography and natural history. All levels of photographic skill are welcome, as are all levels of previous experience in the Vermont landscape. We use the camera as a tool to explore and learn about the world around us. While we spend some time on basic photographic concepts like aperture, shutter speed, composition and lens choice (and there is plenty of opportunity to learn as much as you want in these areas), the more important focus of the class is community to learn as much as you want in these areas), the more important focus of the class is confidence in drawing skills

ENVS 173 Landscape Natural History
91153 or 91673 / 3 Credits / Ian Worley (M) or Alicia Daniel (W) / M 1:10 - 4:45 pm or W 12:00 - 3:45 pm / Off-Campus
Consisting entirely of field trips, this course will explore the nature of Vermont’s landscapes from an interdisciplinary perspective. Through site visits and projects students will learn skills to help understand why landscapes look the way they do. We'll investigate a variety of locations including lakeshores, cliffs, uplands, and ravines—looking at the interactions among rocks, soil, water, plants, animals, weather and human activity, emphasizing how the past has shaped the present. From Aristotle's insights on plant lifeforms to the myriad of natural scientists that travel daily to the smallest and broadest features of Earth, we will draw upon the fundamental questions of natural history that evolved from Francis Bacon and others of the dawn of modern science – who created with the explorations of Cook and Darwin the paradigms of the great natural historians of a century ago – and reveal simple pictures of local events in the interwoven scapes of many scales viewed so wonderfully from College Hill. Time, space, dimensions – along with entities and energy – bring forth patterns built by processes constrained by simple principles in complex interactions. We will study these not as Watson, but as Mr. Holmes (Sherlock, that is) always asking deductively to what each observable is a clue. Our axioms are the principles and facts hard won through centuries of observation combined with inductive and experimental research. Yet this Western approach is but one investigative and epistemological tool, indigenous knowledge and the wisdom of Coyote bring other insight and realities. Perspectives from natural history, landscape ecology, historical analysis, agriculture and forestry, conservation biology, and aesthetics will be integrated during site
assessments. Prerequisites: ENVS 001 or NR 001. Enrollment Limit: 15 in each section.

ENVS 174 Natural Areas Conservation and Stewardship
95537 / 3 Credits / Rick Paradis / W 4:05 - 7:05 pm
Natural areas serve many functions from maintaining regional biological diversity and habitat to providing important open space for contemplative, educational, and recreational activities. Protecting and managing these areas in fragmented and human-influenced landscapes is an increasingly formidable challenge. This course examines the land protection and stewardship activities of conservation organizations, land trusts, and public natural resource agencies along with the principles of ecology, conservation biology, and landscape ecology in an effort to better understand the important issues, approaches, and concerns in conserving and managing natural areas in diverse and often fragile settings. A premise of this course is that sound ecological thinking and information should fuel decision-making in land protection and management. We will explore these topics using a combination of readings, presentations, discussion sessions, guest speakers, take-home assignments, problem-solving exercises, and field investigations. Prerequisites: ENVS 001, NR 001 or permission. Enrollment Limit: 30.

ENVS 179 D2: Ecofeminism
93171 / 3 Credits / Annika Ljung-Baruth / F 12:00 - 3:00 pm
Investigation of the parallel dominations of women and nature, through analysis and reflection on ecofeminist theory, activism, and spirituality. This class is an introduction to the developing field of ecofeminism, which is both an academic subfield of philosophy and environmental ethics, and a type of activism. Students will read some of the most influential writers in the field-theorists, historians, activists, and spiritual revisionists - and consider the implications of their ideas for environmental thought and analysis. Students will also undertake hands-on action projects reflecting ecofeminist principles. Cross-listed with: WGST 179. Prerequisite: ENVS 001, ENVS 002, NR 002, or GSWS 001. Enrollment Limit: 11.

ENVS 180 Radical Environmentalism
95541 / 3 Credits / Brain Tokar / W 4:05 - 7:05 pm
As environmental problems continue to escalate, a variety of radical currents have come to influence ecological thought and activism, representing a critical alternative to traditional environmentalism. This course will describe the historical emergence of various radical environmentalisms, examine several ecologically-based philosophies, and explore case studies of environmental resistance movements in the US and around the world. Readings, class discussions, and guest presenters will include a wide range of perspectives – scholarly and popular, analytical and prescriptive, political and philosophical. Students will have the opportunity to examine today's pressing environmental issues through the lens of emerging movements and philosophical traditions, and develop and reflect upon a hands-on group project that serves to apply this knowledge to a local or regional environmental campaign. Prerequisites: ENVS 001 or 002 or NR 002. Enrollment Limit: 30.

ENVS 182 D2: Religion and Ecology
95660 / 3 Credits / Kit Anderson / TR 1:15 - 2:30 pm
Pope Francis and the Dalai Lama are among world religious leaders who have called the faithful, as well as political leaders, to address Earth’s changing climate. Will this help to shift attitudes and behaviors? Some scholars of religion and ecology believe this is exactly what’s needed. Others are not so sure. In this course we’ll explore connections between the world’s religious traditions and the environment, and the role of beliefs, practices and cultural contexts in shaping human/other-than-human relationships. We’ll also study recent events and documents to learn what trends are emerging that might affect the future. Class will include readings, discussions, written assignments, guest lectures, research and forays into the community beyond UVM. Several types of contemplative practices and traditional storytelling will be integrated throughout. Prerequisites: ENVS 001, ENVS 002 or NR 002; REL 020 or 021 preferred. Enrollment limit: 30.

ENVS 191 Environmental Practicum/Internship
0.5-9 Credits / Staff / TBA
Students engage in independent study, research or internships that have been developed with a site supervisor and faculty sponsor. Course coordinator must approve proposals before the activity begins. Prerequisites: Sophomore standing. Instructor permission required.

ENVS 195 A Energy Action Seminar
93178 / 1 Credit / Richard Watts / M 4:05 - 5:20 pm
This special seminar series, supported by UVM’s Clean Energy Fund, features top-level thinkers engaged in identifying best practices for implementing renewable energy. Energy has major environmental impacts, both in how we use it and how we extract it, contributing, for example, from 30 to 40 percent of our total greenhouse gases. Renewable energy resources can sharply lower these impacts, yet increasing the share of renewable energy is a challenge. Students will be offered a variety of field trips to energy facilities and green buildings in Vermont and also the opportunity for lunch and dinner (paid through the course) with several guests. Speakers working at the forefront of these issues will lead discussions on solar, wind, biomass, hydro and other renewable energy technologies and associated public policies. Past speakers have included: Duane Peterson, co-founder of SunCommon; Lisa Song, reporter at InsideClimate; and David Hochschild, commissioner at the California Energy Commission. We expect to generate lively conversations with our invited speakers as we explore how to build a more sustainable and renewable energy system. Prerequisites: ENVS 001, 002 or NR 001, 002 or ENSC 001. Enrollment Limit: 36.

ENVS 195 B SL: Sustainability from a Non-Human Perspective
94632 / 3 Credits / Trish O’Kane / M 7:30 - 10:30 am
This course puts undergraduates in charge of finding urban wildlife on and around campus, and mapping their territories. You will learn to observe and document the wildlife on your doorstep. The types of energy sources we use, the food we eat, the waste we produce, the way we move from one place to another, the types of structures we build, the noise we make, all affect other species. This course will explore these impacts through weekly lectures and field outings on campus. Visiting community speakers ranging from exterminators to animal rights activists will cover the spectrum of perspectives on urban wildlife. The disciplines of urban ecology and urban design for the biophilic city provide the conceptual framework for this course. Prerequisites: ENVS 001, 002 or NR 001, 002 or ENSC 001. Enrollment Limit: 15.
ENVS 195 C Applied Ecology
95542 / 3 credits / Richard Paradis / TR 11:40 am -12:55 pm
This course provides students with an opportunity to develop a comprehensive knowledge base of the principal concepts, ideas, relationships, and tensions in ecology. We will investigate the physical characteristics of natural systems and the manners by which individuals and groups of individuals (populations) respond to these characteristics and with one another. Participants will learn how to apply an ecological perspective to the identification, framing, and addressing of emerging and recognized environmental challenges. Prerequisites: ENVS 001, 002 or NR 001, 002 or ENSC 001. Enrollment Limit: 60.

ENVS 195 D Academic Planning Workshop
95703 / 1 Credit / Elizabeth Wright / TR 1:15 - 2:30 pm / Only meets for first 6 weeks of the semester
This new one-credit, six-week course replaces ENVS 151 as a requirement for ENVS majors. It is designed to inform and direct ENVS sophomores who have completed ENVS 001 and 002 and are ready to develop an interdisciplinary plan of study that aligns with their emerging academic, personal and professional interests. A range of activities will instruct, inspire, assist and challenge students to take responsibility for their education. Expect guest speakers; readings and reflective writings; internet research; and engagement with class peers, ENVS faculty and staff, and peer mentors. Students will leave the course having completed a comprehensive major plan. Prerequisites: ENVS majors only; minimum sophomore standing; ENVS 001 and 002. Enrollment Limit: 60.

ENVS 195 E The Southwest Borderlands
94608 / 3 Credits / Mary Mendoza / MW 5:05 - 6:20 pm
In the wake of the U.S.-Mexican War in 1848, Anglo-settlers, Native Americans, Asians, and Mexicans struggled over competing visions of an American future that would take root in the Southwest Borderlands. In this semester-long course, we will examine how cross-cultural encounters shaped policy, changed the landscape, and heightened racial tensions. Using a variety of texts—documentary and feature films, magazine and newspaper articles, travelers’ accounts, academic monographs and articles, and popular literature—we will explore a range of topics: territorial expansion, Native dispossession, racial formation and anxiety, the creation of the sunbelt, Mexican and Asian migration and labor, and cultural change and negotiation. Our course will begin with a close examination of the U.S.-Mexican War and then follow a series of selected historical events that lead up to some of the current political and cultural debates that continue in the borderlands today. Drawing on these items, we will ultimately reflect on how past and present collide in the U.S.-Mexican borderlands, shaping the United States in countless ways. Cross-listed with HST 195 B and CRES 195 A. Prerequisites: ENVS 001, 002 or NR 001, 002 or ENSC 001. Enrollment Limit: 40.

ENVS 195 G SL: Natural History of Centennial Woods
91305 / 3 Credits / Teage O’Connor / T 1:15 - 4:15 pm / Off-Campus
Ski slopes, army bunkers, abandoned beaver ponds, pine plantations, mile-high glaciers, and a multitude of other characters have all played a part in shaping what we now know as Centennial Woods. In this field-based class we will take an in-depth look at the 65-acre natural area embedded within a much larger matrix of rivers, highways, houses, and power lines. While learning how to tell the story of a landscape from what we still see, we will calibrate and attune our own senses to perceiving change as it happens and as it has happened. Prerequisites: Minimum sophomore standing; ENVS 001, 002 or NR 001, 002 or ENSC 001. All classes will be conducted in the field; Contact instructor for meeting place. Enrollment Limit: 15.

ENVS 195 IJ Permaculture Fundamentals
91318 or 91497 / 2 Credits / Keith Morris / T or R 4:25 - 7:25 pm / This is the second of a two-part course. You must be co-enrolled in ENVS/PSS 156 Permaculture.
This is the second of a two-part course. Taken together, these two courses fulfill the requirements for an internationally recognized Permaculture Design Certification Course. Part two, ‘Fundamentals’ will build on the foundations, skills, and perspectives developed during part one, ‘Permaculture’, and bring them into practical application. This second part consists of facilitating students’ individual designs for sites of their own choosing, and culminates with these individual design presentations. Sites are specific to students’ personal learning goals and will range from farms and community-scale designs to yards, apartments, urban sites, and other applications of permaculture in a wide variety of cultural and ecological contexts. We focus on the interaction, social and environmental health by exploring relationships between the built environment, food security, energy, and water; and retrofitting this infrastructure to appropriately respond to the confluent crises of the 21st century with localized resilience and abundance. The principles and the interaction process introduced and developed through this course are applicable in any climate or area of the world. However, field trips and practical examples will focus in particular on patterns, techniques, species, and other strategies that embody the potential for ecological culture in the cold-temperate northeast of North America. Cross-listed with: PSS 195 A/B. Prerequisites: Minimum sophomore standing; Must be co-enrolled with ENVS/PSS 156 Permaculture. Students enrolled in Part II, Permaculture Fundamentals (ENVS/PSS 195) must have successfully completed Part I, Permaculture (ENVS/PSS 195). No students will be allowed into Part II without previously completing Part I, ideally in the same semester. Instructor permission required, email Keith.Morris@uvm.edu. Enrollment Limit: 22 in each section.

ENVS 195 K Emerging Technologies and Health
95759 / 3 Credits / Bindu Panikkar / MW 3:30 - 4:45 pm
The course examines the possible social, environmental and health risks caused by emerging technologies in the areas of agriculture, medicine, and human reproduction. Students will gain a basic scientific/technical literacy pertaining to the biological concepts associated with new developments in genetic engineering, nanotechnology, and biotechnology. We will discuss and critically analyze the scientific contributions to public policy and the role it plays in shaping values in society. Topics include: genetically engineered technology, bovine growth hormone, transgenic animals, human genetic engineering/eugenics, cloning, DNA identification, privacy, DNA databases, and genetic discrimination; behavioral genetics; forensic DNA, the Human Genome Project, the cloning debate; globalization and patenting of genes and life forms. The social controversies will be examined through the context of contested science, risk assessment, sustainable development, environmental ethics, precautionary principle, religious and secular values and ideology, and cultural norms. Prerequisites: Minimum sophomore standing; ENVS 001, 002 or NR 001, 002 or ENSC 001. Enrollment Limit: 40.

ENVS 197 Students Teaching Students
91958 / 3 Credits / TBD / W 4:05 – 7:05 pm
Prerequisites: ENVS 001, 002 or NR 001, 002 or ENSC 001. Enrollment Limit: 15.
ENVS 201 Research Methods
90497 / 3 Credits / Brendan Fisher / TR 1:15 - 2:30
This course covers the planning, design, and methods for the ENVS 202 senior capstone thesis or project. It is taught in seminar style and includes instruction and guidance for preparing the literature review and final proposal. Prerequisite: ENVS majors only; Minimum junior standing; ENVS 151. Enrollment Limit: 15.

ENVS 202 A Senior Project and Thesis
90728 / 1-9 Credits / Brendan Fisher / TR 4:25 – 5:40 pm
Weekly voluntary check-in help/support sessions for students working on their ENVS 202 Senior Project or Thesis. Variable credit course. Prerequisite: ENVS major; minimum junior standing; ENVS 201 or concurrent registration, ENVS 151. Enrollment Limit: 15.

ENVS 202 D Senior Capstone Internship
91753 / 1-9 Credits / Staff / W 3:30 - 4:20 pm
Weekly voluntary check-in help/support sessions for students working on their ENVS 202 Capstone Internship. Variable credit course. Prerequisite: ENVS major; minimum junior standing, ENVS 151. Enrollment Limit: 40.

ENVS 202 E Food, Land, Community Senior Capstone (Thesis or Internship)
95704 / 1-9 Credits / Ernesto Mendez / W 3:30 - 4:20 pm
Weekly voluntary check-in help/support sessions for students working on their ENVS 202 Capstone Internship. For students with Food, Land, Community concentration working on a senior thesis or capstone internship with Ernesto Mendez. Variable credit course. Prerequisite: ENVS major; minimum junior standing; instructor permission only. Enrollment Limit: 15.

ENVS 203 Honors Thesis
90729 / 1-9 Credits / Brendan Fisher / TBA
Honors conferred upon thesis evaluation. Variable credit course. Prerequisites: ENVS majors only; ENVS 201; Instructor permission only.

ENVS 212 SL: Advanced Agroecology
92325 / 4 Credits / Ernesto Mendez / TR 10:05 - 11:20 am / Must register for lab
This course presents and in-depth overview of research and applications in the field of agroecology, with a focus on providing the student with conceptual and analytical content. The course combines an international and domestic geographic focus, and examines case studies from the U.S. and abroad. The learning and teaching objectives of the course are as follows: 1) students become familiar with current research and applied concepts and applications within the field of agroecology; 2) through hands-on field exercises in local farming systems, students learn ecological and social research and analytical skills, which are commonly used in agroecology and agro-food systems research; 3) students practice working in groups; 4) students practice their critical thinking and communication skills throughout the course by participating in discussions and preparing written and visual material. As a service-learning course students are required to contribute a minimum of 12 hours of service working (and learning) with our farmer partners. This is apart from the hours of fieldwork students will dedicate to their agroecological investigations. Cross-listed with: PSS 212. Pre/co-requisite: Senior or Graduate standing; PSS 021 or 1 semester ecology at or above the 100 level; or permission; Must register for ENVS 212 lab A01 or A02. Enrollment Limit: 24.

ENVS 284 Teaching about the Environment
91030 / 1-2 Credits / Amy Seidl / F 8:00 - 9:30 am
Teaching assistantship for ENVS 001. Students gain practical teaching experience through assisting with instruction, evaluation, and reflection. Tasks may include: leading discussion sessions, grading, and developing course materials. Prerequisites: Permission of instructor; minimum junior standing. Variable credit, may be repeated. Enrollment Limit: 15.

ENVS 291 Advanced Environmental Practicum/Internship
90493 / 1-9 Credits / Staff
Students engage in advanced level independent study or internships developed with a site supervisor and faculty sponsor. Course coordinator must approve proposals before the activity begins. Prerequisite: Senior standing, instructor permission required. Enrollment Limit: 15.

ENVS 295 A Cars, Culture, and the Media
91988 / 3 Credits / Robert Williams / M 5:05 - 8:05 pm
In the U.S. car use has steadily increased since the early part of the 20th century. Today, mobility is defined as automobility, or motorization, because about 85 percent of the trips we take (for a purpose) are in automobiles. Central to the growth in automobility has been the size, power and force of the automobile industry. Cars have become woven into American culture so much that it has become cliché to say that we have a “love affair with the car.” Culture can be defined as the symbols of expression that individuals, groups and societies use to make sense of their daily lives and to articulate their values. Culture is reproduced through music, TV, movies and advertising among other venues. We will break down the “love affair with the car” by examining the culture that surrounds the automobile, the promotion of that culture over time and the role of the media in promulgating car-related cultural artifacts. Prerequisites: Minimum sophomore standing; ENVS 001, 002, or ENSC 001. Enrollment Limit: 25.

ENVS 295 B Community-Based Conservation
91752 / 3 Credits / Cecilia Danks / W 12:00 – 5:30 pm
Community-based conservation encompasses a diverse and growing set of integrative, place-based and collaborative approaches to protecting and sustainably using natural resources to achieve social and environmental goals. Its importance to both ecosystem health and local livelihoods has been growing and evolving in the Global North and South. This advanced, service-learning course combines social science theory, empirical evidence and field practice related to community-based management of forests and wildlife. We will visit a several community initiatives in VT and explore international examples through case studies. Some of the questions we grapple with include: How can cash-strapped communities conserve and care for the places that are important to them?; How do communities, businesses, nonprofits and government agencies collaborate to manage common
pool resources in ways that promote social and ecological well-being? What challenges and opportunities arise in working across ecological and institutional scales? How might community-based approaches address or exacerbate inequality? Classes typically meet during the 12-3:30 pm time slots, and the 3:30-5:30 pm period will only be used on field lab days. Approximately three to five field labs will explore community-based conservation close to home. There will also be one, required, full day trip on a Saturday in October. Service learning will be integrated into several of the field labs, and students will complete an SL term project. Cross-listed with: NR 285 C and FOR 295 C. Prerequisites: Minimum junior standing. Enrollment Limit: 25.

ENVS 295 C The Real Cost of Food
91851 / 3 Credits / Eric Garza / W 12:00 – 3:00 pm
What is the real cost of food? Food production in the United States, and in all other countries, requires a range of inputs and creates a range of waste outputs and impacts. For most people in developed countries, the only connection they have to the complex system that delivers the food they eat is the process of eating it; most modern people are not intimately involved in food production. This course will explore the real costs of food, including units on the energy requirements of food production, the environmental impacts caused by food production, and social impacts associated with food production. Life Cycle Assessment will serve as an organizing framework for the class. Brief reflections on key articles and other media, quantitative problem sets, a book review, and a group research project will supplement readings as pedagogical tools. The goal of the course is to teach the value of seeing the food system and the products it delivers in a multifaceted way, rather than judging based solely on one or just a few outcomes or impacts. Prerequisite: Minimum junior standing. Enrollment Limit: 25.

ENVS 295 E Eastern Wilderness
91267 / 3 Credits / Jim Northup / R 4:35-7:35
This course will focus on eastern North America’s rich, living tradition of wildlands restoration and protection from the perspectives of history, science and policy. We will ground our thinking in the natural and cultural histories of the region and in the wilderness advocacy of prominent conservationists with roots in the northeastern North America. We will look briefly at the cultural contexts and public policy debates underlying establishment of: the Adirondack Forest Preserve, the nation’s first and best protected wilderness area, and the National Wilderness Preservation System. We will also consider recent efforts to restore and protect keystone predators as essential elements of healthy, whole wildland systems, and will look closely at an exciting transboundary, landscape-scale, science-based effort by Two Countries, One Forest, a network of Canadian and U.S. scientists and conservationists working in the Northern Appalachian eco-region—our home. Advanced undergraduates, graduate students, and adult learners have enrolled in this class in the past. The experience and maturity of the students and the relatively small size of past classes have enabled the course to be structured as a seminar—“a course of study pursued by a group of students doing advanced readings and research with guidance by a professor.” Although the instructor and outside speakers will occasionally lecture, students will be expected to stimulate and actively engage in discussions. Students will be allowed some discretion in choosing readings and written assignments relevant to their areas of academic interest, but within the context of the course. Flexibility in course content and schedule will be maintained to enable exploration of relevant issues that arise during the semester and to allow for more in-depth coverage of topics of special interest to the students. Prerequisite: Minimum junior standing. Enrollment Limit: 25.

ENVS 295 G Human Ecology, Health & Sustainability in the Circumpolar Arctic
95705 / 3 Credits / Bindu Panikkar / T 4:35 – 7:35 pm
The Arctic has become a lens through which to understand the world. An unstable Arctic poses threats, not only to the future of the region, but also to the world itself. In this course we will explore a landscape that is rapidly changing, largely as a result of climate and socioeconomic changes. This seminar provides an interdisciplinary overview of histories and approaches to human-environment interactions in the circumpolar Arctic, with a focus on the contexts of sustainability, resilience, equity and social justice. We will examine the changing Arctic environment in three parts: the first part explores the various contentions surrounding the Arctic region within a framework of climate change, challenges to the ecosystem, to indigenous economies, and individual and community lifestyles, health and well-being. The second focuses on indigenous peoples response to climate change, dangers brought by increased natural resource development projects in pristine areas, the global distillation of persistent organic pollutants to the north, and the increased threats to human health. The third part focuses on the geopolitics of Arctic governance, indigenous rights, and on the resilient and sustainable development policies being considered for the region. This course will also explore opportunities rooted in resilience and sustainability thinking, and on how an understanding of socio-ecological processes offer design solutions for sustainable futures within the changing Arctic. Cross-listed with: NR 395 I. Prerequisite: Minimum junior standing. Enrollment Limit: 25.

ENVS 295 H SL/SU: Environmental Sustainable Education
95830 / 4 Credits / Trish O’Kane / TR 10:05 – 11:20 am and W 2:00 – 5:00 pm
This service-learning course will pair UVM students as enviro-mentors and “bird buddies” with children at Flynn Elementary School. By creating an after-school birding and nature club for fourth and fifth graders, UVM students will lay the foundation for a university pipeline program; many of Flynn’s students will become first-generation college students. Our class will cooperate with staff at Flynn Elementary School on Burlington’s New North End to provide this programming. Flynn Elementary has the largest after-school program in the Burlington school district with students from 33 different countries. The school is making herculean efforts to meet student needs by providing after-school programming and by emphasizing the sciences. Surrounded by woods and beautiful parks and gardens, this elementary school is just a five-minute walk from Lake Champlain. Based on the theoretical framework of environmental justice—that the environment is where we live, work and play—our class will help Flynn students to connect to their immediate environment and to improve it. In addition to Tuesday-Thursday indoor/outdoor lectures at UVM on birding, pedagogy, local justice issues in education, sustainability and nature study, the class will meet every Wednesday afternoon from 2-5:30pm at Flynn Elementary to work outside and inside with the children. No prior birding experience is necessary (experience working with children would be extremely helpful). Students will learn how to identify Vermont’s most common birds by sight and sound, then they will teach that skill to their Flynn “bird buddies” or “co-explorers.” We will spend every Wednesday afternoon together exploring the neighborhood surrounding Flynn to learn what the parks, woods, lake, and all the wild creatures have to teach us, and what we all have to teach each other. Prerequisites: Junior or senior standing, instructor permission required. Enrollment Limit: 25.