

ENVIRONMENTAL STUDIES (ENST)

ENST 100 - ENVIRONMENT, CULTURE AND SOCIETY

Short Title: ENVIRONMENT, CULTURE & SOCIETY

Department: Environmental Studies

Grade Mode: Standard Letter

Course Type: Lecture

Distribution Group: Distribution Group II

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Lower-Level

Description: This introductory course in environmental studies helps students to better understand the complex interrelationship between human cultures and their social and physical environments. Lectures and assignments draw upon the methods and expertise of architecture, the humanities and the social sciences. This is a core course of Rice's Environmental Studies minor. Cross-list: ARCH 105.

ENST 117 - FRESHMAN SEMINAR IN LOCAL ENVIRONMENTAL SCIENCE RESEARCH

Short Title: FRESHMAN ENVIRONMENTAL SEMINAR

Department: Environmental Studies

Grade Mode: Standard Letter

Course Type: Seminar

Credit Hour: 1

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Lower-Level

Description: A 7-week seminar course to introduce freshmen perspective environmental science researches to the excitement of research at Rice and in the broader Houston area, and to provide context with which to think about facts presented in textbooks. Small groups will meet weekly with a graduate student or postdoctoral researcher to explore a published research article by a local team of researchers, gaining background information about the subject and exposure to the research techniques. In the final session, the group will tour the lab that produced the feature article. Additional tours and activities TBA. All first year non-transfer students are eligible to enroll in ENST 117 regardless of AP credit. This course meets in the second half of the semester and features research in the Environmental Science Major. Distribution Credit for ENST 117 no longer eligible beginning Fall 2019.

ENST 201 - THE SCIENCE OF CLIMATE CHANGE

Short Title: SCIENCE OF CLIMATE CHANGE

Department: Environmental Studies

Grade Mode: Standard Letter

Course Type: Lecture

Distribution Group: Distribution Group III

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Lower-Level

Description: This undergraduate course will introduce students to the fundamentals of natural and anthropogenic climate change. After briefly reviewing Earth's composition and its fluid envelopes, we will cover the basic physics of the climate system, providing tools to understand weather and climate phenomena (e.g. monsoons, El Niño), the greenhouse effect, and climate feedbacks. Building on this understanding, a succinct tour of geologic history will help us paint a more complete picture of Earth's climate variations and how they affected human evolution and history. With this context, we will be able to judge the anomalous character of recent climate change, establish its anthropogenic nature, and discuss solutions to the current climate crisis. Students from any major are encouraged to enroll and engage on important topic. Cross-list: EEPS 107. Mutually Exclusive: Cannot register for ENST 201 if student has credit for EEPS 107.

ENST 202 - CULTURE, ENERGY, AND THE ENVIRONMENT: AN INTRODUCTION TO ENERGY HUMANITIES

Short Title: CULTURE ENERGY & ENVIRONMENT

Department: Environmental Studies

Grade Mode: Standard Letter

Course Type: Lecture

Distribution Group: Distribution Group I

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Lower-Level

Description: Humanity faces extraordinary challenges in an era of climate change and energy transition. These challenges are not only technological but also questions of value, power, behavior, and understanding. This course draws upon new research across the arts, humanities and social sciences to help students better understand the cultural and social dimensions of our current patterns of energy use, their environmental impacts, and the possibility of new energy futures. Intended for both STEM majors and humanities and social science students. Cross-list: HUMA 202.

ENST 205 - RECKONING WITH THE ANTHROPOCENE

Short Title: RECKONING W/ THE ANTHROPOCENE

Department: Environmental Studies

Grade Mode: Standard Letter

Course Type: Lecture

Distribution Group: Distribution Group I

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Lower-Level

Description: This course joins the ongoing effort to make sense of how humans have reshaped the planet and its ecosystems. It does so by focusing on how a key concept, the Anthropocene, has journeyed from the geological sciences to a wide array of disciplines and audiences. We'll explore how historians, critics, philosophers, journalists, scientists, activists, poets, novelists, filmmakers, and others are finding new ways to talk about how we got here and how we might contend with the possible futures that await us. We'll hone new skills for reading, writing, and thinking about changing environments. And together we'll imagine the kind of communities we might create in response to a warming world.

ENST 210 - SUSTAINABLE FUTURES: AN EXPLORATION OF GLOBAL SUSTAINABILITY CHALLENGES AND SOLUTIONS

Short Title: SUSTAINABLE FUTURES

Department: Environmental Studies

Grade Mode: Standard Letter

Course Type: Lecture

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Lower-Level

Description: Sustainable Futures will explore a wide array of global sustainability challenges and solutions alongside significant trends and disruptive technologies that are shaping the future. Throughout the journey, discussions will be enhanced by drawing upon lessons from human exploration of analogous extreme environments in space – like Mars, the Moon, and low-earth orbit – as well as from terrestrial locales known as extreme environments. Sustainable Futures may feature an optional spring break trip to further enrich course content, for which an additional fee will be necessary.

ENST 238 - SPECIAL TOPICS

Short Title: SPECIAL TOPICS

Department: Environmental Studies

Grade Mode: Standard Letter

Course Type: Independent Study, Internship/Practicum, Laboratory, Lecture, Lecture/Laboratory, Seminar, Studio

Credit Hours: 1-4

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Lower-Level

Description: Topics and credit hours vary each semester. Contact department for current semester's topic(s). Repeatable for Credit.

ENST 250 - UNDERSTANDING ENERGY: ENERGY LITERACY AND CIVICS

Short Title: UNDERSTANDING ENERGY

Department: Environmental Studies

Grade Mode: Standard Letter

Course Type: Lecture

Credit Hours: 3

Restrictions: Students with a class of Freshman may not enroll.

Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Lower-Level

Prerequisite(s): or or or

Description: Energy is a foundational driver of human development. Energy impacts our economy, politics, culture, and environment. In this course, students will learn the fundamentals of energy in the context of broader systems and will be asked to think critically about how and why we rely on particular energy resources. The course structure will be comprised of lectures and class discussions along with field trips to power plants, chemical plants, and/or refineries. This class is vital for students interested in the environment and/ or the energy industry. First year Rice students may not enroll in this course. Formerly offered as HURC 302. Mutually Exclusive: Cannot register for ENST 250 if student has credit for HURC 302.

Course URL: understandingenergy.rice.edu (<http://understandingenergy.rice.edu>)

ENST 265 - SCIENCE FICTION AND THE ENVIRONMENT

Short Title: SCI FI AND THE ENVIRONMENT

Department: Environmental Studies

Grade Mode: Standard Letter

Course Type: Seminar

Distribution Group: Distribution Group I

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Lower-Level

Description: Examines the ways that science fiction has expressed and challenged ideas about nature, culture, society, and politics. Cross-list: ENGL 269.

ENST 281 - ENGINEERING SOLUTIONS FOR SUSTAINABLE COMMUNITIES

Short Title: ENGRG SUSTAINABLE COMMUNITIES

Department: Environmental Studies

Grade Mode: Standard Letter

Course Type: Lecture

Distribution Group: Distribution Group III

Credit Hours: 3

Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.

Course Level: Undergraduate Lower-Level

Description: Students will work in teams to develop sustainable solutions for energy or environmental problems affecting our Houston and Rice communities. Emphasis will be placed on the integration of engineering fundamentals with societal issues, environmental and safety considerations, sustainability and professional communications. Prerequisites: introductory engineering courses, or permission of instructor. Cross-list: CHBE 281.

ENST 301 - ENVIRONMENTAL JUSTICE**Short Title:** ENVIRONMENTAL JUSTICE**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Seminar**Distribution Group:** Distribution Group I**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Description:** The impacts of environmental turmoil, climate change, toxicity, pollution, biodiversity loss, and more increasingly impact all but rarely equally. To consider environmental justice in this course is to consider these differential impacts (and their relationship to race, gender, ethnicity, economics, region, and other factors) and possible responses and remedies to these inequities with respect to a range of communities and regions through a range of arts, media, cultural documents, and social phenomena.**ENST 302 - ENVIRONMENTAL ISSUES: RICE INTO THE FUTURE****Short Title:** ENVIRON ISSUES: RICE IN FUTURE**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Laboratory**Distribution Group:** Distribution Group III**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Description:** Students use the campus as a laboratory for learning about sustainability through group projects to reduce Rice's environmental impact or resolve environmental issues. Cross-list: SOCI 304.**ENST 307 - ENERGY AND THE ENVIRONMENT****Short Title:** ENERGY AND THE ENVIRONMENT**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Lecture**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Description:** This course explores the physical principles of energy use and its impacts on Earth's environment and climate. Topics will include energy mechanics, climate change, and the environmental impacts and future prospects of various fossil fuel and alternative energy sources. Cross-list: CEVE 307, EEPS 307.**ENST 311 - TOPICS IN ENVIRONMENTAL JUSTICE****Short Title:** TOPICS ENVIRONMENTAL JUSTICE**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Seminar**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Description:** A variable topics seminar that takes an in depth approach to questions of environmental justice. Topics will vary from semester to semester and may include "Black and Green: Environmental Justice in the Afro-Americas" and others. Repeatable for Credit.**ENST 312 - JUSTICE IN THE FOOD SYSTEM****Short Title:** JUSTICE IN THE FOOD SYSTEM**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Lecture**Distribution Group:** Distribution Group II**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Description:** "Justice in the Food System" takes an interdisciplinary approach to the critical examination of injustice in the United States food system, drawing from humanities and social science approaches and with special attention to environmental concerns. The overarching goal of this class is three-fold. First, to understand the structure of the US food system and the ways that it is shaped by forms of power rooted in inequalities of race, class, and gender. Second, the course will introduce students to the concept of food justice and some of the key struggles of the food justice movement in the United States, as understood through lenses of land, labor, and agriculture. Third, students will draw from their structural understanding and exposure to varied critical perspectives to envision more just food futures and articulate these through a final project.**ENST 313 - CASE STUDIES IN SUSTAINABLE DESIGN****Short Title:** CASE STUDIES IN SUSTAIN DESIGN**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Seminar**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Description:** This course will explore sustainable design from initial sustainable facility concepts and team organizations, to enlisting community support and process assessment. The course will develop into details about sustainable design, lessons learned, processes and outcomes. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day class by the individual instructor. Cross-list: ARCH 313. Graduate/Undergraduate Equivalency: ENST 613. Mutually Exclusive: Cannot register for ENST 313 if student has credit for ENST 613.**Course URL:** www.arch.rice.edu/academics/current-courses (<http://www.arch.rice.edu/academics/current-courses/>)**ENST 314 - CULTURES AND MEDIA OF ENVIRONMENTAL HEALTH****Short Title:** CULTURE/MEDIA OF ENVIRO HEALTH**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Seminar**Distribution Group:** Distribution Group I**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Description:** Cultures and Media of Environmental Health is a discussion based seminar that addresses the uncertainty of our ecological future and the changing environment's impact on human and nonhuman health from an interdisciplinary point of view. This course pays particular attention to cultural and media representation at the intersection of health and the environment. This course will consider a broad array of media to stage important questions about how scientific and cultural systems can respond to the growing pressures of "environmental health."

ENST 315 - ENVIRONMENTAL HEALTH**Short Title:** ENVIRONMENTAL HEALTH**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Lecture**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Prerequisite(s):** (BIOS 201 or BIOC 201) and (BIOS 202 or EBIO 202)**Description:** An overview of environmental health issues including discussion of epidemiologic methods, illnesses caused or exacerbated by environmental exposures, and the role of research in driving effective policies to protect and promote public health. The class includes numerous guest lectures by area experts (physicians, researchers, community activists, policymakers and others); a bus tour featuring disproportionately affected neighborhoods as well as cutting-edge "green" initiatives; original student research projects; and an opportunity to address the Houston City Council. The dynamic between research and action, i.e., "making a difference," is stressed. FORMERLY ENST 314.**ENST 316 - ENVIRONMENTAL FILM****Short Title:** ENVIRONMENTAL FILM**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Seminar**Distribution Group:** Distribution Group I**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Description:** Explores the ways film represents the environment and environmental issues (food, water, energy, waste, environmental justice, sustainability), and both expresses and shapes environmental values. We will view and analyze a variety of genres, as well as reading supplementary material. Distribution 1 credit effective Fall 2022.**ENST 321 - CASE STUDIES IN SUSTAINABILITY: THE HIGH PERFORMANCE BUILDING****Short Title:** SUSTAINABILITY CASE STUDIES**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Seminar**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Description:** The project-based seminar will provide a means by which all those with an interest in the building science entailed in the design of commercial, institutional, and residential structures can investigate common issues, obtain information, discuss local strategies, and otherwise address subjects relating to building or campus performance over its lifecycle. To develop an approach of taking an existing Rice University building an optimizing its use via "repositioning" or redesign the class will create an interdisciplinary forum where students of architecture, engineering (structural, mechanical, etc.), and human sciences will potentially collaborate with professional building consultants, materials manufactures, contractors, developers, owners, and Rice campus facility managers Cross-list: ARCH 321. Graduate/Undergraduate Equivalency: ENST 621. Mutually Exclusive: Cannot register for ENST 321 if student has credit for ENST 621.**ENST 322 - CASE STUDIES IN SUSTAINABILITY: THE REGENERATIVE REPOSITIONING OF NEW OR EXISTING RICE CAMPUS BLDGS****Short Title:** CASE STUDIES IN SUSTAINABILITY**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Seminar**Credit Hours:** 3**Course Level:** Undergraduate Upper-Level**Description:** This course will explore application of high performance, sustainable design to specific Rice University campus and facility targets. In partnership with Rice University leadership, the team effort will develop "regenerative redesign" approaches based on investigation of other campuses' case study. Space is limited and registration does not guarantee a space in this course. The final course roster is formulated on the first day of class by the individual instructor. Cross-list: ARCH 322. Mutually Exclusive: Cannot register for ENST 322 if student has credit for ENST 622.**Course URL:** www.arch.rice.edu/academics/current-courses (<http://www.arch.rice.edu/academics/current-courses/>)**ENST 332 - THE SOCIAL LIFE OF CLEAN ENERGY****Short Title:** SOCIAL LIFE OF CLEAN ENERGY**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Seminar**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Description:** This course considers the phenomenon of renewable energy, using a social scientific approach to analyze the various forces and interests involved in the development of renewable energy projects (such as hydropower, solar and wind) in both the global North and South. No prerequisites required. Cross-list: ANTH 332.**ENST 350 - ENVIRONMENTAL INTERNSHIP****Short Title:** ENVIRONMENTAL INTERNSHIP**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Internship/Practicum**Credit Hours:** 1-6**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Description:** Provides enrollment credit for approved internships with environmental organizations or agencies. Students must seek approval prior to beginning the internship. Weekly progress reports and a final paper are required. Instructor Permission Required.

ENST 367 - ENVIRONMENTAL SOCIOLOGY**Short Title:** ENVIRONMENTAL SOCIOLOGY**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Lecture**Distribution Group:** Distribution Group II**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Description:** This course focuses on the foundations of environmental sociology and takes a social and historical approach to examine how humans affect the environment and the environment affects humans. Topics include: agricultural sustainability, resource extraction and climate changes; environmental racism/sexism; globalization and development; population, and consumption, and environmental movements. Cross-list: SOCI 367.**ENST 368 - LITERATURE AND THE ENVIRONMENT****Short Title:** LITERATURE & THE ENVIRONMENT**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Lecture**Distribution Group:** Distribution Group I**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Description:** A course that asks the question: How does literature express or shape environmental values? In this class we will read American fiction and nonfiction exploring the relationship between human and nonhuman nature. Cross-list: ENGL 368.**Course URL:** www.english.rice.edu (<http://www.english.rice.edu>)**ENST 391 - SPECULATIVE FUTURES****Short Title:** SPECULATIVE FUTURES**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Seminar**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Description:** Drawing from "CliFi," "Speculative Fiction," and global anthropological case studies, this course analyzes a series of potential futures as earthly conditions continue to be altered by human activity. Students will develop speculative future models through assessing climate conditions, population displacement, ethics, ecological transformations and human practices and values. Cross-list: ANTH 391.**ENST 400 - INDEPENDENT STUDY****Short Title:** INDEPENDENT STUDY**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Independent Study**Credit Hours:** 1-6**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**ENST 406 - INTRODUCTION TO ENVIRONMENTAL LAW****Short Title:** INTRO TO ENVIRONMENTAL LAW**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Lecture**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Description:** Introduction to Environmental Law is intended to introduce the student to the methods used by the United States and the international community to regulate and/or allocate air, water and land resources. A key focus of this course will be the emerging area of the law of sustainable development, including the implementation of full price costing, life cycle analysis, carbon cycle analysis, allocation of assimilative capacity and other similar issues. Cross-list: CEVE 406.**ENST 415 - THE ENVIRONMENTAL MOVEMENT****Short Title:** THE ENVIRONMENTAL MOVEMENT**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Seminar**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Description:** Examines the environmental movement in the U.S. and globally. After a historical overview, we will use a social movement perspective to examine mobilization, organizations and tactics, ideologies and identities, as well as exploring aspects of contemporary environmentalism (e.g. green building and slow flood, wildlife management/biodiversity, sustainable development, environmental justice). Cross-list: SOCI 415.**ENST 437 - ENERGY ECONOMICS****Short Title:** ENERGY ECONOMICS**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Lecture**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Prerequisite(s):** ECON 301 or ECON 370**Description:** Discussion of key aspects in the supply and demand of energy. Topics include optimal extraction of depletable resources, transportation, storage, end-use and efficiency, and the relationship between economic activity, energy, and the environment. Cross-list: ECON 437.

ENST 441 - GOVERNING THE ENVIRONMENTAL COMMONS**Short Title:** GOVERNING ENVIRONMENTAL COMMONS**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Seminar**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Prerequisite(s):** POLI 395**Description:** Common Property Resources (CPRs), such as fisheries, aquifers, and the Internet, appear in many guises and pose a fundamental problem for governing. Exploration of theoretical underpinnings for CPRs, their growing literature, and the political and economic institutions mediating CPR dilemmas. Included is an original research project in conjunction with the instructor. Cross-list: POLI 441.**ENST 445 - SEMINAR IN URBAN SUSTAINABILITY AND LIVABILITY RESEARCH METHODS AND APPLICATIONS****Short Title:** URBAN SUSTAINABILITY SEMINAR**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Seminar**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Corequisite:** ENST 446**Description:** Seminar in the practice and techniques for student-led engaged research in urban sustainability and livability. Techniques and methods applied in actual urban settings, including an understanding of intentional design, the use of psycho-geographic mapping, human geography, and derives to understand urban communities. Content includes multifaceted exploration of sustainability. Instructor Permission Required. Repeatable for Credit.**ENST 446 - LAB IN ENGAGED URBAN SUSTAINABILITY AND LIVABILITY RESEARCH****Short Title:** ENGAGED URBAN RESEARCH LAB**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Lecture/Laboratory**Credit Hours:** 3-4**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Corequisite:** ENST 445**Description:** Lab in the practice and techniques for student-led engaged research in urban sustainability and livability. Techniques and methods applied in actual urban settings, including an understanding of intentional design, the use of psycho-geographic mapping, human geography, and derives to understand urban communities. Content includes multi-faceted exploration of sustainability. Instructor Permission Required. Repeatable for Credit.**Course URL:** culturesofenergy.com/enst-minor/ (<http://culturesofenergy.com/enst-minor/>)**ENST 477 - SPECIAL TOPICS****Short Title:** SPECIAL TOPICS**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Laboratory, Lecture, Internship/Practicum, Seminar, Independent Study, Lecture/Laboratory**Credit Hours:** 1-4**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Description:** Topics and credit hours may vary each semester. Contact Department for current semester's topic. Repeatable for Credit.**ENST 480 - ENVIRONMENTAL AND ENERGY ECONOMICS****Short Title:** ENVIRONMENTAL ECONOMICS**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Lecture**Credit Hours:** 3**Restrictions:** Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.**Course Level:** Undergraduate Upper-Level**Prerequisite(s):** ECON 200 or ECON 301 or ECON 370**Description:** Uses economic theories of externalities and common property resources to analyze how markets, legal institutions, regulations, taxes and subsidies, and voluntary activity can affect the supply of environmental amenities, such as clean air, clean water, and wilderness areas. Also discusses methods for determining the demand for environmental amenities. Cross-list: ECON 480.**ENST 500 - INTRODUCTION TO THE ENVIRONMENTAL HUMANITIES****Short Title:** INTRO TO ENVIRO HUMANITIES**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Seminar**Credit Hours:** 3**Restrictions:** Enrollment is limited to Graduate level students.**Course Level:** Graduate**Description:** This seminar explores the "environmental humanities," a wide range of approaches to the cultural, social, historical, and aesthetic dimensions of pressing ecological questions. Topics may include studies of plants, animals, and other creatures; biodiversity and extinction; energy humanities; environmental justice and environmental racism; climate and environmental histories; theories and philosophies of disaster; waste, toxicity, pollution; marine or blue humanities; religion and ecology; and many others. We will consider representative recent publications in the field as well as the research of scholars working here at Rice and far beyond. We will consider how to write about the environmental humanities, from scholarly publications in a range of fields to forms of public-facing writing on the subject. We'll consider strategies for teaching of the environmental humanities, from individual assignments to the design of courses in the home disciplines of the participants. Coursework will include opportunities through the Center for Environmental Studies, the Environmental Studies minor (ENST), and the Mellon Foundation funded Diluvial Houston project at the Humanities Research Center. These opportunities may include: observing classes in the ENST minor; working on Cultures of Energy, a public facing platform for writing and activity about energy and the environment; and spring events at the Center for Environmental Studies, including a symposium.

ENST 513 - SEMINAR: TOPICS RELATED TO THE EARTH'S DEEP INTERIOR**Short Title:** SEM: EARTH'S DEEP INTERIOR**Department:** Environmental Studies**Grade Mode:** Satisfactory/Unsatisfactory**Course Type:** Seminar**Credit Hours:** 1-3**Restrictions:** Enrollment is limited to Graduate level students.**Course Level:** Graduate**Description:** Seminar topics may vary. Readings and discussions about current topics related to the processes governing the Earth's deep interior. General themes include mantle convection, thermal evolution, and volatiles. Repeatable for Credit.**ENST 599 - DIRECTED READING IN ENVIRONMENTAL HUMANITIES****Short Title:** DIRECTED READING**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Independent Study**Credit Hours:** 3**Restrictions:** Enrollment is limited to Graduate level students.**Course Level:** Graduate**Description:** A course for graduate students pursuing intensive semester-long study of a particular topic not included in the curriculum. Students must identify and receive the approval of a faculty member. Instructor and Department approval must be granted prior to registration. Instructor Permission Required. Repeatable for Credit. Instructor Permission Required. Repeatable for Credit.**ENST 601 - ENVIRONMENTAL HUMANITIES RESEARCH FORUM****Short Title:** ENVIRO HUMA RESEARCH FORUM**Department:** Environmental Studies**Grade Mode:** Satisfactory/Unsatisfactory**Course Type:** Research**Credit Hours:** 1-3**Restrictions:** Enrollment is limited to Graduate level students.**Course Level:** Graduate**Description:** The Environmental Humanities Research Forum meets regularly to share research, teaching, and other activities in the environmental humanities with both members of the Rice community and invited guests. Evaluation is based on student participation, research and presentations. Repeatable for Credit. Department Permission Required. Repeatable for Credit.**ENST 613 - CASE STUDIES IN SUSTAINABLE DESIGN****Short Title:** SUSTAINABLE DESIGN**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Seminar**Credit Hours:** 3**Restrictions:** Enrollment is limited to Graduate level students.**Course Level:** Graduate**Description:** . Cross-list: ARCH 613. Graduate/Undergraduate Equivalency: ENST 313. Mutually Exclusive: Cannot register for ENST 613 if student has credit for ENST 313.**Course URL:** www.arch.rice.edu/academics/current-courses (<http://www.arch.rice.edu/academics/current-courses/>)**ENST 621 - CASE STUDIES IN SUSTAINABILITY: THE HIGH PERFORMANCE BUILDING****Short Title:** SUSTAINABILITY CASE STUDIES**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Seminar**Credit Hours:** 3**Restrictions:** Enrollment is limited to Graduate level students.**Course Level:** Graduate**Description:** The project-based seminar will provide a means by which all those with an interest in the building science entailed in the design of commercial, institutional, and residential structures can investigate common issues, obtain information, discuss local strategies, and otherwise address subjects relating to building or campus performance over its lifecycle. To develop an approach of taking an existing Rice University building an optimizing its use via "repositioning" or redesign the class will create an interdisciplinary forum where students of architecture, engineering (structural, mechanical, etc.), and human sciences will potentially collaborate with professional building consultants, materials manufacturers, contractors, developers, owners, and Rice campus facility managers Cross-list: ARCH 621. Graduate/Undergraduate Equivalency: ENST 321. Mutually Exclusive: Cannot register for ENST 621 if student has credit for ENST 321.**ENST 646 - ADVANCED TOPICS IN BIOMEDICAL ANTHROPOLOGY****Short Title:** ADV BIOMEDICAL ANTHROPOLOGY**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Seminar**Credit Hours:** 3**Restrictions:** Enrollment is limited to Graduate level students.**Course Level:** Graduate**Description:** Seminar on contemporary research on the biomedical aspects of human health and disease. Includes topics from medical ecology and epidemiology. Cross-list: ANTH 646. Recommended Prerequisite(s): ANTH 381 or ANTH 581.**ENST 677 - SPECIAL TOPICS****Short Title:** SPECIAL TOPICS**Department:** Environmental Studies**Grade Mode:** Standard Letter**Course Type:** Independent Study, Internship/Practicum, Laboratory, Lecture, Lecture/Laboratory, Seminar**Credit Hours:** 1-4**Restrictions:** Enrollment is limited to Graduate or Visiting Graduate level students.**Course Level:** Graduate**Description:** Topics and credit hours vary each semester. Contact department for current semester's topic(s). Repeatable for Credit.