



# NEW-STUDENT ADVISING BOOKLET FOR ENVIRONMENTAL EDUCATION AT RICE

A PRACTICAL AND INCLUSIVE  
GUIDE TO THE LANDSCAPE OF  
ENVIRONMENTAL EDUCATION FOR  
UNDERGRADUATE STUDENTS

2023-2024  
THE RICE ENVIRONMENTAL INITIATIVE  
[TREI.RICE.EDU](http://TREI.RICE.EDU)





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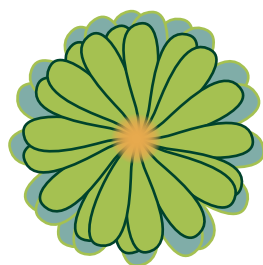
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# A

# SOLUTIONS-

21<sup>ST</sup> CENTURY ENVIRONMENTAL CHALLENGES ARE MULTIFACETED AND COMPLEX, REQUIRING COLLABORATION AND EXPERTISE ACROSS MANY SKILL SETS. WHETHER THROUGH INVENTING MATERIALS THAT FACILITATE THE ENERGY TRANSITION, DESIGNING SUSTAINABLE AND RESILIENT CITIES, OR BUILDING JUST AND EQUITABLE SOCIAL MODELS, RICE STUDENTS APPLY THEIR EDUCATION TO CONFRONT INTERWOVEN SOCIETAL AND ENVIRONMENTAL PROBLEMS IN A FAST-CHANGING WORLD. RICE STUDENTS BUILD DEPTH OF EXPERTISE IN THEIR MAJOR, WHETHER IN THE HUMANITIES, SOCIAL SCIENCES, NATURAL SCIENCES, OR ENGINEERING, WHILE BUILDING BREADTH TO TACKLE COMPLEX PROBLEMS THROUGH COURSEWORK AND REAL-WORLD PROBLEM-SOLVING. THROUGH PARTNERSHIP WITH LOCAL, NATIONAL, AND INTERNATIONAL COLLABORATORS WE EDUCATE STUDENTS IN WORKING WITH MANY STAKEHOLDERS TO DEVELOP REAL, WORKABLE SOLUTIONS TO THIS CENTURY'S SUSTAINABILITY CHALLENGES. THIS OFFERS A GUIDE TO NAVIGATING THIS MULTIDISCIPLINARY, SOLUTION-FOCUSED ENVIRONMENTAL CURRICULUM THAT SPANS THE LANDSCAPE OF ENVIRONMENTAL STUDIES AND ENVIRONMENTAL SCIENCES AT RICE UNIVERSITY.

## FOCUSED

## CURRICULUM

• art • anthropology • architecture • bio-sciences •

• sociology • technology studies • science and technology studies • history • environmental studies •

UNIVERSITY  
FACULTY OFFER  
MANY COURSES  
ACROSS 38  
DIFFERENT  
DEPARTMENTS  
AND PROGRAMS  
RELATED TO  
ENVIRONMENTAL  
ISSUES.

civil engineering • data science • earth science • economics • energy & water

• sustainability • english • environmental science •

# HOUSTON IS THE PERFECT TEST LAB FOR ENVIRONMENTAL PROBLEM SOLVING.



HOUSTON IS A FAST-GROWING CITY IN THE HUMID SUBTROPICS, MAKING IT AN IDEAL TESTBED FOR SOLVING ENVIRONMENTAL CHALLENGES IN MANY REGIONS OF THE GLOBAL NORTH AND SOUTH. STUDENTS AND FACULTY COLLABORATE ON INTERDISCIPLINARY AND PUBLIC-FACING PROJECTS TO ADDRESS INCREASINGLY COMMONPLACE ENVIRONMENTAL CONDITIONS. YOUR RESEARCH INTERESTS HAVE A PLACE AND CAN MAKE A LOCAL IMPACT IN HOUSTON.

# EXAMPLES OF STUDENT THESES INCLUDE...



## **A DIACHRONIC ATLAS OF THE HOUSTON BAYOUS HUMANITIES**

DEPARTMENTS OF ARTS, EARTH, ENVIRONMENT AND  
PLANETARY SCIENCES (EEPS), ARCHITECTURE (ARCH),  
AND THE KINDER INSTITUTE

## **ALERT SYSTEM FOR STREET-LEVEL FLOODING IN HOUSTON**

THE KINDER INSTITUTE, THE DEPARTMENT OF CIVIL AND  
ENVIRONMENTAL ENGINEERING (CEVE),  
AND THE SEVERE STORM PREDICTION, EDUCATION, AND  
EVACUATION FROM DISASTERS (SSPEED)

## **COMMUNITY IMPACTS AND RENEWABLE ENERGY INFRASTRUCTURES**

DEPARTMENTS OF SOCIOLOGY (SOCL)  
AND ANTHROPOLOGY (ANTH)

## **FOSSILIZED IN HOUSTON: PUBLIC REPRESENTATION OF ENDANGERED SPECIES**

DEPARTMENTS OF ARTS (ART) AND BIOSCIENCES (BISC)

## **HOUSTON'S TREES: UNDERSTANDING THEIR EFFECTS ON LOCAL CLIMATE AND CULTURE**

DEPARTMENTS OF EARTH, ENVIRONMENTAL AND PLANETARY SCIENCES (EEPS),  
BIOSCIENCES (BISC), ANTHROPOLOGY (ANTH), AND THE KINDER INSTITUTE

## **HOW DO GREEN ROOFS CHANGE RUNOFF WATER QUALITY?**

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING (CEVE),  
THE ADMINISTRATIVE CENTER FOR SUSTAINABILITY AND ENERGY MANAGEMENT

## **MANAGING THE RISK OF ALGAE IN HOUSTON'S DRINKING WATER**

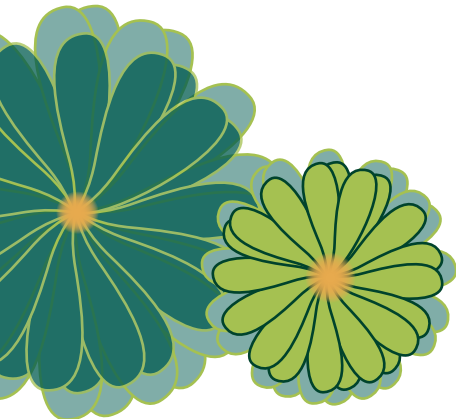
DEPARTMENTS OF EARTH, ENVIRONMENTAL AND PLANETARY SCIENCES (EEPS)  
AND BIOSCIENCES (BISC)

# UNDERGRADUATE PATHWAYS



THIS SECTION IS DESIGNED TO PROVIDE AN OVERVIEW OF THE ACADEMIC PATHWAYS AVAILABLE TO UNDERGRADUATE STUDENTS INTERESTED IN ENVIRONMENTAL SCIENCES AND STUDIES AT RICE. THE RICE ENVIRONMENTAL INITIATIVE'S (TREI) GOAL IS TO CONSOLIDATE THE WIDE VARIETY OF ENVIRONMENTAL EDUCATION, RESEARCH, AND ENGAGEMENT ACROSS CAMPUS AND BETWEEN DISCIPLINES. STUDENTS ARE ENCOURAGED TO BE FLEXIBLE AND CREATIVE IN CHOOSING AN UNDERGRADUATE PATHWAY THAT BEST SUITS THEIR ENVIRONMENTAL INTERESTS AND PERSONAL STRENGTHS.

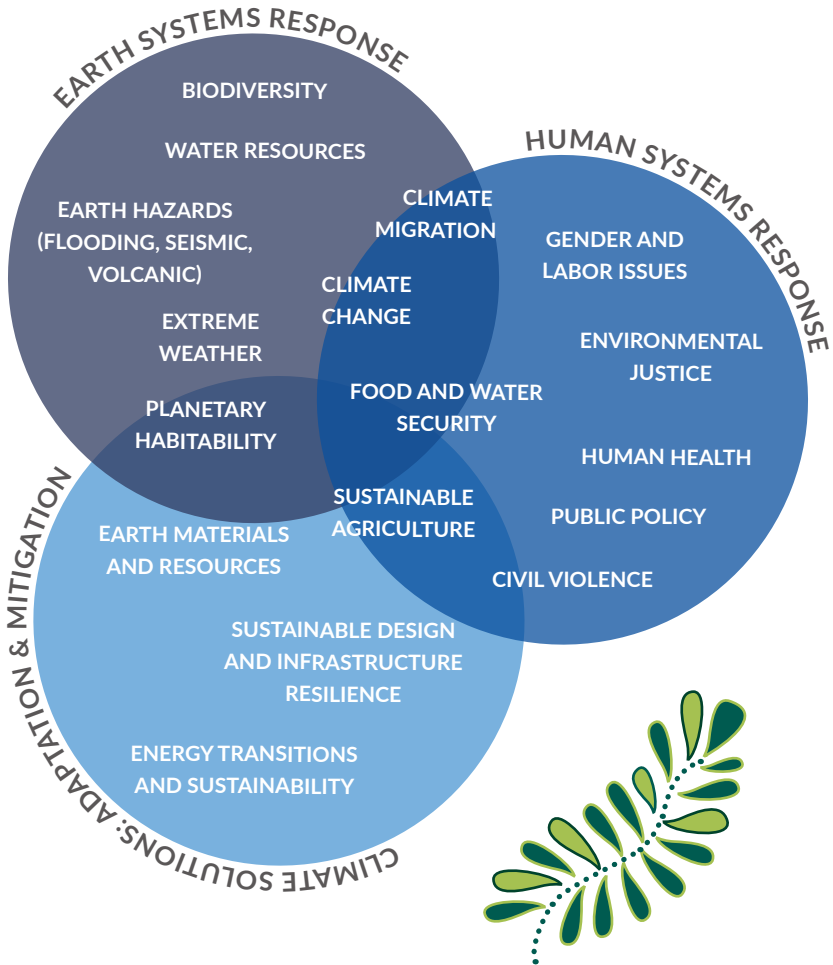
THE SECTION INCLUDES EXCERPTS OF SPECIFIC MAJORS AND MINORS ACROSS CAMPUS THAT EMPHASIZE ENVIRONMENTAL SCIENCES OR STUDIES IN THEIR DEGREE REQUIREMENTS. ALL MAJOR AND MINOR SUMMARIES ARE COMPLETE WITH CONTACT INFORMATION, ALONG WITH EXAMPLES OF CAREER FUTURES. STUDENTS INTERESTED IN A PARTICULAR MAJOR OR MINOR SHOULD REACH OUT TO THE APPOINTED PERSON OF CONTACT OR CONSULT THE GENERAL ANNOUNCEMENTS (GA), THE FINAL AUTHORITY ON DEGREE REQUIREMENTS AND ACADEMIC REGULATIONS AT RICE.



## MAJORS & MINORS



ENVIRONMENTAL  
PROBLEM-SOLVING IS  
A COLLABORATIVE AND  
HOLISTIC ENDEAVOR.



STUDENTS RECEIVE TRAINING ACROSS  
THE **STEM**, **SOCIAL SCIENCES** AND  
**HUMANITIES** DISCIPLINES THROUGH THEIR  
GENERAL REQUIREMENTS COURSES.

## MAJOR IN

# ART

The department welcomes the full spectrum of Rice University undergraduate students. Scientists, architects, historians, engineers and economists, among many others, augment our core of art majors to create a diverse, lively forum of artists and thinkers. We believe this composite community is a vital asset to majors and non-majors alike: art thrives in contact with new and varied perspectives, and the risk-taking and critical thinking necessary to making art are crucial in many other fields. Courses across a range of media—including but not limited to drawing, painting, sculpture, comix, photography, film, ceramics, and performance—encourage experimentation, collaboration and immersive study. Art and Environmental Studies are complementary areas of study, in their holistic approaches to complex systems. Art students with an interest in environmental studies may choose to incorporate environmental themes into their projects and course assignments. Currently, the department offers three elective courses that are either directly or indirectly in dialogue with environmental concerns in art, through the media of photography and filmmaking.

### Degrees offered for students desiring to major in Art:

-Bachelor of Arts (BA) degree with a major in Arts

### Students seeking information on the Art major should contact:

Josh Bernstein (jb64@rice.edu), Department Faculty and Major Advisor

## MAJOR IN

# ANTHROPOLOGY (ANTH)

Anthropology is the study of human thought, experience and behavior in all its social forms. Blending deep empirical analysis, field and archival research techniques, and advanced social theory, anthropology is one of the most vibrant and diverse fields of research in the human sciences today. It is a flexible and well-rounded undergraduate major, preparing students for careers in fields like journalism, community organizing, humanitarian aid, historic preservation, and museum studies. Anthropology classes at Rice often have an explicitly environmental focus, and they are well suited for students wanting to understand the social dynamics surrounding environmental issues and human-centered approaches to environmental policy, and those wanting to pursue a deep-time approach to environmental change from fossil and archaeological records. Cultural anthropology courses examine how people cope with climate change and environmental degradation today and in the future, while archaeology and biological anthropology classes consider how to reconstruct past environments and climate change, and how humans have adapted to and shaped their environments over millennia.

### Degrees offered for students desiring to major in ANTH:

- Bachelor of Arts (BA) degree with a major in Anthropology
- Minor in Anthropology

### Students seeking information on the ANTH major should contact:

Dr. Mary Prendergast (mary@rice.edu), Director of Undergraduate Studies

## MAJOR IN

# BIOSCIENCES (BISC)

The BioSciences major explores the complexities of living organisms and their interactions with the environment. The major provides students with a solid foundation in biological sciences from molecules, to cells, organisms, ecosystems, and the ecological and evolutionary processes that shape them. The concentration in Ecology and Evolutionary Biology offers a variety of opportunities, through courses and research experiences, to delve into environmental issues that involve the natural ecosystems and diversity of life on Earth. From biological consequences of changing climate patterns, the global extinction crisis, species invasions, and environmental links to new emerging diseases, students will find courses and research experiences in these areas with a BioSciences major. By combining rigorous scientific inquiry and communication, with hands-on research techniques, a BioSciences major equips students with a versatile skill set applicable to many environmental and STEM related careers such as research scientist, restoration ecologist, ecosystem management, environmental educator, conservation practitioner, data analyst, environmental policy analyst, wildlife biologist, environmental consultant, or science writer/journalist.

### **Degrees offered for students desiring to major in BISC:**

-Bachelor of Arts degree (BA) or a Bachelor of Science degree (BS) with a major in BISC

with a Major Concentration in Biochemistry

or a Major Concentration in Cell Biology & Genetics

or a Major Concentration in Ecology & Evolutionary Biology

or a Major Concentration in Integrative Biology

### **Students seeking information on the BISC major should contact:**

Dr. Scott Solomon ([scott.solomon@rice.edu](mailto:scott.solomon@rice.edu)), Faculty and Major Advisor for BioSciences

or

Dr. Cassidy Johnson ([cbj5145@rice.edu](mailto:cbj5145@rice.edu)), Faculty and Major Advisor for BioSciences

## MAJOR IN

# CIVIL AND ENVIRONMENTAL ENGINEERING (CEVE)

CEVE disciplines address virtually every system or infrastructure related to earth, water, air, or civilization and their processes. While considered to be the oldest of the recognized “disciplines” in engineering, modern civil and environmental engineering addresses some of the world’s most pressing problems. Environmental engineering is focused on developing solutions to mitigate and reduce the impact of human activities on the natural environment, helping to protect and improve the health of ecosystems and human life. These include hazard and climate resilience, clean energy and water, and smart and sustainable infrastructure. At Rice, CEVE provides a rigorous, coherent curriculum from which students gain an understanding of the physical, mathematical, chemical and biological, as well as socio-economic systems and ethical frameworks that affect engineering research and practice. Students can receive an ABET-Accredited BSCE degree, recommended for those interested in graduate studies or careers as licensed professional engineers. The B.A. degree is recommended to students interested in a multidisciplinary education that includes both technical and non-technical aspects of environmental engineering such as public and policy, economics, urban planning, and environmental law.

### Degrees offered for students desiring to major in CEVE:

- Bachelor of Arts (BA) degree with a major in CEVE  
with a Major Concentration in Environmental Engineering
- Bachelor of Science (BSCE) degree with a major in Civil Engineering  
with a Major Concentration in Environmental Engineering  
or a Major Concentration in Hydrology and Water Resources  
or a Major Concentration in Structural Engineering and Mechanics  
or a Major Concentration in Urban Infrastructure, Reliability & Management

### Students seeking information on the CEVE major should contact:

Andrea Torres (atorres@rice.edu), Undergraduate and Graduate Program Coordinator

## MINOR IN

# DATA SCIENCE

Data science is the science of extracting actionable knowledge from large and complex data repositories, where “complex” may refer to the modality of the data (images, time series, text, as well as traditional tabular data) or other facets of the data in question (data can be complex because they are geographically distributed, or characterized by the ubiquity of missing or inaccurate values). As such, data science is an interdisciplinary field of study. By pursuing the Data Science minor, students interested in environmental sciences can develop a solid foundation in the fundamental principles and methodologies of data science, and gain proficiency in programming languages, statistical analysis, machine learning techniques, and data visualization tools. The Data Science minor equips students with the necessary tools to apply data-driven approaches to tackle complex environmental problems and make a positive impact on environmental sustainability, such as analyzing climate data, modeling ecological systems, or optimizing resource allocation. At the undergraduate-level, the minor in Data Science is administered by the Data to Knowledge Lab (D2K).

**Students seeking information on the Data Science minor should contact:**

Dr. Su Chen ([su.chen@rice.edu](mailto:su.chen@rice.edu)), Minor Director

or

Dr. Arko Barman ([arko.barman@rice.edu](mailto:arko.barman@rice.edu)), Minor Advisor

## MAJOR IN

# EARTH, ENVIRONMENTAL, AND PLANETARY SCIENCES (EEPS)

The study of the Environment within the EEPS is centered on the structure and composition of our planet, with an emphasis on the natural processes that shape the Earth's environments and their habitability. Courses and research within EEPS encompass a range of interrelated disciplines focused on understanding the origin of Earth and planetary systems, the processes that operate within them, and their evolution through time. This knowledge is applied to understanding the interactions between planetary interiors, their surfaces, their atmospheres, and on Earth its biosphere. Areas of application with relevance to societal problems include natural hazards, climate change, natural resources, and the exploration of other worlds within our solar system and beyond. EEPS majors bring together fields such as mathematics, physics, chemistry, biology, computer science, and data science to learn how different parts of a planet interact in time and space. We use methodologies that range from laboratory experimentation, analysis of Earth materials, theory, computer modeling, data analysis, and data collection in the natural environment. The skills that EEPS students gain make them uniquely poised to tackle some of the most pressing problems facing society today.

### **Degrees offered for students desiring to major in EEPS:**

- Bachelor of Science (BS) degree with a major in EEPS
  - with a Major Concentration in Environmental Earth Science
  - with a Major Concentration in Geosciences
  - with a Major Concentration in Planetary Sciences
- Bachelor of Arts (BA) Degree with a major EEPS
- Minor in EEPS

### **Students seeking information on the EEPS major should contact:**

Dr. Sylvia Dee ([sylvia.dee@rice.edu](mailto:sylvia.dee@rice.edu)), Environmental Earth Science Concentration

or

Dr. Melodie French ([mefrench@rice.edu](mailto:mefrench@rice.edu)), Geoscience and Planetary Science Concentrations

## MAJOR IN

# ECONOMICS (ECON)

Economics studies the roles of both private markets and the public sector (governments, policy) in allocating scarce resources and the ways that consumers and businesses make decisions that affect outcomes. Multiple electives within the Economics major may be interesting for students interested in the environment. Particularly salient classes in terms of subject matter include Econ 437 (Energy Economics), Econ 480 (Environmental Economics) and Econ 485 (Economics, Conservation and Pandemics). In terms of methodology, classes within Economics that consider the design and evaluation of governmental policy may be of interest: these include Econ 239 (Law and Economics) and Econ 421 (Quantitative Methods for Policy Evaluation). Majors in Economics and Mathematical Economic Analysis are well suited for students looking to think about environmental impact or mitigation from a quantitative or policy perspective. This includes students wishing to go on and study law, join (environmental) consulting, analysis firms or think tanks and students wishing to have a hand in shaping environmental policy.

### **Degrees offered for students desiring to major in ECON:**

- Bachelor of Arts (BA) degree with a major in Economics
- Bachelor of Arts (BA) degree with a major in Mathematical Economic Analysis (MTEC)
- Minor in Economics

### **Students seeking information on the ECON major should contact:**

Maria Bejan (maria.bejan@rice.edu), Undergraduate Major Advisor

or

Joan Guthrie (econundergrad@rice.edu), Undergraduate Program Coordinator

## MINOR IN

# ENERGY AND WATER SUSTAINABILITY (EWSU)

Sustainability encompasses an approach to design and decision-making that takes into account the economic, social and environmental implications of human activities. This interdisciplinary minor studies the design of safe, secure, sustainable energy and water resources. Upon completing the minor in Energy and Water Sustainability, students will be able to apply basic economic concepts of energy and water sustainability including aspects of environmental economics and project-scale economic issues, understand basic environmental issues applicable to energy and water sustainability, conduct evaluations of social aspects from a sustainability perspective, evaluate projects and political systems from the standpoint of energy and water issues as well as more general sustainability issues, apply sustainability concepts at varying scales and viewpoints, including project level, corporate level, and municipal, state, national, and international levels, and understand the role of climate change on future projects and societies.

**Students seeking information on the EWSU minor should contact:**

Jorge Loyo Rosales (rrj@rice.edu), Minor Advisor

or

Andrea Torres (atorres@rice.edu), Undergraduate and Graduate Program Coordinator

## MAJOR IN

## ENGLISH (ENGL)

Rice English integrates creative and critical practice through training in close reading, analytical writing, cultural history and theory, and craft/form. The curriculum emphasizes literature and literary history, race and ethnicity studies, feminist and gender studies, queer theory and the history of sexuality, visual culture and comparative media studies, and the Anglophone literature of the postcolonial world. Our major also offers areas of specialization including one in Science, Medicine, and the Environment. This specialization explores a wide range of interdisciplinary methods for examining the relationships among human and nonhuman bodies, technologies, and cultural productions. We seek to understand how culture and environment interact with one another, and produce new forms of human expression. We look, for example, at how speculative fictions fuel scientific imagination and discovery, how environmental justice literatures create citizen scientist publics, or how the unintended consequences of technological development spark dialogue and critique in creative works.

### Degrees offered for students desiring to major in English:

-Bachelor of Arts (BA) degree with a Major in English  
and an area of specialization in Science, Medicine and the  
Environment

### Students seeking information on the English major should contact:

Dr. Lacy Johnson (lacy.johnson@rice.edu), Director of Undergraduate Studies

## MAJOR IN

# ENVIRONMENTAL SCIENCE (ENVS)

Environmental Science is a multidisciplinary field that addresses environmental issues in the context of what we know about Earth, ecology, and society. It applies scientific knowledge to comprehensively analyze and address environmental issues, integrating various perspectives and disciplines to understand complex natural systems and cycles while seeking sustainable solutions. By combining elements of ecology and Earth sciences, with a variety of disciplinary perspectives (e.g., social sciences and humanities) students gain a diverse skill set to tackle environmental challenges with a strong science background. In courses, students can examine the dynamics of natural systems, the impacts of human activities, and the field of environmental justice. Students also learn about sustainable practices and analyze policy implications. Graduates of the Environmental Sciences major are prepared to contribute to the advancement of environmental knowledge and to address pressing environmental issues from a holistic perspective. Our alumni have entered environmental careers such as environmental scientist, data analyst, educator, policy analyst, environmental law, and natural resource management.

### **Degrees offered for students desiring to major in ENVS:**

-Bachelor of Arts (BA) degree or a Bachelor of Science (BS) degree with a Major in Environmental Science

with a Major Concentration in Earth Science

or a Major Concentration in Ecology and Evolutionary Biology

### **Students seeking information on the ENVS major should contact:**

Dr. Caroline A. Masiello (masiello@rice.edu), Earth Science Concentration

or

Dr. Amy Dunham (aed4@rice.edu), Ecology and Evolutionary Biology Concentration

## MINOR IN

# ENVIRONMENTAL STUDIES (ENST)

Environmental Studies is an interdisciplinary field that explores the interconnection between humans and the natural environment. The Environmental Studies program fosters the critical, integrative thinking required to better understand the complexities of this human-nature relationship and the resultant scales of impact, and to assess and develop solutions that meet intergenerational human needs without compromising the natural systems upon which humans depend. The Environmental Studies program offers an undergraduate minor in Environmental Studies and several interdisciplinary courses for students interested in broadening their understanding of environmental issues. The Environmental Studies minor is ideal for students interested in environmental justice or students majoring in the natural sciences seeking a deeper understanding of human-nature relationships and their politics. Students who minor in Environmental Studies are prepared for careers in environmental policy, environmental education, environmental law as well as data analysis and the non-profit sectors.

**Students seeking information on the ENST minor should contact:**

Dr. Joseph A. Campana, Jr. (Joseph.A.Campana@rice.edu), Program Co-Director

or

Prof. Richard R. Johnson (rrj@rice.edu), Program Co-Director

## MAJOR IN

# HISTORY (HIST)

The Department of History offers both a major and a minor for undergraduate students, with majors required to take courses in topics such as premodern; Europe; United States; Asia, Latin America, and Africa; and transnational, comparative, world, and thematic. History majors often take advantage of interdisciplinary programs such as Politics, Law, and Social Thought; Poverty, Justice, and Human Capabilities; and the Medical Humanities. Undergraduates frequently undertake independent research projects, and there are opportunities for funded research for honors theses. History students publish an undergraduate journal, The Rice Historical Review. For students interested in environmental studies, the department offers courses such as Environment and Health in Latin America and U.S. Environmental History. In addition, history faculty are heavily involved in teaching in the Science and Technology Studies program, where environmental themes are important as well.

### Degrees offered for students desiring to major in History:

- Bachelor of Arts (BA) degree with a major in History
- Minor in History

### Students seeking information on the History major should contact:

Theresa Cisneros (theresac@rice.edu), Program Administrator

## MINOR IN

# SCIENCE AND TECHNOLOGY STUDIES (STS)

The undergraduate minor in Science and Technology Studies (STS) is an interdisciplinary program that emphasizes the social, cultural, and political contexts of science and technology. Because science and technology are so connected with issues of the environment—from climate models and species conservation to energy systems and engineering sustainability—the STS minor is an ideal program for students committed to solving environmental concerns and advancing models of resilience. In the STS minor students will learn about: the history and philosophy of science, changes to science and technology over time, and how science works in contemporary contexts; social studies of science and technology, with a focus on the use of diverse methods to examine the practice and impact of science and technology. Students will also analyze how science and technology affect our social, cultural, and political contexts including those that speak directly to environmental issues.

**Students seeking information on the STS minor should contact:**

Dr. Cymene Howe ([alysa.c.howe@rice.edu](mailto:alysa.c.howe@rice.edu)), Co-Director

or

Dr. Elizabeth Petrick ([elizabeth.petrick@rice.edu](mailto:elizabeth.petrick@rice.edu)), Co-Director

## MAJOR IN

# SOCIOLOGY (SOCI)

Sociology is the study of how groups and individuals interact to produce social systems, including those inextricably linked with our changing natural and built environments. Sociologists use a variety of methods to study these dynamics, paying particular attention to gaps between the ideal of legal equality and the reality of social inequality. These gaps include inequitable access to resources and disparate exposures to environmental threats as well as differential power to address these issues. To study these phenomena and processes, the field deploys a plurality of rigorous qualitative and quantitative methodologies that include ethnography, participant observation, and case studies in addition to survey design, causal inference, network modeling, and spatial analysis. Students major or minor in SOCI, with curricular requirements for both tracks being sufficiently flexible to permit combination with other undergraduate majors and minors across campus.

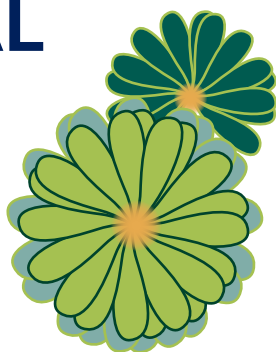
### Degrees offered for students desiring to major in Sociology:

- Bachelor of Arts (BA) degree with a major in Sociology
- Minor in Sociology

### Students seeking information on the Sociology major should contact:

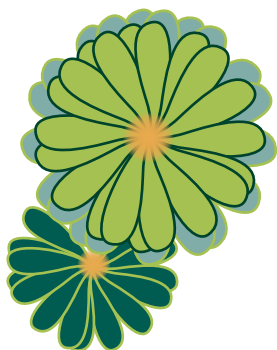
Dr. Anna Rhodes (anna.rhodes@rice.edu), Undergraduate Program Coordinator

# EDUCATIONAL RESOURCES



BY BUILDING NEW CONNECTIVE TISSUE, TREI IS A RICHLY NETWORKED ENVIRONMENTAL EDUCATION PROGRAM AND OFFERS EDUCATIONAL RESOURCES AT EVERY STAGE OF UNDERGRADUATE STUDY. THIS SECTION PROVIDES AN OVERVIEW OF CAMPUS RESOURCES THAT STUDENTS CAN CONSULT REGARDING RESEARCH, INTERNSHIPS, AND CAREER PATHWAYS.

ADDITIONAL INFORMATION CAN BE FOUND AT [TREI.RICE.EDU](https://trei.rice.edu) OR [NATURALSCIENCES.RICE.EDU/ENVIRONMENTAL-EDUCATION](https://naturalsciences.rice.edu/environmental-education).



## RESEARCH, INTERNSHIPS, AND CAREERS

# CAMPUS CENTERS

THESE CAMPUS CENTERS ARE EXCELLENT PLACES TO SEEK ADVICE ON RESEARCH, INTERNSHIPS, AND CAREERS. IN ADDITION TO DEPARTMENT ADVISORS, STUDENTS SHOULD CONSULT WITH CENTER STAFF TO MANAGE AND DESIGN THEIR OWN ENVIRONMENTAL PATHWAYS TOWARDS GRADUATION.



## CENTER FOR CAREER DEVELOPMENT – (CCD)

The Center for Career Development (CCD) offers programs, services, and resources to guide Rice undergraduate and non-MBA graduate students in pursuing their career goals. Services include career counseling appointments and drop in hours, career and personality assessments, resume reviews and mock interviews, career panels and courses, professional communication workshops, and peer career advisors (PCAs). The center manages a job and internship database, hosts Fall and Spring career expos, on campus interviews and externships.

## CENTER FOR CIVIC LEADERSHIP – CCL

The Center for Civic Leadership (CCL) offers a range of courses and experiential opportunities designed to develop your civic leadership capacities throughout your four years at Rice and beyond. Programs are open to all Rice undergraduates and tiered in three levels, LEARN, ACT, and CREATE CHANGE, to ensure that you progressively and intentionally build your leadership knowledge and skills.

## THE RICE ENVIRONMENTAL INITIATIVE – (TREI)

The Center for Environmental Studies at Rice is a place where humanists, artists, architects and social scientists come together to conduct research and teaching about the most pressing questions of an era lived in the shadow of massive climate instability and environmental turmoil. We do so in conversation with our colleagues in the natural sciences and engineering but with approaches that consider the profoundly social and cultural nature of our embeddedness in the Earth's many and complex living systems.

# RESEARCH

HERE ARE SOME OF THE RESEARCH PROJECTS AND PROGRAMS AVAILABLE TO STUDENTS DURING THEIR ACADEMIC STUDIES AT RICE. STUDENTS SHOULD CONTACT THE CENTER APPOINTED TO THE PROGRAM, PROJECT OR THE DEPARTMENT OF THEIR INTEREST TO LEARN MORE ABOUT THE REQUIREMENTS AND DETAILS.



## CAPSTONE RESEARCH PROJECT

*CENTER FOR CIVIC LEADERSHIP*

A year-long, two-semester sequence for an academic certificate in civic leadership. Students identify issue areas of interest, such as climate justice, and work closely with community partners.

## DATA TO KNOWLEDGE LAB – (D2K)

*DEPARTMENT OF COMPUTER SCIENCE*

At the D2K Lab, students put their computational and data engineering skills into real-world applications using cutting-edge data science tools and research. Students may complete a Capstone project through the program. Previous projects include: Development of Machine Learning Algorithms for Precision Waterbird Monitoring, Team Heat: Mitigating Extreme Heat in Houston, and Predicting the Dynamics Driving US Natural Gas Liquid (NGL) Waterborne Exports.

## FIELD SCHOOLS

*DEPARTMENTALLY BASED*

Found in the Departments of Anthropology and Archeology; BioSciences, and Earth, Environmental and Planetary Sciences.

## GULF SCHOLARS PROGRAM

*CENTER FOR CIVIC LEADERSHIP & SCHOOL OF ENGINEERING*

Experiential learning for students about natural hazards and their social and environmental impacts along the Gulf Coast. Semester long training with summer capstone projects.

## **HOUSTON ACTION RESEARCH TEAM – (HART)**

### *CENTER FOR CIVIC LEADERSHIP*

HART is a semester-long program composed of small, interdisciplinary teams of Rice undergraduate students working with a community partner to address a social issue, including with the HISD Zero-Waste program and Memorial Park Conservancy. Graduate students serve as advisors, mentors, and project leads.

## **INDEPENDENT STUDY**

### *DEPARTMENTALLY BASED*

In addition to the research opportunities found across campus centers, you can also find research opportunities within your department, listed as Independent Study. Talk with your department and professors to see what opportunities exist to join and participate in department-wide research.

## **NSF RESEARCH EXPERIENCE FOR UNDERGRADUATES – (REU)**

### *OFFICE OF UNDERGRADUATE RESEARCH AND INQUIRY*

National Science Foundation (NSF) REU programs are summer exchange research programs hosted across university campuses in the United States and internationally. Students work closely with research faculty at the host campus on a specific research project. Students may apply to projects at any campus. Rice is host to several NSF REU programs, including the Planetary Habitability Over Space and Time project, located in the Earth, Environmental and Planetary Sciences department (EEPS).

## **RESEARCH EXPERIENCE FOR UNDERGRADUATES – (REU)**

### *DEPARTMENT OF COMPUTER SCIENCE*

REU is a 10-week summer undergraduate research program in the general area of Computer and Data Science. REU participants will be assigned to a Rice faculty mentor and will work closely with a Rice graduate student or Postdoctoral researcher to perform cutting-edge research in Computer Systems or Data Science. In previous years, students have worked on projects related to flood prediction.

## **RICE UNDERGRADUATE SCHOLARS PROGRAM—(RUSP)**

*CENTER FOR CIVIC LEADERSHIP*

RUSP is a two-semester, for-credit and funded program aimed at senior Rice students in all disciplines who are interested in pursuing a research career and planning a one-year senior research project through an honors thesis or independent study. The program is focused on developing research and presentation skills, an understanding of a research career, and how to apply to graduate school and nationally competitive fellowships.

## **RICH FAMILY ENDOWMENT FOR STUDENT COMMUNITY SERVICE**

*CENTER FOR CIVIC LEADERSHIP*

The Rich Family Endowment program supports community-based and student-led projects to address social issues in the City of Houston. Community partners put forward issue focus areas for which they are seeking student-led project proposals that will involve mobilizing fellow students to build the capacity of the organization.

## **SUMMER UNDERGRADUATE RESEARCH FELLOWSHIPS – (SURF)**

*OFFICE OF UNDERGRADUATE RESEARCH AND INQUIRY*

SURF is a program for undergraduates from underrepresented backgrounds who are interested in pursuing supervised research with a Rice faculty member over the summer. No prior research experience is required, and preference will be given to first- and second-year students without previous experience. Students from all disciplines are eligible to apply.

## **SUSTAINING EXCELLENCE IN RESEARCH – (SER)**

*OFFICE OF UNDERGRADUATE RESEARCH AND INQUIRY*

Freshman and sophomore students in STEM (Science, Technology, Engineering, and Mathematics) are paired with a Natural Sciences or Engineering lab either within Rice or the Texas Medical Center, and attend regular mentorship meetings.

## **WAGONER FOREIGN STUDY SCHOLARSHIP PROGRAM**

### *CENTER FOR CIVIC LEADERSHIP*

International research experience spanning eight weeks to one year. Students propose independent research on different areas, such as climate change or environmental justice, based on student experiences and knowledge. Returning undergraduates can be sponsored by Rice Faculty to do work that is in line with a faculty members' research internationally.

# INTERNSHIPS

FACULTY AND STUDENTS HAVE PARTNERED WITH OFF-CAMPUS AND INTERNATIONAL ORGANIZATIONS, AGENCIES, LABORATORIES AND MUSEUMS. EXAMPLES OF THESE PREVIOUS AND CONTINUING COLLABORATIONS ARE LISTED UNDER **CAMPUS PARTNERS**. STUDENTS INTERESTED IN INTERNSHIPS ARE ENCOURAGED TO REACH OUT AND ASK THEIR DEPARTMENT FACULTY AND ADVISORS TO LEARN ABOUT ANY SPECIFIC OPPORTUNITIES, OR VISIT THE WEBSITES OF THE ORGANIZATIONS THAT INTEREST THEM.



## CAMPUS PROGRAMS

### LEADERSHIP RICE MENTORSHIP EXPERIENCE – LRME

*CENTER FOR CIVIC LEADERSHIP – CCL*

LRME is a summer internship program through the CCL for returning Rice undergraduates who wish to develop their professional, personal, and civic capacities through the mentorship of experienced professionals. While the internships might vary, all students accepted into the program are expected to be in Houston physically for the summer.

### SUSTAINABILITY AT RICE

*OFFICE OF SUSTAINABILITY*

The Office of Sustainability offers student internships during the school year and the summer. For internships during the school year, preference is given to work-study students. Interested students should contact Richard Johnson at [sustainability@rice.edu](mailto:sustainability@rice.edu) for more information.

# CAMPUS PARTNERS

## DOMESTIC NGOS

Cary Institute of Ecosystem Studies, Environmental Defense Fund, Union of Concerned Scientists, The Nature Conservancy, Audubon Society

## HOUSTON AREA PARTNERSHIPS

Environment Texas, Air Alliance Houston, Houston Climate Justice Museum, Citizens Environmental Coalition, Houston Solutions Lab, NASA Johnson Space Center, Lunar and Planetary Institute, City of Houston, Harris County Engineering, Houston Transportation/Metro, Houston Ports, Greywater Reuse, Houston Climate Action Plan, Houston Medical Center, Houston Parks, Houston Zoo, Houston Arboretum, Memorial Park, Brazos Bend State Park, Katy Prairie, Coalition for Environment, Equity, and Resilience (CEER), Bayou City Waterkeeper, St. Thomas Prairie

## NATIONAL AND INTERNATIONAL BIODIVERSITY SITES

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, Harvard Experimental Forest, San Dimas Experimental Forest, Centre ValBio Madagascar, Smithsonian Tropical Research Institute, Critical Zone Observatory: El Yunque National Forest Panama, Kellogg Biological Station Long-Term Ecological Research Station, Sevilleta Long-Term Ecological Research Station

## NATIONAL AND INTERNATIONAL CONSERVATION ORGANIZATIONS

Conservation International, Wildlife Conservation Society, Belize Audubon Society, Friends for Conservation and Development, United Nations Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

### **NATIONAL AND INTERNATIONAL MUSEUMS**

Houston Museum of Natural History, Raymond M. Alf Museum of Paleontology, Houston Climate Justice Museum

### **NATIONAL AND INTERNATIONAL PROFESSIONAL ASSOCIATIONS**

American Institute of Architects, American Geophysical Union, American Chemical Society

### **NATIONAL ENVIRONMENTAL FUNDING ORGANIZATIONS AND AGENCIES**

Environmental Protection Agency, Department of Defense, Department of Energy, National Oceanic and Atmospheric Administration, U.S. Department of Agriculture, U.S. Forest Service, U.S. Fish & Wildlife Service, National Parks Service, NASA, Petroleum Research Fund

### **NATIONAL, INTERNATIONAL, AND MULTINATIONAL CORPORATIONS**

Shell, Chevron, Exxon Mobil, Schlumberger, EDF Renewables, NRG Energy, Dao Chemical, Microsoft, Google, Dupont

## **OTHER RESOURCES**

### **INTERNSHIP SEARCH DATABASES**

- [Environment for the Americas](#)
- [EnvironmentalScience.Org](#)
- [PathwaysToScience.Org](#)

# CAREER FUTURES

RESEARCH AND INTERNSHIP OPPORTUNITIES AT RICE PREPARE GRADUATING STUDENTS FOR A WIDE SPECTRUM OF GREEN AND ENVIRONMENTAL CAREERS. BELOW ARE SOME OF THE ON-CAMPUS AND FACULTY-COLLECTED RESOURCES TO HELP STUDENTS NAVIGATE THEIR PROFESSIONAL LIVES AND NETWORKS AFTER GRADUATION.



## CAREER RESOURCES

### 12TWENTY

*CENTER FOR CAREER DEVELOPMENT*

12Twenty is an exclusive job and internship database sponsored by the Rice University Center for Career Development. Designed to empower students for professional growth, you can use 12Twenty to apply for internships, jobs, on-campus interviews, externships, register for career-related events, and browse digital resources for major/career exploration. You can also schedule appointments through 12Twenty with career experts at the CCD for personalized guidance and support.

### SUSTAINABILITY AT RICE LINKEDIN GROUP

*OFFICE OF SUSTAINABILITY*

Job resources through the office include the Sustainability at Rice LinkedIn Group, Sustainability at Rice Newsletter, and the weekly digest by the Association for the Advancement of Sustainability in Higher Education (AASHE) Bulletin.

# LOCAL RESOURCES

## CITIZENS' ENVIRONMENTAL COALITION

The Citizens' Environmental Coalition (CEC) works to connect Houston's environmental community through a diverse range of programs, resources, and events. Through CEC's work, opportunities are created to provide access to careers and advocacy opportunities that may not otherwise be available, to foster a sense of wonder and appreciation for our local natural resources, and to ensure that ongoing work is being done collaboratively and strategically.

## JOB SEARCH DATABASES

- [The American Council for an Energy Efficient Economy \(ACEEE\)](#)
- [Browngirl Green](#)
- [Climate Base](#)
- [Environmental Defense Fund](#)
- [Environmental Science.Org](#)
- [Greentown Labs](#)
- [Geosciences Resources on Opportunities in the Workforce—GROW](#)
- [Josh's Water Jobs](#)
- [O\\*NET Online](#)
- [US Department of Energy](#)
- [US Partnership for Education for Sustainable Development](#)

