Penn Sustainability is now accepting student applications to the Integrating Sustainability across the Curriculum’s (ISAC) student research Internships. This eight-week summer program teams students with participating faculty to revise or develop a new course that incorporates sustainability as a theme in the course. Each student works with two faculty members, 20 hours each per week, and their work may involve researching new material for courses, compiling course reading lists, or developing new assignments or exam questions. Throughout the summer each student research intern will be expected to:

- Work closely with the assigned faculty on the development of their courses;
- Participate in workshops and sustainability-themed field trips with other students;
- Present their course development in a poster session during the following fall semester.

The Integrating Sustainability across the Curriculum program is a key component of the Penn Climate and Sustainability Action Plan 3.0, and is designed to support the development of new coursework that addresses critical issues in 21st century sustainability.

The research internships are considered equivalent to a full-time job (40 hours a week); interns will be paid for eight-weeks, starting June 1, 2020.

Application Deadline: due Tuesday, March 31, 2020 and reviewed on a rolling basis

HOW TO APPLY

Send the following as PDFs to sustainability@upenn.edu with “ISAC 2020” in the subject line.

- Resume
- Transcript (need not be official)
- 1-2 page statement of interest in the internship position and your first and second choice of course sets (listed below) to work on this summer, including the reasons why you’d be a good choice to support these classes:
Course Set 1

- **CPLN 505 – Planning by Numbers** - Megan Ryerson, Associate Dean for Research, Department of City and Regional Planning

  Through ISAC, *Planning by Numbers* will integrate sustainability into a quantitative methods course. The course will focus on analyses of carbon emissions from transportation modes and travel choices and environmental justice analyses of transport accessibility. The ISAC student assistant will use SEPTA Key data to better understand the geography of a user’s full transit journey in order to better measure the level of emissions they generate on their trip and how users are exposed to environmental hazards in the urban environment. The ISAC research assistant’s primary responsibilities will be to develop a series of workable datasets from the SEPTA Key data, and to help develop assignments that conduct analyses of carbon emissions and environmental justice exposure.

- **LARP 760 – Topics in Ecology** - William Young, Lecturer, Weitzman School of Design

  *Topics in Ecology* looks at how the health of human individuals and their communities depends crucially upon the health of the ecosystems, societies and communities in which they participate. The course is grounded in applications in ecology to achieve the triple bottom line: economy, ecology, and culture. Projects are looked at through how they benefit people, how they can be made affordable and scalable, and how they protect and heal the earth. These metrics can be measured, and a carbon footprint can be tabulated for every project. The ISAC research assistant will build a carbon sequestration calculator which can be used to evaluate different methods of carbon sequestration. The student will research and evaluate Carbon Farming, Afforestation and Reforestation, Bioenergy and Bury, Biochar, and Fertilizing the Ocean. The student will use the carbon calculator to evaluate the carbon capture of proposed alternatives.
Course Set 2

- **ARCH 111 – Architecture in the Anthropocene** - Daniel Barber, Associate Professor, Weitzman School of Design

  *Architecture in the Anthropocene* explores the importance of environmental ideas to the development of architecture over the 20th-century. Issues of importance include theories of risk, the role of nature in political conflicts, design and environmental communication, and the relationship between speculative design and other narratives of the future. As part of the course students will pursue a collaboration with various companies and colleges to bring more roof top solar and other forms of renewable energy to Philadelphia. The ISAC student assistantship will review the material of and establish relationships with various solar energy groups, review the syllabus and readings in order to update the course according to this adjusted focus, and conduct preliminary work for the PPEH symposium.

- **EAS 242 – Energy Education in Public Schools** – Andrew Huemmler, School of Engineering and Applied Sciences

  *Energy Education in Public Schools, EAS 242,* is an Academically-Based Community Service (ABCS) course wherein Penn students from the Netter Center are trained by the Energy Coordinating Agency to teach basic energy conservation techniques and related STEM concepts to local high-school students. The ISAC student will assist with the continued development of this course in addition to updating information for three other courses, Energy Systems & Policy, Climate Policy & Technology, and Electricity Systems & Markets. The student will also prepare a case study of a large roof-top solar project on a typical older Philadelphia warehouse.
Course Set 3

- **Sustainable Development and Culture in Latin America** – Teresa Gimenez, School of Arts and Sciences
  This course studies the importance of culture within the sustainable development discourse in the Latin American context. The course deals with issues of social and environmental inequality through the lens of culture and through problems caused by unsustainable methods of agricultural production, and the cultural and resource constraints that perpetuate these problems. This course includes a one-week immersive experience in Costa Rica where coffee, a key product for its economy and identity, is now at risk due to unsustainable farming practices and global warming. In addition, the course is also offered in Spanish, so that major/minors in the department can get deeper intercultural understanding through the language while building on their linguistic proficiency. The ISAC student research assistant would work on translation of reading materials, developing reading discussion questions, assembling and translating power points and uploading all the materials to Canvas. **Work on this course requires Spanish language skills.**

- **Changing Environment** – Shelley Spector, Weitzman School of Design
  This seminar explores both historical and contemporary issues in a spirit of curiosity and critique, and investigates how these ideas can clarify and complicate our practice as artists and our understanding of the contemporary world. Issues covered range from traditional investigations of aesthetics, to more recent studies of identity, to changes in form and technology. With new content informed by research at the intersection of environmental sustainability and artistic practices, students will understand how they can participate in change making, awareness and boundary pushing with their work. The summer work plan for the ISAC student intern will have three major components: intensive engagement and review of the material studies from an environmental, creative and historical perspective; exploration of recent material practices, theories, and speculative projects focused on the effect of environmental issues on contemporary artistic output; and preliminary research aimed to address environmental sustainability in a new studio course that will enable students to better understand the global, political and social impact of artist output.
Course Set 4

- **LARP/CPLN 701 - ‘Designing a Green New Deal’ Studio** - Billy Fleming, Weitzman School of Design
  This studio will build on work completed during the Fall 2019 iteration—a studio that began at the national-scale, gradually focusing in on three key regions (Appalachia, the Midwest, and the Mississippi Delta). It will take those three regions as its starting point, and move through a similar progression of close reading and discussion of the New Deal’s built environment legacy, a sector-based analysis of the physical assets and workforce considerations in each region (in energy, agriculture, transportation, housing, and land/water), and then a community-scale exercise in speculative design work. This iteration would be connected to real people and organizations on the ground in each region already engaged in the push for a Green New Deal. The student researcher would have three principal goals over the summer: (1) to help build and finalize the network of collaborators in each region, many of whom would be invited to Philadelphia during the course; (2) to help revise and revamp the readings and invited guests for the seminar portion of the studio; and (3) to help design the final assignments, a pop-up exhibition of work and a technical report for each region, both of which would be expected to travel or be presented in each region.

- **OIDD 761 – Risk Analysis and Environmental Management** - Carolyn Kousky, Wharton Risk Management and Decision Processes Center
  This course is designed to introduce students to the complexities of making decisions about environmental risks. It examines policy tools such as risk communication, incentive systems, third party inspection, insurance, regulations, and standards indifferent problem contexts. The course discusses risk assessment, risk communication, risk perception, and risk management. A course project will enable students to apply the concepts discussed in the course to a concrete problem. A dedicated student research assistant will be tasked to assist with compiling similar courses at other universities to compare how these topics are being taught elsewhere. The student researcher will assist in identifying the most up-to-date scholarship on the topics covered by the course to make sure students are given the best readings. Additionally, the student will help in finding more recent case studies addressing timely topics and developing assignments.