

## **NEW PROGRAM**

## Data Science for Energy and Environmental Research

The University of Chicago introduces a new program in data science for energy and environmental research to train graduate students from Geosciences, Economics, Computer Science, Statistics, Public Policy, and other programs in the computational and data science techniques critical for modern science. This program is made possible by a \$3 million award from the National Science Foundation's Research Traineeship program.

The program consists of two key pieces: new course offerings open to all students across the University of Chicago, and direct support for new PhD and academic MS students in relevant research areas.

• Course offerings will begin in the 2018-2019 academic year and will consist of both credited courses and non-credited classes and workshops, including a series of "bootcamps" offered in September prior to the start of the Fall term. All courses will be open to all U. Chicago graduate students and advanced undergraduates with appropriate backgrounds and interests.

• The traineeship program is not itself a PhD program or a degree. Students receiving direct program support will be admitted through existing PhD and MS programs (e.g. Geosciences, Economics, Public Policy) and will receive degrees from those units, subject to satisfactory completion of their unit's degree requirements. Graduate students selected for the full traineeship program will complete a series of curricular offerings and receive two years of tuition and stipend. Students in professional master's programs (e.g. MPP, MBA) are eligible to participate in traineeship courses but cannot receive direct financial support.

• The September bootcamps are designed to introduce concepts that fall outside students' core disciplinary training and to provide the breadth required for interdisciplinary research. Bootcamps include both "data science skills" (computation, statistics, data science) and "domain expertise" courses (geosciences, economics); subjects may rotate each year. Each bootcamp module will be two weeks, and students may take two concurrently, so that a "full load" is four modules during September.

• For-credit courses include an introduction to the food/energy/water system (Fall) and a two-quarter data analysis practicum (Winter, Spring) in which students work in groups on interdisciplinary research questions, with lectures on data science provided by U. Chicago faculty. The expected outcome is that each group will complete a paper for submission to a peer-reviewed academic journal, and participating students will take concurrent classes on scientific writing in support of that objective.

• Additional course offerings will target communication skills in science and public policy, as well as professional development for interdisciplinary students, beginning in the 2019-2020 academic year.









