

CORE SCIENCE (CCST-SHU)

CCST-SHU 133 Water Energy Food Nexus (4 Credits)

Billions of people on earth lack adequate access to water, food, and energy. What might be gained by recognizing the interdependencies that exist between these resources? It is well known that water is fundamental to agriculture and to the entire agro-food supply chain. Moreover, it is clear that energy is required to produce and distribute water and food: to pump water, to power irrigation machinery, and to process and transport agricultural goods. But a global society requires industry and policymakers to take even broader views. For instance, how are water security, energy security, and food security linked, so that actions in one area will likely have impacts in one or both of the others? How will population growth, economic development, and climate change affect international efforts to eradicate poverty? Additionally, what roles might renewable energy technologies play in providing access to cost-effective, secure, and sustainable energy supplies? Students will approach these questions through multidisciplinary lenses and cultivate the skills required to address the social, economic, and environmental challenges posed by the water-energy-food nexus. Fulfillment: CORE STS.

Grading: Ugrd Shanghai Graded

Repeatable for additional credit: No

- SB Crse Attr: NYU Shanghai: Science, Technology and Society

CCST-SHU 142 Environment Connections: Water, Waste, and Wellness (4 Credits)

Typically offered occasionally

This course provides a unique opportunity for students to make connections from their lives to the environment, focusing on the human relation to the natural world. The goal of this class is to escort the engaging student through their individual path connecting popular environmental topics with how they affect their lives and others. Everyone has heard the environmental rhetoric, but what does it really mean to each of us and how is it connected to what has occurred in the past and our future. Specific, contextual examples will be explored including connections between Henry David Thoreau's Walden to contemporary novelist. Learners will overlay these literary connections with actual environmental projects. This class encourages students to make connections between science, technology and society (STS) outside of the classroom and their natural world. The primary method for discovery will be the science process skills, where students will research, propose, design, and troubleshoot their own environmental stewardship models. Topics include groundwater flow models, sampling and analysis, chemical and biological data interpretation as well as contaminant remediation designs. Assignments will include formal and informal writing and presentations, as well as a critical thinking activity and project-based learning. This learner-centered experience utilizes active learning methodology to assist participants in making connections between societal attributes, informal education and the natural world. The approach is conceptually-based and subsequently process driven, engaging learners to observe, communicate, classify, infer and predict. A learning environment will facilitate learners to build on their prior knowledge and value of education expanding into models of learning, critical thinking and methods of teaching. Participants will ultimately deliberate the attributes of 'environmentally friendly' or green companies, buildings, fuel and the philosophy of green." Pre-requisite: None. Fulfillment: CORE STS.

Grading: Ugrd Shanghai Graded

Repeatable for additional credit: No

- SB Crse Attr: NYU Shanghai: Science, Technology and Society