Two-Year Master’s Degree Programs in Earth Systems & Environmental Engineering

Cutting-Edge Technology

ESEE students develop the competence and confidence to be leaders in applying science, engineering and computer simulation methods to real world environmental and climate problems through diverse lecture and laboratory experiences. Teaching laboratories include computer aided design and analysis labs as well as experimental and instrumentation labs. Students also have access to many different research labs across the participating departments including: the Water Resources and Fluid Mechanics Lab, Optical Remote Sensing Lab, Xray Lab, GeoChemistry Lab, Ground Water Hydrology Lab, Air Quality Research Lab, Environmental Engineering Lab, and the NOAA-CREST direct broadcast satellite receiving station and data server facility.

The CREST (Cooperative Remote Sensing Science and Technology) is a multidisciplinary center led by the City College of the City University of New York (CUNY), which brings together various institutions from New York City to Puerto Rico. These institutions form a broad-based research team in remote sensing applied to earth, atmospheric, environmental, and marine sciences.

This unique foundation allows students to advance understanding and prediction of changes in climate, weather, oceans, and coasts, while sharing that knowledge and information with others in order to conserve and manage coastal and marine ecosystems and resources.

The CUNY ESEE Program is a partner in the NOAA CREST (National Oceanic and Atmospheric Administration’s Cooperative Remote Sensing Science and Technology). NOAA CREST faculty and students are involved in research projects pertaining to the NOAA sciences, and are active in research, publishing and presenting their work.

Applying Online:
http://www.ccny.cuny.edu/admissions/graduate-studies.cfm

Application Deadlines...November 15, and May 1

Program Director...............Prof. Marco Castaldi
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The City College of New York

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NOAA Cooperative Remote Sensing Science & Technology Center
p: 212-650-8099
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http://crest.ccny.cuny.edu/

Giving students an edge through two dynamic degree tracks.
21st Century Science: Key Components of ESEE

Students can choose between two flexible and dynamic degree tracks in Earth Systems and Environmental Engineering (ESEE): Master of Science (MS) and Professional Master Program (PSM). Both ESEE tracks give students a broad foundation in advanced sciences, engineering, business and public policy, and a knowledge of how these disciplines intersect to shape local and global communities, all of which are vital components for success as a 21st century scientist and/or engineer.

Students may choose one of the following concentrations, within both degree tracks:
- Water Resources Engineering Management (WREM)
- Geoinformatics & Geographic Information Systems (GIS)
- Energy and Environment
- Climate & Remote Sensing (CRS)

The MS and PSM programs provide exciting and rigorous real-world training to immerse students into technical and business realities of science innovation.

**Degree Tracks**

**Master of Science Program**

MS courses teach students to see the global context within which they will address specific environmental issues in their future careers. Each specialization is built on appropriate courses, chosen in consultation with the student’s advisor, to arm students with skills needed to address current and emerging challenges such as climate change, coastal flooding, and toxic contamination.

**MS ESEE students will complete 30 credit hours of work:**
- 4 required courses covering core topics (12 credits)
- 2 distribution courses to provide breadth outside the concentration (6 credits)
- 3 courses in a specific area of concentration (9 credits)
- Final project: research project with faculty member’s research

**Professional Master Program**

The Professional Science Master’s (PSM) degree is an innovative, terminal, two-year graduate degree designed to allow students to pursue advanced training and excel in science while simultaneously developing highly-valued business acumen. PSM programs consist of academic training in an emerging or interdisciplinary area, along with a professional component that may include internships and cross-training in workplace skills.

**PSM ESEE students will complete 30 credit hours of work:**
- 4 required courses covering core topics (12 credits)
- 2 distribution courses to provide breadth outside the concentration (6 credits)
- 3 courses in a specific area of concentration (9 credits)
- Final project: Internship with an employer in industry, government,

**Real-World Experience**

Through internships, partners in industry and government will help students develop a “real-world” project. For example, students interested in the Water Resource Engineering Management concentration can participate in the US Geological Survey’s summer field experience and work on projects in areas broadly related to water resources and coastal and marine science.

The coordination of research interests provides a mutually beneficial program for the students and the partners in which both parties can substantially leverage their respective capabilities to address environmental problems.

**SKILLS YOU WILL GAIN WITH ESEE**

- Perform environmental analysis effectively and ethically in a global, multicultural environment.
- Contribute actively to assist decision-makers in the formulation of public policy by participating in professional societies, actively publishing, attending, and presenting at local and national conferences and meetings.
- Function efficiently in multi-disciplinary endeavors especially between engineering and the sciences.
- Progress to positions of leadership
- Apply sound scientific knowledge and engineering principles to real world problems to meet the needs of society and the professional work environment.

Participating faculty will offer their expertise, laboratory space, and research group collaboration to the master students.