

NEW DEGREE OPTION

Professional Master's Program in Next Generation Power and Energy Systems



CU Boulder – conveniently located in Colorado's renewable energy industry hub – offers a new opportunity to learn about cutting-edge technology developed to make our world more sustainable through emerging, interconnected power and energy systems.

With rapid energy sector transformation bringing new opportunities for power and energy systems engineers, the Department of Electrical, Computer and Energy Engineering (ECEE) expands its professional course offerings to include a new Master of Science (MS) degree—starting in fall 2020—for students with bachelor's degrees in electrical engineering or related engineering or scientific backgrounds.

Instructors from CU Boulder's faculty and National Renewable Energy Laboratory research programs offer five core courses and numerous electives for the 30-credit hour program to prepare students with the specialized knowledge required to practice grid integration of renewable energy.

What's the Next Generation?

Renewable energy sources, such as wind and solar, are increasingly being integrated into the electric power grid, while the power system becomes more tightly intertwined with other systems, such as buildings, natural gas pipelines, and the transportation sector.

Today's rapid changes create industry demand for professionals who understand new power electronic interfaces, improved modeling and simulation capabilities, and knowledge of advances in communication, control, and optimization to mitigate the impacts of variability and uncertainty in power systems generation.

CU's new master's program helps engineers and decision makers prepare for this next generation—with deep foundational knowledge, modern technical skillsets, and the ability to effectively participate in multidisciplinary teams to solve new challenges.

**Applications are due January 15 for full-time, part-time, and online course options.
For more information, visit colorado.edu/ecee/nextgen-power-systems**

Program Features

Future-focused Research

Adjoint professors from NREL teach program courses with CU faculty to bring practical industry knowledge to classroom discussions. Students have opportunities to explore energy systems integration themes from the Renewable and Sustainable Energy Institute (RASEI), a joint program between CU Boulder and NREL that addresses important, complex problems in energy to expedite solutions that transform energy by advancing renewable energy science, engineering, and analysis through research, education, and industry partnerships.



Colorado's Renewable Energy Hub

The CU Boulder campus offers students opportunities to live an outdoor, active lifestyle while learning in Colorado's growing hub for renewable energy. Sunshine, wind, and new opportunities are abundant—with research taking place in nearby organizations and industry applications powering systems all along the Rocky Mountain Front Range.

Study Online



Many of the Next-Generation Power and Energy Systems courses offer distance-learning options through CU Boulder's Graduate School.

For more information visit, colorado.edu/connect.



Instructors from CU's faculty and NREL prepare students for new opportunities in power and energy systems engineering.

Curriculum

Five core courses (15 credits) required
Renewable Energy and the Future Power Grid
Introduction to Power Electronics
Power System Analysis
Distribution System Analysis
Power System Operations and Planning

Five electives (15 credits)
Building Electrical Systems
Building Energy System Modeling and Control
The Business of Sustainable Energy
Decision Making for Modern Power and Energy Systems
Cybersecurity Policy OR other relevant cybersecurity courses
Distributed Electrical Generation
Energy Policy in the 21st Century
Grid-Connected Systems
Modeling and Control of Power Electronics Systems
Modeling of Urban Energy Systems
Optimization of Energy Systems
Power System Communications
Power System Dynamics and Control
Photovoltaic Power Electronics Laboratory
Power Electronics for Electric Drive Vehicles