



PhD in Sustainable Energy

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Doctoral program with a focus on topics related to sustainable energy and the impact urbanization, transportation and manufacturing have on energy sustainability.



The College of Science and Engineering's PhD program in sustainable energy provides students with extensive knowledge in topics related to sustainable energy and the impact urbanization, transportation and manufacturing have on energy sustainability. The program also looks at the implications and drivers of sustainable policymaking on society, the economy and the environment. A key component of the degree is original and scientifically significant research in energy science, as well as technologies that support sustainable development. The multidisciplinary approach to the curricula allows for engagement in cross-disciplinary science and builds fundamental knowledge that evolves with developments within the energy field, equipping graduates with the tools needed to pursue a wide variety of career paths.

Program Focus

Through the program, students focus on a core set of skills that are required to build a successful career in science, engineering, and technology-related areas, including ethics, technical writing, research methods, data analytics, and advanced computing methods.

- Fundamentals of energy engineering, sciences and technologies for sustainability.
- Fossil fuel energy usage and environmental impact.
- Engineering and scientific development of renewable green energy.
- Energy storage, distribution and consumption efficiency.
- Social and economic aspects of sustainability and energy.
- The interrelationships between water, energy and food, and how to ensure their resilience through a nexus-based approach.

Curriculum

A 54-credit program, taught in English, typically over three years (for students already possessing a master's degree) that includes:

- **Core courses**
- **Elective courses**
- **Semesters of graduate research seminars**
- **36-credit research thesis**

under the supervision of an adviser and a PhD dissertation committee: PhD students should additionally pass (1) a qualifying examination in their third semester, (2) a candidacy examination (dissertation proposal) in their fifth semester, and (3) successfully defend their final dissertation to the public and their dissertation committee.

Courses

2 Mandatory Core Courses (3 credits each)*

- SENS 501 Research Methods and Ethics
- SENS 511 Sustainability Fundamentals and Tools

*Students with an MS degree may be able to seek core course waivers if they have completed sufficiently similar courses during their MS, allowing them to replace core courses with additional elective courses

1 Elected Core Course (3 credits)*

Students must choose one of the following

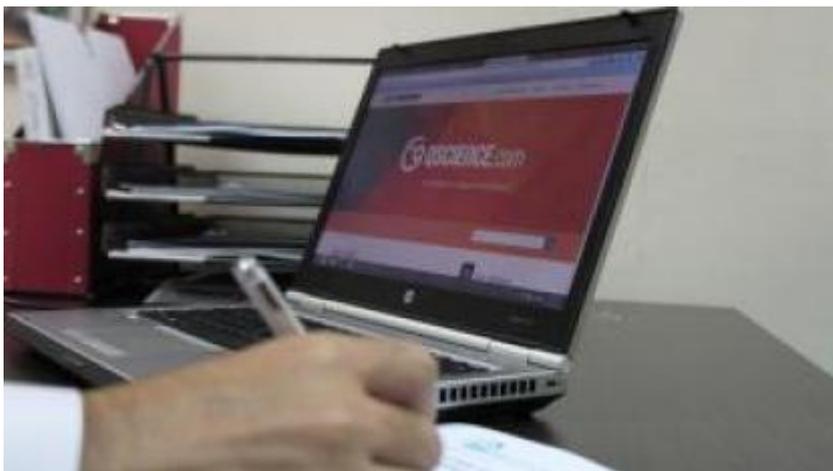
- CSE 502 Statistics for Science and Engineering
- CSE 503 Advanced Mathematics
- CSE 505 Computational Data Analytics
- CSE 506 Numerical Methods for Scientists and Engineers
- CSE 507 Advanced Systems Optimization

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3 Elective Courses (3 credits each)

Students choose any 3 of the below

YOU MAY WANT TO CHECK



Research

Research is integral to Hamad Bin Khalifa University's mission to help build human capacity in Qatar, playing a pivotal role in HBKU's academic programs across all its colleges.

- [Qatar Biomedical Research Institute \(QBRI\)](#)
- [Qatar Computing Research Institute \(QCRI\)](#)