

Master of Science and PhD Programs in Sustainable Energy

كلية العلوم والهندسة
College of Science & Engineering
جامعة حمد بن خليفة
HAMAD BIN KHALIFA UNIVERSITY



Master of Science and PhD Programs in Sustainable Energy

The Master of Science (MS) and Doctor of Philosophy (PhD) programs provide students with extensive knowledge and guided research in energy science, technologies, and policies that support sustainable development. The programs explore topics related to sustainable energy, including but not limited to sustainable energy systems and fuels, energy-economy interdependencies, industrial systems and urbanization, sustainability in the oil and gas sector, transportation, and manufacturing. The programs adopt a multidimensional approach considering social, economic, environmental, and technological aspects of sustainability, in addition to a consideration of the policies that inform decision-making.

The multidisciplinary approach to the curricula allows for engagement in cross-disciplinary science and builds fundamental knowledge that evolves with developments in the energy field, equipping graduates with the tools needed to pursue a wide variety of career paths.

Program focus

- ▶ Skills to build a successful career in science, engineering, technology and developmental studies including ethics, technical writing, research methods, data analytics, and advanced computing methods.
- ▶ Understanding of sustainability as it relates to energy resources.
- ▶ Fundamentals of energy engineering, sciences, and technologies.
- ▶ Sustainability within the oil and gas industry, technologies, processes, and environmental impact.

- ▶ Designing and engineering alternative and sustainable energy systems and fuels.
- ▶ Energy efficiency, storage, and smart grids.
- ▶ Social and economic aspects of sustainability including, but not limited to, demand-side management, efficiency, human capacity building, sustainable financing, and policymaking.

Curriculum

Master of Science in Sustainable Energy

A 33-credit program taught over two years

that includes:

- ▶ Three core courses
- ▶ Five elective courses (six if taking industrial project)
- ▶ A nine-credit research thesis or six-credit industrial project
- ▶ One graduate research seminar

PhD in Sustainable Energy

A 60-credit program that requires a master's degree and is typically completed over three years.

The program includes:

- ▶ Three core courses
- ▶ Three elective courses
- ▶ Two semesters of graduate research seminars
- ▶ A minimum of 36-credit research thesis under the supervision of an adviser and a PhD dissertation committee

PhD students should additionally pass:

- ▶ a qualifying examination in their third semester.
- ▶ a candidacy examination (dissertation proposal) in their fifth semester.
- ▶ publish a minimum of two original research papers in Scopus – indexed journals.
- ▶ successfully defend their final dissertation to the public and their dissertation committee.

Admission and application requirements

Applicants seeking admission to the College of Science and Engineering graduate programs at HBKU should have a strong academic record (minimum 3.0 GPA out of 4.0) from a recognized university. Applicants to the master's programs should have a bachelor's degree, while applicants to the PhD programs should have a master's degree. They should have also majored in one of the following disciplines: Engineering and science disciplines (preferred). Students from architecture, urban planning, business, economics, policy and social sciences demonstrating strong analytical skills will also be considered.

Applicants are required to submit an IELTS score of 6.5 or TOEFL score of 79 to demonstrate their proficiency in English. Further details about the language proficiency requirement and the process to seek exemption (where this is an option) are available at admissions.hbku.edu.qa.

Applicants to the Master of Science and PhD Programs in Sustainable Energy at the College of Science and Engineering are required to submit a GRE General test score at the time of application. While the GRE is not required for admission to the master's programs at the College of Science and Engineering, a strong GRE score will help strengthen the applicant's admission material. Applicants with prior research experience are preferred, especially for the PhD programs.

Further information about admission requirements is available: admissions.hbku.edu.qa

Application requirements

A completed online application form: admissions.hbku.edu.qa

Academic transcripts

Official electronic copies of transcripts should be submitted as part of the online application. Final transcripts and graduation statements are required for all previous university studies. All transcripts submitted should include an explanation of the grading system. For those who have not completed their current studies, transcripts must include results from the last completed semester of coursework. Transcripts in languages other than English or Arabic must be accompanied by an official translation. Applicants who are admitted to the program based on copies of or incomplete transcripts will be required to provide original transcripts upon enrollment in order to register for courses.

Standardized test results

Official copies (where required) must be sent directly to HBKU. Please refer to the institutional codes below:

- ▶ GRE: 7551
- ▶ GMAT: H6S
- ▶ TOEFL: 4981
- ▶ IELTS: No code required. Students should ask the IELTS center where they tested to send the IELTS TRF to Hamad Bin Khalifa University.

Applicants should also submit copies of their test scores with the online application.

Letters of recommendation

Applicants should submit two letters of recommendation, one of which must be from an academic referee. Please visit admissions.hbku.edu.qa for further information about the submission process.

Personal statement of interest

Applicants should submit a personal statement (300-500 words) as part of the online application. The statement should explain why the candidate is applying to the program, and how their studies will contribute to the achievement of their personal objectives, including information about the applicant's research interests and achievements. Personal statements that are incomplete or below the minimum word count will not be accepted.

Resume/Curriculum vitae

Applicants should submit a copy of their current resume or curriculum vitae as part of the online application.

This should include the following information:

- ▶ Academic qualifications
- ▶ Professional experience
- ▶ Publications
- ▶ Research projects
- ▶ Academic awards or honors
- ▶ Conference presentations

Identification document

All applicants should submit an electronic copy of their passport as part of the online application. Nationals and residents of Qatar should also submit their valid Qatari ID.

Student funding

The College of Science and Engineering provides opportunities for funding on a competitive basis. Further information will be provided to applicants who are admitted to the program.