

Bachelor of Science in Computer Engineering

كلية العلوم والهندسة
College of Science & Engineering

جامعة حمد بن خليفة
HAMAD BIN KHALIFA UNIVERSITY



Engineering
Accreditation
Commission

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The aim of Hamad Bin Khalifa University's (HBKU) Bachelor of Science in Computer Engineering is to produce globally competitive computer engineering professionals for Qatar, the region, and the wider world.

The program is built on HBKU's unique model of developing interdisciplinary programs that draw on the expert knowledge of its partner institutions alongside its own faculty. This means that students are able to take courses provided by Texas A&M University at Qatar and Carnegie Mellon University in Qatar in addition to the comprehensive range of course offerings from HBKU.

Students explore the design of real-world computer engineering systems and are exposed to real-life problems and challenges through a design component that is integrated into the program, as well as through a final year project.

The dynamic multidisciplinary approach of the curriculum equips the program's graduates with an exceptionally well-rounded understanding of computer engineering, ensuring that they have all the necessary skills needed for them to go on to explore a wide range of rewarding careers or further study.

Accreditation

The Bachelor of Science program in Computer Engineering is accredited by the Engineering Accreditation Commission (EAC) of ABET, www.abet.org

Program focus

- ▶ The cross-disciplinary aspects of computer science and electronic engineering.
- ▶ A thorough understanding of computing devices, systems, and tools, ranging from specialized embedded processors to communication networks to software development.
- ▶ The skills needed to design a computer-based system.
- ▶ The application of mathematics in engineering.
- ▶ The role of hardware and software tools in solving engineering problems.
- ▶ Ethical and professional responsibilities in computer engineering.
- ▶ The role of computer engineering and computer engineers in society, both at a local and a global level.

Curriculum

A full-time program, taught in English over four years, comprised of:

- ▶ General educational courses (in humanities, history, business, and creative arts)
- ▶ Mathematics and science courses
- ▶ Core computer engineering courses
- ▶ Core curriculum electives
- ▶ General engineering electives
- ▶ English communication electives



Typically, the grade assessment is based on a final examination, mid-term examinations, quizzes, and assignments that include project and/or laboratory work. Credits are earned semester-by-semester, of which there are eight (two per year, spread across four years).

Each student is required to complete a final year project, as a member of a team of 2-4 classmates. The goal of this project is to give students the opportunity to integrate and synthesize the theoretical and experiential knowledge they have built up over the duration of the program. The final year project is conducted under the supervision of faculty.

Accelerated BS + MS Option

The computer engineering program at HBKU provides qualified undergraduate students with the opportunity to apply to an accelerated path of study.

The study plan is designed to allow students to graduate with both a Bachelor of Science degree in Computer Engineering and a Master of Science in Data Science and Engineering, or a Master of Science degree in Cybersecurity, in five years instead of six.

Through the accelerated program, qualified students in their senior year of undergraduate studies will be admitted to the master's degree program and will be offered the opportunity to take graduate-level classes that can be used to fulfill the master's degree requirement, hence enhancing their research capabilities by exposing them to high-level graduate courses.

Students who are eligible for such an option will undergo extensive research training and will have the opportunity to enroll in research thesis work under the supervision of HBKU faculty.

They will also be offered the opportunity to intern at one of HBKU's research institutes, including Qatar Computing Research Institute (QCRI). Students admitted to this accelerated program can use credits hours towards both their bachelor and master's degrees, hence shortening the time it takes to earn a master's degree.

Admission and Application Requirements

Applicants seeking admission to the Bachelor of Science in Computer Engineering should have a strong high school academic record with evidence of advanced coursework in math and science. Applicants are required to take the IELTS or TOEFL exam in order to demonstrate their proficiency in the English language. Applicants are highly encouraged to take the SAT or ACT exam.

Application requirements

A completed online application form:

admissions.hbku.edu.qa

Academic transcripts:

Final transcripts of all high school years (grades 10, 11 and 12) that are available at the time of application. Transcripts in languages other than Arabic or English must be accompanied with an official translation. Applicants should submit a copy of their high school transcripts as part of the online application. 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 classes.

Standardized test results:

Official copies of standardized test results must be sent directly to HBKU. Please refer to the institutional codes below:

- ▶ SAT: 7675
- ▶ ACT: 7019
- ▶ 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 as part of the online application.

Letters of recommendation:

Two recommendation letters, including one from the school counselor, and one from a math or science teacher. The referees should email their recommendation letter from their professional email to:

admissions.ug@hbku.edu.qa

Personal statement of interest:

Applicants should submit a personal statement as part of the online application. The personal statement should explain why the student is applying for the undergraduate major in Computer Engineering, and how this will contribute to their future goals (minimum of 300, maximum of 500 words).

Resume/curriculum vitae:

Applicants should submit their resume or CV as part of the online application, including academic and extracurricular achievements, such as honors, awards, leadership, volunteer work, athletic involvement or any other relevant activities. Applicants are highly encouraged to mention hobbies and personal talents as well.

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

For information about student funding opportunities, please visit: <https://www.qf.org.qa/education/higher-education/financial-aid>

cse.hbku.edu.qa