

College of Science and Engineering

كلية العلوم والهندسة
College of Science & Engineering

جامعة حمد بن خليفة
HAMAD BIN KHALIFA UNIVERSITY



Prospectus
26/27

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Overview

NBK KU



Excellence

Recognition of Quality Through Achievements

Innovation

Leading Transformation

Partners

Success Through Synergy

People

Shaping Society

Innovating Today, Shaping Tomorrow

Hamad Bin Khalifa University (HBKU), a member of Qatar Foundation for Education, Science, and Community Development (QF), was founded in 2010 to continue fulfilling QF's vision of unlocking human potential. HBKU is a homegrown research and graduate studies university that acts as a catalyst for positive transformation in Qatar and the region while having a global impact.

Located within Education City, HBKU seeks to provide unparalleled opportunities where inquiry and discovery are integral to teaching and learning at all levels, utilizing a multidisciplinary approach across its focus areas.

The university provides an array of graduate programs through its College of Islamic Studies, College of Humanities and Social Sciences, College of Science and Engineering, College of Law, College of Health and Life Sciences, and College of Public Policy.

HBKU is also home to three research institutes – Qatar Biomedical Research Institute (QBRI), Qatar Computing Research Institute (QCRI), and Qatar Environment and Energy Research Institute (QEERI) – which together with the colleges are at the forefront of efforts to seek novel solutions to grand challenges facing Qatar and the region.

Additionally, HBKU's Executive Education Center delivers customized programs for the business community of Qatar and the region.

Why Study at HBKU?

At Hamad Bin Khalifa University, students join a vibrant community dedicated to excellence and innovation. We cultivate human capacity through enriching academic experiences, unique collaborations with partners, and interdisciplinary education for addressing global challenges.

HBKU offers students exposure to world-renowned faculty and industry leaders, equipping them with knowledge and skills to excel in their fields. Located in a regional hub, students gain diverse perspectives to contribute positively to their development and communities globally.

Moreover, HBKU thrives with an outstanding student-to-faculty ratio in Education City, a hub providing abundant opportunities for active participation in a dynamic multicultural setting. As an HBKU student, you can play a pivotal role in an institution dedicated to innovation and shaping the future.

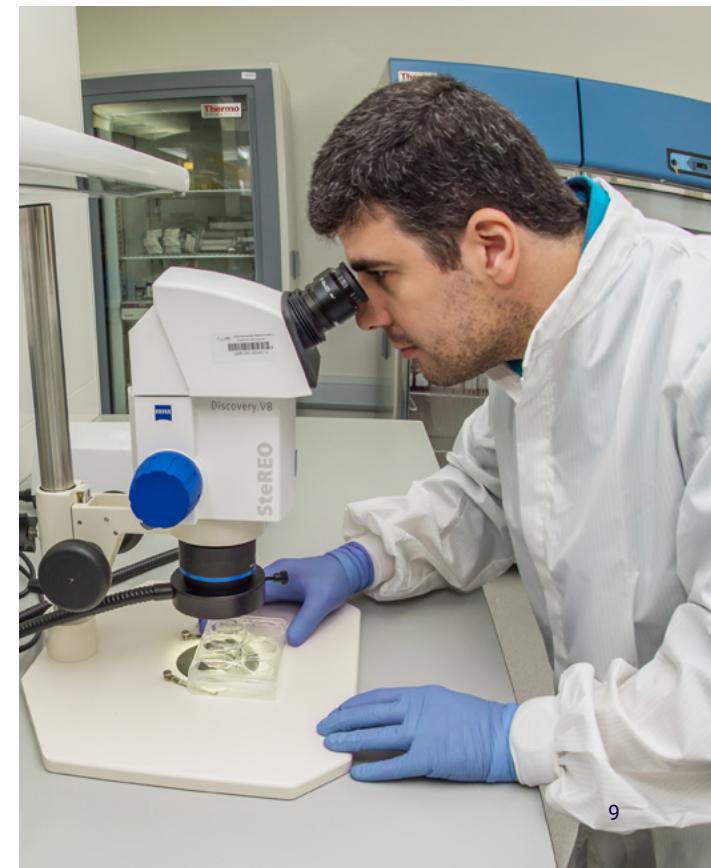




Research

Research is the cornerstone of Hamad Bin Khalifa University's commitment to building human capacity through interdisciplinary education and innovation that supports Qatar's journey towards sustainable growth. HBKU's interdisciplinary research and educational environment is distinguished by a unique synergy among the colleges and research institutes.

The university's students, faculty, and researchers work within an ecosystem that addresses challenges of national priority and contributes to outcomes with tangible impacts on society. Collectively, they are achieving breakthroughs in the fields of biomedicine, genomics and precision medicine, information and communications technology, and sustainability, while advancing knowledge across the humanities, Islamic studies, law, and public policy.





About the College of Science and Engineering



College Overview

The College of Science and Engineering (CSE) offers the largest selection of programs within HBKU. All of its programs involve collaboration with HBKU's prestigious research institutes, utilizing the skills of expert scientists, and with external world-renowned academics and industrial partners strengthening the link between education and societal and economic needs and maximizing students' employability.



Divisions

CSE is home to:

- ▶ Division of Engineering Management and Decision Sciences
- ▶ Division of Sustainable Development
- ▶ Division of Information and Computing Technology

The divisions are firmly committed to excellence in graduate teaching and the training of highly qualified students in cutting-edge areas of knowledge across multiple disciplines. CSE faculty are internationally recognized for pursuing high-impact research addressing societal and economic needs in Qatar and globally.

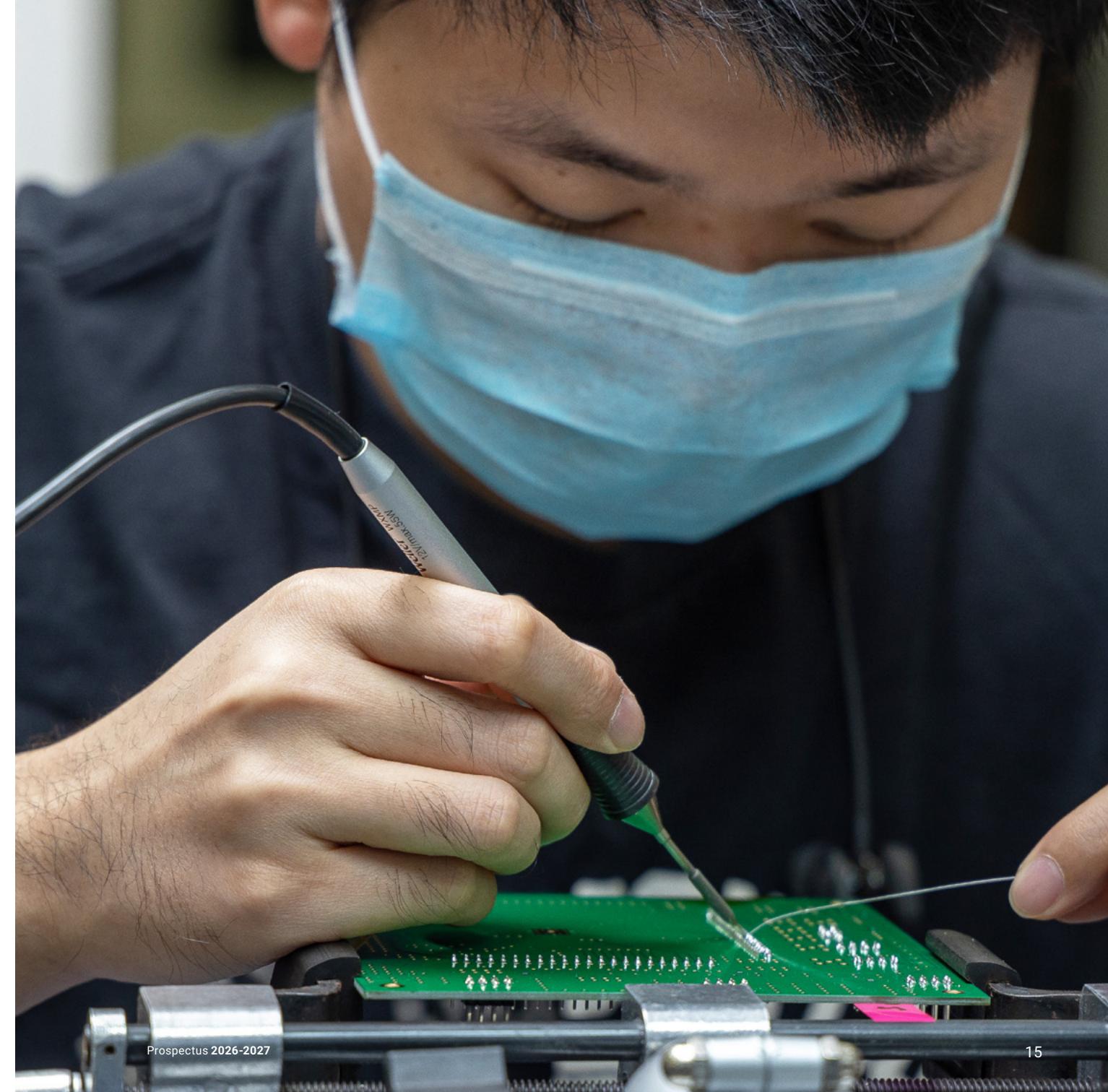
Students and Alumni

Division of Information and Computing Technology

This division's programs attract ambitious and innovative students with a strong academic background and high caliber. Those who are actively pursuing a master's degree within the division have a solid background in computer science, computer engineering, electrical engineering, information systems, or related health fields. Applicants seeking admission should demonstrate strong evidence that they possess the qualities to become successful researchers, industry professionals, and innovators. Experience in the healthcare sector is preferred for applicants to the Master of Data Analytics (MDA) in Health Management and the Master of Information Systems in Health Management. Students enrolled in the PhD programs are also required to have strong academic and vocational experience.

Graduates in the Information and Computing Technology Division may choose to:

- ▶ advance their academic career through pursuing higher degrees or seeking academic positions at reputable universities.
- ▶ become research scientists, data analysts, cybersecurity professionals, or software engineers at leading international research labs.
- ▶ engage in technology start-ups as CTOs, CIOs, or CEOs.
- ▶ pursue career paths in the IT sector, industries linked to data analytics, cybersecurity, health informatics and management, as well as research centers.





Division of Engineering Management and Decision Sciences (EMDS)

The EMDS division is at the core of engineering, business, and data analytics. The graduate programs within the EMDS are multidisciplinary programs that expose students to innovative decision-making methodologies and technologies that are influencing our everyday life. The objective of these programs is to attract diverse and outstanding students from Qatar, the region, and the world to develop cutting-edge research.

Graduates of the EMDS may choose to pursue careers in:

- ▶ academia and education
- ▶ research institutes or startups
- ▶ logistics and supply chain industries
- ▶ ministries and governmental agencies
- ▶ oil and gas, manufacturing, transportation, or cargo
- ▶ sport-related companies and industries

Division of Sustainable Development

The Division of Sustainable Development offers four different programs with rigorous and highly selective admissions criteria. The division actively seeks top students in Qatar and the region, with academic backgrounds that are as diverse as their nationalities.

Graduates of the Division of Sustainable Development may choose to pursue careers in various sectors such as:

- ▶ Academia and education
- ▶ Ministries and governmental agencies
- ▶ International agencies
- ▶ Think-tanks
- ▶ Finance, investment and banking
- ▶ Healthcare sector
- ▶ Energy
- ▶ Utilities (water, gas, electricity)
- ▶ Oil and gas
- ▶ Manufacturing
- ▶ Transportation
- ▶ Automotive
- ▶ Consultancy
- ▶ Food sector



Faculty and Research Areas

Division of Information and Computing Technology

Faculty in CSE's Division of Information and Computing Technology are involved in innovative research that seeks to address pressing issues in Qatar and the region. Additionally, they conduct large-scale research projects that drive significant contributions at an international level.

Faculty conduct research on:

- ▶ Big data analytics and machine learning
- ▶ Artificial intelligence
- ▶ Computer vision
- ▶ Signal and image processing
- ▶ Cybersecurity, data privacy, and cyber-physical systems
- ▶ Secure data management, applied cryptography, and blockchain
- ▶ Next-generation wireless networks and mobile computing
- ▶ Human-computer interaction
- ▶ Sensors, biomedical circuits, and very-large-scale integration (VLSI)
- ▶ Social computing and multimedia
- ▶ Quantum computing
- ▶ Scientific visualization and visual computing
- ▶ Computational bioinformatics
- ▶ Digital health/Health informatics
- ▶ Software engineering
- ▶ Technology and human behavior



Division of Engineering Management and Decision Sciences (EMDS)

The division of EMDS is home to the MSc/PhD in Logistics and Supply Chain Management and the MSc in Sport and Entertainment Management. It is a multidisciplinary unit designed to progress the interaction between humans, machines, management systems, infrastructure, and the global environment. In addition to its excellence in its core programs, one of the strengths of the EMDS division is its multidisciplinary research and teaching methods, which can cut across CSE programs within the Division of Information and Computing Technology and the Division of Sustainable Development. The EMDS division's mission is expertise in engineering and business decision-making for products, services, transportation, information, and cash flows in sport, entertainment, logistics, and supply chains. It drives new research in big data, AI, manufacturing, and operations research. Creating interdisciplinary teams is a focus, as is attracting resources to support research goals. Collaboration brings the division's technology and expertise to various HBKU research themes. Strong industry-academia collaboration drives HBKU's research development in the industry. The division's faculty are internationally recognized and pursue high-impact research in multiple areas, including, but not limited to:

Logistics and Supply Chain Management

- ▶ Combinatorial Optimization
- ▶ Financial Modeling
- ▶ Healthcare Operations Management
- ▶ LNG value chain
- ▶ Mathematical Programming
- ▶ Process Engineering
- ▶ Queuing Theory
- ▶ Smart Manufacturing and Engineering Management
- ▶ Supply Chain Management
- ▶ Transportation & Vehicle Routing

Sport and Entertainment Management

- ▶ eSport
- ▶ Managing Sport and Leisure
- ▶ Sport-related Corporate Social Responsibility
- ▶ Sport Entrepreneurship
- ▶ Sport Marketing & Media
- ▶ Sport Finance
- ▶ Sport Governance
- ▶ Sport Tourism
- ▶ Sustainability in Sport
- ▶ Venue Management

Division of Sustainable Development

CSE's Division of Sustainable Development is home to world-renowned faculty who are experts in their respective fields. Working collectively, they actively pursue research in areas that are becoming exceedingly critical for national and regional progression.



Faculty of the Sustainable Development Division are involved in:

- ▶ Renewable energy technologies and policies
- ▶ Smart power grids
- ▶ Oil and gas technology and economics
- ▶ Energy-water-food nexus
- ▶ Desalination, water treatment, and water reuse
- ▶ Biotechnology
- ▶ Air quality
- ▶ Green buildings and sustainable built environment
- ▶ Energy and resource efficiency
- ▶ Demand-side management, social behavior change, progressive policy-making, and cultural contexts
- ▶ Sustainable economy and financing
- ▶ Biomass and waste management
- ▶ Nano-technology, nano-materials, and nano-manufacturing
- ▶ Computational simulation of systems, materials, and fluids
- ▶ Food security
- ▶ Climate change resilience and adaptation
- ▶ Sustainable fuels and energy systems
- ▶ Carbon capture and utilisation
- ▶ Environmental impact assessment
- ▶ Circular economy

At a Glance

17 Programs

- ▶ PhD in Computer Science and Engineering
- ▶ PhD in Logistics and Supply Chain Management
- ▶ PhD in Sustainable Energy
- ▶ PhD in Sustainable Environment
- ▶ Master of Data Analytics in Health Management
- ▶ Master of Information Systems in Health Management
- ▶ Master of Science in Cybersecurity
- ▶ Master of Science in Data Science and Engineering
- ▶ Master of Science in Integrated Circuits and Intelligent Systems Design
- ▶ Master of Science in Logistics and Supply Chain Management
- ▶ Master of Science in Sport and Entertainment Management
A joint degree with the University of South Carolina (UofSC)
- ▶ Master of Science in Sustainable Energy
- ▶ Master of Science in Sustainable Environment
- ▶ Bachelor of Science in Chemical Engineering
- ▶ Bachelor of Science in Computer Engineering
- ▶ Bachelor of Science in Electrical Engineering
- ▶ Bachelor of Science in Mechanical Engineering



822

Students

*Qatari students (24%)

762

Alumni

75

**Nationalities
across HBKU**

Programs



Division of Information and Computing Technology

Doctor of Philosophy in Computer Science and Engineering



The PhD in Computer Science and Engineering provides students with a solid, fundamental, and advanced education, as well as strong research experience and a broad understanding of aspects related to computer science and engineering that will translate into exciting, challenging, and well-compensated job opportunities in this high-demand field.

The program aims to equip students with up-to-date knowledge of computer science and engineering, as well as the methods, tools, and technologies needed to explore this rapidly evolving field.

The program provides a broad, multidisciplinary, and research-intensive education at the boundary of computer science and engineering while providing specialization streams in contemporary fields that are globally important and relevant to Qatar. These fields include systems and computer security, software engineering, computational sciences, computer systems, architecture and very-large-scale integration (VLSI), robotics, machine perception, sensing technologies, human-computer interface (HCI), 'big data' and data analytics, machine learning and artificial intelligence, computer vision and graphics, technology

and behavior, software engineering, as well as wireless and mobile computing and networking, bioinformatics and health informatics.

Program Focus

- ▶ This program focuses on the core skills needed to build a successful, advanced career in computer science, engineering, and technology-related areas. It explores research methods, applied data analytics, advanced algorithms and data structure, computer architecture and VLSI, ethics, technical writing, and a number of relevant specialties.
- ▶ Students are required to conduct original and guided research with faculty supervision that concentrates on the contemporary issues in computer science and engineering which are globally important and also relevant to Qatar.

- ▶ The program provides our students with a broad understanding of the field, together with the flexibility to specialize in contemporary and up-to-date areas of computer science and engineering.

Curriculum

This program comprises a minimum of 60 credits taught in English, which are typically completed in 3.5 years. It requires a master's degree in computer science, computer engineering, electrical engineering, or other related fields.

- ▶ Two core courses to provide students coming from diverse backgrounds with a coherent learning environment that enables them to tackle complex issues in computer science and engineering. The core courses are:
 - ▶ Research Methods and Ethics in ICT
 - ▶ Applied Data Analytics

One of the following two courses is required to complete the three-core course requirement, depending on whether the student is interested in a hardware or software research area:

- ▶ Principles of Computer System Design
- ▶ Advanced Algorithms and Data Structures
- ▶ Three elective courses covering some engineering and science fundamentals plus a variety of computer science and engineering electives, which provide students with a solid base to fully understand different aspects of computer science and engineering and the interrelations between them
- ▶ Two semesters of graduate research seminars
- ▶ A research thesis with a minimum of 36-credits under the supervision of an adviser and a PhD dissertation committee

PhD students should additionally:

- ▶ pass a qualifying examination in their third semester.
- ▶ pass a candidacy examination in their fifth semester.
- ▶ successfully complete a PhD dissertation.

Division of Engineering Management and Decision Sciences

Master of Science and PhD Programs in Logistics and Supply Chain Management

The Master of Science (MS) and Doctor of Philosophy (PhD) programs in Logistics and Supply Chain Management (LSCM) offer innovative multidisciplinary curricula featuring a unique learning and research experience for students. During the course of their academic studies at CSE's Division of Engineering Management and Decision Sciences, students will acquire critical research capabilities and analytical skills in optimization, data-driven modeling, and simulation to design, evaluate, and optimize complex industrial and supply chain systems.

Currently, there are no graduate academic programs focused on the area of logistics and supply chain management on offer in Qatar and very few in the region to prepare and train increasingly needed human capital. The programs are specifically aimed at building high-quality academic and entrepreneurial capacities to cope with the aggressive rate of change and expansion of supply chains, in addition to the challenges associated with the scaling of industrial systems. Notably, students will benefit from working with stakeholders from government, industry, and academia.

Program Focus

Logistics and Supply Chain Management focuses on the design and optimization of complex systems through data analytics, simulation, digital twins, and optimization methods. Applications include product design, procurement, inventory, production planning, transportation, routing, reverse logistics, and sustainable supply chains across industries such as oil and gas, healthcare, airlines, food systems, retail and e-commerce among many others.

Overall, the programs are designed to be:

- ▶ Multidisciplinary: Students gain a broad foundation in analytics, operations, and decision support systems, equipping them to make informed decisions and contribute to organizational and national logistics and supply chain strategies.



- ▶ Conducive to building management and leadership skills: Students will develop the skills necessary to drive the logistics and supply chain management fields in Qatar and beyond.
- ▶ Research-oriented: Research is an integral part of the programs through which students draw on their knowledge, compile original data, test their hypotheses, and develop a research thesis that helps them advance local and regional insight into logistics and supply chain management.

Curriculum

Master of Science in Logistics and Supply Chain Management

A 33-credit full-time program that is typically completed in two years, and that includes:

- ▶ Three core courses
- ▶ Five elective courses (six if undertaking an industrial project)
- ▶ A nine-credit research thesis or a six-credit industrial/applied project
- ▶ One semester of graduate research seminars

PhD in Logistics and Supply Chain Management

A 60-credit program that requires a master's degree and is typically completed over 3.5 years. The program includes:

- ▶ Three core courses
- ▶ Three elective courses
- ▶ Two semesters of graduate research seminars
- ▶ A minimum of a 42-credit research thesis under the supervision of an adviser

PhD students should also:

- ▶ pass a qualifying examination in their third semester.
- ▶ pass a candidacy examination in their fifth semester.
- ▶ successfully defend their final dissertation to the public and their dissertation committee.

Division of Engineering Management and Decision Sciences

Master of Science in Sport and Entertainment Management



The Master of Science in Sport and Entertainment Management (MSEM) is offered by the College of Science and Engineering (CSE) as a joint degree with the University of South Carolina (USC). Identified as the first master's degree in sport and entertainment management in Qatar and one of a few in the MENA region, the program trains and prepares students for management and leadership roles in the sport and entertainment industries.

In 2025, HBKU's MSEM program was ranked 7th worldwide and 1st in the Middle East and Africa by Sport Business International. This program is also supported by the UNESCO Chair on Governance and Social Responsibility in Sport, which currently operates under a joint leadership arrangement between UCLan Cyprus and the College of Science and Engineering at HBKU.

The MSEM aims to support Qatar's objectives by qualifying professionals with a variety of skills and experiences covering the legal, financial, as well as operational, and management aspects of the sport and entertainment industries. Graduates of

the program could pursue a variety of career paths in the private and public sport sectors, including sponsorship, marketing, event management, facility management, TV broadcasting, and academia and research.

Program Focus

The MSEM provides students with a comprehensive and holistic overview of the sport and entertainment industries, as well as a multidisciplinary skill set that will enable them to address the complex challenges of the global sport and entertainment sector. Additionally, students will be able to develop and explain workable solutions to various industry problems.



Graduates of this program are equipped to:

- ▶ apply learned concepts and theory to demonstrate an understanding of the nature of the sport and entertainment industries.
- ▶ understand and appreciate how research is used by and is beneficial for sport and entertainment organizations and/or academics.
- ▶ demonstrate an ability to develop and explain workable solutions to various industry problems related to sport and entertainment.

Curriculum

The MSEM is a 36-credit hour degree program, taught over two years in English and designed to train students for management and leadership roles in the sport, entertainment, and venue management industries. Successful students will have skills at the intersection of management, finance, and law. The acquired skills will enable graduates to efficiently deal with several challenges within the sport and entertainment industries. Students can choose between thesis and non-thesis options.

Thesis Option:

Students electing the thesis (six credit hours) option must complete 21 credit hours of required courses, and complete at least nine credit hours of elective coursework from which a maximum of nine credit hours may be taken outside of the program.

Non-Thesis Option:

Students electing the non-thesis option must complete 21 credit hours of required courses, complete at least 15 credit hours of elective coursework from which a maximum of nine credit hours may be taken outside of the program, and pass a comprehensive examination upon completion of all coursework. Students selecting the non-thesis option may (but are not required to) enroll in a field project in Hospitality, Retail, or Sport Management for three elective credit hours.

Required courses will cover topics such as:

Venue Management: Principles and Practices, Management in the Sport and Entertainment Industry, Advanced Sport and the Law, Principles of Sport and Entertainment Marketing, Sport and Entertainment Finance, Statistical Methods, and Applied Research in Hospitality, Retail, and Sport Management.

Division of Sustainable Development

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 full-time program 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

The master's program can be customized to focus on different aspects of sustainable energy such as renewable energy systems, conventional energy systems, energy and mobility, energy and urbanization, and energy and the environment.

PhD in Sustainable Energy

A 60-credit program that requires a master's degree and is typically completed in 3.5 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 also:

- ▶ pass a qualifying examination in their third semester.
- ▶ pass a candidacy examination in their fifth semester.
- ▶ successfully defend their final dissertation to the public and their dissertation committee.

Division of Sustainable Development

Master of Science and PhD Programs in Sustainable Environment



The Master of Science (MS) and Doctor of Philosophy (PhD) programs in Sustainable Environment provide students with extensive knowledge in topics related to sustainability within the natural and built environment. This includes an understanding of the causes of pollution to land, air, and water, the corresponding impacts, and the development of mitigation strategies. The program considers the need to enhance resilience against climate change-driven risks. In addition, resource management in terms of water, food, and waste are an integral component of the program.

Students conduct original and guided environmental research that concentrates on issues surrounding the support of sustainable development within the environment.

The multidisciplinary approach to the curricula builds fundamental knowledge that evolves with developments within the field, equipping graduates with the tools needed to pursue a wide variety of career paths.

Program Focus

- ▶ Core skills 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 key environmental processes.
- ▶ Fundamentals of sustainable development and human-environment interactions related to policy, social issues, engineering and technology, and the fundamentals of environmental processes.
- ▶ Understanding and measuring the impact of human activities such as industrial development, power production, water treatment, food production and manufacturing, transportation on land, water, and air, including solid and hazardous waste generation and disposal.
- ▶ Social and economic aspects of sustainability including demand-side management, efficiency, human capital, financing, and policymaking.

- ▶ Water resources, demand, management, and treatment processes.
- ▶ Sustainable and intelligent food production systems.
- ▶ The energy, water, and food nexus.
- ▶ Air quality and emission sources, in addition to the impact on human health, economic and social development and mitigation strategies.
- ▶ Understanding of climate change-driven risks on the natural and built environment and the development of strategies to become resilient.

Curriculum

Master of Science in Sustainable Environment

A 33-credit full-time program, taught in English over two years, that includes:

- ▶ Three core courses
- ▶ Five elective courses (six if undertaking an industrial project)
- ▶ A nine-credit research thesis or a six-credit industrial/applied project
- ▶ One semester of graduate research seminars

PhD in Sustainable Environment

A 60-credit program taught in English, typically over 3.5 years and requires a master's degree.

The program includes:

- ▶ Three core courses as per the MS program
- ▶ 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 in their fifth semester.
- ▶ successfully defend their final dissertation to the public and their dissertation committee.

Division of Information and Computing Technology

Master of Data Analytics in Health Management

The Master of Data Analytics in Health Management (MDA HM) program is the first of its kind in the world. It aims to train talented scientists and researchers to effectively contribute to the design and implementation of data analytic tools in healthcare systems in Qatar and beyond. It also aims to equip students with knowledge of the latest advances in the tools and principles of big data handling and analysis and their application in managing the ever-growing health data.

During the course of their studies at CSE, students will undergo specialized training that will equip them to develop advanced and effective strategies and policies to enhance preventive care, reduce per capita cost of patient care, and enhance progress in diagnostics and medical research leading to the development of more efficient healthcare systems. Uniquely, the program will also give students a myriad opportunities to collaborate with professionals from relevant industrial and government sectors around the world, inspiring the student body with positive qualities of leadership, social consciousness, integrity, and general ethics.

Program Focus

Combining data analytics with healthcare management for the first time, the MDA HM program uniquely focuses on educating students on the latest advances in the tools and technologies involved in big data analytics for health management applications. Furthermore, the program aims to train participants in various applied techniques, methodologies, and tools to effectively manage and analyze the constant growth of health data, in order to drive higher productivity in the healthcare sector.

Enrolled students will:

- ▶ develop core knowledge in data analytics. Students will acquire essential skills for scientific studies, research work, and decision-making through



core courses that include artificial intelligence in healthcare, principles of health informatics, computational bioinformatics, and research methods and ethics in health and genomics.

- ▶ master big data systems for multiple disciplines, exploring the impact of examining big data (large datasets containing a variety of data types for health or other applications).
- ▶ furthermore, students will be trained to master state-of-the-art tools and methodologies to uncover hidden patterns, unknown correlations, market trends, customer preferences, and other useful business information from big data.
- ▶ study ethics involved in data analytics: Students will obtain a deep knowledge of today's health management systems and their pitfalls. Importantly, they will apply high ethical standards and propose draft policies for dealing with big data applied to health management. A key objective of the MDA HM program is to foster a strong understanding of health management values, policies, challenges, opportunities, and their impact on health.

Curriculum

A 33-credit program taught in English, typically over two years, which includes:

- ▶ Four core courses (12 credits)

The core courses are:

- ▶ Artificial Intelligence and Machine Learning in Healthcare
- ▶ Principles of Health Informatics
- ▶ Computational Bioinformatics
- ▶ Research Methods and Ethics in Health and Genomics
- ▶ Four elective courses from the College of Science and Engineering and College of Health and Life Sciences with emphasis on health management
- ▶ Research Thesis (9 credits)

OR

- ▶ Applied project (6 credits) and an extra elective course
- ▶ One semester of graduate research seminars

Division of Information and Computing Technology

Master of Information Systems in Health Management



The Master of Information Systems in Health Management (MIS HM) is a unique program designed to prepare students for professional roles in the design and management of information systems and services in healthcare organizations.

While Qatar has already started the digitization of health records and implementation of digital-based data collection and storage systems, there is limited access to expertise in the implementation and management of such health information systems. The Master of Science in Information Systems for Health Management addresses the shortage of skilled resources with expertise in health information systems, which is urgently required, as highlighted in the National E-Health and Data Management Strategy commissioned by the Ministry of Public Health in 2015.

Graduates of this program will be able to pursue a variety of career paths in different healthcare settings, including hospitals, clinics, primary care facilities, national health services, physician offices, insurance providers, long-term care organizations, pharmacies,

IT companies, industries linked to health information and management functions, health information, and research centers.

Program Focus

The Master of Information Systems in Health Management emphasizes teaching principles and methodologies of information system management, health informatics, health record systems, and health data management. The program develops students' technical and managerial skills to organize and implement information-based healthcare systems. Through active collaboration with healthcare sectors and government ministries in Qatar, the program will provide industry-based projects and internships to students.

Graduates of this program are equipped to:

- ▶ demonstrate advanced knowledge of the technological infrastructure needed to deploy healthcare solutions, including quality of services, privacy, and security aspects.
- ▶ assess the information technology resources needed to deploy healthcare solutions that meet the needs of the local community.
- ▶ analyze, design, implement, and test technical solutions that include database and data communication components.
- ▶ evaluate the performance of technical solutions to guarantee the delivery of services over time.
- ▶ manage technical solutions given local constraints, organizational context, and policies relating to health.

Curriculum

A 33-credit program, taught in English over two years, which includes:

- ▶ Four core courses (12 credits)
 - ▶ Information Technology Project Management
 - ▶ Information Systems Analysis and Design

- ▶ Information Systems Management
- ▶ Healthcare Information Systems
- ▶ Five elective courses (15 credits), covering the fundamentals of storing, accessing, processing, and protecting health information that will help students apply effective data integration and implementation, such as advanced data management systems, security risk analysis, biostatistics and bioinformatics, principles of health informatics, data science tools and applications, interaction design for healthcare, computer and network security, network forensics, data warehousing, security of clinical information systems, enterprise systems, and decision analysis and decision support systems.
- ▶ Industrial project (6 credits) that offers a route for students to further develop real-world, practical problem-solving experience.
- ▶ One graduate research seminar.

Division of Information and Computing Technology

Master of Science in Cybersecurity

Cybersecurity is a multidisciplinary field addressing issues that ensure secure and reliable operations at all levels of interconnected computing and networking systems. The Master of Science in Cybersecurity (MSC) is designed to train graduate scholars, professionals, entrepreneurs, leaders, and researchers in the advanced knowledge and skills required to fully understand and implement the technologies, tools, management methods, and policy issues related to cybersecurity.

This Master of Science program not only covers multidisciplinary fields related to cybersecurity technology but also examines policy, ethics, and management related to IT security and cyber threats. The program leverages strong partnerships and collaborations both within HBKU and beyond the university. The delivery of the program involves collaborations with HBKU's research institutes, most notably with QCRI.

This program also builds on work with industrial and governmental partners, both local and international, who are currently working on critical projects to provide solutions to address global challenges and lead to a safer cyber world, in support of Qatar's aspirations in this area.

The program offers its students the option of either completing a research thesis or working on an industrial project. The thesis requires in-depth theoretical and research components, possibly leading to a scientific publication, co-authored by the student in a top publication, while the industrial project offers a route for students to further develop real-world problem-solving experience.

The program includes a core course in leadership and innovation, ensuring that all graduates are equipped with the skills and knowledge to assume leading roles within academic, governmental, and non-governmental organizations.



Program Focus

- ▶ The development of extensive and advanced knowledge in the field of cybersecurity, covering major areas such as applied cryptography, computer and network security, secure software/hardware systems and cybersecurity policy, management, and ethics.
 - ▶ A multi-faceted curriculum covering multidisciplinary aspects that are not only related to cybersecurity technology but also cover policy, management, ethics and IT security.
 - ▶ Hands-on experience with real-world projects related to secure software and hardware design and implementation, secure mobile systems, information security, risk analysis, and computer and network forensics, among others.
 - ▶ A research thesis or industrial project involving original work related to cybersecurity, guided by world-class faculty from HBKU, its research institutes, and other stakeholders.
- ▶ Four elective courses covering engineering and computer science topics, in addition to a variety of cybersecurity electives that provide students with a solid base and a depth of knowledge, which fully enable them to understand different aspects of cybersecurity. Additionally, there will be the opportunity to take an elective focusing on entrepreneurship.
 - ▶ One semester of graduate research seminars aimed at expanding students' horizons by offering a broad range of topics, through talks by invited experts and presentations from those working in industry, research institutes, academia, and government institutions and organizations.
 - ▶ A nine-credit research thesis or a six-credit industrial project.
 - ▶ Selecting the industrial project would require the student to choose a further elective.

Curriculum

A 33-credit program taught in English, typically over two years, which includes:

- ▶ Four core courses that provide students coming from diverse backgrounds with a coherent learning environment to tackle issues in cybersecurity. The core courses are:
 - ▶ Research Methods and Ethics in ICT
 - ▶ Applied Cryptography
 - ▶ Computer and Network Security
 - ▶ Security Risk Analysis



Division of Information and Computing Technology

Master of Science in Data Science and Engineering

The Master of Science in Data Science and Engineering (MS DSE) aims to provide students with a strong foundation in data engineering, big data science, and data analysis. The program integrates the knowledge, expertise, and educational assets of HBKU and its research institutes in data collection, management and analytics, and scalable data-driven knowledge discovery, as well as the fundamental concepts behind these techniques.

The program aims to equip students with state-of-the-art methods and theory related to the next generation of 'big data' technology. It offers its participants the option of either completing a research thesis or working on an industrial project.

Program Focus

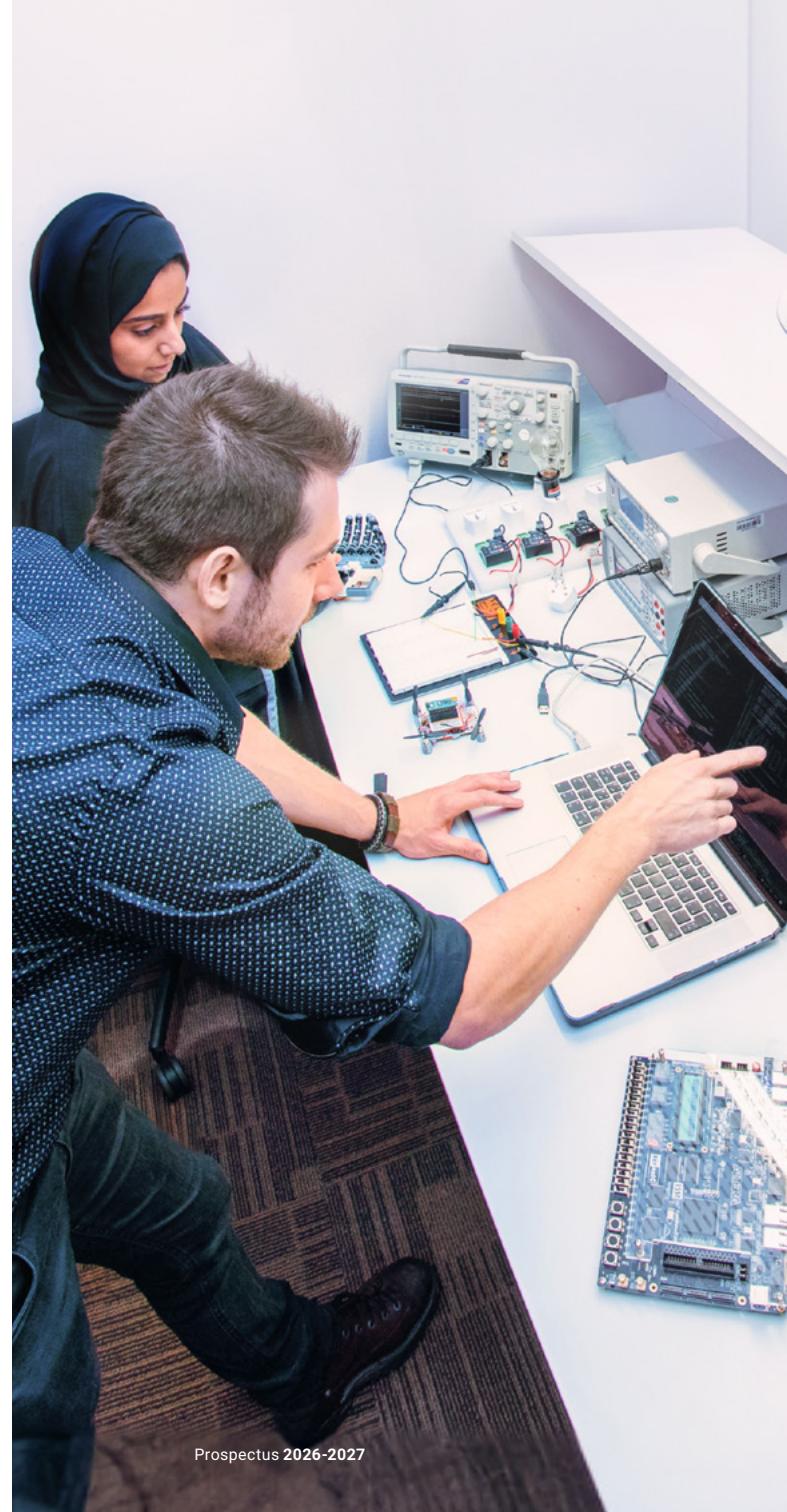
- ▶ Fundamental knowledge in data science, engineering, and technology, spanning areas such as applied statistics, machine learning, and technological tools such as cloud platforms for large-scale data analysis.
- ▶ Hands-on experience in real-world projects related to scalable big data collection, storage, management, analysis, and mining, as well as knowledge extraction and discovery.

- ▶ Research thesis or industrial project involving original work related to data science and engineering, guided by world-class faculty from CSE and from HBKU's research institutes.

Curriculum

A 33-credit program, taught in English, typically over two years, that includes:

- ▶ Four core courses that provide students from diverse backgrounds with a coherent learning environment to tackle issues in data science and engineering. The core courses are:
 - ▶ Research Methods and Ethics
 - ▶ Statistics for Science and Engineering
 - ▶ Advanced Data Management Systems
 - ▶ Applied Data Analytics



- ▶ Four elective courses covering some engineering and science fundamentals in addition to a variety of data science and engineering electives, providing students with a solid base and depth to fully understand different aspects of data science and engineering, and the interrelations between them.
- ▶ One semester of graduate research seminars aimed at expanding students' horizons by offering a broad range of topics covered through invited talks and presentations from industry, research institutes, academia, and government institutions and organizations.
- ▶ Students are also recommended to take a machine learning course as an elective.
- ▶ A nine-credit research thesis or six-credit industrial project.
- ▶ The program offers flexibility by enabling students to focus on different areas of interest through the choice of electives and projects related to data science and engineering, such as data collection, storage, management, analysis, and knowledge extraction and discovery.

Division of Engineering Management and Decision Sciences

Master of Science in Integrated Circuits and Intelligent Systems Design (ICISD)

The Master of Science in Integrated Circuits and Intelligent Systems Design (ICISD) prepares graduates for careers in IC design and intelligent hardware systems. The program addresses the evolving technology landscape where the integration of integrated circuits (IC) with intelligent systems, including AI-enabled functionality, is increasingly critical. By bridging traditional integrated circuit design with modern intelligent architectures, the curriculum equips students with multidisciplinary expertise required for hardware and AI-enabled system design. An optional internship, offered as part of the program, provides direct professional experience and industry exposure.

Program Focus

The program provides a technical foundation in integrated circuit design, combined with the system-level skills needed to develop modern intelligent hardware.

Key focus areas include:

- ▶ Analog and mixed-signal IC design fundamentals and practice
- ▶ Hardware foundations for accelerated computing (including tensor and GPU concepts).
- ▶ Power delivery and integrated power electronics topics, along with exposure to MEMS devices and digital hardware implementation.
- ▶ Industry-informed learning through guest lectures and industry-related case studies.

Curriculum

The program requires the completion of 36 credit hours over two years, structured to offer theoretical foundations and practical industrial exposure.

Core Courses:

- ▶ Principles of Computer Systems Design
- ▶ Analog Integrated Circuit Design
- ▶ Research Methods and Ethics
- ▶ Integrated Power Electronics
- ▶ Application Specific Chip Design
- ▶ Tensor and GPU Fundamentals
- ▶ MEMS Devices and Systems
- ▶ Graduate Seminar

Elective Courses:

- ▶ Printed and Flexible Electronics
- ▶ Signal Processing
- ▶ Semiconductor Technology
- ▶ Applied Deep Learning
- ▶ Machine Learning

Two tracks to choose from:

- ▶ **Industrial Track:** includes an industrial internship and a capstone project, which will be hosted at partner semiconductor companies in Qatar or worldwide, subject to availability.
- ▶ **Research Track:** includes a master's thesis for advanced research exploration.



Bachelor of Science in Chemical Engineering

The Chemical Engineering program offers a comprehensive approach that blends theoretical foundations with practical applications. This equips students to tackle modern challenges in areas such as chemical processing, environmental and sustainable engineering, and materials science.

With an emphasis on collaborative education, training, research, and capacity-building, the program aims to prepare adaptable engineers, capable of meeting society's evolving needs and embracing leadership, social consciousness, integrity, and ethics.

Program Mission

The Chemical Engineering program aims to:

- ▶ provide students with a quality education grounded in fundamental principles and engineering practices, preparing them for real-world challenges.
- ▶ empower students with the knowledge, skill sets, and professional attributes to become leaders and innovators in the field of chemical engineering.
- ▶ serve the industry, government agencies, and local community in Qatar through targeted outreach activities, innovative consulting, and research solutions.

Program Structure

The curriculum begins with a strong foundation in mathematics, physical sciences, and core chemical engineering principles, ensuring students grasp essential concepts. Students then advance to the fundamentals and methods applicable to analyzing, developing, designing, and operating various chemical engineering systems and processes. They gain practical experience through hands-on projects, laboratory work, and industry partnerships, providing real-world insights into designing and optimizing chemical processes and materials.



The program emphasizes flexibility and interdisciplinary learning, allowing students to customize their education to align with their interests and career goals. As such, students must take at least two courses from their chosen concentration and at least one course from another technical area:

- ▶ Chemical Processing
- ▶ Environmental and Sustainable Engineering
- ▶ Materials

These focus areas help prepare students for successful careers in fields such as renewable energy, advanced materials, and sustainable process design.

Beyond technical skills, faculty emphasize teamwork, communication, and critical thinking. Through collaborative projects, internships, and experiential learning opportunities, students will learn to approach problems from multiple perspectives and develop innovative solutions.

Curriculum

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

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

Division of Information and Computing Technology

Bachelor of Science in Computer Engineering



Engineering
Accreditation
Commission

The aim of the Bachelor of Science in Computer Engineering (BSCE) program 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 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 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 responsibility in computer engineering.
- ▶ The role of computer engineering and of computer engineers in society, both at a local and global level.

Curriculum

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

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

Typically, grade assessments are 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 two to four 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.

Bachelor of Science in Electrical Engineering

The Electrical Engineering program offers a comprehensive approach that blends theoretical foundations with practical applications. This approach equips students to tackle contemporary challenges in areas such as information, communication, computing, power, and electrical systems.

With an emphasis on collaborative education, training, research, and capacity-building, the program aims to prepare adaptable engineers, capable of meeting society's evolving needs and embracing leadership, social consciousness, integrity, and ethics.

The program emphasizes flexibility and interdisciplinary learning, allowing students to customize their education to align with their interests and career goals. As such, students must take at least two courses from their chosen concentration and at least one course from another technical area:

- ▶ Power and Energy Systems
- ▶ Communications and Signal Processing
- ▶ Embedded and Intelligent Computing Systems

These concentrations provide in-depth expertise, equipping students with the skills needed to excel in these fields.

Beyond technical skills, faculty emphasize teamwork, communication, and critical thinking. Through collaborative projects, internships, and experiential learning opportunities, students will learn to approach problems from multiple perspectives and develop innovative solutions.

Program Mission

The Electrical Engineering program aims to:

- ▶ provide students with a quality education grounded in fundamental principles and engineering practices, preparing them for real-world challenges.
- ▶ empower students with the knowledge, skill sets, and professional attributes to become leaders and innovators in the field of electrical engineering.
- ▶ serve the industry, government agencies, and local community in Qatar through targeted outreach activities, innovative consulting, and research solutions.



Program Structure

The curriculum starts with a strong foundation in mathematics, physical sciences, and computing, ensuring students understand the core principles of electrical engineering. As they progress, they will delve into specialized areas such as electric energy systems, telecommunications, electronics, and computing systems. Hands-on projects, laboratory experiments, and industry collaborations offer practical insights into the analysis and design of complex systems, preparing students for future career challenges.

Curriculum

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

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

Bachelor of Science in Mechanical Engineering

The Mechanical Engineering program offers a comprehensive approach that blends theoretical foundations with practical applications. This approach equips students to tackle contemporary challenges in areas such as mechanics, thermodynamics, materials science, and manufacturing processes.

With an emphasis on collaborative education, training, research, and capacity-building, the program aims to prepare adaptable engineers capable of meeting society's evolving needs and embracing leadership, social consciousness, integrity, and ethics.

Program Mission

The Mechanical Engineering program aims to:

- ▶ provide students with a quality education grounded in fundamental principles and engineering practices, preparing them for real-world challenges.
- ▶ empower students with the knowledge, skill sets, and professional attributes to become leaders and innovators in the field of mechanical engineering.
- ▶ serve the industry, government agencies, and local community in Qatar through targeted outreach activities, innovative consulting, and research solutions.

Program Structure

The curriculum begins with a strong foundation in mathematics, physical sciences, and core mechanical engineering principles, ensuring students grasp essential concepts. As they progress, they will delve into the fundamentals and methods applicable to analyzing, developing, designing, and operating various mechanical systems and processes. They gain practical experience through hands-on projects, laboratory work, and industry partnerships, providing real-world insights into the design and analysis of mechanical systems.

The program emphasizes flexibility and interdisciplinary learning, allowing students to customize their education to align with their interests and career goals. As such, students must take at least two courses from their chosen concentration and at least one course from another technical area:

- ▶ Thermofluids and Energy



- ▶ Design, Materials, and Manufacturing
- ▶ Data Science and Applications for Mechanical Engineers

These concentrations provide in-depth expertise and prepare students for successful careers in their chosen fields.

Beyond technical skills, faculty emphasize teamwork, communication, and critical thinking. Through collaborative projects, internships, and experiential learning opportunities, students will learn to approach problems from multiple perspectives and develop innovative solutions.

Curriculum

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

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

Division of Information and Computing Technology

An Accelerated Master's Program

The Computer Engineering program at HBKU provides qualified undergraduate students with the opportunity to apply to a "4+1" accelerated path of study.

It allows them to graduate with a Bachelor of Science degree in computer engineering, as well as a Master of Science degree in data science and engineering or a Master of Science degree in cybersecurity, within five years only, as opposed to the traditional six years.

Through the "4+1" accelerated program, qualified students in their senior year of undergraduate studies will be admitted to the master's degree program and 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 advanced 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 their credit hours toward both the bachelor's and master's degrees, thus shortening the time it takes for them to earn a master's degree.



Admissions



Graduate Admission 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. Applicants should check the program they are applying for to ensure that they have majored in one of the disciplines mentioned under "required field of study."

Apply to	Required field of study
PhD in Computer Science and Engineering	Computer science, computer engineering, electrical and electronic engineering, information systems, mathematics, and related fields.
PhD in Logistics and Supply Chain Management	Engineering, computer science, information systems, business, finance, economics, management, mathematics, and other related fields. Students are required to demonstrate strong analytical skills.
PhD in Sustainable Energy PhD in Sustainable Environment	Engineering and science disciplines preferred. Students from architecture, urban planning, business, economics, policy, and social sciences demonstrating strong analytical skills will also be considered.
Master of Data Analytics in Health Management	Computer science, information systems, electrical engineering, mathematics, statistics, or related fields. Applicants from health and medical fields may be considered provided they have some knowledge of computer programming and relevant work experience.
Master of Information Systems in Health Management	Computer science, information systems, and computer engineering. Applicants from health and medical fields with relevant work experience may also be considered.
Master of Science in Cybersecurity	Computer science, information systems, engineering, mathematics, and related fields.
Master of Science in Data Science and Engineering	Computer science, computer engineering, electrical and electronic engineering, or related fields.
Master of Science in Logistics and Supply Chain Management	Engineering, computer science, information systems, business, finance, economics, management, mathematics, and other related fields. Students are required to demonstrate strong analytical skills.
Master of Science in Sport and Entertainment Management	Sport related degrees, management, finance, engineering, business, and related fields. Applicants who have studied other fields may be considered.
Master of Science in Sustainable Energy Master of Science in Sustainable Environment	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 a valid IELTS score of 6.5 or a 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 from admissions.hbku.edu.qa.

Applicants to some PhD programs at the College of Science and Engineering are required to submit a valid GRE or GMAT test score at the time of application. Please see the table below for further information:

Programs	GRE/GMAT
PhD in Computer Science and Engineering	Optional
PhD in Logistics and Supply Chain Management	Optional
PhD in Sustainable Energy	Required
PhD in Sustainable Environment	Required

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 PhD programs.

Graduate Application Requirements

Application

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:

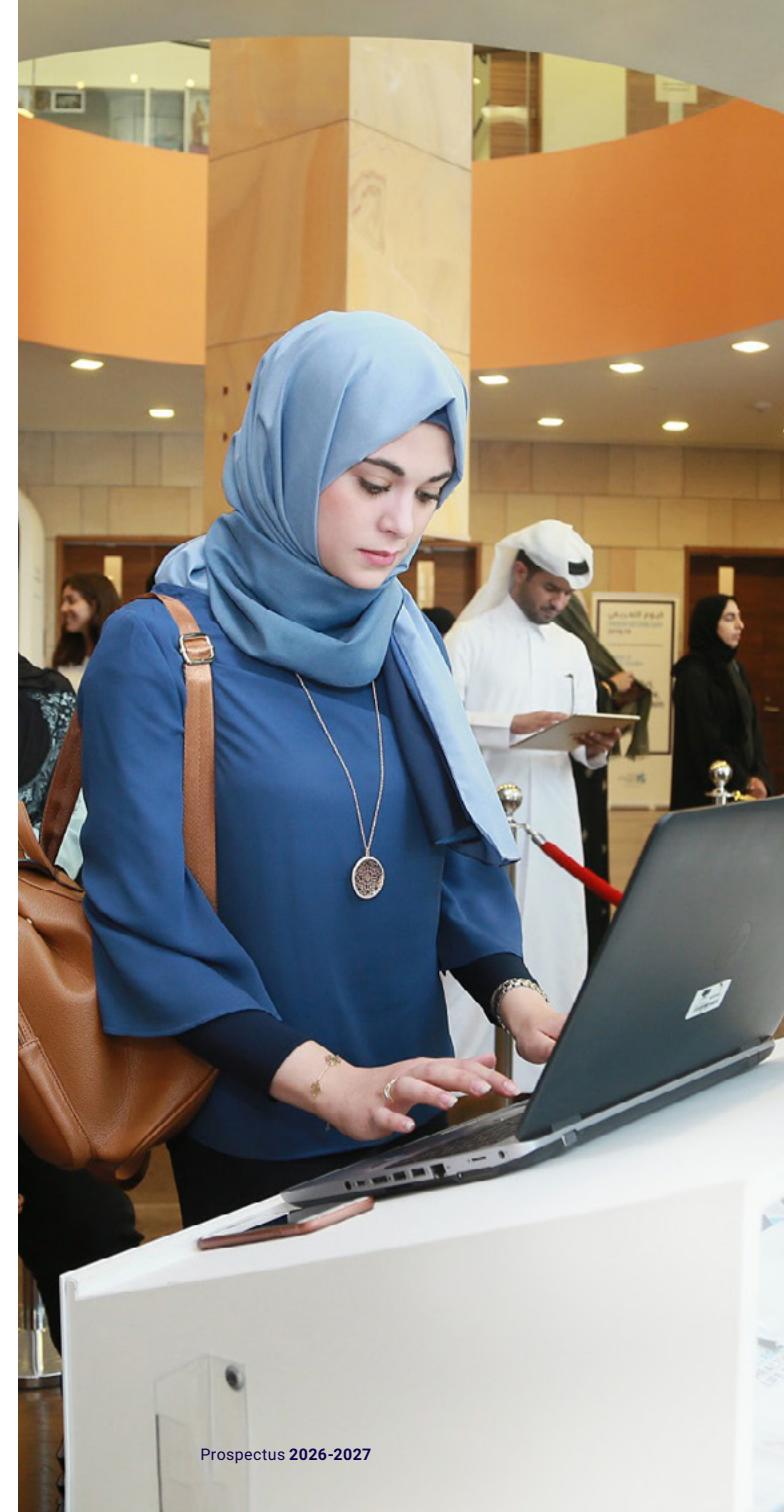
- ▶ GRE: 7551
- ▶ GMAT: H6S
- ▶ TOEFL: 4981
- ▶ IELTS: No code is required. Students should ask the IELTS center where they tested to send the IELTS TRF to Hamad Bin Khalifa University

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

Letters of recommendation

Postgraduate applicants should submit two letters of recommendation, one of which must be from an academic referee. Undergraduate applicants should provide two letters of recommendation, including one from the school counselor, and one from a math or science teacher.

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.

Undergraduate Admission and Application Requirements

Applicants seeking admission to any of the bachelor's degree programs 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 to demonstrate their proficiency in the English language. Applicants are highly encouraged to take the SAT or ACT exam.

Programs	Required field of study
Bachelor of Science in Chemical Engineering	Advanced coursework in mathematics and science.
Bachelor of Science in Computer Engineering	
Bachelor of Science in Electrical Engineering	
Bachelor of Science in Mechanical Engineering	

Application

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

- ▶ ACT: 7019
- ▶ SAT: 7675
- ▶ TOEFL: 4981
- ▶ IELTS: No code is 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 provide two letters of recommendation, including one from the school counselor, and one from a math or science teacher. Applicants should include their referees' names and email addresses in the online application. Referees will receive an email requesting them to complete their references.

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 their chosen undergraduate degree program, and how it 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.

Tuition and Student Funding

The College of Science and Engineering provides a limited number of tuition waivers on a competitive basis.

Program	Total Program Tuition Fees	Tuition Fees per Credit Hour	Total Program Credit Hours	Program Duration
PhD in Computer Science and Engineering	QAR 273,750	QAR 5,069	60	3.5 years
PhD in Logistics and Supply Chain Management (LSCM)	QAR 273,750	QAR 5,069	60	3.5 years
PhD in Sustainable Energy	QAR 273,750	QAR 5,069	60	3.5 years
PhD in Sustainable Environment	QAR 273,750	QAR 5,069	60	3.5 years
Master of Data Analytics in Health Management	QAR 182,500	QAR 5,530	33	2 years
Master of Information Systems in Health Management	QAR 182,500	QAR 5,530	33	2 years
Master of Science in Cybersecurity	QAR 182,500	QAR 5,530	33	2 years
Master of Science in Data Science and Engineering	QAR 182,500	QAR 5,530	33	2 years
Master of Science in Integrated Circuits and Intelligent Systems Design	QAR 132,000	QAR 3,667	36	2 years
Master of Science in Logistics and Supply Chain Management	QAR 182,500	QAR 5,530	33	2 years
Master of Science in Sport & Entertainment Management	QAR 182,500	QAR 5,069	36	2 years
Master of Science in Sustainable Energy	QAR 182,500	QAR 5,530	33	2 years
Master of Science in Sustainable Environment	QAR 182,500	QAR 5,530	33	2 years
Bachelor of Science in Chemical Engineering	QAR 292,000	QAR 2,229	131	4 years
Bachelor of Science in Computer Engineering	QAR 292,000	QAR 2,264	129	4 years
Bachelor of Science in Electrical Engineering	QAR 292,000	QAR 2,264	129	4 years
Bachelor of Science in Mechanical Engineering	QAR 292,000	QAR 2,264	129	4 years



Contact Information

Admission inquiries:

**Division of Engineering Management
and Decision Sciences**

admissions.cse.emds@hbku.edu.qa

**Division of Information and
Computing Technology**

admissions.cse.ict@hbku.edu.qa

Division of Sustainable Development

admissions.cse.sus@hbku.edu.qa

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