

Master of Data Analytics in Health Management

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



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 and 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.

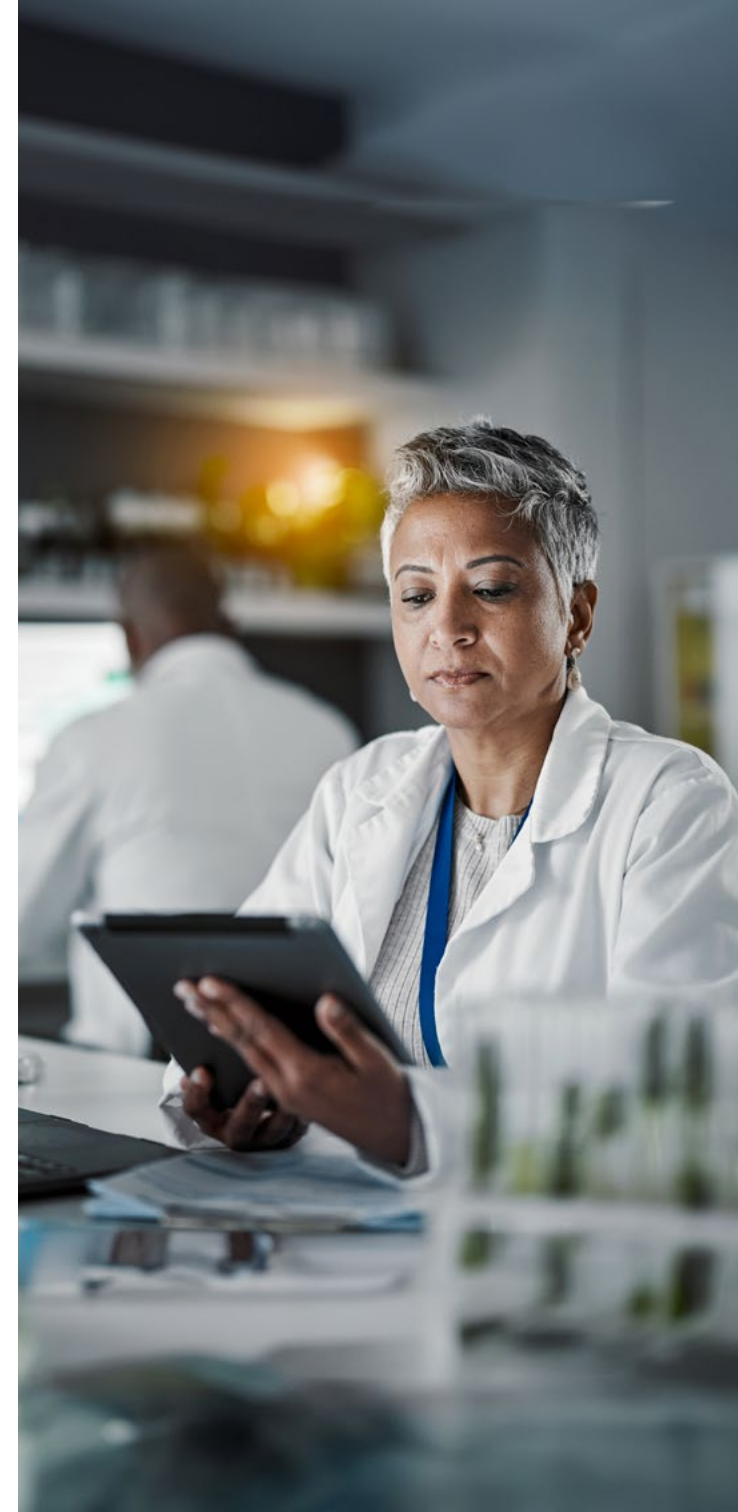
During the course of their studies at CSE, students will undergo specialized training that will equip them to develop advanced and effective strategies and policies to enhance preventive care, reduce per capita cost of patient care, and enhance progress in diagnostics and medical research leading to 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 health care 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 and opportunities, and their impact on health.



Curriculum

A 33-credit program taught over two years that 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 graduate research seminar

Admission and Application Requirements

Applicants seeking admission to the Master of Data Analytics in Health Management program at HBKU should have a strong academic record (minimum 3.0 GPA out of 4.0) from a recognized university. They should have a bachelor's degree, and must have also majored in one of the following disciplines: 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.

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 on the website.

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. Prior research experience will be seen as favorable.

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. 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 (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.