

Health Data Analytics

The Master of Science in Health Data Analytics (Formerly: Health Informatics) program is designed to equip students with the skills to analyze complex health data, harness advanced statistical and machine learning techniques, and translate findings into actionable insights. Graduates will be prepared to address critical challenges in healthcare, such as optimizing patient outcomes, improving operational efficiency, and supporting evidence-based decision-making through the use of data.

The mission of the M.S. in Health Data Analytics program is to develop professionals who are adept at leveraging data analytics to improve healthcare delivery and outcomes. Through an interdisciplinary curriculum combining data science, healthcare management, and informatics, the program seeks to cultivate leaders capable of transforming health data into meaningful insights that drive innovation and evidence-based practices in the healthcare industry.

By advancing the use of health data analytics, we aim to be a leader in health data education, empowering graduates to become changemakers in the rapidly evolving healthcare landscape.

The Master of Science in Health Data Analytics is 33 credits. There is no room in the degree for elective credits.

A minimum 'B-' grade is required in all graduate courses. Students must obtain an overall GPA of 3.0 (B) in order to graduate. All students refer to the

Academic Probation

policy regarding grade lower than a 'B-' in the graduate program.

Core Courses

HCA 525: Epidemiology and Population Health Informatics	3cr
HCA 640: Applied Statistical Research in Health Sciences	3cr
HIF 530: Introduction to Health Informatics and Hot Topics	3cr
HIF 535: Health Information Analytics	3cr
HIF 550: Clinical Database Management	3cr
HIF 610: Information Systems Analysis and Design	3cr
HIF 635: Advanced Data Analytics	3cr
HIF 645: Health Information Security and Application	3cr
Research Methods & Data Visualization	3cr
Big Data & Data Mining	3cr
*HIF 695: Health Informatics & Analytics Capstone	3cr

* This course will not be accepted in transfer and can only be taken at Charter Oak. Minimum grade of 'B' is required.

Program Learning Outcomes

Students who graduate with a Master of Science in Health Data Analytics will be able to:

- apply health data analytics and technology concepts and skills to case studies and real-world situations;
- calculate and assess health and statistical data by collecting, cleaning, and transforming health data from data sets for decision making in the healthcare environment;
- apply health policies and practices in areas such as legal, ethical, privacy and security and information governance;
- create and present complex healthcare data analysis through visualization and common reporting tools;
- develop system design and software initiatives for healthcare organizations;
- compile, conduct and create new information based on the use of technology and datasets through data analytics for healthcare data interpretation;
- create machine learning algorithms and predictive models to forecast health trends, patient outcomes, and operational efficiencies in healthcare; and
- apply advanced programming languages to automate data processing workflows and create algorithms for predictive analytics in healthcare.