

# MASTER OF HEALTH INFORMATICS

## Program Alignment

Health Informatics is an interdisciplinary field which incorporates information technology, clinical knowledge, quantitative and decision sciences to help improve health outcomes and contain healthcare costs. The Master of Health Informatics program being launched in Fall 2017 prepares all its graduates for leadership positions comprising major responsibilities that ultimately influence important decisions and policies, and that consequently involve the well-being of numerous individuals, organizations, governments and populations. The curriculum is suffused with applied health informatics ethics and leadership development. Thus the program will directly support the leadership development commitments of St. Catherine University by meeting the Leadership Statement stipulation: *"St. Catherine University is committed to the development of ethical leaders at all levels of education from associate to graduate. Through study, practice and life experience, individuals have opportunities to enrich the knowledge, refine skills, and clarify the attitudes essential for responsible action."*

## Curriculum

The Master of Health Informatics curriculum is organized according to student learning goals and a cluster of cutting-edge applied content and skills. Course goals are coordinated within and across courses according to these organizing elements.

Assessment of student learning is accomplished within courses and via the final student project. Of these assessments, the signature assessments that students must pass at specified levels of achievement are clearly identified. These key assessments demonstrate student achievement of end-of-program learning goals, and that students have met the Health Informatics Master's degree academic requirements for graduation.

Many fields apply informatics knowledge and skills, for example business, nursing, medicine, other health professions, and finance. Underlying these field-specific applications are generic informatics knowledge and skills such as those related to computing programs and programming, data science, data visualization, predictive analytics, leadership in inter-professional communication, and the expert use of data for decision-making and quality improvement.

From an educational standpoint, the application of generic informatics knowledge and skills to the health field is taught using a wide variety of topics and problems. This is the rationale for being able to utilize several existing St. Catherine University Master of Business Administration courses and Master of Public Health courses for some of the Master of Health Informatics program's required coursework.

Another consequence of the generic core that underlies all applied informatics is that a wide range of student career interests can be accommodated within the same program through topic selection for student papers and projects. This is essentially the reason why a health informatics master's degree program can be successful with technology professionals who have no health-related background e.g. business systems analysts, computer scientists, or mathematicians and at the same time - as a technically based degree - be accessible to clinical health professionals such as nurses, public health workers, etc.

## Graduate Outcomes

Graduates of the MHI Program will be able to:

- Analyze healthcare problems and questions through a comprehensive understanding of and ability to engage in:
  - Data capture and the assessment of data integrity and validity;
  - Processes to map and connect data from different sources, including the creation of data interrelationships across private and public spheres and boundaries nationally and globally;
  - Data extraction and the creation of normalized data sets;
  - Statistical analysis and analytics incorporating clinical, financial and administrative data
  - Data visualization
- Produce innovative solutions that meet the data and data-related needs of multiple stakeholders and incorporate human-centered design principles.
- Engage in ongoing evaluation, reflection, and iterative improvement of implemented data and data-related solutions.
- Integrate an appreciation of context, including social, organizational, cultural, and behavioral frameworks, in the application of health informatics.
- Lead transformative change in the dynamic and ever-changing healthcare delivery system by applying data science to improve healthcare quality and address health care disparities locally, nationally, and globally.
- Provide ethical leadership in the promotion of data privacy and security.
- Demonstrate the ability to practice effectively as a health data scientist member/leader of inter-professional teams by maintaining a climate of mutual respect and shared values; using knowledge of roles and responsibilities; communicating effectively, and applying relationship-building values and principles of team dynamics.

## Years to Complete the Program

The full time program of study includes 38 credits taken over 28 months (including two summer sessions). The program must be completed within 5 years.

## Progression Policy

### Requirements to Remain in Good Standing

In addition to fulfilling University requirements and following all University policies for graduate program standing and progression, students enrolled in the MHI Program must observe the following requirements to remain in good standing:

- Successfully complete all required course requirements
- Earn a grade of C or better in each graduate course
- Maintain a minimum overall 3.0 grade point average
- Successfully complete a 225-hour practicum experience
- Demonstrate satisfactory professional attitudes and behaviors as defined by the program

## Practicum Evaluations

**Student Evaluation of Practicum:** During their practicum, students are required to complete the evaluation at the end of the practicum period. The information from these evaluations will be used to update the data on each practicum site, correct deficiencies if present, and as a resource for placing future students in that site.

**Preceptor Mid-Practicum and Final Evaluation of Student Performance:** The student is to remind and encourage the preceptor to perform a mid-practicum evaluation to point out strengths and weaknesses that the student has demonstrated during the first-half of the practicum. In this way, students are able to work on those areas of weakness for the remainder of the practicum. The preceptor is responsible for evaluating student performance during the practicum, at the end of the practicum as well and is encouraged (but not required) to discuss this evaluation with the student prior to the completion of the practicum. Students are evaluated on their informatics skills as well as interpersonal and communication skills, professionalism, practice-based learning and systems-based learning.

**Grading of practicum:** Students are expected to maintain their overall GPA minimum of 3.0 to remain in good academic standing in the MHI Program. If a student receives a final grade that is below 80%, the student must repeat the practicum. The final grade is determined by multiple factors including the preceptor evaluations, attendance, professionalism, and completion of required assignments (see individual syllabi).

If the student is not performing at an acceptable academic and professional level at the practicum site, and is either removed or dismissed from the site prior to the end of the practicum due to poor performance or unprofessional behavior, an investigatory process will be completed by the Program and Fieldwork Coordinator. If it is determined that the student earned a less than satisfactory grade for that practicum, the student will have to repeat the practicum in its entirety. Once again, depending on the academic standing of the student, he/she may be subject to suspension or dismissal from the program.

Students are expected to behave in a professional manner. Behaviors indicating difficulty in displaying responsible learning, such as failure to attend class regularly, chronic tardiness, unsatisfactory work, difficulty with interpersonal communication, etc., normally require the student to delineate professional development goals and strategies as a part of the plan for professional development to resolve these problems. Failure to improve or achieve competency in professional behavior may lead to sanctions.

Students will be closely monitored throughout their practicum experience. Preceptors are required to notify the Program and Fieldwork Coordinator immediately upon having concerns about a student in order that necessary remedial work can begin as soon as possible.

### Academic Probation

Students are placed on academic probation if:

- A grade of C- or less has been earned in a course or
- The overall GPA is less than 3.0

Students are notified in writing by the program director that they have been placed on academic probation. Students may be required to take a reduced credit load during the probationary semester. This determination will be made by the program director in consultation with the student's advisor.

If students receive an unacceptable grade, they may repeat the course once. The original grade will remain on the transcript, but only the replacement grade will be calculated in the GPA. The program director maintains the right to deny registration to any student who is not progressing satisfactorily.

Students must repeat any course in which they have earned a final grade lower than a C.

### Removal from Probation

Students are removed from academic probation by:

- Earning a grade of B or better in two or more courses in the following semester
- Achieving a grade point of 3.0
- Completing all required course assignments

Students will be notified by letter from the program director that they have been removed from academic probation

Students may be offered a second semester of extended probation if substantial progress is made towards improving grades but conditions have not been fully met. The program director approves extended probation in consultation with the faculty and faculty advisor.

### Conditions for Professional Behaviors Probation

Professional attitudes and behaviors will be considered in the student's overall evaluation and progress in the program. Students may be placed on probation for demonstration of unprofessional behavior(s). Failure to improve specific behaviors identified by the faculty as problematic will result in suspension or dismissal from the program.

### Conditions for Program Suspension

If conditions for removal from probation or extended probation have not been met, the student will be suspended or dismissed from the program. The program director will notify the student in writing. In addition to academic reasons, students may be suspended or dismissed from the program for:

- Violation of the Institution's policy on academic integrity
- Violation of the Institution's policy on student conduct

(The complete document on student conduct, including the process for implementation, may be found on Gateway under *St. Catherine University's Student Policies*.) Students may appeal an academic probation or suspension from the MHI program by following the Student Complaint Process outlined in *St. Catherine University's Student Policies* on Gateway.

### Readmission to the Program after Suspension

Readmission to the program is based on appeal to and approval from the program director in consultation with the faculty. Students may be readmitted to the program on a provisional acceptance basis after one semester if they have a clear plan and have satisfactorily corrected all the terms of the suspension. The decision to re-admit students to a full admission status will be made in collaboration between their advisor and the program director.

## Curriculum

The MHI Program has no elective courses; the following are required core courses which students must complete prior to graduation.

Code	Title	Credits
HLTH 6130	Social and Behavioral Health Theories and Applications	3
MBA 6500	Healthcare Systems and Policy	3
MBA 7500	Managing People and Organizations	3
MHI 5070	Introduction to Health Informatics	3

MHI 5090	Cyber Security in Health Information Systems	3
MHI 5110	Applied Health Care Database Principles	3
MHI 5130	Quality Measurement and Management in Healthcare	3
MHI 5170	Population Health Informatics	3
MHI 5210	Project Management and Implementation	2
MHI 5230	Health Care Data Analytics	3
MHI 5250	Data Visualization	2
MHI 5270	Human Factors in Health Information Technology	2
MHI 5290	Applied Research Practicum	3
<b>Total Credits</b>		<b>36</b>

Code	Title	Credits
<b>Fall Term</b>		
MHI 5070	Introduction to Health Informatics	3
MHI 5090	Cyber Security in Health Information Systems	3
<b>Spring Term</b>		
MBA 6500	Healthcare Systems and Policy <sup>1</sup>	3
MHI 5130	Quality Measurement and Management in Healthcare	3
MHI 5110	Applied Health Care Database Principles	3
<b>Summer Term</b>		
MBA 7500	Managing People and Organizations	3
<b>Fall term</b>		
MHI 5170	Population Health Informatics	3
MHI 5270	Human Factors in Health Information Technology	2
<b>Spring Term</b>		
MHI 5210	Project Management and Implementation <sup>1</sup>	2
MHI 5230	Health Care Data Analytics	3
MHI 5250	Data Visualization	2
<b>Fall Term</b>		
HLTH 6130	Social and Behavioral Health Theories and Applications	3
MHI 5290	Applied Research Practicum	3
<b>Total Credits</b>		<b>36</b>

<sup>1</sup> Taken during J-Term

Code	Title	Credits
<b>Spring Term</b>		
MHI 5070	Introduction to Health Informatics	3
MHI 5130	Quality Measurement and Management in Healthcare	3
<b>Summer Term</b>		
MBA 7500	Managing People and Organizations	3
<b>Fall Term</b>		
MHI 5090	Cyber Security in Health Information Systems	3
MHI 5170	Population Health Informatics	3

MHI 5270	Human Factors in Health Information Technology	2
<b>Spring Term</b>		
MHI 5210	Project Management and Implementation <sup>1</sup>	2
MHI 5230	Health Care Data Analytics	3
MHI 5250	Data Visualization	2
<b>Fall Term</b>		
HLTH 6130	Social and Behavioral Health Theories and Applications	3
<b>Spring Term</b>		
MBA 6500	Healthcare Systems and Policy <sup>1</sup>	3
<b>Fall Term</b>		
MHI 5110	Applied Health Care Database Principles	3
MHI 5290	Applied Research Practicum	3
<b>Total Credits</b>		<b>36</b>

<sup>1</sup> Taken during J-term