Program
Master of Health Informatics

Department
Clinical Health Information Sciences

College
Allied Health Sciences

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I.   Program Overview

This online Master of Health Informatics program is a professional degree that features an applicable curriculum that was designed to ensure real-world relevance. Courses were carefully designed to provide a balance of healthcare, information systems, data science, management, and leadership development. This health informatics program consists of 11 courses for a total of 33 credit hours. Students complete a practicum course. Capstone projects are completed in the practicum courses.

Health informatics is a multifaceted discipline firmly established at the intersection of information technology and systems, data science, cognitive sciences, and health. University of Cincinnati Master of Health Informatics graduates are well prepared to improve patient care, quality, efficiency, safety and population health through the use of information technology and electronic health data. Students are prepared for jobs in healthcare settings, public health settings, and in organizations focused on using data and information technology to impact healthcare and population health. They are prepared for jobs as health information technology and systems managers, system implementation experts, usability experts, trainers, clinical and system analysts, data analytics practitoners, process and quality improvement managers, privacy and security compliance officers, and project managers.

II.   Program Outcomes

Current Program Outcomes

- Demonstrate knowledge in healthcare and health, health information technology and health data analytics in order to impact healthcare efficiency and population – Outcome 1

- Apply techniques or tools from information systems and health data analytics in order to impact the health of populations and healthcare – Outcome 2

- Demonstrate knowledge of major health informatics policy, standards, and legal issues in order to articulate improvements   and best practices – Outcome 3

- Apply at least one evidence-based framework to evaluate health informatics applications or approaches in order to have a valid and reliable basis for conclusions – Outcome 4

- Demonstrate leadership and management knowledge or skills in the context of health information technology or systems in order to lead changes and manage innovation in healthcare or public health – Outcome 5

- Demonstrate ability to effectively use knowledge and skills to propose and complete a real world health informatics project in order to impact healthcare practice, research or population health – Outcome 6

PROPOSED New Program Outcomes
Upon completing the program, students will be able to:

- Demonstrate knowledge in health, health information systems, and health data analytics in order to influence healthcare efficiency, quality, patient care, and population health – Outcome 1

- Apply informatics techniques and tools, computational thinking, and data science methods to impact decision making, healthcare practice, the health of populations, and patients– Outcome 2

- Demonstrate knowledge of major health policy, risk, and legal issues relevant to health informatics in order to articulate needed changes, mitigation strategy, and best practices– Outcome 3

- Identify and apply evidence-based framework in order to have a valid and reliable basis for conclusions , to evaluate health informatics application, and to explain human behavior associated with technology adoption and use – Outcome 4

- Exhibit ethical values, professionalism, and interprofessional collaborations while solving health informatics problems -Outcome 5

- Demonstrate leadership and management knowledge, abilities, and skills to lead changes and manage innovation in healthcare or population health– Outcome 6

- Demonstrate ability to effectively use knowledge and skills to propose and complete a real world health informatics project in order to impact healthcare practice, research, or population health– Outcome 7

III.   Curriculum/Program Map

See table below

	HI 7001	HI 7010	HI 7020	HI 7030	HI 7040	HI 7050	HI 7060	IS 7031	BANA 7011 (or elective)	BANA 7015 (or elective)	HI 7090
Demonstrate knowledge in health, health information systems, and health data analytics in order to influence healthcare efficiency, quality, patient care, and population health	E	E	E						E	D	D A
Apply informatics techniques and tools, computational thinking, and data science methods to impact decision making, healthcare practice, the health of populations, and patients		E	E D	E D	E D	E D		D	D	D A	D A
Demonstrate knowledge of major health policy, risk, and legal issues relevant to health informatics in order to articulate needed changes, mitigation strategy, and best practices	E	E		E D							D A
Identify and apply evidence-based framework in order to have a valid and reliable basis for conclusions , to evaluate health informatics application, and to explain human behavior associated with technology adoption and use	E	E			E D						D A
Exhibit ethical values, professionalism, and interprofessional collaborations while solving health informatics problems				E		E	D				D A

Demonstrate leadership and management knowledge, abilities, and skills to lead changes and manage innovation in healthcare or population health					E	D					D A
Demonstrate ability to effectively use knowledge and skills to propose and complete a real world health informatics project in order to impact healthcare practice, research, or population health											D A

E- Emerging, D- Diverging, A- Achieved

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IV.   Methods and Measures

See table below

Assessment Measures Aligned with Program Outcomes				
Program **Outcome**	**Assessment Tools** **Responsible Person, Course(s) and Time frame**	**Course/ Experience**	**Time Line**	**Responsible Person**
1. Demonstrate knowledge in health, health information systems, and health data analytics in order to influence healthcare efficiency, quality, patient care, and population health	-Tests and Quizzes -Papers -Discussion posts in online forum -Case studies -Practicum capstone project proposal -Practicum capstone project presentation -Practicum capstone paper	HI 7001, HI 7010, BANA 7011 (or elective), BANA 7015 or elective), HI 7090	HI 7001 and 7010 are offered every semester, and the remaining are offered once a year, so the assessment would occur when a course manual is submitted (usually about 1-3 months before the course is offered), but prior to online course implementation, and also after the course is offered.	Program Director and Faculty teaching the courses
2. Apply informatics techniques and tools, computational thinking, and data science methods to impact decision making, healthcare practice, the health of populations, and patients	-Project reports with screenshots demonstrating use of select technology -Applied health IT standards assignments - Project management deliverables - Designed database - Workflow maps -Information security plans -Data analysis reports -Data visualization -Practicum capstone project deliverables – examples: screen shots, reports, surveys, applications -Practicum capstone project presentation -Practicum capstone paper	HI 7020, HI 7030, HI 7040, HI 7050, IS 7031, BANA 7011 (or elective), BANA 7015 or elective), HI 7090	All the courses with the exception of HI 7090 are offered every semester, so the assessment would occur when a course manual is submitted (usually about 1-3 months before the course is offered), but prior to online course implementation, and also after the course is offered. HI 7090 is offered every semester. The assessment would occur when a course manual is submitted but prior to online course implementation, and also after the course is offered	Program Director and Faculty teaching the courses

3. Demonstrate knowledge of major health policy, risk, and legal issues relevant to health informatics in order to articulate needed changes, mitigation strategy, and best practices	− Written assignments (papers and discussion posts) -Information security papers and plans -Quizzes and tests -Practicum capstone project presentation -Practicum capstone paper	HI7001, 7010 and HI 7030; HI 7090	HI 7001, HI 7010, and HI 7090 are offered every semester so the assessment would occur every semester when a course manual is submitted (usually about 1-3 months before the course is offered), but prior to online course implementation, and also after the course is offered. For the remaining course, the timeline would be the same but the assessment would occur the semester before the course is offered and after it is offered.	Program Director and Faculty teaching the courses

Assessment Measures Aligned with Program Outcomes				
Program **Outcome**	**Assessment Tools** **Responsible Person, Course(s) and Time frame**	**Course/ Experience**	**Time Line**	**Responsible Person**
			HI 7030 is offered every spring – Assess inclusion in course manual prior to course offering (every fall semester) and measure again after course is offered (every summer semester)	
4. Identify and apply evidence-based framework in order to have a valid and reliable basis for conclusions , to evaluate health informatics application, and to explain human behavior associated with technology adoption and use	-Evaluation papers -Evaluation discussion posts -Practicum capstone project presentation -Practicum capstone paper -Practicum capstone project proposal	HI 7001, HI 7010, HI 7020, HI 7030 and HI 7040	HI 7001, HI 7010 and HI 7090 are offered every semester so the assessment would occur when a course manual is submitted (usually about 1-3 months before the course is offered), but prior to online course implementation, and also after the course is offered. HI 7020 and HI 7030 are offered every spring – Assess inclusion in course manual prior to course offering (every fall semester) and measure again after course is offered (every summer semester) HI 7040 is offered every summer– Assess inclusion in course manual prior to course offering (every spring semester) and measure again after course is offered (every fall semester)	Program Director and Faculty teaching the courses

Assessment Measures Aligned with Program Outcomes				
Program Outcome	Assessment Tools Responsible Person, Course(s) and Time frame	Course/ Experience	Time Line	Responsible Person
5. Exhibit ethical values, professionalism, and interprofessional collaborations while solving health informatics problems	-Practicum proposal -Practicum capstone project presentation -Practicum capstone paper	HI 7090	HI 7090 is offered every semester so the assessment would occur when a course manual is submitted (usually about 1-3 months before the course is offered), but prior to online course implementation, and also after the course is offered.	

6. Demonstrate leadership and management knowledge, abilities, and skills to lead changes and manage innovation in healthcare or population health	Quizzes and tests Discussion Papers A project plan is developed A project schedule is developed Project Management software is applied to a project Practicum capstone project must show management/leadership skill development -Practicum capstone project presentation -Practicum capstone paper -Practicum capstone proposal	HI 7050, HI 7060 and HI 7090	HI 7090 is offered every semester so the assessment would occur when a course manual is submitted (usually about 1-3 months before the course is offered), but prior to online course implementation, and also after the course is offered. HI 7050 is offered every summer – Assess inclusion in course manual prior to course offering (every spring semester) and measure after course is offered (every fall semester) HI 7060 is offered every fall – Assess inclusion in course manual prior to course offering (every summer semester) and measure after course is offered (every spring semester)	Program Director and Faculty teaching the courses
7. Demonstrate ability to effectively use knowledge and skills to propose and complete a real world health informatics project in order to impact healthcare practice, research, or population health	A capstone project is proposed, approved and completed in each practicum course – Written practicum proposal A practicum paper A practicum presentation A practicum activity and time log Preceptor survey	HI 7090	HI 7090 is offered every semester so the assessment would occur when a course manual is submitted (usually about 1-3 months before the course is offered), but prior to online course implementation, and also after the course is offered.	Program Director and Faculty teaching the courses

IV. Assessment Infrastructure

Our program courses are all online. Each semester the Program Director will receive a detailed course manual from each faculty member and for each CAHS course. These will be submitted to the Program Director 1-3 months before the course is offered. This activity will occur prior to course implementation in the online learning management system. The course manual specifies assessment methods, learning activities, learning resources, and objectives. Faculty will be asked to review course evaluations and to address changes to courses by documenting the changes in the course manual. The course feedback and manuals will be reviewed by the Program Director who will verify that changes have been made prior to the course being implemented. Course evaluations will assess course design and teaching, therefore the data will also be useful for improving faculty teaching. Faculty and the Program Director will check courses for alignment with learning outcomes.

A Curriculum committee is in place and consists of CAHS full-time faculty teaching in the program. The Curriculum Committee will invite part-time faculty and affiliate faculty to the meetings, as needed. The Chair of the Curriculum Committee is the MHI Program Director. The Committee will use the existing shared drive to which course manuals and syllabi will be uploaded.

The Curriculum Committee membership will be charged with responsibilities such as, analyzing and interpreting available data, reviewing proposed courses, recommending courses, recommending changes to courses and curriculum, recommending different teaching practices, reviewing and writing reports, and verifying alignment of learning objectives with assessment and teaching resources.

Where curriculum changes appear to be needed the Program Director will work closely with relevant faculty to modify assessment methods and/or learning as necessary. The Curriculum Committee will work directly with relevant faculty to identify and assist in the design of assignments and rubrics used in assessment, if needed.

Schedule
One to three months prior to a course manual being, the Program Director will remind faculty teaching the following semester to check for alignment of learning objectives, assessments, and teaching resources. The assessments for each course will be clearly documented in each course manual for review by the Program Director.

The Curriculum Committee will meet monthly during peak periods (for example, planning for accreditation and Graduate School Program Review). During non-peak periods, the committee will meet as needed.

The Program Director will meet with each instructor at least twice a month as courses are being designed or revised to discuss matters such as:

- Student feedback
- Accreditation curriculum requirements
- Course improvements
- Learning objective – assessment alignment
- Appropriateness of the assessment method, rigor, and workload
- Whether the module outcomes outlined in the syllabus are in alignment with the course outcomes.

Reports and associated data will be stored and maintained by the Program Director and Manager.

While these meetings allow for changes of courses, it is anticipated that there will be additional processes in place to assess the program.

V.   Findings

This is the current program assessment document for the MHI program which launched during 2013-2015. The first cohort of students graduated from the program in 2015. By 2017, each course had been offered at least twice. Program course documents (e.g. syllabus, faculty CVs, course manuals) and data continue to be maintained. Our continuous improvement assessment led to the decision to combine the two previous Practicum courses into one course. Revisions have been made to PLOs to align with newly released accreditation competencies, as the program anticipates to apply for voluntary accreditation. The content in this document has been updated for currency. Documents and data are maintained by the MHI Program Director and Program Manager.

VI.   Use of Findings

The program will use findings for continuous improvement of courses, as we seek to ensure that program learning outcomes specified in this document are met. Faculty teaching courses will be required to assess alignment before a course is offered and after the course is offered. Faculty will meet with the Program Director before the course is offered again to discuss how findings have been incorporated (if applicable).

The Program Director will review the content of this document and update it as needed. Faculty will use data to make changes to their courses. Larger scale analysis will identify any major programmatic changes that may be needed. If the program seeks voluntary accreditation, the data and documents generated through this program assessment will contribute to show how program learning outcomes are being met.