HEALTH INFORMATICS, MS HEALTHCARE AI AND DIGITAL INNOVATION SPECIALIZATION

Health informatics is rapidly shifting toward integrating AI-driven tools, predictive analytics, and digital transformation initiatives (generative AI, digital therapeutics, personalized medicine, telemedicine, and virtual reality). Employers increasingly seek professionals adept in leveraging AI/ML applications to optimize healthcare delivery, enhance patient outcomes, to construct and present compelling business cases for AI-driven tools, and promote value-based care. The Healthcare AI and Digital Innovation specialization focuses on computational skills, big data management, algorithmic innovation, predictive modeling, and digital solution design.

Curriculum

Core Courses (9 units)

Course	Title
MHI 401-DL	American Health Care System
MHI 402-DL	Introduction to Clinical Thinking
MHI 403-DL	Fundamentals of Health Informatics
MHI 407-DL	Legal, Ethical, and Social Issues
MHI 408-DL	Information System Acquisition & Lifecycle
MHI 412-DL	Foundations of Applied AI and Analytics in Healthcare
MHI 413-DL	Consumer Digital Health
MSHA 480-DL	Health Analytics Leadership
MHI 498-DL	Capstone Project
or MHI 590-0	Thesis Research

Specialization Courses (3 units)

Course	Title
MHI 426-DL	Applications of AI in Healthcare
MHI 427-DL	Enabling AI in Healthcare: Cloud Platforms, Data Architecture, and Scalable Systems
MHI 428-DL	Digital Twin Intelligence in Healthcare: Foundations, Agents, and Strategy

About the Final Project

As a culminating experience, students will put into practice the knowledge and skills they have learned during their coursework through a Capstone Project. Students will have the opportunity to develop and implement a Health Informatics project with an industry or university partner or in their workplace. Alternatively, students can develop a culminating, two-part project. This alternative capstone project will leverage health informatics to provide an innovative, consultative response to a need or problem arising as part of a real-world case study. The project will challenge each student to conduct and integrate comprehensive research and to apply knowledge, skills, and competencies built through coursework they have completed in the MHI program.

In addition to each student's individual research and project development, the course emphasizes collaboration with fellow students by using the Canvas discussion board to crowdsource strategies and approaches for their Capstone Project. Each student will work with the instructor to establish an "Advisory Committee" for their project which, ideally, will be comprised of a "Knowledge Expert" from the organization they are working with and a faculty advisor from the Northwestern University Health Informatics program.

Course	Title
Choose one	
MHI 498-DL	Capstone Project
MHI 590-0	Thesis Research