

# HEALTH INFORMATICS/ BUSINESS INTELLIGENCE MHI/MS

In the contemporary enterprise, the understanding of information systems, processes, and organizational knowledge is critical to success. The successful twenty-first century decision-maker will use this information for competitive advantage and for enterprise growth. The objective of the Master of Science in Business Intelligence & Analytics Program (MSBIA) in the Haub School of Business at Saint Joseph's University is to provide the student with an enhanced foundation in both information technology and quantitative decision-making tools.

The Health Informatics program prepares students to implement and utilize information technology to support any healthcare organization. Our students are guided by a philosophy of inquiry, insight, and innovation. Students will be challenged to think boldly and to seek out and answer difficult questions using healthcare data. The learning environment will prepare students for the challenges of a professional career in a healthcare setting. The program will help students to develop the competencies and acquire the practical tools to succeed in today's digital healthcare environment.

The dual degree of MS in Business Intelligence and Analytics and the Master of Health Informatics (MHI) is an innovative 48 credit hour applied graduate degree program that addresses the intersection of data analytics, healthcare and information technology to develop and analyze efficient systems and processes. It allows graduate students to obtain the specialized knowledge required for advanced analytics used in business and healthcare. This area of study is one of the next frontiers in industry and will be important for many years to come with an estimated growth of 25% over the next decade. The demand for Health IT employment is expected to grow by 15% adding over 29,000 jobs between 2014 and 2024 and the rate of employment of medical records and health information technicians to increase by 21 percent from 2010 to 2020, faster than the average growth rate for all occupations (14 percent).

## Learning Goals and Outcomes

**Objective 1:** Students will demonstrate understanding of the value of decision and systems technologies and be able to create business models for forecasting and business analysis. This requires the understanding of organizational flows of information and control and the impacts that these flows have on operations. Describe the history, goals, methods (including data and information used and produced), and current challenges of the major health science fields. Identify theories or models that explain and modify patient or population behaviors related to health and health outcome.

**Objective 2:** Describe the history, goals, methods (including data and information used and produced), and current challenges of the major health science fields. Identify the effects of social, behavioral, legal, psychological, management, cognitive, and economic theories. Identify possible biomedical and health information science and technology methods and tools for solving a specific biomedical and health information problem. Draw on socio#technical knowledge regarding the social behavioral sciences and human factors engineering to apply to the design and implementation of information systems and technology. Identify the theories, models, and tools from social, business,

human factors, behavioral, and information sciences and technologies for designing, implementing, and evaluating health informatics solutions.

**Objective 2:** Students will demonstrate critical thinking skills, that is, the process of conceptualizing, applying, analyzing, synthesizing, and/or evaluating information as the basis for solving problems and making decisions.

**Objective 3:** Students will demonstrate the ability to correspond effectively and persuasively in a business format. This includes communicating quantitative information using both a technical and non-technical terms, with individuals and within teams. Identify the applicable information science and technology concepts, methods, and tools, to solve health informatics problems.

**Objective 4:** Students will be able to apply ethical decision making in the area of business intelligence and analytics and to understand the relationship between data, ethics, and the organizational framework. Define and discuss ethical principles and the informatician's responsibility to the profession, their employers, and ultimately to the stakeholders of the informatics solutions they create and maintain.

**Objective 5:** Students will demonstrate the principles of a structured programming language and be able to describe, design, implement, and test programming code using current data analysis techniques and methodology to support business decision-making. Define and discuss the scope of practice and roles of different health professionals and stakeholders including patients, as well as the principles of team science and team dynamics to solve complex health and health information problems. Articulate the methods, concepts, tools, and characteristics of leading and leadership.

## Requirements

Code	Title	Hours
DSS 610	Business Analytics	3
DSS 625	Fund of Database Mgmt Systems	3
HAD 559	Health Policy	3
MHI 550	Research Methods	3
MHI 563	Data Analysis for Health Care	3
MHI 564	Privacy&Security: Health Care	3
or DSS 750	Fundamentals of Cyber Security	
MHI 560	Health Informatics	3
MHI 565	Health Data Standards	3
MHI 561	Digital and Connected Health	3
MHI 700	Health Informatics Capstone	3
<b>MHI Elective (Select one of the following)</b>		<b>3</b>
HAD 555	Acc for Health Care Organiztns	
HAD 556	Fin Manag of Health Care Org.	
HAD 600	Ethics of Health Care	
MHI 670	Special Topics in MHI	
<b>DSS Electives (Select five of the following)</b>		<b>15</b>
DSS 605	Emerging Tech for Business	
DSS 615	Python Programming	
DSS 620	Con & Pract of DSS Modeling	
DSS 650	Process Simulation & Analysis	
DSS 655	Optimization Modeling	
DSS 660	Introduction to Data Mining	
DSS 665	R Statistical Language	

DSS 670	Data Visual & Perf Analyt
DSS 675	Decision Analysis/Game Theory
DSS 676	Data Wrangling & Adv Visualtn
DSS 680	Predictive Analytics
DSS 690	Special Topics Course
DSS 720	Supply Chain Analytics
DSS 730	Digital Analytics
<b>Total Hours</b>	<b>48</b>