HEALTH INFORMATICS, M.S.

Program Mission

The mission of the Master of Science in Health Informatics (MSHI) program is to provide students with high-quality education and training that will make them valuable employees in today’s data- and information-driven healthcare enterprises.

The relevance of this mission is reflected in the fact that Health Informatics Professionals are in great demand. According to the U.S. Bureau of Labor Statistics, 10 of the 20 fastest growing occupations in the country are concentrated in health care services, making it an ideal career field for people who are looking for a growth opportunity and enjoy helping people (www.bls.gov).

With the health care environment enjoying such growth, this has a direct impact on the demand for Health Informatics Professionals in the United States; this area is expected to see an 18 percent increase in the number of jobs available through 2016. With the 2010 enactment of the Affordable Care Act (ACA) – and the Federal Government mandate that every U.S. citizen have an electronic health record (EHR) by 2015 – together with the 2009 American Recovery and Reinvestment Act (ARRA) – via the associated Health Information Technology Economic and Clinical Health (HITECH) Act – and the requirement by the federal government that each state develop a Health Information Exchange in order to become part of a vast electronic national health information infrastructure, the Health Informatics job growth rate will undoubtedly only continue to increase.

Accreditation

The Master of Science in Health Informatics is accredited program through 2023 by The Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM)

Program Description

Health Informatics is a multidisciplinary profession on the cutting edge which utilizes information technologies, informatics and Information Systems and integrates them into the health care arena; it is the science that defines how health information is technically captured, transmitted and utilized, consisting of 3 core areas:

- **Information Systems** – focuses on such issues as information systems analysis, design, implementation, management and leadership
- **Informatics** – focuses on the study of structure, function and transfer of information, socio-technical aspects of health computing, and human-computer interaction
- **Information Technology** – focuses on computer networks, database and systems administration, security and programming

The MSHI Program at Marshall University is the only graduate-level college program in health informatics available in the state of West Virginia; it is a highly integrated academic initiative comprising three colleges:

- College of Health Profession (COHP)
- College of Business (COB)
- College of Information Technology and Engineering (CITE)

The combination of skills and knowledge acquired through course work in these three colleges, together with student internships in the Health Informatics field at the academic, government or industry levels provides students with the high-quality multidisciplinary education and real world training that will
result in valuable employees who are well-prepared for the multifaceted demands and complexities in today’s data- and information-driven healthcare enterprises.

The program requires at least 4 semesters of coursework including an educationally directed practicum (Health Informatics Internship) experience. The total number of credits includes at least 33 post-baccalaureate hours of study. Because this graduate degree focuses both on didactic and clinical applications, the program is a combination of classroom and clinical application credits. Graduate level credits will be provided for supervised practicum.

For more information regarding the Master of Science program in Health Informatics at Marshall University, please visit the Health Informatics website at:

http://muwww-new.marshall.edu/cohp/index.php/departments/health-informatics

Admission Requirements

Applicants should follow the admissions process described in the Graduate Catalog, or at the MU Graduate College website (http://muwww-new.marshall.edu/graduate/), under the Admissions section. Please submit all materials to the Graduate Admissions Office before the deadline. Students must have an undergraduate Grade Point Average (GPA) of 3.0 or higher on a 4.0 scale for all previously completed undergraduate university work, and GRE scores from GRE tests taken within the past five years.

Program Requirements

Master Degree students in the Health Informatics program must complete at least 39 hours of 600-level courses from 3 colleges (NOTE – Students with no informatics background may be advised to take additional foundational informatics courses):

College of Health Professions (COHP) Courses........................................15-19 Hours
- HP605 – The Role of EHR and PHR.................................................................3
- HP615 – Health Quality and Safety...............................................................3
- HP650 – Health Informatics Practicum.........................................................3
- HP 620 – Legal and Regulatory Environment for Health Care and Informatics ....3
- HP 630 – Research Methods and Data Analytics for Health Informatics..........3
- HP 685-688 – Independent Study...................................................................1-4

College of Business (COB) Courses.................................................................12 Hours
- MIS 678 – Management Information Systems............................................3
- HCA 600 – The Health Care System..............................................................3
- HCA 656 – Management of Health Care Technology and Information Systems.....3
- MIS 680 – Health Care Communications Technology and Telematics........3

College of Information Technology and Engineering (CITE) Courses...............12 Hours
- IS 623 – Database Management.................................................................3
- EM 660 – Project Management.................................................................3
- IS 665 – Health Informatics Application; or elective..................................3
- TM 664 – Health Informatics.................................................................3

For additional information regarding courses and other program descriptions, please see the MSHI student handbook at:

Health Informatics Practicum

MSHI students will be required to complete the Health Informatics Practicum (HP 650), which includes successfully completing at least 400 hours in an educationally directed Health Informatics internship at one of several Health Informatics job sites which have been approved by the MSHI program director. The student internships consist of job placements within the Health Informatics field at academic, government or healthcare industry levels.

Besides successful completion of the required health informatics courses at MU, graduation from the MSHI program will be contingent upon successfully completing the HP 650 Practicum. For more details about the practicum, see the MSHI Practicum webpage:


Course Description

1. HP 605 – The Role of EHR and PHR (3 hrs)
Students will introduce to the main concepts and software applications of Electronic Health Records and Personal Health Records.

2. HP 615 - Health Quality and Safety (3 hrs)
It provides students with principles of major health care quality and safety measurement as well as practical case studies involved in the health care system.

3. HP 620 – Legal and Regulatory Environment for Health Care and Informatics (3hrs)
The course will introduce students to IT governance, health information ethic and legal requirements to improve health care processes, customer response and business competitiveness.

4. HP 630 – Research Methods and Data Analytics for Health Informatics (3hrs)
The course will introduce a compendium of methods for evaluation of IT-based systems and solutions within health care. Students will acquire knowledge in research process.

5. HP 650 - Health Informatics Practicum (3 hrs)
The course provides an experience to prepare students to work effectively in professional positions and to bridge the learning gained in coursework and the world of practice.

6. HP 685-688 – Independent Study (1-4hrs)
Independent Study relates to projects that do not fall specifically within an individual department's curriculum.

7. MIS 678 - Management Information Systems (3 hrs)
A presentation and analysis of the primary and emerging technological means of communication, collaboration, and information search and retrieval within the healthcare and medical fields.
8. **HCA 600 - The Health Care System (3 hrs)**

This course is designed to provide managers with in-depth knowledge of the current health care system, covering the structure and delivery of care, the providers and payers, and the various players in the system. The internal and external forces impacting the system are discussed. Problems in the health care system are explored and evaluated with respect to the issues of access, cost, and effectiveness.

9. **HCA 656 - Management of Medical Technology and Information Systems (3 hrs)**

An investigation of the place technology, primarily hard technology, plays in the formulation of health care policy and strategies. Special emphasis placed on the management of medical information systems.

10. **MIS 680 - Healthcare Communications Technology and Telematics (3 hrs)**

This course is a presentation and analysis of the primary and emerging technological means of communication, collaboration, and information search and retrieval within the healthcare and medical fields.

11. **EM 660 - Project Management (3 hrs)**

This course provides the student with a practical knowledge of how to effectively integrate the functional efforts of many in the execution of programs and projects.

12. **IS 623 - Database Management (3 hrs)**

Review of information structures and of relationships among data elements and objects. Relational database theory: design and organization of databases, retrieval structures, and query mechanisms.

13. **TM 664 - Health Informatics (3 hrs)**

Introduction of various aspects of medical informatics, including medical literature search and retrieval, management and analysis of data, modeling and simulation, data communications, online databases, and clinical decision analysis.

14. **IS 665 – Health Informatics Applications, or Elective (3 hrs)**

This course will allow students to learn the current theories and methods in health informatics.