

Healthcare Informatics

Degrees Available at SIUE

- Master of Science

Course Format

- Fully online

What is Healthcare Informatics?

Healthcare informatics brings together computer technology and clinical expertise to effectively organize, analyze, manage and use clinical knowledge and data for problem solving and decision making. As hospitals and healthcare organizations convert to electronic medical records, the need for healthcare informatics has increased significantly.

Healthcare informatics enables healthcare providers to use computerized systems to:

- Develop standards and clinical guidelines
- Guide their diagnoses and treatment recommendations
- Facilitate communication and manage the flow of information
- Evaluate quality of care

Healthcare Informatics at SIUE

This premier graduate program combines the specific information technology needs of healthcare professionals with the professional expertise of the faculty in the SIUE Schools of Business; Education, Health and Human Behavior; Engineering; and Nursing. Healthcare informatics at SIUE will provide you with skills and perspective in planning, designing, implementing and using information technologies. The program is designed for clinical employees who have technology-based responsibilities or those who are interested in moving their careers in that direction. This program provides a unique opportunity for healthcare professionals to leverage prior education and experience to provide leadership to teams using technology to improve patient healthcare options.

The mission of the Master of Science in healthcare informatics program is to prepare students to be innovative leaders in health informatics with the ability to use technology and manage information to achieve industry objectives and improve outcomes.

The master's degree in healthcare informatics is in candidacy status, pending accreditation review by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM).

Career Opportunities

There has never been a better time to pursue a degree in healthcare informatics. Patient privacy regulations, combined with the rapid growth of both medical knowledge and technology, have increased demand for electronic health records (EHR) and professionals qualified to lead industry change. Informatics allows the collection and organization of large data sets to improve patient safety and clinical work flow and reduce medical errors.

Healthcare informatics professionals integrate the worlds of medicine and technology by combining their expertise in medical data management, patient care and information technology systems. While an IT professional handles hardware, software, servers and installation services, the healthcare informatics professional analyzes and interprets clinical data and works with staff to plan, implement and optimize healthcare information systems providing training, project management and leadership within their organizations.

Hands-on Learning – Capstone Experience

The Master of Science in healthcare informatics program emphasizes the application of state-of-the-art computing technologies to healthcare. The capstone experience is an opportunity for students to apply knowledge to a health informatics issue. Participants will choose a topic that complements their interests and demonstrates what they have learned by creating a comprehensive project with practical significance, or a strong research base.

The capstone experience allows for ongoing reflection of learning outcomes, and provides an opportunity to share the project findings.

Admission Requirements

- Graduate School application and \$40 fee
- Submission of all academic transcripts
- Completion of a baccalaureate degree with a minimum GPA of 2.75/4.0



Faculty

Frank Lyerla, PhD, RN
Program Director / Associate Professor,
Department of Primary Care and Health
Systems Nursing
SIUE School of Nursing

Mary Sumner, PhD
Emerita Professor, Computer
Management and Information Systems
SIUE School of Business



Admission Requirements, Cont.

- Evidence of completion of an undergraduate or graduate statistics course with a grade of C or better
- Statement of Purpose: A written statement describing their background in healthcare and/or information technology and their reasons for pursuing a graduate degree in healthcare informatics
- International Applicants: Proof of English Proficiency, minimum requirements are TOEFL (79), IELTS (6.5) or equivalent

Program application materials may be uploaded during the application process, but official transcripts must be sent directly from the school attended, and test scores must be verifiable with the appropriate testing service. Please contact the Graduate Admissions office with questions regarding the application submission process at graduateadmissions@siue.edu.

Review the SIUE Admissions Policy for more information.

Admission Deadlines

Students are admitted into HCIM in fall and spring semesters only.

Graduation Requirements

Completion of required courses with a grade point average of at least 3.0 (A=4.0), and a final presentation.

Review the graduation policy for more information.

Program of Study

NURS 509-3: Interdisciplinary Healthcare Informatics

Introduces informatics terminology and theory, including searching, managing, and evaluating data, analyzing information systems, and integrating technology into practice.

NURS 511-3: Social, Ethical and Legal Issues in an Informative Age

Explores social, ethical and legal issues related to searching, storing and using healthcare information and the ethical and legal formation of informatics professionals.

NURS 512-3: Managing Quality and Safety in Healthcare

Examination of processes and integration of concepts used to measure and improve quality and effectiveness of health care. Examination and analysis of research statistics.

CMIS 515-3: Project Management Standard Process

Is a framework of standard processes based on the Project Management Body of Knowledge and other resources. It includes processes for managing scope, time, quality, cost, human resources, communications, risk and procurement.

CMIS 517-3: Enterprise Resource Planning

The role of Enterprise Resource Planning (ERP) software in the business environment will be explored using SAP. A risk management approach will be emphasized.

CMIS 518-3: Seminar in CMIS: Information Security

An introduction to the technical and administrative aspects of information security and assurance. It provides an understanding of the key issues associated with protecting information assets, determining the levels of protection and response to security incidents, and designing an effective information security system.

PBHE 455-3: Introduction to Epidemiology

Epidemiologic terminologies. Description and analysis of disease occurrence using appropriate epidemiologic measurements. Exploration of causal relationships. Identification of epidemiologic roles in disease control and prevention.

IT 508-3: Seminar in IT: Instructional Design and Media Selection for Healthcare Informatics

Provides healthcare informatics professionals with foundation in the skills of planning, designing, developing, implementing, and evaluating employee trainings.

PSYCH 576-3: Graduate Seminar in Organizational Development

Introduces early history, assumptions, concepts and various change strategies and human process approaches to planned change within a systems framework.

CS 430-3: Special Topics: Information Storage and Retrieval

Includes database management system concepts, models and languages, entity and relationship, relational and object-oriented data models, relational database design and implementation including SQL, and object databases.

CS 560-3: Information Discovery in Electronic Healthcare Records

Analytical techniques for discovering information in electronic healthcare record systems through data mining, text mining, and visual analytics techniques.

HCIM 596a: Capstone I

During Capstone I, the student will initiate their capstone project. The student will use their approved project proposal to do the background work and literature review. An outline of the final paper is required at the end of the course.

HCIM 596b: Capstone II

During Capstone II, the student will continue their capstone project and submit a rough draft of their capstone project paper. The student will analyze the current system being replaced (or in need of replacement) and research viable IT solutions (potential solutions). The student will then identify and make an IT solution recommendation. A literature review concerning the background of the problem and technology based solution will be submitted along with the remainder of the initial (rough) draft of the capstone project paper.

HCIM 596c: Capstone III

During Capstone III, the student will complete their capstone project and submit their final capstone project paper and deliver a presentation.

BJC HealthCare Partnership with SIUE

In collaboration with the BJC Institute for Learning and Development (BILD), SIUE offers the following programs:

- Master of Science (MS) in Healthcare Informatics for baccalaureate-prepared students with a healthcare background
- Accelerated online RN to BS program for nurses seeking the baccalaureate degree
- Master of Science (MS) Nurse Educator for nurses seeking a Master's level degree with an emphasis on Education
- Master of Science (MS) Health Care and Nursing Administration for nurses seeking a Master's level degree with an emphasis on Administration
- Post Master's Doctor of Nursing Practice for Master's-prepared nurses

These programs offer fully online courses and the opportunity to work on authentic projects at BJC. BJC pays tuition charges so students don't incur up-front costs for taking the courses.

Interested students are encouraged to contact the SIUE Office of Educational Outreach or

Current BJC HealthCare employees, please contact:

Beth Camp

Sr. Learning and Development Consultant – Academic Partnerships

BJC Institute for Learning and Development

Beth.camp@bjc.org

314-362-0875

Contact Information

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