

HCIN 540: INTRODUCTION TO HEALTH CARE INFORMATION MANAGEMENT

Informatics

Analytics

Leadership

This MS in Health Care Informatics course provides students with necessary skills to understand the basis for health care informatics. Emphasizes basic understanding of computer hardware, network architecture, clinical application of electronic health records, and health care software applications. Includes relevant regulatory, patient privacy, security, and reimbursement issues. Examines current trends in meaningful use and electronic health record (EHR) certification as a foundation for understanding emerging issues in health care informatics.

HCIN 541: INTRODUCTION TO HEALTH CARE DELIVERY SYSTEMS

Informatics

Analytics

Leadership

This MS in Health Care Informatics course provides an overview of the health care delivery system, professional roles, care delivery models, and relevant regulatory environment in the United States. Overviews common chronic and acute disease states that drive the U.S. healthcare system to provide the student with context for care delivery models. Intended for non-clinician students or individuals who lack significant professional health.

HCIN 542: SYSTEMS ANALYSIS AND DESIGN FOR HEALTH CARE INFORMATICS

Informatics

Analytics

Leadership

Prepares students in the planning, analysis, design, and implementation of computer-based information and technology systems. Includes systems development life cycle, project management skills, requirement analysis and specification, feasibility and cost-benefit analysis, logical and physical design, prototyping, system validation, deployment, human factors, and post-implementation review.

PROGRAM DETAILS

- 42 units completed over 2-3 years.
- Part-time and full-time schedules available
- Take the core informatics curriculum, or specialize in healthcare analytics or health systems leadership
- New students start this program in Spring (January) or Fall (September)

HCIN 543: DATABASE DESIGN AND KNOWLEDGE MANAGEMENT

Informatics

Analytics

Leadership

Provides opportunities to gain advanced skills in data and knowledge management. Addresses applied skills in database design, data structure, modeling, and development of database management systems to resolve problems in health care informatics and research settings. Also focuses on the development of fundamental skills in knowledge management and knowledge engineering as applied to the health care environment. Provides an overview of national health care databases such as the National Database of Nursing Quality Indicators (NDNQI) and Centers for Medicare and Medicaid Services (CMS) Core measures and data mining techniques. Promotes skills in accessing clinical databases to resolve selected clinical problems.

HCIN 544: ADVANCED HEALTH CARE INFORMATION MANAGEMENT

Informatics

This MS in Health Care Informatics class provides information and skills necessary for leadership in informatics roles in health care systems. Emphasizes the design, implementation, and evaluation of electronic health record systems and clinical decision support systems. Also addresses regulatory, reimbursement, ethical issues, and emerging technology in health care informatics.

HCIN 547: HEALTH CARE ANALYTICS

Informatics

Analytics

Prepares students to apply various types of clinical data to solve complex clinical questions based on prior knowledge achieved in the Health Care Informatics program. Students apply an evidence-based practice approach to solve various clinical questions using a variety of clinical data sets including population-level data. The course focus includes how data can be leveraged to solve specific clinical questions, the development of Clinical Decision support rules, and Precision Medicine applications. Students will develop data analytics skills by utilizing real-world use cases found in the clinical setting.

HCIN 545: PRACTICUM FOR HEALTH CARE AND NURSING INFORMATICS

Informatics

Provides an integrative field experience to synthesize and apply knowledge attained in the HCIN core courses. Includes related practices and seminar experiences that foster achievement of career goals related to health care informatics.

HCIN 548: HEALTH CARE INFORMATICS SEMINAR

Informatics

Analytics

Leadership

The HCI seminar course provides the student with the opportunity to work collaboratively with faculty and student colleagues to address concepts and ideas emerging in the field of Health Care Informatics. Each seminar focuses on various aspects of the Clinical Informaticist Health Care Data Analyst and Health Care Informatics Leader role. Throughout the seminar course, students will use various methods to analyze emerging trends in health care and informatics. Seminar students will generate self-reflective and field-relevant capstone projects. Students will fulfill program competencies through individual projects.

HCIN 549: BIOSTATISTICS

Informatics

Analytics

Leadership

The HCI seminar course provides the student with the opportunity to work collaboratively with faculty and student colleagues to address concepts and ideas emerging in the field of Health Care Informatics. Each seminar focuses on various aspects of the Clinical Informaticist Health Care Data Analyst and Health Care Informatics Leader role. Throughout the seminar course, students will use various methods to analyze emerging trends in health care and informatics. Seminar students will generate self-reflective and field-relevant capstone projects. Students will fulfill program competencies through individual projects.

HCIN 552: CLINICAL DOCUMENTATION: ELECTRONIC MEDICAL RECORD SYSTEMS

Informatics

Analytics

Leadership

Clinical documentation: Electronic systems explore hardware/software development requirements for EMRs and application of EMR data for: quality, risk assessment, billing, and research applications. Includes overview of clinical devices that assist in medication administration such as BCMA(Bar Code Medication Administration). Applies problem-based learning to the development of clinical rules and alert systems for both Clinical Decision Support (CDS) and CPOE (computerized Physician Order entry) systems. Course emphasizes regulatory requirements for electronic medical records to include: HIPPA, Meaningful Use Requirements, security applications, and federal breach reporting.

HCIN 556: HEALTH CARE LEADERSHIP, VALUES AND SOCIAL JUSTICE

Informatics

Analytics

Leadership

This course develops knowledge and hones skills concerning the management of people in healthcare organizations. It examines issues critical to being an effective leader with an emphasis on practical application. These issues include: leadership, motivation, effective team functioning, power and influence, corporate ethics, principles of social and health care justice, building and enabling high quality relationships and organizational structure. Students will improve abilities to diagnose, analyze, and take effective action as leaders in the healthcare arena.

HCIN 557: FINANCIAL MANAGEMENT IN HEALTH CARE SYSTEMS

Informatics

Leadership

Provides a forum for the exploration and evaluation of the financial environment of the health care industry and how it specifically affects the role of the health care leader. Emphasizes the development of financial analysis skills that provides a foundation for application within the health care delivery system.

HCIN 558: STRATEGIC PLANNING AND MANAGEMENT OF HEALTH SYSTEMS

Informatics

Leadership

This course emphasizes strategic planning and management as requisite to growth and survival of health systems. It also acquaints students with the language, processes, tools and techniques of strategic planning and change management that will enable them to contribute effectively to strategic thinking and action in health systems.

DID YOU KNOW?

Students can still work while completing this program. Students have the option to complete this degree as a full-time or part-time program. Students in the campus-based program can choose to attend class two or three days a week, and most classes are held in the evenings.

HCIN 559: MANAGEMENT OF HEALTH CARE SYSTEM QUALITY OUTCOMES AND PATIENT SAFETY

Informatics

Analytics

Leadership

Focuses on the evaluation of patient safety and quality of care outcomes from a systems perspective. Explores theoretical and methodological foundations for understanding and applying patient safety and quality of care outcomes within the current health care environment. Reviews safety applications in other high-risk industries with application to nursing and the healthcare industry. Emphasizes identification, implementation, and evaluation of quality indicators for patient safety and other patient outcomes. Evaluates patient safety and quality indicators for their sensitivity and specificity to clinical care. Addresses the role of leadership in error prevention and maintenance of a culture of patient safety.

HCIN 600: POPULATION HEALTH ANALYTICS

Analytics

This course explores methods for measuring and analyzing the burden of disease in populations. Students will apply various data sets including disease registries, electronic health records, claims data, and socio-economic data; to measure, trend, and analyze, the impact of disease on various populations.

HCIN 605: DATA STRUCTURES AND TERMINOLOGIES

Analytics

This course provides the Health Care Analytics, Data Science, Doctoral Nursing and Informatics student a review of health care standards, terminologies, and quality outcome measure data. Students will examine how these are applied to document, measure, evaluate, and reimburse health care in the United States. This includes standards and terminologies common to Electronic Health records to include the following: The International Classification of Diseases (ICD), Current Procedural Terminology (CPT) code sets, Health Level Seven (HL7) Reference Information Model, Systematized Nomenclature of Medicine (SNOMED), Logical Observation Identifiers, Names, and Codes (LOINC), and RadLex, Standards, terminologies, and outcome measures unique to medicine, Nursing, Allied Health Professionals and Health Care delivery organizations (such as hospitals, clinics, and medical provider practices) is included.

HCIN 610: ADVANCED LEADERSHIP AND HEALTH SYSTEMS MANAGEMENT

Leadership

This course explores theoretical and applied principles of leadership in complex health care delivery systems. Students will explore health care organizations to determine how leadership, technology, and system complexity affects care delivery. Students will examine how learning health care systems management differs from traditional systems management and the benefits they offer to complex delivery systems.

HCIN 615: ADVANCED HEALTH CARE ANALYSIS

Analytics

This course will explore methods and tools to address a variety of health care issues by leveraging data to design, solve, and test a data-driven hypothesis. This course will explore the application of quantitative and qualitative data to evaluate programs and research studies. Students will also examine data stewardship and data governance roles in organizations that employ enterprise data warehouses (EDW). Data security and privacy are examined from the health care data analyst role. Additional course topics include emerging trends in health care, data science, and bioinformatics.

HCIN 620: MACHINE LEARNING APPLICATIONS FOR HEALTH CARE

Analytics

This course will explore the application of machine learning (ML) to the health care setting. ML is a field of computer science that trains computers to recognize patterns in complex data sets and formulate predictions based on designed algorithms. ML can be used to predict hospital readmission, identify patients who may develop hospital-acquired infections, and support diagnostic reasoning for clinicians. The course will explore various ML methods to design algorithms for solving common clinical problems. In addition, students will gain a basic understanding of how ML methods can learn from data to find underlying patterns useful for prediction, classification, clustering, and exploratory data analysis.

HCIN 625: DIGITAL HEALTH CARE MARKETING

Leadership

This course will explore marketing principles and methods utilized in the health care industry from the perspective of a health care leader. Students will learn how to assess market needs for health care organizations and service lines. Course will include case studies to understand ethical, regulatory, and liability issues in health care marketing. Additional course topics include web-based advertising, management of marketing staff, and website design.

HCIN 630: HEALTH CARE LAW AND RISK MANAGEMENT

Leadership

This course explores laws encountered by health care managers and strategies to reduce liability to health care organizations. Case studies will assist the Student to examine legal and ethical issues encountered when managing health care delivery systems. This course will examine laws and regulations that govern the relationships between health care providers and entities, the management of employees and medical staff who deliver patient care, labor relations, the management of information, patient rights and responsibilities, and tort law. Students will research an area of health care liability and develop a plan to mitigate risk in the health care setting.

FREQUENTLY ASKED QUESTIONS

Does this program include a practicum?

The on-campus Health Care Informatics program utilizes a practicum model with placements in community agencies working with health care informatics professionals. In this practicum, students develop the skills necessary to enter the field of health care informatics upon graduation. This is a required component for the Health Care Informatics track, and an elective option for the Health Care Analytics or Health Care Informatics Leadership tracks.

Do I need to have healthcare or IT experience?

The foundational courses in term 1 will prepare all students for success in the program, regardless of experience. Those new to healthcare will also be required to complete a medical terminology course .

What is the time commitment for a full-time student vs. a part-time student?

Full-time students take 3 classes per week and graduate in 2 years; part-time students take 2 classes per week and graduate in 3 years. Classes are scheduled in the evenings, plus an occasional late afternoon seminar.