Health Informatics

HIF 530

Intro to HI&T Hot Topics. . . . . 3.00 credits

This course provides students with a broad overview of the role of health care information systems (HCIS) in health care delivery and examines conceptual and theoretical foundations of business management principles and practices essential to health informatics. This course provides the fundamentals of the acquisition, storage, and use of information in the clinical informatics setting. Emphasis is given to clinically transformative technologies which include fundamental knowledge of the concepts of health informatics and how technology can be used in the delivery of healthcare. The intent is to increase the student's capacity for the design, configuration, use, and maintenance of informatics interventions that improve healthcare delivery. This course will also examine the trends impacting the clinical informatics field and the impact of natural and artificial systems and practices. (Formerly Titled: Healthcare Informatics & Technology).

HIF 535

Health Information Analytics. . . . . 3.00 credits

This course examines and applies analytic methods, data handling, and data cleansing techniques, strategies, and the use of Information Technology (IT) tools for data collection, data analysis, reporting and knowledge management. Applies current theoretical models and research to clinical practice to gain new knowledge from data. Requires students to use analytic tools for analyzing healthcare data with statistics, data visualization, data mining, big data, data warehousing, and report generation. Students will gain an understanding of data visualization, implanting scientific decision making, and using predictive data analytics. (formerly titled: Healthcare Data Analytics) **Important Note: Combines Data Analytics and Advanced Data Analytics

HIF 540

Hlth Data Vocab and Standards. . . . . 3.00 credits

Students are introduced to various standardized clinical terminologies, healthcare information standards, data sets required for state and federal reporting, and electronic standards needed to attain interoperability. Emphasis is on developing expertise in identifying their appropriate uses and sources and applying them within and among health information systems to promote interoperability. Students apply knowledge discovery and extraction techniques such as natural language processing and text mining. This course integrates key issues and techniques of technical infrastructure and data architecture in clinical informatics and the role of standards and ontologies in health care. (Formerly Titled:Advanced Vocabularies and Classification Systems)

HIF 550

Clinical Database Management. . . . . 3.00 credits

Addresses healthcare database theory, database design and query of health databases. Utilize technology for data collection, storage, analysis, and reporting of information by applying knowledge of database architecture and design to meet organizational needs. This course covers basic to intermediate knowledge of the concept, the design, and the implementation of database applications in healthcare. Students will study tools, data models, relational systems, and database administration.

HIF 610

Info Systems Analysis & Design. . . . . 3.00 credits

This course introduces students to computer programming with a focus on the phases of the systems development life cycle. Students will develop the knowledge and skills needed to be able to evaluate and produce systems design to build software systems for business and analytical information management purposes and to explore human factors, consumer informatics, principles and the application of usability assessments for the development and use of health information technology by clinicians and patients. This includes the ability to apply the basic theoretical and conceptual foundations in systems design and software development such as systems analysis and design, methodologies, techniques, and tools. (Formerly Titled: Systems Design & Software Development)

HIF 615

Information Technology Project Mgt. . 3.00 credits

This course is designed to provide an in-depth understanding of the concepts, strategies, and solutions that support the planning, scheduling, controlling, resource allocation, and performance measurement activities required for successful completion of a health information system project utilizing project management tools and frameworks.

HIF 630

Health Information Systems. . . . . 3.00 credits

Health Information Systems are comprehensive application systems that automate the activities of healthcare delivery. They provide technology and enable information exchange and coordination of care. This course covers the functionality of the systems and underlying information technology required for successful operation. This is a rapidly evolving field, and this course emphasizes applied use of health information systems and analysis of technology challenges and solutions in health informatics.

HIF 635

Advanced Data Analytics. . . . . 3.00 credits

Using advanced data analytics can improve patient outcomes, lower costs, improve quality and enhance the overall health delivery system performance. This course will provide an in-depth and real-world comprehension of advanced healthcare data analytics topics and the intersecting fields of data mining. The course consists of hands on projects through the understanding of data visualization, implementing scientific decision making, and using predictive data analytics. This includes the use of data to make decisions on business goals and objectives as various types of healthcare organizations and emerging financial models depend on healthcare data analytics. Students will utilize tools and techniques to illustrate and present new knowledge regarding the operations, financial, quality, business intelligence, care and policy in healthcare settings that help to fuel data-driven cultures.

HIF 645

Hlth Info Security & Application. . . . . 3.00 credits

Study of the technical aspects of data security in healthcare systems. This course will cover strategies for designing, implementing, auditing, and evaluating the technical, physical and human components of an information security system that adhere to a healthcare organization's legal, ethical and organizational requirements. This course focuses on assessment of security vulnerabilities, threats, breaches, and the exploration of technical applications and software tools used for securing health information systems. (Formerly Titled: Healthcare Information Security Systems)

HIF 695

M.S. Health Informatics Capstone. . . . . 3.00 credits

The capstone course is the final course in the MS HI Program in which students present the results of their Final Research Projects and explore current issues relative to the field of Health Informatics in a rapidly changing healthcare delivery system. Each student completes the applied research project and presents the project for professional and peer evaluation. (Formerly Titled: Health Informatics Masters Capstone). Prerequisite(s): HIF535, HCA640.