HIN - HEALTH INFORMATICS

HIN 605 Introduction to Health Informatics (3 Credit Hours)
This course introduces students to central health informatics tools, techniques, and concepts used to improve health outcomes through technology. Students explore various healthcare technology platforms, how data is used in healthcare, and how the need for cybersecurity and health data privacy shape the information infrastructure that powers modern healthcare. This course offers students a framework for deeper understanding of many of the concepts explored in subsequent coursework.
Academic Level: Graduate

HIN 615 Advanced Computer Information Technologies for Health Informaticists (3 Credit Hours)
The field of health informatics depends on advanced computing systems to collect health data and analytical sophistication to make sense of that data. This course provides students with a solid understanding of the computer science that undergirds the entire field, exploring the design and implementation of database systems and technology applications, data communications, and systems analysis. Students will learn to identify current and emerging information technologies that may have strategic value for enterprise solutions, assess where those technologies may have strategic value, and explore methods for implementing those technologies in their organizations.
Academic Level: Graduate

HIN 620 Database Design, Standards, Access, & Modeling (3 Credit Hours)
This course explores in depth database basics such as the relational algebra and data model, schema normalization, query optimization, and transactions. The course addresses current needs in database design and use for optimized human-computer interaction, for rigorous security, and for robust modeling that can transform raw data into useful information. This course will also provide a deep exploration into data standards and what part that plays in the field of Informatics. Students will gain a solid understanding of, and extensive practice with, structured query language (SQL).
Academic Level: Graduate

HIN 625 Health Information Legislation, Compliance, Privacy & Security (3 Credit Hours)
This course explores legislation and regulation relating to health informatics. The course will examine the major laws and agency regulations governing healthcare technology, data collection, management, and privacy, as well as the security standards required for healthcare and health-related organizations. Students will explore the intent behind, and ethical dimensions of health informatics regulatory frameworks, using case studies of recent health information uses, security breaches, and challenges to interoperability. This course will also look ahead to the impact of future Health IT regulations.
Academic Level: Graduate

HIN 700 Project Management (3 Credit Hours)
The implementation or integration of major projects or initiatives, such as a new healthcare technology system requires careful planning and organization. This course will provide students with widely-accepted concepts and skills that can be used and scaled to successfully complete projects of varying sizes. Through course work, students will gain experience with the common language used by professionals involved in project management. Students will explore concepts of project charter, work breakdown structures, scheduling, risk planning, and project reporting.
Academic Level: Graduate

HIN 715 Health Data Analysis, Visualization, and Storytelling (3 Credit Hours)
Large data sets are not useful in their native state. Informaticists have to begin by defining the question that will be answered by the data and then organizing, analyzing, and visualizing the dataset. Analytics provide meaningful patterns in the data, and data visualization communicates the information clearly through graphical means. This course is designed to familiarize students with core concepts in communicating information through effective data visualization. This course introduces students to data visualization elements and best practices in data visualization using Tableau and Gephi. Students will gain hands on experience building explanatory and exploratory visualizations using healthcare data.
Academic Level: Graduate

HIN 735 Measuring the User Experience (3 Credit Hours)
User experience UX metrics are key to designing and improving mission-critical information systems used by many people within the organization. In this course, students will learn techniques for measuring user experience both quantitatively and qualitatively, and for analyzing that data to reveal deep understandings about user behavior with particular systems. Students will move beyond merely understanding user behavior by learning and practicing techniques for influencing user behavior toward desirable interactions and outcomes. Students will learn how measuring and influencing the user experience can significantly improve mission-critical data quantity and quality.
Academic Level: Graduate

HIN 750 Applying Consumerization Principles to Health Informatics Strategy (3 Credit Hours)
This course introduces students to the concept of Healthcare Consumerism, including the relationships between consumer, technology, and healthcare information. Topics covered in this course include consumer applications, mHealth, innovative wearable, consumable, peer engagement, and behavior management systems. We explore how consumers receive and engage with their healthcare data, such as PHRs, patient portals and Exchange systems.
Academic Level: Graduate

HIN 770 Foundations of Data Analytics (3 Credit Hours)
R is an open source programming language ideally suited for analysis and visualization. This course will provide students with a foundation in data preparation and preliminary analytics using R which can be applicable for research, quality improvement and industry large-scale data analytics projects. This course will include the following skills: data analysis with publicly available data sets; cleansing and imputing data; descriptive statistics; and data visualization.
Academic Level: Graduate

HIN 776 Python for Health Data Analysts (3 Credit Hours)
This course is designed to provide students with a hands-on introduction to the concepts, methods, and Python tools used for healthcare analytics. The course will cover the foundations of healthcare data, machine learning, and Python programming, as well as the application of these techniques to real-world healthcare data. Students will learn how to obtain, clean, and refine data from electronic health records (EHRs), build predictive models, and use analytics to improve healthcare performance.
Academic Level: Graduate