Applied Health Informatics

HHA 500: Healthcare Delivery System
Focuses on historic and current issues that impact the United States healthcare delivery system with a primary focus on how healthcare is delivered, organized, governed, and financed. There will be an overview of special populations and major diseases including epidemics, chronic illness, and acute illness, and the interrelated concepts of access, quality, and cost. Emphasizes the influence of an evolving healthcare delivery system on the practice of health informatics including meaningful use, Health Information Technology for Economic and Clinical Health (HITECH).
3 credits,

HHA 501: Biomedical and Health Informatics Essentials
Provides broad but significant immersion into the field of biomedical and health informatics. Emphasizes the clinical flow of data (acquisition, use, and storage of information in healthcare), biomedical research, informatics and public health, decision and cognitive science. Explores electronic health records, personal health records, personalized medicine, imaging, telemedicine, concepts of meaningful use, Health Information Technology for Economic and Clinical Health (HITECH), and American Recovery and Reinvestment Act (ARRA). Includes hands-on experience in the use of an electronic health record system.
3 credits,

HHA 502: Health Information Systems and HIT Essentials
Provides broad but significant immersion into the fields of health information systems and health information technology (HIT). Emphasizes systems analysis, clinical decision-support, integrated networking and distributed computing technologies, telemedicine applications, mobile applications, cloud computing, architecture and infrastructures, and database and systems administration.
3 credits,

HHA 503: Regulations, Confidentiality, Privacy and Security
Provides foundational knowledge in the laws, regulations, policies and procedures related to the confidentiality, privacy, and security on all levels of health-related information and infrastructures. Emphasizes interoperability, HIPAA/HITECH Privacy Rule and Security Standards, Code Set Rules, meaningful use, and IT security forensics.
3 credits,

HHA 504: Database Design and Development for Health Informatics Professionals
Covers relational database theory and development methodology. Emphasizes the progression through a health information systems development life cycle through the design, development, deployment, administration, testing, evaluation, and maintenance of a database. Introduces students to relational query languages (i.e. SQL).
3 credits,

HHA 505: Leadership and Management Essentials
Provides broad but significant immersion in organizational change, leadership, organizational behavior, project management and change management. Emphasizes healthcare project life-cycle, theoretical and applied strategies of managing change, communication and group dynamics, systems thinking, and strategic planning.
3 credits,

HHA 506: Research Design and Methodology for the Health Informatics Professionals
Provides in-depth overview of quantitative, qualitative, and mixed-methods research designs and methodologies. The student will analyze and evaluate the philosophical foundations, characteristics, strengths, and limitations of quantitative, qualitative, and mixed methods research designs and methodologies most appropriate to the practice of health informatics. Emphasizes critical review and techniques of applied research and evaluation.
3 credits,

HHA 507: Statistics for Health Informatics Professionals
Explores quantitative data analysis techniques utilized in patient safety research. Includes descriptive, inferential, and correlational statistics. Students will use available computer programs to conduct a variety of descriptive, inferential, and correlational statistical tests.
3 credits,

HHA 521: Physical and Technical Safeguards of Health Information
Provides significant immersion into the knowledge and skills related to the physical and technical privacy and security safeguards utilized in all sectors of healthcare. Emphasizes risk assessment and mitigation, disaster recover, business continuity, and standards regarding the maintenance, safeguarding, authorization access, release, and disposal of personal and confidential information. Prerequisites: HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507
3 credits,

HHA 522: Forensic Analysis and Health Information Cybercrime
Provides significant immersion into the knowledge and skills related to forensic science and its application to the healthcare sectors digital environments. Emphasizes health information cybercrime; methods to uncover, collect, protect, and document evidence; and tools, techniques, and procedures to perform computer and cybercrime investigations. Prerequisites: HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 508
3 credits,

HHA 523: Legal and Regulatory Issues, External Environmental Assessment, Compliance
Provides significant immersion into the knowledge and skills related to the legal and regulatory issues specific to security and privacy personnel, external environmental assessments, and compliance. Emphasizes development of policies and procedures to receive, verify, authorize, process, and document various information requests; incident response team; compliance issues; federal breach notifications; employee training; and patient services. Prerequisites: HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 510
3 credits,

HHA 530: Clinical Decision Making and Process Improvement
Provides in-depth immersion into the knowledge and skills required to implement effective clinical decision making systems and participate in the development of clinical process improvements that support effective, efficient, safe, timely, equitable, and patient-centered care. Summer and Fall courses. Prerequisites: Summer and Fall courses including HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507.
4 credits,

HHA 531: Health Information Systems
Provides in-depth immersion into the knowledge and skills required to participate in the development or selection of an information system for clinicians; prepare clinicians prior to implementation and support them during implementation and ongoing operation of clinical information system; and evaluate the effectiveness of a system in meeting clinical needs. Summer and Fall courses. Prerequisites: Summer and Fall courses including HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507.
4 credits,

HHA 532: Leading and Managing Clinical Information Systems Change
Provides in-depth immersion into the knowledge and skills required to lead, manage change, and promote adoption associated with implementing clinical information systems. Summer and Fall courses. Prerequisites: Summer and Fall courses including HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507.
4 credits,

HHA 540: Health Data Management
Provides significant immersion into the knowledge and skills of the health management domains of data structure, data analysis, and outcomes. Prerequisites: Summer and Fall courses including HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507.
4 credits,

HHA 541: Information Technology and Systems
Provides significant immersion into the knowledge and skills of the health management domains Healthcare Information Systems and Information Management Planning. Summer and Fall courses. Prerequisites: Summer and Fall courses including HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507.
4 credits,

HHA 542: Advanced Organizational Leadership and Management
Provides significant immersion into the knowledge and skills related to the health management domains of Leadership, Resource Management, and Education and Training. Summer and Fall courses. Prerequisites: Summer and Fall courses including HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507.
4 credits,

HHA 550: Applied Healthcare Analytics
Focuses on the design and implementation of analytics to aide in the evaluation of health in populations. Explores the role of the health care analyst and analytics in the improvement of healthcare delivery and outcomes. Consists of on-line lectures, videos, and hands-on assignments with data set and analytic models. Prerequisites: Summer and Fall courses. Prerequisites: HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507. Department permission required.
4 credits,

HHA 551: Big Data Technologies in Healthcare
Focuses on new and emerging Big Data technologies in healthcare, and the technologies that are utilized to process and manipulate data. Technologies such as Facebook, Yahoo, Google, LinkedIn, Twitter, and the Electronic Health Record will be studied. Discusses how healthcare data is organized, processed and analyzed using MATLAB. Consists of four weeks of reading, on-line discussions and assignments, hands-on use of analytical tools for analysis and data extraction, and ten weeks of on-site lectures and hand-on lab sessions. Prerequisites: Summer and Fall Courses. Prerequisites: HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507. Department permission required.
4 credits,

HHA 552: Healthcare Data Visualization
Focuses on techniques and tools for designing and implementing effective visual representations of healthcare data. Students will learn how to analyze, parse, and represent quantitative and textual data visually, and how to present data that is clutter free, engaging and easy to comprehend. Hands-on course utilizes Tableau as a presentation platform for the designing and building of data visualizations. Students will learn to express findings, answer questions, and to drive data supported decisions in healthcare. Consists of three weeks of campus lecture, twelve weeks of hands-on use of data visualization tools, assignments, lectures, and on-line discussions. Prerequisites: HHA 500, HHA 501, HHA 502, HHA 503, HHA 504, HHA 505, HHA 506, and HHA 507. Department permission required.
4 credits,

HHA 584: Specialization Practicum I
First course in a three part experiential learning sequence designed to provide significant hands-on immersion into the practice of Health Informatics. The 120 hour practicum requires students to apply knowledge and skills acquired during the core and specialization course work. Prerequisite: Department Consent Required
4 credits,

HHA 586: Specialization Practicum II
Second course in a three part experiential learning sequence designed to provide significant hands-on immersion into the practice of Health Informatics. This 180 hour practicum is a progressive experimental learning experience. Students are expected to demonstrate increasing proficiency of integration and application of didactic and experiential learning with the goal of demonstrating mastery in Health Informatics. Prerequisite: HHA 584
6 credits,

HHA 588: Specialization Practicum III
Final course in a three part experiential learning sequence designed to provide significant hands-on immersion into the practice of Health Informatics. This 180 hour practicum is a progressive experimental learning experience. Students are expected to demonstrate increasing proficiency of integration and application of didactic and experiential learning with the goal of demonstrating mastery in Health Informatics. Prerequisite: HHA 586
6 credits,

HHA 599: Practicum Continuation
This course is for Applied Health Informatics students continuing with Practicum.
S/F graded