

**Course Description:**

This course explores key health analytics and management techniques which healthcare professionals can use data to gain insights and make better management decisions. The course provides an introduction to the basics of health analytics and the importance it serves for data governance programs. The course will utilize data quality improvement techniques that are based on software applications that would typically be found in healthcare organizations: Microsoft Excel, Microsoft Access, My SQL, and several open source Population Health statistical software analytics tools.

**Credits:** Three (3)

**Course Format, and Modes of Instruction:**

Web based Sections:

1. Lecture via PowerPoint
2. Discussion Forums
3. Exercises via Moodle
4. Videos
5. Synchronous conferencing via available system (i.e. Adobe Connect, Skype)

**Prerequisites:**

Completion of all 3000 level HIM courses and BINF 5000

**Course Goals:**

The student will become familiar with the fundamental concepts of health analytics; will become competent in recognizing challenges faced by applications dealing with data as well as in proposing scalable solutions for them; and will be able to understand how health analytics impacts business intelligence. The concepts learned in this course will assist the student in identifying opportunities in which health analytics can be used to improve performance and support important decisions for healthcare enterprises

**General Course Objectives:**

Upon completion of this course, the student will be able to:

- Gain an understanding of how managers use health analytics to formulate and solve business problems and to support managerial decision making.
- Apply analytical results to facilitate decision-making.
- Recommend organizational action based on knowledge obtained from data exploration and mining.
- Analyze clinical data to identify trends that demonstrate quality, safety, and effectiveness of healthcare.
- Apply knowledge of database querying and data exploration and mining techniques to facilitate information retrieval.
- Describe the relationship between data governance and data analytics and Articulate how data governance is integrated in the health analytics life cycle
- Identify the four enterprise disciplines of health analytics
- Explain the principles of the health analytics process
- Differentiate primary and secondary data analysis
- Summarize key relational database concepts
- Use MySQL to retrieve and update data
- Describe the basic functionalities of Excel, Access, and Population Software

- Construct data summaries and graphical presentations
- Identify common analytical packages for statistical analysis in healthcare

**Required Readings:**

Selected reading assignment provided by the instructor throughout the course.