Intermediate Healthcare Analytics Course Syllabus

HIMSS in partnership with Alliant International University

Course Overview:

Instructor: Dr. Lou Edwards

Instructor Email: lou.edwards@alliant.edu

Class Location: Canvas [Online] + weekly optional Zoom hour with instructor [online]

Office Hours: Monday 3pm to 4pm Eastern Time, Sunday 9am to 10am Eastern Time

Course Length: 12 weeks [12 modules]

Course Schedule: July 17th – October 8th

Instructor Bio:

Dr. Lou Edwards holds a Doctorate in Healthcare Administration (DHA) from the University of Phoenix. In addition, she has a Master of Science in Healthcare Administration from the University of Phoenix, a Bachelor in Healthcare Management from the University of Phoenix, and a Bachelor's in Communication for Southern New Hampshire University.

Dr Edwards holds several certifications, including Certified Business Analysis, Certified Agile Scrum Master, Lean Six Sigma Black Belt, Certified Business Continuity Professional, Certified SAFe Practitioner, and Project Management.

Dr. Edwards has been in healthcare for over 25 years with different healthcare companies and leadership roles across various functional areas. She has been an adjunct professor at other colleges and universities for the past seven years, teaching Healthcare Administration courses at the master's degree level and undergraduate.

Course Objectives:

This course will describe:

· Why analytics is the fundamental tool and enterprise engine for successful healthcare delivery transformation to better quality, lower cost and improved customer satisfaction

· How analytics is used in supporting healthcare quality improvement through provider profiling (measure development, variations monitoring and control, benchmark and best practice comparison, outlier reduction)

· How analytics is used in supporting healthcare outcome improvement through patient profiling and population health management (risk stratification, gap analysis, impact estimate and prediction)

· How analytics is used in supporting healthcare fraud, waste and abuse reduction to improve operational efficiency

· How to build, grow and develop a robust analytical capacity towards a mature analytical organization to support insight-driven operation

This course will teach powerful skills to seasoned professionals seeking to enhance their careers, those looking to expand opportunities as well as those entering the corporate community.

Expected In-class (Online) and Preparation Time per Week:

Weeks	**Preparation Time (Readings, Viewings)**	**Optional Office Hour Time (Discussions, Interactions, Live Demos, QA)**
Week 1	8 hours	1 hour (2 sessions available)
Week 2	8 hours	1 hour (2 sessions available)
Week 3	8 hours	1 hour (2 sessions available)
Week 4	8 hours	1 hour (2 sessions available)
Week 5	8 hours	1 hour (2 sessions available)
Week 6	8 hours	1 hour (2 sessions available)
Week 7	8 hours	1 hour (2 sessions available)
Week 8	8 hours	1 hour (2 sessions available)
Week 9	8 hours	1 hour (2 sessions available)
Week 10	8 hours	1 hour (2 sessions available)
Week 11	8 hours	1 hour (2 sessions available)
Week 12	8 hours	1 hour (2 sessions available)
Total Time	**96 Hours**	**12 Hours (@ 1 Session/Week)**

Course Overview:

Week 1 – Module 1 – Introduction to Healthcare Challenges and Transformation

Week 2 – Module 2 – Introduction to Healthcare Transformation Initiatives

Week 3 – Module 3 – Defining Healthcare Quality and Value

Week 4 – Module 4 – Discussing New Quality Improvement Initiatives

Week 5 – Module 5 – Payment Model Reform: Transition from FFS to FFV

Week 6 – Module 6 – Provider Profiling: BI Tools for Best Practice Benchmarking

Week 7 – Module 7 – Patient Profiling: Risk Stratification and Scoring Models

Week 8 – Module 8 – Individualized Decision for Optimal Patient Care

Week 9 – Module 9 – Leveraging Advanced Analytics to Reduce Overuse and Waste

Week 10 – Module 10 – Low-Value Care: Low-Hanging Fruit for Quick Waste Reduction

Week 11 – Module 11 – Ultimate Solution for Optimal Health

Week 12 – Module 12 – Grow Toward a Mature Analytical Organization

Module 1 - Introduction to Healthcare Challenges and Transformation

Learning Objectives

- Identify healthcare delivery challenges in various countries
- Pinpoint contributing factors leading to current healthcare spend unsustainability
- Identify critical issues in healthcare quality of care strategies for continuous improvement

Module 2 - Introduction to Healthcare Transformation Initiatives

Learning Objectives

- Identify initiatives leading to delivery transformation for whole-person care
- Identify initiatives leading to delivery transformation for social determinants of health
- Research quantitative studies on critical drivers of preventable high health care utilization

Module 3 - Defining Healthcare Quality and Value

Learning Objectives

- Identify principles of healthcare quality management
- Identify principles and factors for quality improvement

Module 4 - Discussing New Quality Improvement Initiatives

Learning Objectives

- Research contemporary quality improvement initiatives at the regional and international levels
- Identify the key strategy of care coordination in improved effectiveness, safety, and efficiency
- Identify how quality of care is improved through establishment of community partnerships

Module 5 - Payment Model Reform: Transition from FFS to FFV

Learning Objectives

- Differentiate Fee-for-Service vs. Value-Based Payment models and healthcare delivery transformation

Module 6 - Provider Profiling: BI Tools for Best Practice Benchmarking

Learning Objectives

- Research provider profiling measuring and benchmarking of clinical performance for valuebased payment models.
- Explore commercial tools for conducting profiling and performance assessment

Module 7 - Patient Profiling: Risk Stratification and Scoring Models

Learning Objectives

- Explore risk scores and risk stratification techniques

Module 8 - Individualized Decision for Optimal Patient Care

Learning Objectives

- Explore patient-centered care factors/influencers

Module 9 - Leveraging Advanced Analytics to Reduce Overuse and Waste

Learning Objectives

- Research how organizations utilize clinical guidelines-based Business Intelligence (BI) tools to support clinical transformation efforts
- Explore provider profiling tools

Module 10 - Low-Value Care: Low-Hanging Fruit for Quick Waste Reduction

Learning Objectives

- Research factors related to waste reduction through elimination of low-value care **Module**

11 - Ultimate Solution for Optimal Health

Learning Objectives

- Research variable determinants of health factors that influence health status

Module 12 - Grow Toward a Mature Analytical Organization

Learning Objectives

- Explore HIMSS Adoption Model for Analytics Maturity (AMAM)
- Identify methods for measuring analytics capabilities

Questions and Answers:

Is this course primarily theory and didactic lessons or does it include hands on application of the analytic principles begin taught?
While these are self-paced courses, we'll have the instructor overseeing and tracking the course. The instructor will also have optional weekly scheduled 1-hour zoom office hour meetings in each module where students can follow along while the instructor shows them in brief and discusses via QA how to dive into data and optimize their usage of tooling and modeling features from within SAS Viya and SAS OnDemand Studio as well as potentially Python and Tableau or other tools as determined by the instructor. These will be brief and short walk throughs with Q/A and interactive engaging dialogue with students if they choose to join the instructor in these live sessions each week. The demo session with the instructor will be recorded so that students who did not join can watch them later if they choose to do.

Additionally, each of the 12 modules will end with a Q/A format multiple choice short quiz to help reinforce materials for the students and facilitate their understanding and retention of the proper highlights of the topics in the module. This will also act as a bridge to enable students to move forward to the next module.

What programming languages and statistics packages/systems will be used? (and other related tools?)
Since this is a self-paced course and self-sufficient (without a textbook purchased), students are not expected to have access to specific statistics packages or healthcare analytics platforms or other related tools. However, in the 12 modules of the course there are some data usage and report interpretation contents to enable students to learn skills in data analysis modeling, interpretation, reporting, recommendations, and decision-making within the healthcare context. This data will likely come from sources such as data.gov, or other as determined by the instructor. Further, the instructor will be including short weekly demos in SAS Viya and SAS OnDemand Studio (both free to students) in optional office hours – more on this in response #3 below.

Students will be learning (but not hands-on) about platforms such as 3M patient-focused episodes software, Symmetry Episode Treatment Groups to measure meaningful episodes of care, along with methods on building key performance reporting design for EGM, Episode Grouper for Medicare and for implementing clinical episodes modeling.

Is the course based on teaching the purpose of analytics and how/why they are used in contemporary healthcare, or does the course focus on teaching students how to do the analytical work (database queries, dashboard construction/visualizations, data manipulation, outcome measures, etc.)? The answer is actually both. It does spend a bit of time on the why but it does also teach some of the how. I have attached a syllabus for the course. I think the learning objective by module will help answer this a bit more. Hope this helps better refine the course for you.