ISE 471: Quality and Process Improvement in Healthcare
Ana-Iulia Alexandrescu

Instructor’s Contact Information:
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Office Hours: M, W by appointment or 4 pm – 5.30 pm (walk-in/call)

Course Information:
CRN: 42740 / 42741 (Distance)
Session: Fall 2016
Time: Mon/ Wed (pm) 2.30 – 3.50
Location: MO# 451

Please note that I will try to schedule my traveling Tuesdays, Thursdays and Friday, not to interfere with class time; hence I will have limited availability on these days.

Course Description
This course explores the dimensions of healthcare quality and their definitions, quality metrics, accreditation and other benchmarking and evaluation methods; change management, project planning and team management; continuous improvement tools, including Lean, Six-Sigma, and TQM

Course Objectives
By the end of this course, students will be able to understand and apply concepts related to the following topics:

A: Definition and methodology: what do we mean by quality and how do we improve it?
(1) Definition of Process and Quality Improvement
(2) Measurements and Dashboards
(3) LEAN tools and practical applications of LEAN
(4) Statistical Process Control and 6σ tools and practical applications
(5) Data collection, cleaning and validation methods

B: Cultural, organizational and managerial challenges: how do we develop and maintain a culture of quality?
(6) Team and project management strategies
(7) Sustaining Improvements
(8) Building and maintaining a quality-centric culture
(9) Best practices regarding oversight

C: Personal and professional development: how does one become a successful practitioner of Q&PI in healthcare?
(10) Team work
(11) Effective communication (oral and written)
(12) Effective analysis and synthesis of complex domain knowledge
**Prerequisites**

There are no pre-requisites for this class.

**Textbook information**

Students are not required to purchase any textbook. Materials will be provided and sourced from a variety of books and periodicals.

**Assignments**

Assignments will comprise of reading and written assignments as well as a variety of other tools. All reading material will be provided by the instructor or be otherwise made readily available.

**Policies**

**Course Completion Requirements**

Completion of all required assignments, examination and projects with a grade of “C” or better is required.

- Presentation #1 15%
- Project #1 20%
- Presentation #2 20%
- Project #2 25%
- Class Participation 20%

Note that class participation includes quality and timeliness of assignments, quality of questions and comments during class presentations and participation in class discussions and activities.

**Grading Scale**

A (94-100); A-(90-93); B+(87-89); B(84-86); B-(80-83); C+(77-79); C(74-76); C-(70-73); D(60-69)

**Statement on plagiarism**

The work you do in this course must be your own. This means that you must be aware when you are building on someone else’s ideas—including the ideas of your classmates, your professor, and the authors you read—and explicitly acknowledge that you are doing so. Feel free to build on, react to, criticize, and analyze the ideas of others but, when you do, make it known whose ideas you are working with. If you ever have questions about drawing the line between others’ work and your own, ask me and I will give you clear guidance or you may visit Lehigh Library’s ‘Proper Use of Information’ page at [http://library.lehigh.edu/content/proper_use_information](http://library.lehigh.edu/content/proper_use_information)
Attendance

Attendance is strongly encouraged. Students available on campus are encouraged to notify the instructor (me) of missing a class, to avoid triggering an inadvertent Section III procedure to issue warnings.

Exams and Projects

There will be no exams. Instead, students will work in teams of 2-3 on four projects throughout the semester:

- Each team will select a topic of healthcare quality for further investigation. For each topic, the team will deliver two research presentations. Presentation #1 will explore the background of the issue, assessing its impact, and ways to measure it. Presentation #2 will delve into their designed quality intervention to avoid, solve, or address the issue under investigation. The presentations shall be delivered during class time (see schedule for details). Note that to the extent possible, special accommodations may be made for working professionals with conflicting schedules.

- The first project will consist of a case study analysis. The case study will be made available about one week before it is due (see schedule for details). Teams of 2-3 students will work together to address the questions of the case and they will submit one team report detailing their answer to the questions of the case.

- The second project will also consist of a case study analysis, with a stronger emphasis on statistics, data analysis and visualization. The case study will be made available several weeks before it is due (see schedule for details). Teams of 2-3 students will work together to address the questions of the case and provide analytical tools and support for their solutions.

Specific assignment prompts will be provided for each of the projects and presentations.

Late Papers or Missed Deadlines

Assignments are due on the assigned date set on Course Site. Late assignments may be assessed for partial (up to 50%) credit.

All projects are mandatory.
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Quality Management Philosophies, Models and Tools

Statistical Process Control Topics

Leadership for Quality

Course Overview & History of QPI in Healthcare

Definition of Quality

Project #2 Due

No Class, Thanksgiving Break

Project #1 Due

No Class, Pacing Break

10/16/2017

11/22/2017

12/16/2017

10/16/2017

10/12/2017

8/28/2017

9/1/2017

10/1/2017

11/1/2017

12/1/2017

9/1/2017

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Logistics

We will be using Course Site for discussion forums, class materials, assignments and submissions. There may be a variety of other opportunities for engagement in class, such as field trips, guest speakers or guest lecturers, announced appropriately.

Online students: We can use Google Hangouts (through Lehigh Gmail) or Zoom Web Conferencing to meet throughout the semester.

The Principles of Our Equitable Community:
Lehigh University endorses The Principles of Our Equitable Community http://www.lehigh.edu/~inprv/initiatives/PrinciplesEquity_Sheet_v2_032212.pdf. We expect each member of this class to acknowledge and practice these Principles. Respect for each other and for differing viewpoints is a vital component of the learning environment inside and outside the classroom.

Accommodations for Students with Disabilities:
If you have a disability for which you are or may be requesting accommodations, please contact both your instructor and the Office of Academic Support Services, University Center C212 (610-758-4152) as early as possible in the semester. You must have documentation from the Academic Support Services office before accommodations can be granted.