

ISE 471: Quality and Process Improvement in Healthcare

Ana-Iulia Alexandrescu

Instructor's Contact Information:

Office: Mohler Lab, # 389
Phone (o): 610 758 3865
Email: aia210@lehigh.edu
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 6 σ 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(60-6

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

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.

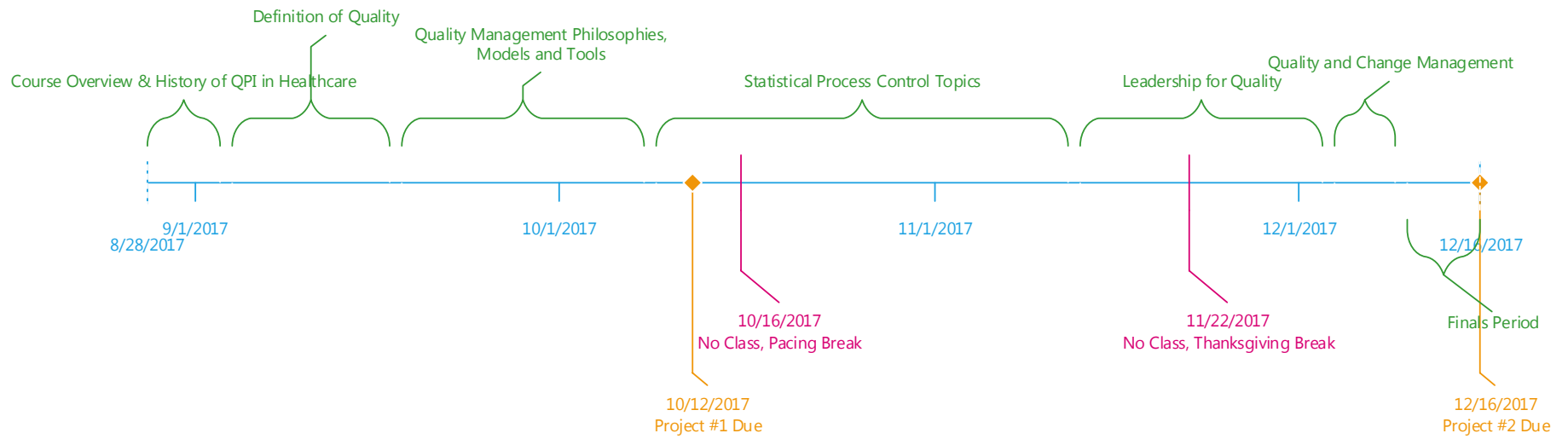
Late Papers or Missed Deadlines

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.

Schedule

Week #	Date	Lecture Topic	Presentation Topic
1	28-Aug	Course Overview	None
	30-Aug	History of Q&PI	
2	4-Sep	Definition of Quality	
	6-Sep		
3	11-Sep	Definition of Quality	Issue Background and Impact: Medication Errors at Home (Post-Discharge)
	13-Sep		Issue Background and Impact: Growth of Antibiotic Resistance
4	18-Sep	Quality Management	Issue Background and Impact: Patient Handoff - Transition from ED to Inpatient Care
	20-Sep	Philosophies, Models and Tools	Issue Background and Impact: Sterilization and Reprocessing of Medical Equipment
5	25-Sep	Quality Management	Issue Background and Impact: Quality Data Transparency and Reporting
	27-Sep	Philosophies, Models and Tools	Issue Background and Impact: Opioid Medication Overprescription
6	2-Oct	Quality Management	Issue Background and Impact: Behavioral Health Patients in the ED
	4-Oct	Philosophies, Models and Tools	Issue Background and Impact: Catheter Associated Urinary Tract Infections
	Project #1 Assigned - Due 10/12		
7	9-Oct	Statistical Process Control	Issue Background and Impact: Equitable Access to Preventive Health
	11-Oct	Topics	Issue Background and Impact: Information Handoff Across Continuum of Care
8	16-Oct	Pacing Break - No Class	
	18-Oct	Statistical Process Control Topics	Issue Background and Impact: Waiting for Care
9	23-Oct		Issue Background and Impact: Care for Congestive Heart Failure Patients
	25-Oct		Research and Interventions: Medication Errors at Home (Post-Discharge)
10	30-Oct		Research and Interventions: Growth of Antibiotic Resistance
	1-Nov		Research and Interventions: Patient Handoff - Transition from ED to Inpatient Care
11	6-Nov		Research and Interventions: Sterilization and Reprocessing of Medical Equipment
	8-Nov		Research and Interventions: Quality Data Transparency and Reporting
12	13-Nov	Leadership for Quality	Research and Interventions: Opioid Medication Overprescription
	15-Nov		Research and Interventions: Behavioral Health Patients in the ED
13	20-Nov		Research and Interventions: Catheter Associated Urinary Tract Infections
	22-Nov	Thanksgiving Break - No Class	
14	27-Nov	Leadership for Quality	Research and Interventions: Equitable Access to Preventive Health
	29-Nov		Research and Interventions: Information Handoff Across Continuum of Care
Project #2 Assigned - Due 12/16			
15	4-Dec	Quality and Change Management	Research and Interventions: Waiting for Care
	6-Dec		Research and Interventions: Care for Congestive Heart Failure Patients



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.