ISE 327 Six Sigma and Lean Operations
Fall Semester 2015
Tu,Th 3:30 - 4:50 pm
Room: VKC 206
Web Site: blackboard.usc.edu

Kurt Palmer
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Hours: W 10:30 am - 1:00 pm
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Objective: In this course, you will learn how to apply the 5-step DMAIC problem solving process, how to use basic statistical tools (cause and effect, Pareto, histogram, scatter plot) to identify the root cause of a problem, and how to use advanced statistical tools (measurement system analysis, regression, designed experiments, control charts) to confirm the effectiveness of a proposed problem solution. You will learn the organizational structure needed to manage a problem solving project. You will also learn five key principles that foster organizational excellence, and how to use basic organizational tools (Value Stream Map, A3 report, 5S, mistake proofing) that help in making these principles a part of daily activity.

Texts: Rath and Strong, Six Sigma Pocket Guide
Liker, The Toyota Way

Course Material: All assigned sections of the texts, plus topics discussed in lecture by the instructor

Grading Policies:

Points Breakdown -

Homework	90
Exam #1	100
Exam #2	160
Final Exam	150 .
Total	500

Course GRADES will be determined by the distribution of point totals for the class. "Natural groupings" will be used to assign letter grades. The highest scoring group will receive A's, the next group is the B's, and so on. A single point will not be the difference between any two letter grades. A "gap" must exist to create a grade boundary.

HOMEWORK assignments will be due on the following Thursdays:

September 3, 10; October 1, 8, 15; November 5, 12, 19; and December 3

Late homework will be accepted until noon on the Friday following the original due date. Each assignment is worth 10 points. Homework will be graded on an "all or nothing" basis. If a paper shows an acceptable answer to each assigned exercise, the grade for the assignment is 10 points. An answer to a qualitative exercise is acceptable if it is relevant to the issue. An answer to a quantitative exercise is acceptable if it uses approximately the correct method. If any exercise is unacceptable, the paper will be returned with no points awarded. Completions of returned assignments will be accepted for full credit until noon on the Friday after the assignment is returned to the class.

An EXAM will be given on each of the following dates:

Thursday, September 17 and Thursday, October 22

Each exam will cover the material presented up to and including the preceding homework assignment. Points will be assigned to each section of the exam. Partial credit will be awarded according to work shown. No re-takes will be allowed. No make-up exam will be given.

The FINAL EXAM is scheduled for **Tuesday, December 15, at 2:00-4:00**. It will cover material presented since the second midterm exam. Grading will be similar to the midterm exams.

Reading Assignments:

Week	Topic	Text Sections
1	History of Six Sigma	R&S: Chapter 1
2	Step 1: Define	R&S: Chapter 2
3	Step 2: Measure	R&S: Chapter 3
4	Step 3: Analyze Exam	R&S: Chapter 4
5	Step 3: Analyze (continued)	R&S: Chapter 4
6	Step 4: Improve	R&S: Chapter 5
7	Step 5: Control	R&S: Chapter 6
8	History of Lean Operations	L: Chapters 1-2
9	Providing Value for the Customer Exam	L: Chapters 3-5
10	Key Principle 1: Long-Term Approach	L: Chapter 7
11	Key Principle 2: Flow of Work	L: Chapters 8-10
12	Key Principle 3: Eliminate Waste	L: Chapters 11-14
13	Key Principle 4: Develop People and Partners	L: Chapter 15-17
14	Key Principle 5: Continuously Solve Problems	L: Chapters 18-20
15	Combining Tools and Philosophy	L: Chapter 21

Academic Integrity:

The Department of Industrial and Systems Engineering adheres to the University's policies and procedures governing academic integrity as described in SCampus. Students are expected to be aware of and to observe the academic integrity standards described in SCampus. Students should expect those standards to be enforced in this course.

Accomodations for Disabilities:

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to the instructor as early in the semester as possible. DSP is located in GFS 120 and is open 8:30 am - 5:00 pm, Monday through Friday. The phone number for DSP is (213)740-0776.