ISE 426 Statistical Quality Control

Kurt Palmer

Fall Semester 2014

Office: GER 205

M,W 3:30 - 4:50 pm

Hours: M,W 10:30 am - 12:00 pm

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Prerequisite: ISE 225 Engineering Statistics I

Objective: In this course, you will develop the skills necessary to decide whether or not bulk delivered services and products are of acceptable quality, to investigate the suitability of a process for performance of a given task, and to identify opportunities for immediate performance improvement. You will learn appropriate methods of data analysis using statistical software. You will also be introduced to the philosophy of quality management and briefed on the state of quality assurance initiatives in the international marketplace.

Text: Montgomery, Introduction to Statistical Quality Control, 7th edition

Course Material: primarily Parts 1, 3, and 6 of the text, plus topics discussed in lecture by the Instructor, see Reading Assignments below

Grading Policies:
    Points Breakdown -

Homework		120
Project		120
Exam #1		130
Exam #2		130 .
	Subtotal	500
Final Exam		150

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 Wednesdays:
September 10, 17, 24; October 8, 15, 22, 29; and November 12
Late homework will be accepted until noon on the Thursday following the original due date. Homework will be graded on an "all or nothing" basis. If a paper shows an answer to each assigned exercise that uses approximately the correct method, the grade for the assignment is 15 points. 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 Thursday after the assignment is returned to the class.

A PROJECT will be due on the following date:
Wednesday, December 3

The project will involve Measurement Capability Analysis and will require data collection during a laboratory session. For this project, you will work in pairs. The project assignment will be distributed about two or three weeks in advance of the due date.

An EXAM will be given on each of the following dates:
Wednesday, October 1 and Wednesday, November 5
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. If you miss an exam, you must take the final exam.

The FINAL EXAM is scheduled for **Monday, December 15 at 2:00-4:00**. It will be comprehensive and will be graded similarly to the other exams. A student may elect to omit the final exam, if both exams and the project have been completed.

Reading Assignments:

Week	Topic	Text Sections
1	Define Quality, Single Sampling	1.1, 15.1, 15.2
2	Double Sampling	15.3.1
3	Sampling Standards, Variables Plans	15.4, 15.5, 16.1
4	Variables Plans (cont.)	16.2, 16.3
5	Six Sigma, Basic Tools, Causes of Variation	2.1 thru 2.7, 5.4, 5.7, 5.2, 5.3.1
6	Control Chart Layout	5.3.2, 5.3.3, 5.3.4
7	Reading Control Charts	5.3.5, 5.3.6, 5.3.7, 6.2.4
8	Control Chart Construction	6.1, 6.2 (omit pp. 241-245, 247-250)
9	Chart of Individuals	6.4
10	Process Capability	8.1, 8.3, 8.4, 8.5
11	Measurement Capability	8.7.1, 8.7.2
12	Attribute Charts	7.2, 7.3.1, 7.3.2, 7.3.4, 7.3.5
13	Cusum and EWMA charts	9.1.1 thru 9.1.3, and 9.2.1 thru 9.2.4
14	Quality Management Deming, Juran, ISO 9000	Handouts

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 STU 301 and is open 8:30 am - 5:00 pm, Monday through Friday. The phone number for DSP is (213)740-0776.