Statistics 6640
Principles of Statistical Quality Control
3 semester hour course

TENTATIVE SYLLABUS

Prerequisites:  Stat 521 or Stat 6201 or Stat 623 or Stat 6302 or Stat 622 or Stat 6802 or equivalent

Exclusion:  Stat 664

Conversion Note:  A straight conversion from a 5 credit hour quarter course.

Text:  
Introduction to Statistical Quality Control, fifth edition, by Douglas C. Montgomery, (Wiley)

Course Goals
Statistics 6640 covers the basics of quality control including terminology, graphical techniques, a careful discussion of control charts, process capability studies, acceptance sampling, and selected additional material as time permits.

Topic List
1. Introduction and motivations
2. Graphical and numerical description of data
3. Important discrete and continuous distributions
4. Point estimation and hypothesis testing
5. One-sample and two-sample statistical inference
6. Methods and philosophy of statistical process control
7. Control charts for variables
8. Control charts for attributes
9. Process and measurement system capability analysis
10. Cumulative sum and exponentially weighted moving average control charts
11. Acceptance sampling for attributes
12. Acceptance sampling by variables