INDE 421: Statistical Quality Control
Autumn 2002

Instructor: Dr. Christina Mastrangelo
AERB 141C, 543-5439
mastr@u.washington.edu

Office Hours: 12:30-1:30pm MW or by appointment

Teaching Asst.: Qianmei Feng
MEB B14, fengqm@u.washington.edu

Office Hours: 1-2:30pm TTh


Prerequisite: Basic probability and statistics course, or permission of instructor.

Objective: To enable the student to 1) design and use statistical control charts, capability analysis and sampling, 2) apply statistics to quality problems, and 3) characterize variability and understand its effect.

Grading:
- Homework 30%
- Exams 35%
- Final 35%

Homework: Homework will be due on Fridays. Homework is due at the start of class on the date specified in the assignment. Exceptions to the time or format will be made only by requests prior to the due date or for true emergencies. Homework submitted late will be penalized. You will do better to submit an incomplete lab report or homework rather than a late one.

Exams: Exams are based entirely on classroom notes, readings, and homework. Each exam will contain a closed book section that covers important concepts. The final examination is cumulative.
INDE 421: Statistical Quality Control

Tentative Sequence of Course Topics and Schedule:
Autumn 2002

Sept. 30, 2002  Introduction to Course
Oct 2  Introduction to SQC
Oct 4  Statistical Concepts
Oct 7  Statistical Concepts
Oct 9  Control Charts for Variables
Oct 11  Control Charts for Variables
Oct 14  Control Charts for Variables
Oct 16  Rational Subgrouping
Oct 18  Case Study Discussion
Oct 21  Control Charts for Attributes
Oct 23  Control Charts for Attributes
Oct 25  Exam 1
Oct 28  Control Chart Lab
Oct 30  Control Charts for Attributes
Nov 1  Process Capability
Nov 4  Process Capability
Nov 6  Measurement System Capability
Nov 8  CUSUM Control Chart
Nov 11  No Class—Veteran’s Day
Nov 13  EWMA Control Chart
Nov 15  Exam 2
Nov 18  Other SPC Techniques
Nov 20  Other SPC Techniques
Nov 22  SPC with Correlated Data
Nov 25  Multivariate QC
Nov 27  Multivariate QC
Nov 29  No Class—Thanksgiving
Dec 2  Service Quality
Dec 4  Service Quality
Dec 6  Quality Standards
Dec 9  Acceptance Sampling
Dec 11  Comprehensive Review
Dec 17  Final Exam