

EIN 6176 Advanced Quality Management and Engineering for Business Processes

Instructor

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Teaching Assistant

TBA

Course Pre-Requisites

Introductory statistics or consent of instructor

Course Objectives

This course provides an introduction to statistical techniques used in the design, control and improvement of quality in processes with observable output variation. The course includes an introduction to design of experiments and response surface methods (if time permits).

Required Textbooks and Software

- “Introduction to Statistical Quality Control,” Wiley (2012) 7th Edition D. Montgomery
ISBN : 978-1-118-14681-1
A free online version of the 6th edition is available [here](#)
- Lecture notes, tutorials and sample problems (posted online)
- RStudio (a free and open-source integrated development environment (IDE) for R, which is a programming language for statistical computing and graphics)

Grading Policy

| | |
|-----------|-----|
| Exam-1 | 30% |
| Exam-2 | 30% |
| Homeworks | 40% |

Your grade will be based on two in-class exams and four sets homeworks.

Each homework will be due by a few days before the next lecture.

Exam/Homework grade disputes/inquiries must be made to the instructor within one week after grades are posted. Any grade dispute/inquiry after the specified

period will not be considered.

There may or may not be a curve at the end of the semester. This depends on the overall performance of the class throughout the semester.

| Grade | Range | Grade Points |
|-------|----------|--------------|
| A | [90-100] | 4.00 |
| A- | [87-90) | 3.67 |
| B+ | [83-87) | 3.33 |
| B | [80-83) | 3.00 |
| B- | [77-80) | 2.67 |
| C+ | [73-77) | 2.33 |
| C | [70-73) | 2.00 |
| C- | [67-70) | 1.67 |
| D+ | [63-67) | 1.33 |
| D | [60-63) | 1.00 |
| D- | [57-60) | 0.67 |

Course Schedule

| Lecture | Topic | Chapter |
|--------------------|--|---------|
| 1 (Aug. 5) | Introduction | |
| | Modeling Process Quality | 3 |
| | Inferences about Product Quality | 4 |
| 2 (Sept. 15-16) | Inferences about Product Quality | 4 |
| | Statistical Process Control | 5 |
| | Control Charts for Variables | 6 |
| 3 (Oct. 13-14) | Exam-1 | |
| | Control Charts for Attributes | 7 |
| | CUSUM & EWMA Control Charts | 9 |
| 4 (Nov. 10-11) | Process Capability Analysis | 8 |
| | Factorial Experiments for Process Design | 13 |
| | Acceptance Sampling | 15 |
| 5 (Dec. 1) | Exam-2 | |

Make-Up Policy

Excused absences require appropriate documentation.

If you missed an exam due to a health problem, you will need to provide documentation that indicates the date of the visit. A note indicating that you were seen at the health center the day of the exam is not sufficient documentation of a medically excused absence from an exam. The note must say that you were medically unable to take the exam.

Employment interviews, employer events, weddings, vacations, etc. are not excused absences.

Course Evaluation

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu/evals>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

University Honesty Policy

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."

The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments.

For more information, please see: <http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html>