

Course Syllabus

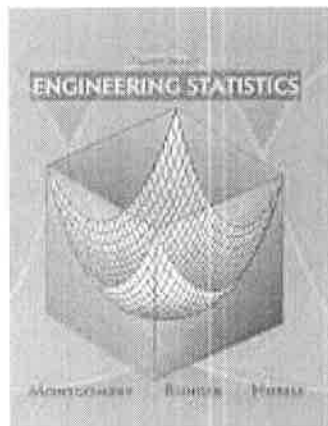
IEE 380: Probability and Statistics for Engineers Spring 2015 Syllabus

Instructor: Dr. Linda Chattin (linda.chattin@asu.edu)
Office/Phone: 526 BYENG
Office Hours: See "Office Hours" link on Bb
TAs: To Be Determined
TA Office Hours: See "Office Hours" link on Bb

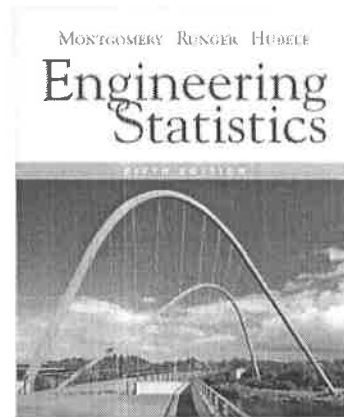
Materials: (Required) Wiley Plus registration (www.wileyplus.com) online textbook of "Engineering Statistics, 5th Ed." by Montgomery, Runger and Hubele

Go to WileyPlus.com, find IEE 380 under Arizona State and register for 117900, the on-campus line number.

(Optional) **Engineering Statistics, 4th or 5th Ed.**,
Montgomery, Runger and Hubele, John Wiley and Sons



or



Course Objectives

Students will:

- understand the differences between probability and statistics
- be able to recognize and use common discrete and continuous probability functions
- use sample statistics to draw inferences about a population of interest through hypothesis testing of means, variances and proportions
- build simple empirical models from data
- design simple experiments and analyze results
- understand and apply basic statistical process control charts and analyses

Material

- Chapter 1: The Role of Statistics in Engineering
- Chapter 2: Data Summary and Presentation (section 2-1, 2-3 only)
- Chapter 3: Random Variables and Probability Distributions (all, covered out of order)
- Chapter 4: Decision Making for a Single Sample (all)
- Chapter 5: Decision Making for Two Samples (all)
- Chapter 6: Building Empirical Models (6-1 through 6.4-1)
- Chapter 7: Design of Engineering Experiments (7-1 through 7-3)
- Chapter 8: Statistical Process Control (8-1 through 8-3)

Blackboard

You have all been enrolled into the Blackboard program for this course. All lecture slides, readings, homework, class schedules and solutions will be posted there.

Calculators

We will be doing probability and statistics computations using calculator functions. Most student use a TI-83, 84 or 89 but any will do. You will be responsible for learning how to use your own calculator via its manual or online videos.

Expectations

It is expected that you will

- Come to every class, on time
- Spend an average of one hour per day (6 -8 hours per week) reading the textbook, doing HW, and re-writing notes
- Bring statistical tables to class
- Make printouts of the slides and take notes on them while in lecture
- Refrain from texting
- Refrain from doing other online activities

Schedule

See the schedule posted to Blackboard. It contains

- (a) the material we will cover on each day
- (b) the readings and homework that are due
- (c) exam dates

You are expected to check the schedules and be responsible for the reading and homework assignments detailed therein. It is your responsibility to attend class and keep track of what is due and when.

Grading

Two averages will be run for each individual student. The higher average will be that student's average and will determine his/her final grade. Use the grade calculator on Bb to estimate what you need.

Average 1:

Lowest of Exam 1 and Exam 2	10%
Highest of Exam 1 and Exam 2	30%
Cumulative Final Exam	40%
Team Project	8%
On-Line Homework (lowest one is dropped)	12%

Average 2:

Exam 1	25%
Exam 2	25%
Cumulative Final Exam	30%
Team Project	8%
On-Line Homework (lowest one is dropped)	12%

There is no curve in this class. You are guaranteed a final grade per below (final average is X):

<u>Final Average Course grade</u>	
$X \geq 90$	A
$80 \leq X < 89$	B
$70 \leq X < 79$	C
$60 \leq X < 69$	D
$X < 60$	E

Grades are rounded up at .50. For example, and 89.5 is an A.

The +/- system may be used for those students whose averages are truly borderline at the end of the semester. (Borderline is defined to be an average that is within .5 of a higher grade).

There is a link on Bb, **Grade Computation**, which contains an Excel that you can use to estimate your final course average and course grade.

Exams

See the schedule for dates. There are multiple versions of each exam and a seating chart each time. All exams are multiple choice, with no partial credit.

Exam rules:

- **Cell phones must be put completely away in backpacks.** If your cell phone is seen on your lap or out in any way during an exam, you will be given a zero for the exam and reported for a violation of ASU's Academic Integrity Policy. Really, really.
- You will be able to bring two (2) 8.5" x 11" sheet of notes (both sides) to Exam 1 and Exam 2 and four (4) sheets to the Final Exam.

Last modified on 1/4/15

- You must bring copies of the tables to each exam.
- You MUST bring a calculator to each exam.
- You MUST bring photo ID to each exam.
- You may not be on-line during any exam.
- There will be a seating chart for each exam.
- There will be multiple versions of each exam.

If you miss an exam, there will be no make-up (see paragraph below) except in the event of an extreme circumstance such as death or hospitalization.

No exam will be given early. No exam will be given later.

A doctor's note from ASU Health Services is not an extreme circumstance.

Once a graded exam is returned, you will have one week to let me know of any grading problems with it, after that, the score will not be changed.

The Final Exam will be cumulative. That means it will cover everything we do in IEE 380.

ProctorU Exam Option

You will have the option of taking any exam in our regular classroom or at home. If you choose to take the exam at home, you will need to set up for and PAY for an appointment with ProctorU. To take the exam at home, you will need to be on a computer with a camera and audio. Each exam taken using ProctorU will cost you approximately \$20-\$25. The same exam rules apply, and you will be given an exam version identical to one that will be given in class. ProctorU will verify who you are through a set of data-mined questions about you from public information from the internet.

The advantages of taking your exam through ProctorU are (1) you are not packed into a classroom like a sardine, (2) you cannot be distracted by (literally) hundreds of students around you, (3) a possible reduction in test anxiety.

Extra Credit

There is never any extra credit in this class.

Make-Up Exams

There will be no make-up exams, even if you have a note from ASU's Health Services. You must have documentation of a provable extreme circumstance involving hospital admittance, death, dismemberment, or the like.

Discussion Boards

Do not email homework questions to TAs or the instructor.

There are forums for each HW on the *Discussion Board* tab in Blackboard. Post your HW question to the forum on Bb. While there, answer someone else's question that is posted there.

If you are unable to get a satisfactory answer on the forum after a day or so, see a TA or the instructor during office hours for help.

On-Line Homework

There will be no extensions on the homework due dates and time. Plan accordingly.

The homework due dates are in the schedule. There are approximately two homeworks due each week, on a Wednesday and on a Saturday. These frequent due dates are designed to help you keep up with the material and are intended to help you be successful in the course.

You may finish the homework problems at any pace you like; you can do a few problems, then come back to them at a later time or day. You may do them ahead of time. Just make sure you meet the deadline day and time. Each homework is due on the appointed day no later than 11:45 pm.

The lowest homework score for each student will be dropped. Each homework is worth the same weight, regardless of how many problems are on it. For example, a score of 4 out of 5 problems is 80% and a score of 28/35 is also 80%.

The on-line homework is located at www.wileyplus.com.

You get three chances to get the WHOLE homework problem correct (even if it is multi-part). That means you will need to try to get the right answer very quickly, or lose credit on the problem.

It is advised that you have your class notes and copies of the slides available when you do your homework.

It is also advised that you work with others on the homework so that you can teach to and learn from each other.

When an answer is correct, Wiley outlines it in GREEN. Incorrect has an outline of RED. You are encouraged to work on the homework with other students. You are not to simply copy each others' answers. Your ability to do the homework problems on your own is the best predictor of how you will do on the exams.

Honors Contract

If you are in the Barrett Honors College and would like to do an honors contract, go to the Honors Contract link on our IEE 380 Bb page and follow the directions.

Academic Integrity

Cheating, in any form, absolutely, positively will not be tolerated. If you cheat, I will report you to the Dean's Office with a recommendation that you receive an "E" in this class. ASU has very severe penalties for academic integrity violations. **Pay particular attention to letter B, below.**

Student Obligations to Academic Integrity

Each student must act with honesty and integrity, and must respect the rights of others in carrying out all academic assignments. A student may be found to have engaged in academic dishonesty if, in connection with any Academic Evaluation or academic or research assignment (including a paid research position), he or she:

- A. Engages in any form of academic deceit;
- B. Refers to materials or sources or uses devices (e.g., computer disks, audio recorders, camera phones, text messages, crib sheets, calculators, solution manuals, materials from previous classes, or commercial research services) not authorized by the instructor for use during the Academic Evaluation or assignment;
- C. Possesses, reviews, buys, sells, obtains, or uses, without appropriate authorization, any materials intended to be used for an Academic Evaluation or assignment in advance of its administration;
- D. Acts as a substitute for another person in any Academic Evaluation or assignment;
- E. Uses a substitute in any Academic Evaluation or assignment;
- F. Depends on the aid of others, including other students or tutors, in connection with any Academic Evaluation or assignment to the extent that the work is not representative of the student's abilities;
- G. Provides inappropriate aid to another person in connection with any Academic Evaluation or assignment, including the unauthorized use of camera phones, text messages, photocopies, notes or other means to copy or photograph materials used or intended for Academic Evaluation;
- H. Engages in Plagiarism;
- I. Uses materials from the Internet or any other source without full and appropriate attribution;
- J. Permits his or her work to be submitted by another person in connection with any Academic Evaluation or assignment, without authorization;
- K. Claims credit for or submits work done by another;
- L. Signs an attendance sheet for another student, allows another student to sign on the student's behalf, or otherwise participates in gaining credit for attendance for oneself or another without actually attending;
- M. Falsifying or misrepresenting hours or activities in relationship to an internship, externship, field experience, clinical activity or similar activity; or
- N. Attempts to influence or change any Academic Evaluation, assignment or academic record for reasons having no relevance to academic achievement.