IEE 380: Probability and Statistics for Engineers  
Spring 2014 Syllabus

Instructor: Dr. Linda Chattin  
Office: 526 BYENG  
Office Hours: Tuesday 1:30 – 3:30, Wednesday 12 – 2, Thursdays 1:30 – 3:30  
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Materials: (Required) Wiley Plus registration (www.wileyplus.com)  
(Optional) Engineering Statistics, 4th or 5th Ed., Montgomery, Runger and Hubele, John Wiley and Sons

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

Text

You do not need to purchase a hard copy text for this course unless you want to. You will be required to purchase access to Wiley Plus, an online homework site that also has the text available for you. Access to Wiley Plus will cost approximately $90. More about this on the first day of class.

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
All lecture slides, readings, homework, class schedules and solutions will be posted to Bb.

**In-Class Expectations**

You are expected to come to class on time, every time. Success in this course is highly correlated with lecture attendance. When you are in our classroom, it is expected that you will

- Bring statistical tables to class
- Keep laptops closed unless viewing course materials
- Refrain from texting
- Refrain from doing other online activities

**Outside of Class Expectations**

It is expected that you will spend at least 6 hours per week reviewing course slides, doing homework and reading the material.

**Schedule**

See the weekly schedules posted to Blackboard. Each will contain

(a) the material we will cover on each day  
(b) the readings and homework are due each day  
(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**

*Exam 1*  
*Exam 2*  
**Cumulative Final Exam**  
Team Project  
On-Line Homework (lowest one is dropped)

XX%  
XX%  
30%  
10%  
10%

*The LOWER of Exam 1 and Exam 2 will be worth 20% of your grade; the HIGHER of Exam 1 and Exam 2 will be 30% of your grade.

No exams are dropped.

**Exams**

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 three (3) 8.5” x 11” sheets of notes (both sides) to Exam 1 and Exam 2 and six (6) sheets to the Final Exam.
- You must bring copies of the tables to each exam unless otherwise noted.
- 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.

If you miss an exam, that is the exam that will have the 20% grade weighting. There are NO makeup exams in this course (see paragraph below) except in the event of an extreme, provable circumstance such as death or hospitalization. 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.

**Make-Up Exams**

No make-up exams will be given, even if you have a note from ASU’s Health Services. See above.

**Extra Credit**

There is no extra credit in this class.

**Discussion Boards**

There are forums for each HW on the Discussion Board tab in Blackboard. You are expected to post your HW difficulties there and to help each other. If you are unable to resolve your issue there, see the TA or me during office hours for help.

**On-Line Homework**

The HW due dates are in the schedule. Each HW is due on the appointed day no later than 11 pm. There will be no extensions on the HW, but the lowest score will be dropped. Each HW 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](http://www.wileyplus.com).

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.

**Guaranteed Grade Breakdown**

There is no curve in this class. The average grade is always a B-. A curve would mean setting B- to a C.

You are guaranteed a final grade per below (final average is X):

<table>
<thead>
<tr>
<th>Final Average</th>
<th>Course grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>X ≥ 90</td>
<td>A</td>
</tr>
<tr>
<td>80 ≤ X &lt; 89</td>
<td>B</td>
</tr>
<tr>
<td>70 ≤ X &lt; 79</td>
<td>C</td>
</tr>
<tr>
<td>60 ≤ X &lt; 69</td>
<td>D</td>
</tr>
<tr>
<td>X &lt; 60</td>
<td>E</td>
</tr>
</tbody>
</table>

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).
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 N, below.

Letter N means this: asking an instructor to raise your grade for any other reason than a computation error is a violation of this policy. Requests at the end of the semester asking me to do so will result in a report to the dean’s office that you have violated this policy.

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:

- Engages in any form of academic deceit;
- 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;
- 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;
- Acts as a substitute for another person in any Academic Evaluation or assignment;
- Uses a substitute in any Academic Evaluation or assignment;
- 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;
- 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;
- Engages in Plagiarism;
- Uses materials from the Internet or any other source without full and appropriate attribution;
- Permits his or her work to be submitted by another person in connection with any Academic Evaluation or assignment, without authorization;
- Claims credit for or submits work done by another;
- 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;
- Falsifying or misrepresenting hours or activities in relationship to an internship, externship, field experience, clinical activity or similar activity; or
- Attempts to influence or change any Academic Evaluation, assignment or academic record for reasons having no relevance to academic achievement.