## IEE 380: Probability and Statistics for Engineers

## Fall 2015 Syllabus

Instructor: Dr. Linda Chattin (linda.chattin@asu.edu)

Office/Phone: 526 BYENG 480-965-3811

Office Hours: See Bb

TAs: TBD

Materials: (Required) Wiley Plus registration ([www.wileyplus.com](http://www.wileyplus.com)) The online textbook is

on this site and so are your homework assignments that will be auto-graded.

**Go to WileyPlus.com, find IEE 380 under Arizona State and register**

**for our course line number, 78158. Do not register for the other one!**

(Optional) ***Engineering Statistics, 4th or 5th Ed.,***

Montgomery, Runger and Hubele, John Wiley and Sons

**Photos and Recordings**

You are **not** permitted to take photos of the board or to tape audio recordings of the lecture. If you do, you will be violating copyright law and could be in legal trouble for taking materials that are not yours.

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 statistical computations using calculator functions. Most students use a TI-83, 84, 89 or Inspire. You will need one that does probability and statistics functions. You are responsible for learning how to use your own calculator via its manual or online videos.

**In-Class Expectations**

You are expected to come to EVERY class ON TIME. Much of what is presented in class shows up on exams. When you are in our classroom, it is expected that you will

* Bring copies of the slides and take notes on them
* 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 90 minutes a day, 5 days a 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.

**Extra Credit**

There is no extra credit in this course.

**Grading**

Two averages will be computed for each student. You will receive the higher of the two averages to determine your final course grade.

Average 1:

\*Exams 1 and Exam 2 50%

Homework 10%

In Class Activities (lowest one dropped) 7%

Team Project 8%

Final Exam 25%

\*Your lowest of Exam 1 and Exam 2 will be weighted at 10%. The other exam will be weighted at 40%.

Average 2:

Exam 1 22.5%

Exam 2 22.5%

Homework 10%

In Class Activities (lowest one dropped) 7%

Team Project 8%

Final Exam 30%

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

*Final Average Course grade*

X > 90 A

80 < X < 89 B

70 < X < 79 C

60 < X < 69 D

X < 60 E

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).

### Exams

There will be no exams given early.

There will be no make-up 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 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.
* You must bring copies of the tables to each exam.
* You MUST bring a calculator to each exam.
* You MUST bring a photo ID to each exam. Get an ASU Sun Card if you don’t have one: https://cfo.asu.edu/cardservices-suncard
* 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, hospitalization, contagious illness, jail, or other extreme (and provable) circumstance.

No exam will be given early.

A doctor’s note from ASU Health Services or a medical clinic stating that you do not feel well 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 is cumulative. That means it will cover everything we do all session.

**Make-Up Exams**

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

**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 11:45 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.

### 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:

1. Engages in any form of academic deceit;
2. 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;
3. 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;
4. Acts as a substitute for another person in any Academic Evaluation or assignment;
5. Uses a substitute in any Academic Evaluation or assignment;
6. 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;
7. 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;
8. Engages in Plagiarism;
9. Uses materials from the Internet or any other source without full and appropriate attribution;
10. Permits his or her work to be submitted by another person in connection with any Academic Evaluation or assignment, without authorization;
11. Claims credit for or submits work done by another;
12. 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;
13. Falsifying or misrepresenting hours or activities in relationship to an internship, externship, field experience, clinical activity or similar activity; or
14. Attempts to influence or change any Academic Evaluation, assignment or academic record for reasons having no relevance to academic achievement.