

# IEE 380 Probability and Statistics for Engineering Problem Solving Online Syllabus

**Credits** 3

**Prerequisites** MAT 266

## **Text**

The text, *Engineering Statistics 5<sup>th</sup> Ed.* by Montgomery, Runger and Hubele, is online and paired with online homework. Purchasing this online text and homework access is mandatory. You may purchase a used copy of the 4<sup>th</sup> or 5<sup>th</sup> edition for your personal reference, but the Wiley Plus online text purchase is required.

You will be emailed directions on how to purchase the text about a week before the course begins. Total cost is approximately \$100.

## **Faculty**

**Name:** Dr. Linda Chattin

**Email address:** linda.chattin@asu.edu

**Phone:** (480) 965 - 3811

**Name:** Omar Madrigal, Teaching Assistant

**Email address:** omadrig3@asu.edu

**Office hours:** Arranged via email

***Important:** Direct all correspondence for the duration of this course to Omar Madrigal. While you will watch Dr. Chattin on the videos, it is the TA who will be running the course. He will forward any correspondence needing Dr. Chattin's attention to her directly.*

## **Catalog Description**

Applications-oriented course with computer-based experience using statistical software (Excel) for formulating and solving engineering problems.

## **Learning Outcomes**

At the completion of this course, students will be able to:

- 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

## Course Topics and Schedule

**The videos you watch for this course were taped in 2012. In the videos, you will hear me tell the *summer 2012* class that they can miss an exam and tell them that some material is not on an exam. THESE STATEMENTS ARE NOT APPLICABLE TO THIS ONLINE COURSE.**

**Information in this summer 2017 course from the TA, myself or the syllabus takes precedence. Information in the videos for that summer 2012 class may not be applicable to your course this summer. When in doubt, post your question to Piazza.**

For assignment and schedule, please go to the appropriate week on the left of our Bb page. All activities, lectures, HW and such are posted there.

### Grading

Two averages will be computed. You will receive the higher of the two:

Average 1:

Exam 1	20%
Exam 2	20%
Cumulative Final Exam	20%
Homework (lowest one is dropped)	17%
Weekly Quizzes	15%
Team Project	8%

Average 2:

*Exam 1	10%
*Exam 2	25%
Cumulative Final Exam	25%
Homework (lowest one is dropped)	17%
Weekly Quizzes	15%
Team Project	8%

\*Lowest score on Exam 1 and 2 is weighted at 10%. The other will then be 25%.

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

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

**Watching the videos is HIGHLY correlated with success in this course.** There are about 40 hours of video lecture which can be track from reports on Blackboard.

### Extra Credit

There is no extra credit in this course.

**Homework**

Homework is due on most Wednesdays and Sundays. The first 4 homework assignments will permit just one try per question.

The homework for Ch. 3 - Ch. 8 will permit you three tries per problem. The lowest homework assignment is dropped.

**Quizzes**

In weeks when there is no exam, there will be an online quiz that you will take through Blackboard. These quizzes are individual, meaning that no collaboration is permitted. You may, however, use your text, notes and videos while taking the quiz.

You may not post any question to Piazza about a quiz or consult others in the class while the quiz is active. After the quiz closes, you'll be able to see the questions you missed and discuss the answers on Piazza.

The quizzes are about the lecture videos and text. They are concept quizzes and will not require the use of a calculator at all. If you watch the videos, print the slides and take notes on the slides while watching the videos, you will do well on the quizzes.

Quizzes will have 10 questions and a time limit of 20 minutes. You must answer the question on screen before the next one is presented, and there is no going back to questions.

**Team Project**

You will be assigned to a team with 2-3 other people and prepare a short report of an analysis that will be given you.

## **Exams**

An online proctor service will be used, RPNOW. Regrettably, the incidence of online cheating is high enough that we need to ensure that

- (a) the person taking the exam is the person who is registered in the course
  - (b) the person taking the exam is not using multiple computers during an exam
  - (c) the person taking the exam is not using other people for help during the exam.
- You may have as many hand-written note sheets as you like for an exam, but they cannot be the notes you have taken on the slides. The notes must be only in your handwriting, with no Word or PowerPoint AT ALL. You will be asked to show these note sheets to the screen before taking the exam.
  - You may have a textbook window open during the exams.
  - Each midterm exam is 75 minutes long.
  - The final exam is 2 hours long.
  - Exam 1 covers Ch. 1, 2 and 3.
  - Exam 2 covers Ch. 4 and Ch. 5, with a few Ch. 3 problems (2-3).  
The Final Exam is cumulative, but about 50% weighted on Ch. 6, Ch. 7 and Ch. 8.
  - You will need a calculator for each exam.
  - There will be multiple versions of each exam.
  - The exams are comprised of 22 questions, 5 points each, no partial credit.
  - The exams are out of 110 points, but graded out of 100. You can score > 100 on any exam.
  - There is no partial credit given on any exam or quiz question.
  - There will be no make-up exams. Add the exam to your schedule and take it at the appointed time on the appointed day.

## **Computers and Calculators**

You may use any calculator that you like. I recommend the TI-83 or 84 or 89. Those are the most popular with the on-campus students I teach. You need to find the online manual for your calculator and use online videos to learn how to do the functions. There will be instruction on our class videos for TI-83 and 84. You are responsible for learning your own calculator.

The computer upon which you take your exams must have a camera so that RPNOW can video you during the exam. RPNOW will also take a video of your screen activity during exams.

## **Piazza Discussion Board**

We use Piazza for all class discussion, homework help, and general questions. You will all be auto-enrolled to our Piazza forum by the first day of class.

The system is designed to get your questions answered and to get you help fast and efficiently from classmates, the TA, and myself.

Rather than emailing course material questions to the teaching staff, we will direct you to Piazza so that all can benefit from the question and answer.

Email questions of a personal nature to your instructor or assigned TA. You can expect a response within 48 hours.

## Online Course

This is an online course. There are no face-to-face meetings. You can log into your course via MyASU or <https://my.asu.edu>.

## Email and Internet

ASU email is an [official means of communication](#) among students, faculty, and staff. Students are expected to read and act upon email in a timely fashion. Students bear the responsibility of missed messages and should check their ASU-assigned email regularly.

*All instructor correspondence will be sent to your ASU email account. If you have it forwarded elsewhere, you may miss important information. I suggest unforwarding your ASU email.*

## Course Time Commitment and Success Tips

**This is an intense course.** This course is not just an applied math class, but contains concepts that will be very new to most of you.

If you are taking this course during a 15-week fall or spring semester, expect to spend ~3 hours a week watching lectures and ~10 hours per week doing homework and reviewing your notes.

If you are taking this course during the 8-week summer session, expect to spend ~6 hours per week watching videos and ~20 hours per week doing homework and reviewing your notes.

You have an advantage as an online student over an on-campus student: you have the ability to watch a lecture as many times as you want. If you don't understand something or don't understand a homework problem, open up the video for that material and watch that lecture (or lecture portion) again!

Students who attempt to complete the course without watching the lectures (or rarely watching them) do not do well. As incentive, the weekly quizzes focus on material and concepts presented in the video lectures.

Print out the lecture slides and take notes on them as you watch.

## Late or Missed Assignments

Notify the instructor **BEFORE** an assignment is due if an urgent situation arises and the assignment will not be submitted on time. Published assignment due dates (Arizona Mountain Standard time) are firm. Please follow the appropriate University policies to request an [accommodation for religious practices](#) or to accommodate a missed assignment [due to University-sanctioned activities](#).

## Submitting Assignments

All assignments, unless otherwise announced, **MUST** be submitted to the designated area of Blackboard. Do not submit an assignment via email.

## Drop and Add Dates/Withdrawals

This course adheres to a compressed schedule and may be part of a sequenced program, therefore, there is a limited timeline to [drop or add the course](#). Consult with your advisor and notify your instructor to add or drop this course. If you are considering a withdrawal, review

the following ASU policies: [Withdrawal from Classes](#), [Medical/Compassionate Withdrawal](#), and a [Grade of Incomplete](#).

### **Grade Appeals**

Grade disputes must first be addressed by discussing the situation with the instructor. If the dispute is not resolved with the instructor, the student may appeal to the department chair per the [University Policy for Student Appeal Procedures on Grades](#).

### **Student Conduct and Academic Integrity**

Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions and records. The possible sanctions include, but are not limited to, appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty (indicated on the transcript as a grade of XE), loss of registration privileges, disqualification and dismissal. For more information, see <http://provost.asu.edu/academicintegrity>.

Additionally, required behavior standards are listed in the [Student Code of Conduct and Student Disciplinary Procedures](#), [Computer, Internet, and Electronic Communications policy](#), and outlined by the [Office of Student Rights & Responsibilities](#). Anyone in violation of these policies is subject to sanctions.

[Students are entitled to receive instruction free from interference](#) by other members of the class. An instructor may withdraw a student from the course when the student's behavior disrupts the educational process per [Instructor Withdrawal of a Student for Disruptive Classroom Behavior](#).

Appropriate online behavior (also known as *netiquette*) is defined by the instructor and includes keeping course discussion posts focused on the assigned topics. Students must maintain a cordial atmosphere and use tact in expressing differences of opinion. Inappropriate discussion board posts may be deleted by the instructor.

The Office of Student Rights and Responsibilities accepts [incident reports](#) from students, faculty, staff, or other persons who believe that a student or a student organization may have violated the Student Code of Conduct.

### **Prohibition of Commercial Note Taking Services**

In accordance with [ACD 304-06 Commercial Note Taking Services](#), written permission must be secured from the official instructor of the class in order to sell the instructor's oral communication in the form of notes. Notes must have the notetaker's name as well as the instructor's name, the course number, and the date.

### **Course Evaluation**

Students are expected to complete the course evaluation. The feedback provides valuable information to the instructor and the college and is used to improve student learning. Students are notified when the online evaluation form is available.

### **Syllabus Disclaimer**

The syllabus is a statement of intent and serves as an implicit agreement between the instructor and the student. Every effort will be made to avoid changing the course schedule but the possibility exists that unforeseen events will make syllabus changes necessary. Please remember to check your ASU email and the course site often.

### **Accessibility Statement**

In compliance with the Rehabilitation Act of 1973, Section 504, and the Americans with Disabilities Act as amended (ADAAA) of 2008, professional disability specialists and support staff at the Disability Resource Center (DRC) facilitate a comprehensive range of academic support services and accommodations for qualified students with disabilities.

[Qualified students with disabilities may be eligible to receive academic support services and accommodations.](#) Eligibility is based on qualifying disability documentation and assessment of individual need. Students who believe they have a current and essential need for disability accommodations are [responsible for requesting accommodations and providing qualifying documentation](#) to the DRC. Every effort is made to provide reasonable accommodations for qualified students with disabilities.

Qualified students who wish to request an accommodation for a disability should contact the DRC by going to <https://eoss.asu.edu/drc>, calling (480) 965-1234 or emailing DRC@asu.edu. To speak with a specific office, please use the following information:

<b>ASU Online and Downtown Phoenix Campus</b> University Center Building, Suite 160 602-496-4321 (Voice)	<b>Polytechnic Campus</b> 480-727-1165 (Voice)
<b>West Campus</b> University Center Building (UCB), Room 130 602-543-8145 (Voice)	<b>Tempe Campus</b> 480-965-1234 (Voice)

### Computer Requirements

This course requires a computer with Internet access and the following:

Web browsers ([Chrome](#), [Internet Explorer](#), [Mozilla Firefox](#), or [Safari](#)), [Adobe Acrobat Reader](#) (free), [Adobe Flash Player](#) (free), Microphone (optional) and speaker

### Technical Support

This course uses Blackboard to deliver content. It can be accessed

through MyASU at <http://my.asu.edu> or the Blackboard home page at <https://myasucourses.asu.edu>

To monitor the status of campus networks and services, visit the System Health Portal at <http://syshealth.asu.edu/>.

To contact the help desk call toll-free at 1-855-278-5080.

### Student Success

This is an online course. This is a difficult course and requires more time than other courses you have taken. To be successful:

- check the course daily
- read announcements
- spend ~90 min a day, 5 days a week watching videos, reading the book, taking notes, and doing homework
- print out the lecture slides and take notes on them while you watch the videos
- read and respond to course email messages as needed
- complete assignments by the due dates specified
- communicate regularly with your instructor and peers
- create a study and/or assignment schedule to stay on track