

Statistics 3450
Basic Statistics for Engineers
Autumn 2015 Syllabus

Instructor: Sean O'Neill
Office: CH 229 (Cockins Hall)
Website: Carmen

Email: oneill.90@osu.edu
Office Hours: W F 3:00 PM- 3:50 PM
Software: To be determined

Course Description

The course provides an introduction to probability and statistics targeted toward students studying mechanical engineering. Topics covered include probability, random variables, the normal and binomial distributions, confidence intervals for means, hypothesis tests for means, multi-factor experiments and experiments with blocking. A more detailed list of topics can be found below.

Assumed Background Knowledge and Prerequisites

Calculus, integration, exponential function, finite and infinite sums, union and intersection of sets. Prerequisite courses are Math 1152 (153), 1161.xx, 1172 (254), or 1181.

Enrollment

ADD and SECTION CHANGES will be processed (if space is available) starting at 7:00 am on Tuesday, January 19th on a first-come, first-served basis in room 408A Cockins Hall. The instructor does not sign any add or section change forms; these must be taken to 408A Cockins Hall for a signature.

Textbook

Principles of Statistics for Engineers and Scientists by William Navidi. The book is available on reserve in the Science and Engineering Library.

College of Arts and Sciences GEC Statement:

Statistics 3450 is GE course in Data Analysis. The goals and expected learning outcomes are:

Goals: Students develop skills in drawing conclusions and critically evaluating results based on data.

Expected Learning Outcomes: Students understand basic concepts of statistics and probability, comprehend methods needed to analyze and critically evaluate statistical arguments, and recognize the importance of statistical ideas.

Homework

There will be approximately 8 graded homework assignments throughout the quarter. The due dates for the assignments will be announced in class and on Carmen. Homework must be turned in in class on the due date (NO EXCEPTIONS). You must show your work for all homework problems; do not just write the final answer.

Exams

Two midterm exams will be given in class. The first will be on February 17th and the second on April 1st. For each test, you will be permitted one sheet of 8.5" x 11" paper with whatever handwritten facts, formulas or explanations you find helpful may be brought to each midterm exam (both sides of the paper may be used). The final exam date and time are yet to be determined. Two 8.5" x 11" sheets of paper (same rules as above) may be brought to the final. The final exam will be cumulative with a slight emphasis on the material covered after the second midterm. A calculator should also be brought to all exams (no cell phone calculators or PDAs).

Full credit for each homework or exam problem can only be earned through showing your justification for or work on each problem. Answers without work will **not** receive full credit.

Grading

The final course grade will be based on:

Homework (excluding your lowest score)	25%
Midterm 1 (February 17 th)	20%
Midterm 2 (April 1 st)	20%
Final Exam (To be determined)	35%

Final course grades will be assigned based on the following scale:

A 93-100	B+ 87-89	C+ 77-79	D 60-69
A- 90-92	B 83-86	C 73-76	E Below 60
	B- 80-82	C- 70-72	

Study Rooms and Help Hours

Our TAs hold office hours in the Mathematics and Statistics Learning Center in Cockins Hall starting the second week of classes. The hours during which Stat 3450 TAs will be available will be posted at <http://www.mslc.ohio-state.edu/> shortly after the start of the semester.

Academic Misconduct

Please help maintain an academic environment of mutual respect and fair treatment. You are expected to produce original and independent work on the exams. Although students are often encouraged to work together on homework assignments, all students must submit their own work in their own words. It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term academic misconduct includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). Academic misconduct will not be tolerated and will be dealt with procedurally in accordance with university policy, which can be found at <http://oaa.osu.edu/coam.html>. The Code of Student Conduct is available at <http://studentaffairs.osu.edu/csc/>.

Communication Devices

Cell phones, PDAs and other communication devices must be either turned off or put on vibrate during class. Please refrain from texting during class as a courtesy to those sitting around you. All electronic devices other than a calculator must be shut off and put away during examinations.

E-mail Correspondence

In order to protect your privacy, all course e-mail correspondence must be done through a valid OSU name.nn account. If you have not activated your OSU email account, you can activate your account at <https://acctmgmt.service.ohio-state.edu/cgi-bin/KRB1EntryAdd>.

Advice

1. A tentative lecture schedule is given later in this syllabus. Please give a first reading to scheduled text sections *before* the lecture that covers that material.
2. The course moves rather quickly. If you are having difficulty, please get help as soon as possible. Homework assignments can be very difficult if you wait until the last minute before trying any problems.
3. It is important that you provide sufficient detail in writing up solutions to the problems for grading. It is also important that your solutions be presented neatly in a clear, easy to read and follow format. No credit will be given for work that is too sloppy or difficult to read.
4. You may wish to photocopy your homework before turning it in around exam time. Graded assignments due immediately before an exam might not be returned before the exam (however

solutions will be provided so that you can compare your work with them).

5. If you have a regrade request on any homework assignment or midterm, you must put your request in writing and turn it in, along with your original paper, within one week of the date the paper was first returned to class. If you are absent the day a graded paper is first returned to the class, it is your responsibility to come to me to get it in less than a week if you want to have a regrade option available to you.

Addressing Issues of Differing Abilities

All students who feel they may need accommodations based on the impact of a disability should contact the instructor privately to discuss their specific needs. Students with documented disabilities must also contact the Office of Disability Services (ODS) in 150 Pomerene Hall (phone: 292-3307) to coordinate reasonable accommodations for the course. ODS forms must be given to the instructor as early in the quarter as possible.

Drop Date

The last day to drop the course without a 'W' appearing on your record is Friday, February 6th.

Receiving an 'I' for the Course

You cannot receive an incomplete for the course unless 65% of the work in the course has been completed. Extenuating circumstances will be handled on a case-by-case basis.

Note

This syllabus and the following course schedule are subject to change.

Schedule

Wednesday	Friday
JAN13: Intro	JAN15: 3.1
JAN20: 3.2	JAN22: 3.3
JAN27: 3.3	JAN29: 3.3
FEB3: 3.3	FEB5: 3.4
FEB10: 4.1	FEB12: 4.3
FEB17: Midterm 1 (Through 4.1)	FEB19: 4.7
FEB24: 4.8	FEB26: 5.1, 5.2
MAR2: 5.2	MAR4: 5.4
MAR9: 6.1	MAR11: 6.2, 6.6
MAR16: NO CLASS	MAR18: NO CLASS
MAR23 6.4	MAR25: 6.7
MAR30: 7.3	APR1: Midterm 2 (Though CH 6)
APR6: 9.1	APR8: 9.3
APR13: 9.4	APR15: 9.5
APR20: Supplemental	APR22: Supplemental
FINAL EXAM TBD	