

INTRODUCTION TO PROBABILITY AND STATISTICS FOR ENGINEERS

Stat 3470 – Autumn 2014 Syllabus

Instructor: Dr. Omer Ozturk
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Office Hours: MW 2:00– 3:00 p.m.
Or by appointment
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Course Meets: MWF 12:40-1:35 at MP 1015

Text: *Probability and Statistics for Engineering and the Sciences* (8th edition), by Jay Devore
Course Notes: Print from course web site
Optional: *Student Solutions Manual for Probability and Statistics for Engineers and Scientists*

Website: Please visit carmen.osu.edu

Software: We will use Minitab in class. If you would like to rent or buy a copy of Minitab, please see <http://www.onthehub.com/minitab/> for information. Note that Minitab is only available for PCs, not for Macs. Minitab is also available at all Student Computer Centers (see <http://lt.osu.edu/locations-hours/> for information). While we will use Minitab in class, you can use whatever statistical package you would like for your homework. If you would prefer to use another statistical package, that is fine (note that Excel is NOT a statistical package).

Text data: Data from the text can be found at the text's companion site, which can be found at the course website and in the link http://www.wadsworth.com/cgi-wadsworth/course_products_wp.pl?fid=M20b&product_isbn_issn=9780538733526&token= You can download the data sets in whatever format you like.

Course Objectives: The course covers an introduction to probability, discrete and continuous random variables, probability distributions, expected values, sampling distributions, point estimation, confidence intervals, hypothesis testing and simple linear regression models. Students are responsible for all material covered in class, in the assigned readings, and in homework problems.

Homework: There are a total of 10 homework assignments, which are due at various times during the semester. Homework exercises will be given in class and posted on Carmen. The tentative due dates are listed at the end of the syllabus. Homework will consist of two parts: *assigned* exercises that will be graded and *suggested* exercises to be used for additional practice. Solutions to both the *assigned* and *suggested* exercises will be posted on Carmen.

Homework must be turned in **by 5:00 PM** on the due date. You may submit homework in class (**preferred**) or put it in the Stat 3470 drop box outside 413 Cockins Hall. The drop box is on the left side of the door. When putting homework in the drop box, make sure that the course name (3470), my name, and your grader's name are on your homework. Failure to put the grader's name on an assignment put in the drop box or putting your homework in the wrong box may result in a lost assignment, as there are many students and classes that use the same boxes. All homework must be stapled. **No late assignments will be accepted.** I will, however, drop your lowest homework score.

Exams: There will be two exams during the quarter as well as a two-hour final exam. The final exam will be comprehensive with a slight emphasis on those topics covered *after* the second midterm. Dates are

listed at the end of the syllabus. No make-up exams will be given unless you have made arrangements with me *prior to* the beginning of the exam. One 8.5 x 11 inch sheet of paper (front and back), with whatever facts, formulas, or explanations you find helpful, may be brought to each in-quarter exam. Two sheets of paper (as described for the in-quarter exams) may be brought to the final exam.

Full credit policy: 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.

Final Grade:

Your final course grade will be based on the following weighting of assessment components:

Homework	20%
Exam 1	25%
Exam 2	25%
Final exam	30%

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

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

Student Responsibility: You are responsible for your own learning. I am here solely to facilitate your learning and understanding of the discipline of statistics. I will help you as much as I can, but learning the material is ultimately up to you. This includes:

- attending class meetings or getting assignments and notes from others if you miss class;
- asking questions when you have them, either in class or out of class;
- doing the assigned homework on time and participating in class; and
- contacting me if you are having difficulties.

Study Rooms and Help Hours: Our TAs hold office hours in 134 Cockins Hall starting the second week of classes. You are welcome to talk with any TA in the tutor room any time the tutor room is open. Specific hours for the tutor room will be posted on Carmen.

Calculators: A calculator (with statistical functions) may be used for homework and exams. No cell phone calculators will be allowed during exams. (Note: This also applies to PDAs and other communication devices with calculator functions.)

College of Arts and Sciences GEC Statement:

Statistics 3470 is a Data Analysis course in the Quantitative and Logical Skills category of the GEC.

The goals and objectives for this category are:

Goals/Rationale: Courses in quantitative and logical skills develop logical reasoning, including the ability to identify valid arguments, use mathematical models, and draw conclusions based on quantitative data.

Learning Objectives:

Data Analysis. 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.

Academic Misconduct: Please help us to maintain an academic environment of mutual respect, fair treatment, and personal growth. You are expected to produce original and independent work for exams. Although students are often encouraged to work together on homework assignments, all students must submit their own written work in their own words. Academic misconduct **will not be tolerated** and will

be dealt with procedurally in accordance with University Rule 3335-31-02. (This policy can be found at <http://oaa.osu.edu/procedures/1.0.html>.)

Communication devices: Cell phones, PDAs, and other communication devices must be either turned off or put on vibrate during class, as these devices ringing during class disrupt the learning process. Additionally, no cell phones, PDAs, or other communication device will be allowed on any exams in the course.

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://acctmgt.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 your instructor as early in the quarter as possible to be filled out and returned to you.

Course Admission and Section Changes: ADD and SECTION CHANGES handled by our department staff after BRUTUS closes. Students should go to 408A Cockins Hall and speak with Jean Scott, beginning 7:00am Tuesday, September 2. The instructor does not sign paperwork associated with course registration.

Course policy on unpaid fees and students not registered: If your fees are unpaid or if you are not officially registered for the course, you should not be attending class. Students with unpaid fees at the time of the first exam need to talk to me as soon as possible in order to continue their attendance. Students who are not registered in the course need to work out their registration issues in order to continue their attendance.

Drop dates: The last day to drop the course without a 'W' appearing on your record is Friday, September 19. The last day to drop the course without petitioning is Friday, October 31.

Receiving an ‘I’ for the course: You cannot receive an incomplete for the course unless 70% of the work in the course has been completed. Extenuating circumstances will be handled on a case-by-case basis.

Tentative Course Schedule – Autumn 2014 Stat 3470

M	August 25	No class	M	Oct 20	Section 6.1
W	August 27	Intro and Sect. 2.1	W	Oct 22	Section 6.2
F	August 29	Section 2.2	F	Oct 24	Section 6.2
M	Sept 1	No class	M	Oct 27	Section 7.1
W	Sept 3	Section 2.3	W	Oct 29	Section 7.2
F	Sept 5	Section 2.4	F	Oct 31	Sections 7.2
M	Sept 8	Section 2.5	M	Nov 3	Section 7.3
W	Sept 10	Section 3.1	W	Nov 5	Section 8.1
F	Sept 12	Sections 3.2	F	Nov 7	Section 8.2
M	Sept 15	Sections 3.3,	M	Nov 10	Section 8.3
W	Sept 17	Section 3.4	W	Nov 12	Section 8.4
F	Sept 19	Section 3.6	F	Nov 14	Section 14.1
M	Sept 22	Section 4.1	M	Nov 17	Midterm II
W	Sept 24	Section 4.2	W	Nov 19	Sections 12.1, 12.2
F	Sept 26	Section 4.3	F	Nov 21	Section 12.2
M	Sept 29	Section 4.4	M	Nov 24	Section 12.3
W	Oct 1	Section 5.1	W	Nov 26	No class
F	Oct 3	Section 5.2	F	Nov 28	No class
M	Oct 6	Chapter 1	M	Dec 1	Section 12.4
W	Oct 8	Section 5.3	W	Dec 3	Section 13.1,13,2
F	Oct 10	Section 5.4	F	Dec 5	Section 13.4
M	Oct 13	Section 5.4	M	Dec 9	Section 13.4
W	Oct 15	Midterm I			
F	Oct 17	Section 6.1			

Final Exam: Wednesday, December 17 at 12:00pm
Exam Dates

Exam 1: Wednesday, October 15, in lecture

Exam 2: Monday, November 17, in lecture

Final Exam: Wednesday, December 17 at 12:00 PM, in lecture room

Homework Assignments and Tentative Due Dates

HW	Due Dates	Topics Covered
1	Friday, Sept 5	Sections 2.1-2.3
2	Wednesday, Sept 10	Sections 2.4-2.5
3	Wednesday, Sept 17	Sections 3.1,3.2,3.3
4	Wednesday, Sept 24	Sections 3.4, 3.6, 4.1
5	Monday, Oct 6	Sections 4.2-4.4, 5.1,5.2
6	Monday, Oct 13	Chapter 1, Sections 5.3,5.4
7	Friday, Oct 24	Sections 6.1, 6.2
8	Wednesday, Nov 5	Sections 7.1-7.3
9	Friday, Nov 14	Sections 8.1-8.4, 14.1
10	Friday, December 5	Sections 12.1-12.4,13.1-13.2,13.4

