Instructor: Daryl Swartzentruber
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Office Hours (Cockins Hall 217):
Monday 9:30-10:30
Thursday 12:30-2:30
Or by appointment

Tutoring: Free tutoring is available in the MSLC, Cockins Hall room 122. I will post a schedule of tutor hours on Carmen.

Course Description: Introduction to probability, Bayes' theorem; discrete and continuous random variables, expected value, probability distributions; point and interval estimation; hypothesis tests for means and proportions; least squares regression

General Education (GE) Requirement: This course satisfies the GE requirement in Data Analysis.
- 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.

Prerequisite: MATH 1152, 1161.xx, 1172, 1181H, 153, or 254, or equivalent.

Textbook: The WebAssign electronic homework system includes access to the course textbook in ebook format. The course textbook is: **Probability and Statistics for Engineering and the Sciences (9th edition), by Jay Devore**. There are three purchasing options. You only need to choose ONE of these options.
- WebAssign only (which includes the textbook in eBook format)
- WebAssign and Hard Copy Textbook
- Cengage Unlimited, which is a digital subscription provided by the course textbook publisher. The university bookstore lists a one-semester subscription for this course, but a 12-month subscription is also available. With Cengage Unlimited, you can access any Cengage materials you are using across all of your courses and a library of over 22,000 ebooks, study guides and reference materials. (The course textbook is one of these ebooks) You can rent a print book of the STAT 3470 textbook (for an extra fee) when you activate the WebAssign course for STAT 3470. You may also purchase a looseleaf version of the STAT 3470 textbook (for an extra fee), which you can keep. When your subscription ends, you can choose up to six ebooks to retain in your virtual locker for an additional 12 months.

Log into WebAssign by following https://www.webassign.net/osu/login.html. If you have any trouble, consult the Quick Start Guide at https://www.webassign.net/manual/WA_Student_Quick_Start.pdf. or contact Webassign Customer Support at https://www.webassign.com/support/student-support/.

Website: The course website is carmen.osu.edu; please check it regularly. On the site you will find announcements, the syllabus, solutions to the exams, and exam grades (NOTE: The gradebook on Carmen is just that – a gradebook. It is used solely as a place to record your grade and the default Carmen overall grade is not necessarily correct; as such, it should be ignored.)

Attendance/TopHat: I will use TopHat to keep attendance and gain feedback during class. It is required to bring a portable device (e.g. tablet, cell phone, laptop) to the classes to access the TopHat classroom participation system. Please, go to the TopHat Home page (https://tophat.com/) and either login (https://app.tophat.com/login) or signup for an account (https://app.tophat.com/register/), which is free for students at The Ohio State University. I have connected it with Carmen so you should not need a join code, but if you do the join code for our class is **314831**. For full credit under attendance/participation, you are required to complete at least 80% of TopHat activities, but attendance at all lectures is highly recommended.

Email Correspondence: In order to protect your privacy all email correspondence must be done through a valid OSU name.# account; any email from a non-osu.edu account will be ignored. Please make sure to include "STAT 3470" in the subject line. You can also contact me through Carmen.

Evaluation:

Homework	18%
Attendance/Participation	2%
Exam 1 (Friday, October 4)	25%
Exam 2 (Friday, November 8)	25%
Final Exam (Friday, December 6, 12:00-1:45)	30%

Homework will be administered via WebAssign. Given the nature of WebAssign, your homework grade will be determined as follows: If you earn an overall grade in the interval $(x - 10, x]$ then your grade will be x where $x = 100, 90, 80, \ldots, 10$; if you earn a 0 then you'll receive a 0. Late homework will not be accepted.

The dates for the exams are tentative and I reserve the right to change the dates of any and all exams; at least one week of notice will be provided in case of a change. The exams are closed book. For each exam (including the final), you will be permitted one sheet of 8.5" x 11" handwritten paper with formulas/notes/examples (both sides of the paper may be used). Please note that solutions, not answers, will be graded; a correct answer alone will not get full credit if the steps leading to it are not clear and/or correct.

As the exams take place during normal class periods, make-up exams will not be given except in case of an emergency or due to conflicts with other university activities. If for some reason you are unable to make the exams, please contact me as soon as possible. Late requests may be denied.

If you find a discrepancy in the grading of your exam (e.g., incorrect addition/subtraction, correct answer marked incorrect, etc.) then you must bring it to my attention (either in person or through email/Carmen) no later than two weeks from the day the exams are returned. After that no grade will be changed for any reason whatsoever.

The grading scale will be no harsher than the following scale:

A	A-	B+	B	B-	C+
[93,100]	[90,93)	[87,90)	[83,87)	[80,83)	[77,80)
C	C-	D+	D	E	
[73,77)	[70,73)	[67,70)	[60,67)	[0,60)	

Calculators: Please note that at no time will you be permitted to share a calculator with another student or use any internet enabled device (e.g., a cell phone) as a calculator.

Recording of Class: Audio, video, and photographic recording of class content (e.g., lectures) is strictly prohibited without written authorization from the instructor. The transmission or sharing of all course content onto public, commercial, or social media sites is strictly prohibited.

Accommodation: The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. You are also welcome to register with Student Life Disability Services to establish reasonable accommodations. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. (**SLDS contact information:** slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.)

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 and homework. Although students are often encouraged to work together on homework assignments, all students must submit their own written 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). For additional information, see the Code of Student Conduct at http://studentlife.osu.edu/csc/.

Final Comment: It is crucial that we have a mutual respect for one another as members of the OSU community and that we conduct ourselves accordingly. My responsibilities include coming to class prepared to teach you statistics, giving clear lectures, assigning carefully chosen homework problems that are relevant to our course, and carefully preparing exam questions that accurately measure your progress in the course. Additionally, I am responsible to be available to you outside of class for consultation in office hours and by appointment. If at any point you feel that I am not fulfilling my responsibilities as stated please let me know. Likewise, I expect you to come to class motivated to learn the material. This involves reading the material ahead of time, promptly starting the homework assignments, and seeking additional help before it is too late**.** Ultimately, you are responsible for your university education and what you take from it.

Tentative Schedule:

#	Date	Topic	Textbook Sections
1	Wed. 8/21	Introduction/Syllabus, Review Material	1.1-1.4
2	Fri. 8/23	Sample Spaces and Events, Probability	2.1, 2.2
3	Mon. 8/26	Counting, Conditional Probability	2.3, 2.4
4	Wed. 8/28	Independence and Random Variables	2.5, 3.1
5	Fri. 8/30	Probability Distributions for Discrete Random Variables	3.2
	Mon. 9/2	**Labor Day, No Class**	
6	Wed. 9/4	Expected Values (and Variance)	3.3
7	Fri. 9/6	Binomial Probability Distributions	3.4
8	Mon. 9/9	Poisson Probability Distributions	3.6
9	Wed. 9/11	Probability Density and Cumulative Distribution Functions	4.1,4.2
10	Fri. 9/13	Expected Values revisited	4.2
11	Mon. 9/16	The Normal Distribution	4.3
12	Wed. 9/18	The Exponential and Gamma Distributions	4.4
13	Fri. 9/20	Jointly Distributed Random Variables	5.1
14	Mon. 9/23	Expected Values, Covariance and Correlation	5.2
15	Wed. 9/25	Statistics and Their Distributions	5.3
16	Fri. 9/27	Statistics and Their Distributions	5.3
17	Mon. 9/30	The Distribution of the Sample Mean	5.4
18	Wed. 10/2	The Distribution of a Linear Combination	5.5
19	Fri. 10/4	**Midterm Exam 1**	
20	Mon. 10/7	General Concepts of Point Estimation	6.1
21	Wed. 10/9	General Concepts of Point Estimation	6.1
	Fri. 10/11	**Autumn Break, No Class**	
22	Mon. 10/14	Methods of Point Estimation	6.2
23	Wed. 10/16	Basic Properties of Confidence Intervals	7.1
24	Fri. 10/18	Basic Properties of Confidence Intervals	7.1
25	Mon. 10/21	Confidence Intervals for a Population Mean or Proportion	7.2
26	Wed. 10/23	Intervals Based on a Normal Population Distribution	7.3
27	Fri. 10/25	Hypothesis and Test Procedures	8.1
28	Mon. 10/28	Hypothesis and Test Procedures	8.1
29	Wed. 10/30	z Tests for Hypotheses about a Population Mean	8.2
30	Fri. 11/1	The One Sample t Test	8.3
31	Mon. 11/4	The One Sample t Test	8.3
32	Wed. 11/6	Tests about a Population Proportion	8.4
33	Fri. 11/8	**Midterm Exam 2**	
	Mon. 11/11	**Veteran's Day, No Class**	
34	Wed. 11/13	Goodness of Fit Tests	14.1
35	Fri. 11/15	The Simple Linear Regression Model	12.1
36	Mon. 11/18	Estimating Model Parameters	12.2
37	Wed. 11/20	Inferences about the Slope	12.3
38	Fri. 11/22	Inferences about the Mean and Prediction	12.4
39	Mon. 11/25	Assessing Model Adequacy	13.1
	Wed. 11/27	**Thanksgiving Break, No Class**	
	Fri. 11/29	**Thanksgiving Break, No Class**	
40	Mon. 12/2	Regression with Transformed Variables	13.2
41	Wed. 12/4	Multiple Regression	13.4