

**Statistics 3470**  
**Introduction to Probability and Statistics for Engineers**  
**Spring Semester 2017**

**Class Meetings:** Evans Lab (EL), Room 2004, MWF 8:00 am – 8:50pm

**Instructor:** Nicole T. Kelbick, PhD

**Contact:** kelbick.1@osu.edu

**Office Hours:** 435 Cockins Hall (CH), T/W/Th 2pm - 3pm, or by appointment

**Grader/Tutor:** The tutor room is available for all engineering stats students.  
(Stats 3450, 3460, 3470).

	<b>Tutor Room Hours</b>
<b>Office Hours</b>	Cockins Hall 122 Check Canvas for schedule

**Prerequisites:** Math 1152, 1161.xx, 1172, 1181H, 153 or 254, or equivalent, or permission of instructor. Not open to students with credit for 3450, 3460, 427, or 428.

**Enrollment:** ADD and SECTION CHANGES will be processed, contingent upon availability, starting at 7am on Tuesday January, 17<sup>th</sup> through Wednesday, January 18<sup>th</sup>. This will be on a first-come first-served basis in 408A Cockins Hall. **The instructor does not sign any Add or Section Change forms.** Check out [www.stat.osu.edu/node/1643](http://www.stat.osu.edu/node/1643) for more detailed information regarding Add and Section Changes.

Closed Section Strategy: If the section you wish to take is closed, consider enrolling into another section that is still open. It is much easier to do a section change (and there are no late add fees either) if a space opens up. It is more complicated to do a late enrollment and the chance of succeeding is not great.

**Textbook:**

*Probability and Statistics for Engineering and the Sciences 9 edition* by Jay L. Devore.

**Website:** The course has a web page on Carmen (<http://www.carmen.osu.edu>). Class schedule, lecture material and other relevant content and announcements will be posted on the web page. **Homework will be posted on WebAssign.** Please check it on regular basis. **Lecture material will be posted (hopefully) by 9pm the day prior lecture.**

**Course Description:** Introduction to probability, Bayes theorem, discrete and continuous random variables, expected value, probability distributions, point and interval estimation, hypotheses tests, and least squares regression. This course is a GE Data Analysis Course.

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

**Expected Learning Outcome:** 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.

## Important Dates:

Date	Reason
January 16 <sup>th</sup>	MLK Day (no classes)
February 17 <sup>th</sup>	Midterm 1 (Friday in class)
March 13 <sup>th</sup> -17 <sup>th</sup>	Spring break (no classes)
March 24 <sup>th</sup>	Midterm 2 (Friday in class)
April 24 <sup>th</sup>	Last day of classes (Monday)
April 27 <sup>th</sup>	Final Exam (Thursday 8:00am – 9:45am)

**Homework / WebAssign:** There will be homework assignments about every 10 days. The due dates will be announced IN CLASS as well as via WebAssign. The assignments will be posted on WebAssign. Electronic (emailed), printed or handwritten homework will NOT be accepted. IT IS HIGHLY RECOMMENDED THAT YOU RESERVE A NOTEBOOK TO RECORD HOW YOU DID THE HW PROBLEMS!!!. It will be helpful when it is time to study for an exam.

Although students are often encouraged to work together on homework assignments, all students must submit their own work in their own words. DO NOT SIMPLY COPY ANY PART OF SOMEONE ELSE'S HOME- WORK OR SOLUTIONS FROM ANY OTHER SOURCES. Violations will be treated as academic misconducts.

WebAssign rules (homework points, allowed number of attempts, etc.) will be announced along with each assignment. Login to your WebAssign account at:

<https://www.webassign.net/osu/login.html>.

There is a free trial (no excuse to miss homework assignments). You can get the Access code with the bundle offer (printed book and access code with eBook) at the bookstore or get the access code by login in into WebAssign and follow the instructions. The access code with eBook can be purchased as well at <https://www.cengagebrain.com/shop/>.

**Grading:** Your grade will be based on homework assignments, two midterms, and a final exam. The final exam will not be fully comprehensive. By that, I mean there will be certain topics that you will be expected to know from prior tests because we still use them (e.g. finding probabilities using the normal distribution), but the emphasis will be on new material. The relative point-worth of these components are as follows:

Homework	25%	Approximately weekly
Midterm I	25%	Friday, Feb. 17 <sup>th</sup> , in class
Midterm II	25%	Friday, Mar. 24 <sup>th</sup> , in class
Final	25%	Thursday, Apr. 27 <sup>th</sup> , 8:00am – 9:45am, in class
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	100%	

**Exams:** All exams will be closed book and closed notes. The final exam will emphasize new material but some prior material will still be fair game if used in the current material (e.g. use of normal distributions). For the first midterm you are allowed to bring one standard size (8.5 × 11 inch) sheet containing formulae. The second midterm you are allowed one new formula sheet

as well as the one from the 1<sup>st</sup> midterm. For the final exam, you are allowed one new formula sheet (standard sized (8.5 × 11 inch) as well as the formula sheets from the first two midterms.

NOTE: I am not going to require a certain calculator for exams. HOWEVER, you will be expected to show your work. Only partial credit will be given for correct answers that do not. Exam rules will be announced in class. I like to avoid makeup exams as much as possible. If there is a potential for a conflict, please contact me WELL IN ADVANCE.

Exam	Date	Chapters Covered
Midterm I	Friday, Feb. 17 <sup>th</sup> , in class	TBA
Midterm II	Friday, Mar. 24 <sup>th</sup> , in class	TBA
Final	Thursday, Apr. 27 <sup>th</sup> , 8:00am – 9:45am	TBA

**Office Hours:** While questions are welcome and expected during class sessions, all students should feel free to visit during office hours for individual assistance with the course material. Questions regarding grades or scores will only be answered during office hours. Students unable to attend office hours may easily make an appointment to see the instructor at another time. The tutor room in Cockins Hall (CH) room 134 is available throughout the week for additional assistance.

**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 your instructor as well as those sitting around you. You will be asked to leave the room to finish texting. Tablets and computers are allowed for note-taking. All electronic devices other than a calculator must be shut off and put away during examinations.

**Academic Misconduct:** Although you are encouraged to work together, you are expected to produce independent work for homework and exams. Academic misconduct for any sort will not be tolerated. If students are caught indulging in dishonest activities during exams, they will be reported immediately, without any exception. Please review OSU's policies at <http://studentaffairs.osu.edu/csc/>.

**Special Accommodation:** Students with ADA-documented physical, sensory, emotional or medical impairments may be eligible for reasonable accommodations. Veterans may also be eligible for services. All accommodations are coordinated through the Office of Disability Services (ODS) in Room 150 of Pomerene Hall, (614) 292-3307. Please contact the ODS as early in the semester as possible. You can also contact the instructor privately to discuss your specific needs.

**Disclaimer:** The schedule and procedures contained in this syllabus should be taken as a fairly reliable guide for the course content and policies. They are, however, subject to change at the instructor's discretion. Any changes will be announced in class as well as posted on Carmen.

See tentative course schedule below.

## Tentative Course Schedule

<b>Week of</b>	<b>Sections to be covered</b>
January 9th	1.1 – 1.4
January 16 <sup>th</sup>	2.1 – 2.5
January 23 <sup>rd</sup>	3.1 – 3.3
January 30 <sup>th</sup>	3.3, 3.4, 3.5, 3.6 (Exclude Poisson Process)
February 6th	4.1 – 4.3
February 13 <sup>th</sup>	4.4, Review*, Exam 1
February 20 <sup>th</sup>	5.1 – 5.3 (Emphasis on discrete joint dist.)
February 27 <sup>th</sup>	5.4, 6.1
March 6th	7.1 – 7.3
March 13 <sup>th</sup>	Spring Break
March 20 <sup>th</sup>	8.1 – 8.3
March 27 <sup>th</sup>	8.4, 8.5 (pp. 352-355), Review*, Exam 2
April 3 <sup>rd</sup>	(14.1*), 9.1 – 9.3
April 10 <sup>th</sup>	9.4, 12.1 – 12.2
April 17 <sup>th</sup>	12.2 – 12.4, 12.5 (pp. 527 – 530), (13.1*)
April 24 <sup>th</sup>	Review*

Actual Exam and Homework dates will be announced in class. Sections/Reviews marked “\*\*” may be omitted in order to finish covering unmarked sections.

(13.1\* - 13.4\*)