

Mathematics 3070-04
Applied Statistics (4 credits)
JTB 320
Fall 2016

Instructor: Jennifer Kenkel

Class Time and Place:

7:15 p.m. - 8:45 p.m.

Tuesdays and Thursdays in JTB 320

Office Hours: To Be Decided

or e-mail me and I'd be happy to meet with you another time!

Office Location: JWB 115

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Website: <http://www.math.utah.edu/~kenkel>

Prerequisite: C or better in MATH 1220 OR MATH 1250 OR MATH 1270 OR AP Calculus BC score of at least 4

Texts:

- Jay L. Devore, Probability and Statistics for Engineering and the Sciences 8th ed., Brooks/Cole, 2012. ISBN-13: 978-0-538-73352-6 ISBN-10: 0-538-73352-7.
- John Verzani, Using R for Introductory Statistics, Chapman Hall/CRC, 2005. ISBN- 13: 978-1-584-88450-7 ISBN-10: 1-584-88450-9.

Calculators: Calculators that do not connect to the internet may be used during quizzes and exams. Cell phones may not be used for this purpose (or any other purpose) during quizzes and exams.

Lab: Registration for the lab is compulsory. Failing the lab (as per the lab syllabus) implies failing MATH 3070 with a grade of E. Fourteen lab assignments will be given over the semester, of which the three lowest scores will be dropped at the end of the semester (not including the last 3 assignments). In other words, non-completion of the last 3 lab assignments implies failing the lab and hence failing MATH 3070. Please refer to the lab syllabus for these policies.

Grading: The grades will be calculated as follows:

Weekly Homework: 10%

Quizzes: 15%

Midterm 1: 20%

Midterm 2: 20%

Lab: 10 %

Final Exam: 25%

Grading Scale: The grade scale will be the usual:

A (93-100), A- (90-92), B+ (87-89), B (83-86), B- (80-82), C+ (77-79), C (73-76), C- (70-72), D+ (67-69), D (63-66), D- (60-62), E (0-59).

I reserve the right to curve grades at the end of the semester, but it will only be in your favor (that is, if you receive an 85 percent, you will get a B *or better*).

Midterm 1: Thursday October 6th in class

Midterm 2: Thursday November 17th in class

Final Exam: Monday December 12th, 8:30pm -10:30 pm JTB 320

You MUST be in attendance for the final exam. There will not be any exceptions made for flights home or misunderstandings.

Homework: You will have weekly homework assignments, assigned each Tuesday, that will be due the following Tuesday. There will be no late homework accepted, however, I will drop your lowest two homework scores.

Quizzes: There will be quizzes every Thursday, at the end of the class period. There are no makeup quizzes, however, I will drop your lowest two quiz scores.

Exam Policies:

- No unapproved electronics will be allowed during exams.
- Leaving the room and returning will not be permitted during exams, unless medical reasons necessitate this, in which case sufficient proof must be given to me beforehand.
- You may take an alternate exam if you talk to me about it first and explain the extenuating circumstances that make it necessary. Needing to work, oversleeping, or needing more time to study are not acceptable reasons. It is your responsibility to communicate with me as soon as is possible, before the exam occurs (or as soon as possible, in very serious cases).
- These are closed book exams, but students may bring on 8.5×11 cheat sheet to the exam.

Expected Learning Outcomes:

After completing this course the student should be able to:

- Understand basic statistical concepts; construct numerical and graphical data summaries.
- Calculate probabilities of events using counting rules; calculate conditional probabilities; determine independence of events; apply the Law of Total Probability and Bayes' Rule.
- Calculate probabilities, expectation, variance for discrete random variables; recognize the following standard discrete distributions: binomial, multinomial, Poisson.
- Calculate probabilities, expectations, variances for continuous random variables; recognize the following standard continuous distributions: normal, exponential.
- Calculate probabilities and moments for multivariate distributions
- Construct point estimators
- Understand and perform hypothesis tests
- Understand and construct confidence intervals
- Perform probabilistic computations, do statistical tests and produce graphics in R.

Canvas: I will be posting your grades on Canvas. Let me know if you notice any discrepancies as soon as possible, and I will be happy to fix them.

Please make sure that you have clicked the button in Canvas so that it treats ungraded assignments as 0s so that there are no misunderstandings about your grade.

Electronics Policies:

- Typing mathematics in real time is difficult. For this reason, I do not recommend you use a laptop in class. If you do decide to use a computer in class, please be respectful of your fellow students. While you may feel *you* can still succeed while browsing the internet, those around you may not.
- Please do not use your phone in class. It is a distraction to you, other students, and myself. If you have an emergency, go out into the hall and take the call. I reserve the right to ask you to leave if I find your phone/laptop use distracting.

Cheating:

If you cheat on any homework, project, quiz or exam, I will automatically give you a zero for that grade. Depending on the severity of the cheating, I may decide to fail you from the class. In all cases of cheating, I will also report the incident to the Dean of Students. Additionally, if an international student cheats, I will also report the incident to the International Students Office.

Other Resources

ADA Statement: The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All information in this course can be made available in alternative format with prior notification to the Center for Disability Services. (www.hr.utah.edu/oeo/ada/guide/faculty/)

Tutoring Lab: I recommend the **free** tutoring lab (<https://www.math.utah.edu/ugrad/tutoring.html>). The lab has tables for working, and you can flag over a tutor whenever you struggle with a problem. It's a great resource for those both struggling a lot and for those who may only have small questions. T. Benny Rushing Mathematics Student Center (adjacent to JWB & LCB on President's Circle)
Rm 155 (in the basement)
M - Th 8 a.m. - 8 p.m.
F 8 a.m. - 6 p.m.
(opens second week of classes) (closed Saturdays, Sundays and holidays)
They are also offering group tutoring sessions. If you're interested, inquire at the Tutoring Lab.
Private Tutoring: University Tutoring Services, 330 SSB (they offer inexpensive tutoring) There is also a list of tutors at the Math Department office in JWB233.