

**Statistical Methods
(Calculus Level 1)**

SYLLABUS AND COURSE POLICIES

Instructor:

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Office hours: Tuesday 12:30pm – 1:45pm or by appointment

Grader:

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Course Information (August 27th to December 7th):

Lectures: Monday, Wednesday, Friday 1:25pm – 2:15pm (AUST 103)

Credits: 3

Required Textbook:

Jay L. Devore, Probability and Statistics for Engineering and the Sciences (edition 8), Cengage Learning.

Prerequisites: Algebra, Calculus 1

Course Objectives:

Functional statistical understanding using a calculus-based approach. The course is broken down into three primary parts: Exploratory Data Analysis (EDA), Fundamental Probability Principles & Distributions, and Statistical Inference. The course will cover basic probability distributions, point & interval estimation, tests of hypotheses, correlation & regression, analysis of variance, experimental design, and non-parametric procedures.

Grading Breakdown:

In-Class Participation – 15%

The most effective use of students' time is to actively engage in class sessions. This means asking questions and speaking up when you know the answer! The classroom is intended to be a safe, judgement-free environment for all to participate. No question is unintelligent, and chances are if you have the question, so do 5 other students in the course. There's no such thing as a job that allows you not to interact with others, so you might as well take advantage of this judgement-free zone to ease your way in. This may consist of both participation and "pop" quizzes, and you must attend each problem session.

In-Class Quizzes – 30%

There will be 3 in-class, closed-book quizzes for this course. For each quiz, students will be allowed a calculator and **ONE** side of a note sheet (to be collected after each quiz). With the exception of a documented, excused absence as dictated by the university, there will be no make-up quizzes. The quiz schedule is as follows:

| | Date | Coverage |
|----------|-------------|-----------------|
| Quiz # 1 | 9/17 | Ch 1 & Ch 2 |
| Quiz # 2 | 10/17 | Ch 3 & Ch 4 |
| Quiz # 3 | 11/9 | Ch 6 & Ch 7 |

Final Exam – 30%

The final exam date and location is yet to be decided by the university. The final exam will be cumulative, covering and explicitly testing all concepts ranging from the first day of the course. For this exam students will be allowed 2 pages of notes, both front and back (the idea being 1 side of a note sheet for every 2 chapters).

Problem Sets – 20%

This is perhaps the most taxing part of the course, but also the most important. Homework assignments will be posted a week in advance (the previous Monday), and will be due almost every Monday with the exception of Problem Set 1 and Problem Set 10. Please see the course schedule below for the due dates. There are 10 assignments and none will be dropped. The assignments are to be placed on the front desk at the end of class on the due date. Any assignment handed in early without a valid reason will not be accepted (i.e. don't just hand in your assignment and then skip class).

Additionally, late submissions will not be accepted. I understand that sometimes the stress of the semester catches up with you, so I will allow at most 1 extension per person on the homework assignments.

Style – 5%

This is meant to reflect your mathematical “style.” This means the neatness of your submissions, the flow of your proofs, and overall if I or the grader can read and understand what you’ve written on any submission. If either of us cannot read what you’ve written or understand your logic after 2 read-throughs, then you will lose 1 style point. I expect everyone to get all 5 points here.

Course Schedule:

| Week | Lectures Covered | Problem Set Due Date |
|------------------------------|-------------------------------|---------------------------|
| Week 1: 8/27, 8/29, 8/31 | Ch1, Ch1, Problem Session | |
| Week 2: OFF, 9/5, 9/7 | OFF, Ch2, Ch2 | Problem Set 1 – Due 9/5 |
| Week 3: 9/10, 9/12, 9/14 | Ch2, Ch2, Problem Session | Problem Set 2 – Due 9/10 |
| Week 4: 9/17, 9/19, 9/21 | Quiz #1, Ch3, Ch3 | |
| Week 5: 9/24, 9/26, 9/28 | Ch3, Ch3, Ch3 | Problem Set 3 – Due 9/24 |
| Week 6: 10/1, 10/3, 10/5 | Problem Session, Ch4, Ch4 | Problem Set 4 – Due 10/1 |
| Week 7: 10/8, 10/10, 10/12 | Ch4, Ch4, Ch4 | Problem Set 5 – Due 10/8 |
| Week 8: 10/15, 10/17, 10/19 | Problem Session, Quiz #2 Ch6 | Problem Set 6 – Due 10/15 |
| Week 9: 10/22, 10/24, 10/26 | Ch6, Ch6, Problem Session | |
| Week 10: 10/29, 10/31, 11/2 | Ch7, Ch7, Ch7 | Problem Set 7 – Due 10/29 |
| Week 11: 11/5, 11/7, 11/9 | Ch7, Problem Session, Quiz #3 | Problem Set 8 – Due 11/5 |
| Week 12: 11/12, 11/14, 11/16 | Ch8, Ch8, Ch8 | |
| Week 13: THANKSGIVING BREAK | | |
| Week 14: 11/26, 11/28, 11/30 | Ch8, Problem Session, Ch9 | Problem Set 9 – Due 11/26 |
| Week 15: 12/3, 12/5, 12/7 | Ch9, Ch9, Problem Session | Problem Set 10 – Due 12/7 |

Grading Scale:

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

Academic Integrity:

The more you collaborate, the better! Statistics is a field in which working in isolation is detrimental to success. That being said, the university policy regarding plagiarism is as always in effect for submitted assignments. You may find the university's policy here: <https://lib.uconn.edu/about/get-help/writing/plagiarism-resources/>. However, I fully support students collaborating and sharing ideas before forming their own responses for submission.

Disabilities:

Disabilities are happily accounted for in this course. If you have any special requirements for lectures, labs, exams, or assignments I will be happy to make the arrangements necessary. However, as per UCONN policy, you must first contact the Center for Students with Disabilities (CSD). Their website can be found here: www.csd.uconn.edu. If you need any special accommodations, I strongly recommend contacting them as soon as possible (read: not the night before an exam) in order to ensure a smooth process. If you do not have the proper documentation from the CSD, then I'm afraid I cannot give any accommodation. Additionally, accommodations will not be made retroactively.

Tutoring:

The department offers free tutoring services for students. All tutoring hours are held in AUST 303. Please refer to the schedule posted on the door of AUST 303 for the logistics.

A Note On Success:

Ideally, to succeed in this course, I suggest you review the lecture notes covered that day before coming to class. Then, print the lecture notes and take notes on those print-outs as we discuss. Finally, review the lecture notes again once after the lecture. Don't waste your time writing down what's on the PowerPoint. The class is only 50 minutes each lecture, so we will only be covering 10-15 slides each day. This is quite do-able, and I believe that if you follow this schedule you'll have a firm understanding of the material. Then, review the notes again for the quizzes/final to make a strong review sheet. If you engage in the problem sessions, the homework assignments shouldn't be too challenging.

*****The instructor reserves the right to modify the above mentioned dates, policies, and procedures as he sees fit. Please pay attention and keep a look out for any such changes.*****