

MAT 371: Statistics

Instructor: Josh Stangle

Office: Swenson 3032 Phone: (715) 394-8275

Email: jstangle@uwsuper.edu

Office hours: MWF 1:30-2:30pm, Tuesday 9-11am.

COURSE MEETS Monday, Tuesday, Wednesday, Friday 8:00am-8:50am in Swenson 3003

CATALOGUE DESCRIPTION OF THE COURSE

This is an undergraduate course.

This course meets a requirement for the Mathematics major and/or Mathematics minor.

Calculus-based statistics emphasizing applications and computer-based computation and simulation intended for students in applied mathematics, economics and the sciences. Topics include: basics of the R statistical software; estimation and prediction; hypothesis testing; linear and multiple regression; F and t tests; analysis of variance; and non-parametric statistics.

MODE OF DELIVERY

This is a face-to-face course.

LEARNING OUTCOMES

This courses assesses for an undergraduate learning outcome.

List each outcome with the related assessment of student learning (add rows as needed).

| Outcome | Assessment (i.e. exam, paper, presentation, project) |
|---|--|
| Creative and Critical Thinking: Students will analyze information to answer specific questions. | Exams, homework problems, and in-class problem solving sessions. |
| Be able to apply appropriate statistical models to gain insight about sample data | Exams, homework problems, and in-class problem solving sessions. |
| Be able to perform hypothesis and goodness-of-fit testing by hand and with computational software. | Exams, homework problems, and in-class problem solving sessions. |
| Applies an appropriate formal process (or formal language) to write a solution to a given problem and to evaluate the validity and effectiveness of a given written solution. | Exams, homework problems, and in-class problem solving sessions. |
| Solves multipart problems by performing appropriate analysis and complex calculations. | Exams, homework problems, and in-class problem solving sessions. |
| An ability to use current techniques, skills, and tools necessary for computing practice. | Exams, homework problems, and in-class problem solving sessions. |
| Demonstrates fluency in the definitions, results, analysis, and reasoning of a given axiomatically defined system. | Exams, homework problems, and in-class problem solving sessions. |

COURSE SCHEDULE AND OUTLINE

See Attached.

COURSE MATERIALS

Textbook: Probability and Statistics by Degroot and Schervish

ISBN-13: 978-0321500465

ASSIGNMENTS, ASSESSMENTS AND GRADING

The grade for this course is based on 2 in class exams (midterms), worth 20% each, a final exam worth 25%, weekly written homework assignments worth a total of 35%.

All grades will be kept on Learn@UWSuper. You should be able to access and view your grades there, and they will be uploaded in a timely manner.

Homework will be collected on the Friday of the week after it is assigned.

Due to our use of R statistical software, computers will be allowed on exams. We will hold our exams during class time in an available computer lab. The use of programs other than R (including web browsers) is not allowed.

EXPECTATIONS OF STUDENTS IN REGARDS TO ATTENDANCE

Attendance is not mandatory. However, any class content you miss while not in attendance is your sole responsibility. Not being in class is not an excuse for late homework nor missed quizzes.

Further, I will not post notes from class online. If you miss a day of class and want the notes, you should contact a fellow classmate.

COURSE DIALOGUE AND QUESTION BOARD

For this course we will utilize an online discussion board in lieu of email for all course content and structure questions. You can post anonymously (hiding your identity from other students, me, or both) and can type mathematics (ask me to teach you how!).

The forum is available here: <https://piazza.com/uwsuper/fall2018/math371/home>

At the beginning of the course you will be asked to sign up. It is free and required. I will redirect all email questions to Piazza. I will check it regularly, and all students will benefit from the experience.

I HIGHLY encourage you to answer mathematics questions on Piazza. If you do so using your name, I will use thorough answers (at my discretion) as evidence of mastery. It is also a great way for me to understand your abilities if you ever want a recommendation letter.

MATH HELP

Your textbook, classmates, and instructor should all be considered primary resources for this class. Office hours are available for your attendance without an appointment. You can also schedule appointments with me if you cannot attend any office hours or need some one-on-one help.

Additionally the Math Help Center in Swenson 1024/1025 can offer tutoring services.

GRADE RANGES

| | |
|-----------|---------------|
| 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 | 60-69 |
| F | 0-59 |

UNIVERSITY INFORMATION

DIVERSITY AND INCLUSION AT UNIVERSITY OF WISCONSIN - SUPERIOR

Diversity and inclusion is integral to the educational mission of the University of Wisconsin-Superior. As a community we commit to recognize, include and value inherent worth and dignity of each person; foster tolerance, sensitivity, understanding, mutual respect, and justice among its members; and encourages each individual to strive to reach their own potential. The institution recognizes these experiences are crucial for developing the requisite skills to thrive as a member of a pluralistic society and as a responsible global citizen.

In pursuit of its goal of inclusive excellence, the University actively seeks to attract students, faculty, and staff from diverse backgrounds and life experiences, including but are not limited to: race, ethnicity, sex, gender identity, gender expression, sexual orientation, age, socio-economic background, cognitive ability, physical ability, religion and spirituality, value system, national origin, immigration or refugee status, veteran status, and political beliefs.

The University believes that diversity among its members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life. The University of Wisconsin-Superior views, evaluates, and treats all person in any University related activity or circumstance in which they may be involved, solely as individuals.

For more information about Equity, Diversity and Inclusion and/or to report bias, discrimination or harassment, please email edi@uwsuper.edu or call 715-394-8015.

POLICIES AND PRACTICES TO HELP YOUR LEARNING AND GROWTH

The University of Wisconsin-Superior is dedicated to a safe, supportive and nondiscriminatory learning environment. It is the responsibility of all undergraduate and graduate students to familiarize themselves with University policies regarding special accommodations, academic misconduct, religious beliefs accommodation, discrimination and absence for University- sponsored events.

Please review the Student Information Sheet and Syllabus Attachment which can be accessed at <https://www.uwsuper.edu/deanfaculties/forms/index.cfm>. This includes policies related to:

- **Student characteristics**, including policies and services related to those who are active military/veterans, those who are pregnant or expecting new family members, and students seeking services for differing abilities and accommodations student services, and others.
- **Academic integrity**, including information on plagiarism and steps that an instructor can take.
- **Campus policies**, including how to sign up for Safe Alerts, information on course evaluations, process for submitting a formal grievance regarding academics and/or discrimination, and others.

Tentative Schedule

| WEEK | SECTIONS | NOTES |
|-----------|-----------------------------------|---------------------|
| 1 9/5 | Chapter 1-7 and R introduction | |
| 2 9/10 | Chapter 1-7 and R introduction | |
| 3 9/17 | Chapter 1-7 and R introduction | |
| 4 9/24 | Chapter 1-7 and R introduction | |
| 5 10/1 | Chapter 1-7 and R introduction | |
| 6 10/8 | Chapter 1-7 and R introduction | Exam 1 Friday 10/12 |

| | | |
|-------------|---------------|----------------------------------|
| 7 10/15 | Chapter 8-9 | |
| 8 10/22 | Chapter 8-9 | |
| 9 10/29 | Chapter 8-9 | |
| 10 11/5 | Chapter 8-9 | |
| 11 11/12 | Chapter 8-9 | Exam 2 Friday 11/16 |
| 12 11/19 | Chapter 10-11 | THANKSGIVING, NO CLASS FRIDAY |
| 13 11/26 | Chapter 10-11 | |
| 14 12/3 | Chapter 10-11 | |
| 15 12/10 | Chapter 10-11 | |

Note: In order to preserve flexibility, this schedule is subject to change at the instructor's discretion.