

MATH 425/525: Statistical Methods

Instructor: Liliana Pazdan-Siudeja**Email:** lpazdans@uoregon.edu**Office:** 333E Tykeson Hall**Office Hours:** Tu, W, F 11:00-11:45am
(or by appointment)**Prerequisites:** Satisfactory score on the Math Placement Exam**Text and Required Materials:**

- (1) Text: Introduction to the Practice of Statistics, 9th (or newer) edition, by Moore/McCabe/Craig. We will (likely) cover chapters 1-10.
- (2) Access to Excel (you can check university's website to get a free access) <https://service.uoregon.edu/TDCClient/2030/Portal/KB/ArticleDet?ID=32786>
- (3) A Scientific, non-graphing Calculator

Course Description: Critical elements of descriptive and inferential statistics; measures of center and spread, graphical representation of data, confidence intervals, hypothesis testing, basic probability distributions. Focus on both theoretical and practical aspects of statistics.

Learning Objectives: A successful student should be able to succeed at an exam which focuses on the major objectives and contains a lesser focus on supporting objectives (in particular, drawing upon these for applied exercises).

Major Objectives – By the end of the course a successful student will be able to

- perform basis descriptive statistical analysis of a categorical and quantitative variable
- use Normal random variable in various calculations
- recognize different types of random variables and be able to make calculations for them
- create different types of random samples
- construct confidence intervals for different parameters
- test hypotheses for different parameters

Excel: This class has a computer lab component; on Wednesdays we will have our laboratories (in 445 MCK). We will use Excel as the software. Excel may not be the software of choice for every scientist, but it is ubiquitous in the world of business, and it has an easier learning curve than some other packages (R, SAS, MiniTab). Please make sure that you will have access to it. You can check university's website to get a free access <https://service.uoregon.edu/TDCClient/2030/Portal/KB/ArticleDet?ID=32786> Files with problems that we will analyze in our labs will be always available on Canvas before the class time. I expect students to come prepared for our lab meetings and review lab-relevant materials beforehand to fully benefit from our time in a lab.

Assessment and Grades:

Homework in Excel	22%
WebWork	12%
Two Midterms	22 % each
Final Exam	22%

Grades are assigned according to the scale

A	90–100%
B	80–89%
C	70–79%
D	60–69%
F	< 60%

Plus and minus grades are awarded to the top and bottom 2 percentage points in each grade bracket (so 98–100 is A+ and 90–92 is A-).

I reserve the right to apply a course adjustment to grades at the end of the term. Being active in class, might be taken into the account during establishing grades for “boundary cases”.

The standards for each level of work:

Please access the following link for details.

<https://math.uoregon.edu/wp-content/uploads/2014/12/MathGradingStandards-1tli4lj.pdf>

Homework in Excel Your homework assignments will be using Excel to complete. They will be submitted as a single Excel file (.xls or .xlsx) with each problem on its own (labeled) sheet/tab. Homework is to be submitted through the corresponding assignment on Canvas. When submitting your Excel file the name must be: last name.first name.xls (or xlsx). Any other format files uploaded will not be graded, and anything entered in the comment will also be ignored. It will be graded for your last attempt that was submitted till deadline, meaning anytime you complete some part of the assignment, you may upload an entirely revision. Excel should be the only software used for the problems, even when the text indicates otherwise. Your solutions should be self-contained (i.e. with a clear reference to cells in Excel and using Excel functions). Homework uploaded up to one day after its original deadline will be graded without penalty. The lowest Excel score will be dropped.

Homework on WebWork:

A part of your homework will be given and collected via WebWork. WebWork is a free, web browser-based program that maintains and grades a pool of homework problems that have been selected by your instructor. You will usually have a week for completing WW assignment, with two extra days of reduced scoring (each problem done during that time will be worth 75% of its original value). This applies to all but the “Orientation” set.

The due time of the WebWorK homework will be posted on the WebWorK webpage and will not be posted on Canvas.

The lowest WebWork score will be dropped.

Login Into WebWork:

Use <https://uowebwork.uoregon.edu/webwork2/> to access WebWork assignments for this class. Among many sections you need to access YOURS, for Math 425. You will need to sign in using your regular UofO email credentials: your DuckID as your username and your UO email password for password. Once you have logged in, you can change your password, if you wish.

WebWork Orientation:

The first assignment you should complete in WebWork is called “Orientation”. It does not involve (much) math, but instead is intended to familiarize you with the interface of WebWork: how to look at problems, how to preview and enter answers, and so on. This assignment counts as your first homework assignment. Do it by the end of Friday night on Week 1 for credit. These are easy points!

Exams:

- (1) Midterms: Tuesday of Week 5 and Friday of Week 8
- (2) Final Exam: Wednesday, December 11, 2024, 10:15 a.m., location TBA (Week 11)

The final exam will not be administered early. Note, you are expected to make the given exam times. There are no makeup exams. To accommodate for that, the lowest exam score (from all three exams) is dropped. This means if you miss an exam due to illness then that will be your dropped exam. This policy is in place because “life happens”.

If you miss more than one exam, please note that I will not be able to drop additional exams for any reason. All students must be treated equally regardless of circumstances.

Calculator Policy:

Scientific and graphing calculators are good tools for learning, and some of the homework problems use them. You are welcome to use calculators on homework. But no calculators will be allowed on any of the exams in this course (unless stated otherwise). Students are expected to be able to perform basic arithmetic operations with fractions and decimals by hand.

Communication: Our class will communicate through our Canvas site. Announcements and emails are archived there and automatically forwarded to your UO email, and can even reach you by text. Check and adjust your settings under Account → Notifications. If you contact me with a question, I will try to respond within one business day. I typically provide feedback on assignments graded by me within one week.

Student Conduct: I plan to treat every student with respect and, as such, expect my students to show respect for me and for the class as a whole. Violations of the student conduct code result in the incident being included on your student conduct record and can result in a failing grade on any course work related to the violation or a failing grade in the course. The University of Oregon requires all instances of cheating be reported, no matter how small. Cheating includes, but is not limited to:

- Copying the work of another person (student or otherwise) and submitting it as your own
- Using any materials except those explicitly approved during a test-taking situation
- Resubmitting graded work that was altered after being returned
- Cooperating on written work for the course without being explicitly allowed to do so.

For a list of other descriptions of cheating, see the Student Conduct Code, dos.uoregon.edu/conduct.

Staying Safe in Classes:

As the University of Oregon continues in-person instruction, instructors and students play a key role in keeping our community healthy and safe.

Prevention:

The best way to prevent illness is to avoid being exposed to the virus. There are some general precautions the CDC recommends to prevent the spread of respiratory diseases.

- Stay up to date on your COVID-19 vaccines.
- Wear a face covering that covers both your mouth and nose when indoors around others.
- Wash your hands often with soap and water for at least 20 seconds.
- Avoid touching your eyes, nose, and mouth.
- Stay home if you are sick. Do not go to work or class.
- Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
- Clean and disinfect frequently touched objects and surfaces.

Support:

The following resources are available to you as a student.

- University Health Services or call (541) 346-2770
- University Counseling Center or call (541) 346-3277 or (541) 346-3227 (after hrs.)
- Academic Advising or call (541) 346-3211
- Dean of Students or call (541)-346-3216

Academic Conduct: The code of student conduct and community standards is at dos.uoregon.edu/conduct. In this course, it is appropriate to help each other on homework as long as the work you are submitting is your own and you understand it. It is not appropriate to help each other on exams, to look at other students exams, or to bring unauthorized material to exams. The University Student Conduct Code defines academic misconduct, which includes unauthorized help on assignments and examinations and the use of sources without acknowledgment. Academic misconduct is prohibited at UO. I will report misconduct to the Office of Student Conduct and Community Standard consequences can include failure of the course.

Diversity and Inclusion. The University of Oregon community values diversity and seeks to foster equity and inclusion in a welcoming, safe, and respectful community. In this course, we will uphold these principles by encouraging the exploration,

engagement, and expression of distinct perspectives and diverse identities. We will value each class members experiences and contributions and communicate disagreements respectfully. Please notify me if you feel aspects of the course undermine these principles in any way.

Learning Environment: The University of Oregon strives for inclusive learning environments. Please notify me if the instruction or design of this course results in disability-related barriers to your participation. You are also encouraged to contact the Accessible Education Center in 164 Oregon Hall at 541-346-1155 or uoaec@uoregon.edu.

Title IX:

I am a designated reporter. For information about my reporting obligations as an employee, please see Employee Reporting Obligations on the Office of Investigations and Civil Rights Compliance (OICRC) website. Students experiencing sex- or gender-based discrimination, harassment or violence should call the 24-7 hotline 541-346-SAFE [7244] or visit safe.uoregon.edu for help. Students experiencing all forms of prohibited discrimination or harassment may contact the Dean of Students Office at 541-346-3216 or the non-confidential Title IX Coordinator/OICRC at 541-346-3123 to request information and resources. Students are not required to participate in an investigation to receive support, including requesting academic supportive measures. Additional resources are available at investigations.uoregon.edu/how-get-support.

I am also a mandatory reporter of child abuse. Please find more information at Mandatory Reporting of Child Abuse and Neglect.

Basic Needs

Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live and believes this may affect their performance in the course is urged to contact the Dean of Students Office (346-3216, 164 Oregon Hall) for support.

This UO webpage includes resources for food, housing, healthcare, childcare, transportation, technology, finances, and legal support:

<https://blogs.uoregon.edu/basicneeds/food/>

Accessibility:

For those of you who are currently registered with Accessible Education Center for a documented disability, please present your paperwork to me during the first week of the term so that we can design a plan for you. Those of you with a disability (or who might) but are not registered with AEC should contact them as soon as possible. It is much more likely that measures can be taken to provide adequate special accommodation if the organization is done through AEC. I have attempted to provide documents that are accessible. Please let me know if you need additional accommodations.

Student Conduct:

I plan to treat every student with respect and, as such, expect my students to show respect for me and for the class as a whole. Violations of the student conduct code result in the incident being included on your student conduct record and can result in a failing grade on any course work related to the violation or a failing grade in the course. The University of Oregon requires all instances of cheating be reported, no matter how small.

Cheating includes, but is not limited to:

- Looking at another student's exam during a test
- Copying the work of another person (student or otherwise) and submitting it as your own
- Using any materials except those explicitly approved during a test-taking situation
- Resubmitting graded work that was altered after being returned

For a list of other descriptions of cheating, see the Student Conduct Code.

Suggestions for Successful Study:

Don't get behind in your homework, reading, etc.

Participate in class, ask questions, and make use of my office hours.

Make friends with your classmates-you can find out for instance what material was covered when you missed the class or discuss homework problems with them.

Read ahead in the book. Even reading the first few pages of each lesson will help the material sink in quicker during lecture and allow you to ask meaningful questions.

Keep all your old homework assignments, midterms, and quizzes - most probably, you will find them useful when you are studying for future tests.

Important Dates.

Please, see <http://registrar.uoregon.edu/calendars.html> for details.

Saturday of Week 1 - Last day to drop without a W

Sunday of Week 1 - Last day to add/register for a class.

Sunday of 7th week - Last day to withdraw (drop with a W or change to P/NP.)

November 11 - Veteran's Day (no classes)

Thursday-Friday of 9th week - Thanksgiving break (no classes)

Community Standards:

The University of Oregon community is dedicated to the advancement of knowledge and the development of integrity. In order to thrive and excel, this community must preserve the freedom of thought and expression of all its members. The University of

Oregon has a long and illustrious history in the area of academic freedom and freedom of speech. A culture of respect that honors the rights, safety, dignity and worth of every individual is essential to preserve such freedom. We affirm our respect for the rights and well-being of all members.

Expected Classroom Behavior:

Students are expected to behave respectfully toward each other and toward the instructor during class time. This includes refraining from using cell phones during lectures, unless allowed for instructional purposes by your instructor.

Attendance:

Attendance is not required but it is strongly encouraged, as it gives you a chance to ask questions and clarify any potential confusion.

Academic Disruption. In the event of a campus emergency that disrupts academic activities, course requirements, deadlines, and grading percentages are subject to change. Information about changes in this course will be communicated as soon as possible by email, and on Canvas. If we are not able to meet face-to-face, students should immediately log onto Canvas and read any announcements and/or access alternative assignments. Students are also expected to continue coursework as outlined in this syllabus or other instructions on Canvas.

Staying Safe in Classes. As the University of Oregon continues in-person instruction, instructors and students play a key role in keeping our community healthy and safe.

Prevention: To prevent or reduce the spread of COVID-19 in classrooms and on campus, all students and employees must:

- Comply with vaccination policy
- Wash hands frequently
- Complete daily self-checks
- Stay home/do not come to campus if feeling symptomatic
- Individuals with no symptoms or mild symptoms can get tested at McArthur Court through UO's Monitoring and Assessment Program. Masks are required at COVID-19 testing sites including in line outside.
- Visit the Exposure Scenario page (<https://coronavirus.uoregon.edu/covid-exposure>) page for information on reporting cases.

Support: The following resources are available to you as a student.

- University Health Services or call (541) 346-2770
- University Counseling Center or call (541) 346-3277 or (541) 346-3227 (after hrs.)
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Accommodation for Religious Observances

The university makes reasonable accommodations, upon request, for students who are unable to attend a class for religious obligations or observance reasons, in accordance with the university discrimination policy which says “Any student who, because of religious beliefs, is unable to attend classes on a particular day shall be excused from attendance requirements and from any examination or other assignment on that day. The student shall make up the examination or other assignment missed because of the absence.” To request accommodations for this course for religious observance, visit the Office of the Registrar’s website (<https://registrar.uoregon.edu/calendars/religious-observances>) and complete and submit to the instructor the “Student Religious Accommodation Request” form prior to the end of the second week of the term.

Basic Needs

Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live and believes this may affect their performance in the course is urged to contact the Dean of Students Office (346-3216, 164 Oregon Hall) for support.

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Inclement Weather

It is generally expected that class will meet unless the University is officially closed for inclement weather. If it becomes necessary to cancel class while the University remains open, this will be announced on Canvas and by email. Updates on inclement weather and closure are also communicated in other ways described here: <https://hr.uoregon.edu/about-hr/campus-notifications/inclement-weather/inclement-weather-immediate-updates>.

Other information.

- In case of inclement weather, please check Canvas for further instructions. In general, the university does not close for snow, etc. If it is not safe for you to come to campus, please be sure to email me right away.
- As the university community adjusts to teaching and learning in the context of the COVID-19 pandemic, course requirements, deadlines, and grading percentages are subject to change, i.e. the syllabus might be changed/updated.
- I will try to answer emails received by 5pm the same day but please note that same-day response is not guaranteed if an email was received after that time OR during a weekend. If I do not respond to your email withing two days,

please resend it or approach me to let me know that you are awaiting my response. Thank you for your cooperation!

- If you registered within the first week of classes, please let me know, so you can be added to WebWork and will be able complete assignments.