Course Title: MATH 343, Statistical Models and Methods
CRN: 35548
Class: 1:00-1:50pm, MWF, 191 ANS
Instructor: Liliana Pazdan-Siudeja
Office: Tykeson Hall 333E
Office hours: Monday, Wednesday 11:00-11:50am, Friday 12:00-12:50pm
Email: lpazdans@uoregon.edu

Prerequisites: MATH 252

Important Note:

- Students who already have credit for MATH 462 cannot get credit for MATH 343.
- Students who take 343 and 462 concurrently cannot get credit for 343.
- Students who have credit for 343 can later take 462 and get credit, but the two courses cannot both be used to satisfy the "four upper-division course" requirement for the Math Major.

Text: "Statistics for the Sciences", by Buntinas and Funk.

Other Recommended Materials: A scientific or graphing calculator. Colored pens or pencils.

Calculators: Calculators can be helpful for homework and actually may be needed for some of the problems. No calculators will be allowed during exams (unless otherwise stated).

Course Content: We will (most likely) do a selection of topics from chapters 1-10, if time allows.

Learning Outcomes:
By the end of the course, the successful student will have knowledge of the basic tools of statistics and a certain knowledge of probability theory necessary to understand basic models and tests used in statistics.

In particular, the student will be expected to understand the notion of random variable and their mass/density functions and distribution functions, as well as typical types of random variables used in statistics, for instance: Bernoulli, binomial, uniform, exponential and Gaussian random variables. Additionally, the student will be expected to know certain quantities attached to random variables, for instance mean, variance and percentiles, their probabilistic interpretation, and how to estimate these quantities from data.

The statistical content of the course will revolve mostly around modeling and hypothesis testing. The successful student will have an understanding of what types of standard random variables are applicable in various situations/models, and in some instances what assumptions/simplifications are necessary to model certain situations by a particular type of random variable. The student will be able to form hypotheses from simple data, and know various methods (tests) to confirm/reject a hypothesis within a certain confidence interval under various assumptions on the data. The student should come away with an understanding of how these methods will scale to actual data sets which may arise in the sciences or other disciplines.

Canvas:
At canvas.uoregon.edu you may login and access course documents such as this syllabus. In-Depth homework will be posted there. Also, you may view your scores on homework and tests at any time. Hence, check it periodically for homework assignments, announcements, and to see if your assignment scores are properly entered in the grade book.

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.

Course grade determined by:

- Homework + WebWork 25%
- Midterm Exams 25% each
- Final exam 25%

Standard grade assignments will be made (e.g. grades in the 80% to 90% range will be B's, those in the 70% to 80% range are C, etc.) Plus and minus grades will be awarded in the upper and lower 2% of a bracket. (e.g. A grade of B+ is awarded between 88% and 90%; B- between 80% and 82%). 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 while considering "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

In-depth Homework:
There will be some conceptual homework covering some in-depth problems. Assignments will be posted on Canvas every Wednesday (starting Week 2) and must be uploaded into Canvas, till 11:59pm the following Wednesday. Homework should be in ONE FILE, legible, complete and self-contained. That is, a reader should be able to understand exactly what you are trying to demonstrate (be it a problem or

a proof) without referring to any additional resource. The homework assignments will be posted on the Canvas webpage for the course and submitted electronically through Canvas. Possibly the easiest way to create a file for submission is to neatly write your homework solutions and then use a smart phone to create a single pdf of the solutions. There are several scanning apps (like Genius Scan or CamScanner) that can create a pdf. Note that cell phone images are rarely readable and usually too large for Canvas submission. If you have difficulty scanning your homework to create a pdf, please let me know as soon as possible. I highly recommend that you begin the assignments the day that they are posted and work on them as we are discussing the material during the week.
Homework uploaded up to 12 hours day after its original deadline will be graded without penalty. The lowest in-depth homework score will be dropped.

Homework on WebWork:

A part of your homework will also 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.
Each WeBWorK set will be available via assignments posted on Canvas. Your user account in WeBWorK will be created the first time you use the link to WeBWorK in a Canvas assignment. Moreover, in order for automatic grade pass back from WeBWork to Canvas to work, you must use the link in the assignment at least one time. Thus, please make sure that you use links attached to your assignments.
The lowest WebWork score will be dropped.

Logging Into WebWork:

See https://uowebwork.uoregon.edu/webwork2/ to access WebWork assignments for this class. Among sections of Math 343 you need to access YOURS according to the CRN of the class in which you are enrolled. 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 Practice:

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 by 11:59pm on Week 1 for credit. These are easy points! (if you used this system before, this set should take no more than 10 minutes).

Showing Work:

While doing your WeBWorK homework, I highly recommend having scratch paper at hand. Even though WeBWorK does not grade you on your process, having a comprehensive thought process is necessary. It will also help you track down

mistakes that you made if the first answer you submit is incorrect. Remember: On exams showing your work will be extremely important!

Getting Help:

If you have a question about a homework problem, one excellent resource is the "email instructor" button at the bottom of the page. Clicking on that and typing a short message about what you have tried on the problem will help your instructor diagnose the issue you are having. Please, do not send an email simply saying "What am I doing wrong on this problem?" or "I can't get the right answer on this one". On most homework problems it is impossible to figure out what you are doing wrong if I only see your answer (which is all WebWork shows me). Hence, first you should go back over your work and see if you can find the mistakes yourself. If you can't, feel free to email me, but include a description of how you solved the problem as well as any work you did for intermediate steps. The more information you give, the more likely it is you get a prompt and helpful reply.

Exams:

(1) Midterm Exams: Wednesdays of Week 5 and Week 8, during the class
(2) Final Exam: Monday, June 9, 2025, 2:45 p.m. (location TBA)

Bring your UO student ID to all your exams.
The use of cellular phones, or any device that communicates with the outside world is strictly forbidden during exams.

Note, you are expected to make the given exam times. There are no makeup exams. To accommodate for that, the lowest exam score is dropped. This means if you miss an exam due to illness then than 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.

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, `dos.uoregon.edu/conduct`.

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. Consequences of a reported misconduct to the Office of Student Conduct and Community Standards can include failure of the course.

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. Students are expected to be able to perform basic arithmetic operations with fractions and decimals by hand.

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.)
Monday of 9th week - Memorial Day (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.

In the event that the instructor of this course has to quarantine, this course may be taught online during that time.

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.

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.

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 business 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!