Welcome to: Stat 1430 H Spring 23 Statistics for the Business Sciences

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INSTRUCTOR:
Dr. Rumsey (Email: Rumsey-johnson.1)
- **Office Hours: 1:45-2:45 T Th in Cockins Hall 227**
  See Carmen for Zoom information.

Recitation and Grading
Max Cartwright **cartwright.172@osu.edu**

TUTOR ROOM:
- ✓ **For a place to ask specific statistical questions or get extra help on recitation work**, visit the in Person Tutor Room in Cockins Hall or the Virtual Tutor Room on Zoom. The Stat Help Room is open selected hours during the week, is free, and is staffed by TAs. For info **see www.mslc.osu.edu**

EMAIL NOTE:
- ✓ All email correspondence must be using your OSU name.# address or we cannot respond.

Course Description:
Statistics 1430H is an introduction to the fundamental concepts of probability, statistics, and data analysis. Topics include surveys and experiments, numerical and graphical summaries, discrete and continuous random variables, simple linear regression, relations in categorical data, sampling distributions for means, and introduction to confidence intervals. The prerequisite is Math 1131. We assume you can do basic integration. This course satisfies the General Education foundation requirement in *Mathematical and Quantitative Reasoning or Data Analysis* which has the following goals and expected learning outcomes:

Goals: Successful students will be able to apply quantitative or logical reasoning and/or mathematical/ statistical methods to understand and solve problems and will be able to communicate their results.
Expected Learning Outcomes (ELOs): Successful students are able to:
1.1 Use logical, mathematical and/or statistical concepts and methods to represent real-world situations.
1.2 Use diverse logical, mathematical and/or statistical approaches, technologies and tools to communicate about data symbolically, visually, numerically and verbally.
1.3 Draw appropriate inferences from data based on quantitative analysis and/or logical reasoning.
1.4 Make and evaluate important assumptions in estimation, modeling, logical argumentation and/or data analysis.
1.5 Evaluate social and ethical implications in mathematical and quantitative reasoning.

This course also satisfies the Legacy General Education requirement in *Data Analysis*. which has the following goals and expected learning outcomes:

Goals: Students develop skills in drawing conclusions and critically evaluating results based on data.
Expected Learning Outcomes:
1. Students understand basic concepts of statistics and probability.

2. Students comprehend methods needed to analyze and critically evaluate statistical arguments.
3. Students recognize the importance of statistical ideas.

Stat 1430 Carmen Website:
Please check the course website frequently as new announcements and information are added all the time.. Here are some of the materials that are posted on Carmen:
- Course announcements, schedule, and other course information
- Announcements/changes/updates in the course
- Lecture outlines for every lecture. Please take notes on the outline as you listen in lecture.
- All recitation materials; solutions posted as we go along.
- Exam review materials and other resources

Textbook
- **My Stat Lab** is REQUIRED. It includes the e-book and our statistical software. It's a part of Carmen Books, already incorporated in your course fee at a much lower price. You don't need scholarship or financial aid money to register for it.
- **The instructions to register for access to MyStatLab are under the COURSE INFORMATION MODULE of Carmen.** (If you want to opt out go to the OSU Carmen Books website.)

Technology
- Calculators are required on the exams if you don't want to do hand-calculations.
- **INSPIRE BRAND CALCULAORS (or equivalent) ARE NOT ALLOWED.**
- **Data Files** will be used in the class during recitation. You can access all data sets through the Stat 1430 Carmen website.
- **Computer Software**: **StatCrunch.** This software is required comes as a part of My Stat Lab. You will need it for recitations and possibly homework.

Course Topics List

Module 1: Data Collection: Surveys and Experiments
Module 2: Organizing Data with Graphs and Descriptive Statistics
Module 3: Using StatCrunch Correlation and Regression
Module 4: Correlation and Regression
Module 5: Two-way Tables and Independence
Module 6: Probability Rules
Module 7: Conditional Probability
Module 8: Discrete Random Variables
Module 9: Continuous Random Variables
Module 10: Normal and Binomial Distributions
Module 11: Sampling Distributions and Confidence Intervals (CI)
Module 12: Hypothesis Tests (HT) for Population Mean (sigma known)
Module 13: T-distribution
Module 14: CI and HT for the Population Proportion

Recitation Assignments and Recitation Sessions
- ✓ <u>Attendance and Participation are REQUIRED in recitation and is worth 5 percent of your final grade</u>. Leaving early or coming late causes you to miss the point for the day. Not participating can cause the same thing. We do drop 3 recitation attendance grades but we DO NOT make up missed recitations, nor do we excuse them. Save your drops for when you absolutely need them.
- ✓ Two recitation assignments are due each week and are due on the following Monday at 11:59pm, submitted online. For week 2 we have a holiday on Monday so Rec 1a and Rec 1b will be due on Tuesday Jan 17, that's the only exception. See the MODULES section of Carmen on each topic for recitations pertaining to that topic.
- ✓ You are assigned to 2 recitation sessions per week. We work on the weekly recitation assignments in groups in recitation, as well as highlight the big ideas from lecture and work examples.
- ✓ Late work is not accepted unless there are extenuating long-term circumstances that are documented. The lowest 3 assignments are dropped to cover all work that is not turned in for any other reason.
- ✓ Questions on the assignment will cover material recently covered in lecture.
- ✓ Each recitation assignment will be worth 10 possible points. Most of the time we will grade 5 random problems for 2 points each.
- ✓ Recitation questions will include short answer work as well as MC/TF.
- ✓ Make sure you bring completely filled-in lecture notes to recitation. We do not have time to explain material from scratch and will not be able to do so in recitation.
- ✓ You can also get help in the tutor room or office hours.

Homework – Online Quizzes in Carmen:
- ✓ Each week you will complete an online Homework of 20 questions worth 20 points, due the following Monday at 11:59 pm, starting with Homework 1 due Monday of Week 2. We drop the lowest HW grade. <u>They will appear as quizzes on Carmen.</u> You may use any materials you want to complete the homework. We encourage you to work on your own to get the most learning possible. Solutions will be provided after the due date/time has passed.

Lecture
- ✓ Lecture attendance is expected unless one is sick and unable to attend. This is where you will get the notes for the lecture outline, plus extra honors material such as proofs of mathematical ideas, or demonstrations.
- ✓ I will post the lecture notes on Carmen after class. I will try to get them up the same day. They will not be recorded but at least you will have the written-out notes.
- ✓ Exam note: All material covered in lecture is fair game for exams. <u>Please don't ask if something I do or say in class could be on the exam - the answer would always be yes. Just make sure you understand what is going on and ask questions any time.</u>

Final Project – end of the semester
- ✓ Groups of students will be assigned a project to complete. It will be presented on the last day of class. More information later on. The final project is worth 5% of your grade and will require time outside of lecture and recitation to work on with your group.

Exam Information and Policies:
- **Number of exams.** There will one in-class midterm exam and one in-class final exam during class time. The final exam will contain material after the midterm as well as regression and correlation.
- **Exam Content**. Exam questions are all multiple choice / true/false and work it out problems. Practice materials will be posted for each exam. Read the document on how to study for my exams in the exam review materials module.
- **Exam materials.** You may NOT use any materials (notes, book, etc) during exams.
- You **MUST HAVE** your Buck-ID available at the exam.
- **No-Question policy during exams.** We are not able to answer questions during the exams. To that end, exam questions are written very clearly, to avoid misunderstanding.
- **If you're late to an exam, had the wrong day** on your schedule, or missed the exam for any unexcused reason, you might not be allowed to make it up and may receive a zero. If you are allowed to take a make-up, you may receive a penalty of up to 25% of the total points possible on the exam. Any missed exams with no communication to us within 24 hours (except for extreme emergencies) may receive a 0.
- **Make-up Exams:** If you have a documented class conflict there will be a make up exam scheduled for the same day. More information on this as the exams get closer. If you have an emergency or extended illness (such as Covid) and are going to miss an exam please notify Dr. Rumsey as soon as possible so arrangements can be made. Please have documentation (doctor's note, etc.) that says you were too sick to take the exam (not just that you visited the doctor) Your documentation must be approved prior to your being allowed to take a make-up.
- <u>**No early final exams – no exceptions**</u>**. Plan your schedule in advance, including the purchase of plane tickets, so you leave AFTER our final is over.**

Academic Misconduct:
- ✓ Academic misconduct **will not be tolerated** and will be dealt with procedurally in accordance with University Rule 3335-31-02.
- ✓ Academic Misconduct can result in receiving an E in the class, one full grade lower in the class, and/or academic probation.
- ✓ **Using unauthorized resources, such as Course Hero, or Chegg or any previous semester materials to turn in work is considered Academic Misconduct.**

Make-Up Assignment Policy – Restricted:
- ✓ We do not have make-up recitations except for extended emergency situations or extended illness – if you are in one of those situations you must let us know right away so we can work with you. To cover these situations, we do drop 3 recitations and 1 HW.
- ✓ **If you are on university business such as a conference, university trip, or if you are an athlete or a member of the military, or if you are celebrating a religious holiday please let your**

grading TA know prior to your leaving so your make up work can be arranged. Make up work is due on the first recitation you are due back.
- ✓ If you have an extended illness or extended emergency and this illness causes you to miss more than the allowed number of dropped recitations and/or quizzes, obtain documentation and contact Dr. Rumsey immediately.
- ✓ <u>We cannot add additional dropped assignments</u>. Save the drops for when they are needed!

GRADE COMPONENTS:

Weekly Recitation Assignments all graded on a 10-point scale. We drop the 3 lowest scores. We only do make up work in the event of extended absences (2 weeks or >)	15%
Recitation Attendance (we drop 3 absences, we do not excuse/make up absences)	5%
Out-of-Class HW: 20 points each, 20 questions. These are done as Quizzes on Carmen. We drop the lowest score; this includes HW missed due to any reason except for extended illness that includes documentation.	15%
Final Project	5%
Midterm: Tues Feb 28 in class (everything up through conditional probability)	30%
Final Exam: Friday Apr 28 12:00pm-1:45pm **in class** (Final contains all the material after the midterm plus regression/correlation) **NO EARLY FINALS! NO EXCEPTIONS!**	30%

Grades Statement – Important!
We believe strongly that grades are earned, not given. If you need to achieve a certain grade in this course, be careful to complete all assignments, plan appropriate time for studying, come to office hours/tutor room and ask questions, review feedback you receive on graded activities so you can talk to us about any problems you missed, and <u>get help as needed</u> in order to achieve your goal. We hope your grade in the course will be just as important to you on Day 1 as it is at the end of the semester, especially since you will have known the expectations of this course all semester and are in control of deciding what grade to earn. We do not bump grades at the end of the semester, we do not have extra credit and we cannot change grades based on a person's circumstances. We may or may not curve the exams – it depends on how the class does. However we do not curve the total points at the end of the class, we use the standard OSU curve for the final grades shown below.

Grading Scale:
- ✓ We assign final course grades based on the standard grading scale below.

		B+	87.00% – 89.99%		C+	77.00% –79.99%		D+	67.00% – 69.99%
A	93.00% – 100.00%	B	83.00% – 86.99%		C	73.00%– 76.99%		D	60.00% – 66.99%
A-	90.00% – 92.99%	B-	80.00% – 82.99%		C-	70.00%– 72.99%		F	below 60.00%

IMPORTANT! Keep track of your grades!!
- ✓ Please check the Carmen website for your recitation and exam scores frequently.
- ✓ If something is wrong or missing notify your TA <u>within one week</u> of when that item was graded by the TA. TAs will grade all recitations within 1 week.
- ✓ <u>We can't address problems regarding prior missing grades at the end of the semester.</u>

Addressing Issues of Differing Abilities:
- ✓ Any student who feels they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss your specific needs.
- ✓ Students with documented disabilities should also contact the Student Life Disability Services (SLDS) in 098 Baker Hall (phone: 292-3307) to coordinate reasonable accommodations for the course.
- ✓ You MUST BE REGISTERED through SLDS in order to receive accommodations.
- ✓ SLDS forms must be given to the course coordinator (Dr. Rumsey) as early in the semester as possible to be filled out and returned to you in time.
- ✓ SLDS requires at least 3 business days to coordinate an exam for someone who is already registered through SLDS. For someone not registered with SLDS by that time, we cannot guarantee accommodation.

PLEASE TAKE CARE OF YOURSELF (OSU Mental Health Statement):

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing.

If you are or someone you know is suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting **ccs.osu.edu** or calling 614--292--5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at 614-292-5766.

If you are thinking of harming yourself or need a safe, non-judgmental place to talk, or if you are worried about someone else and need advice about what to do, 24 hour emergency help is also available through the Suicide Prevention Hotline (Columbus: 614-221-5445 / National: 800-273-8255); or text (4hope to 741741); or at suicidepreventionlifeline.org.

Section Changes, Unpaid Fees: *The instructor and TA will not under any circumstances sign paperwork regarding section changes*. E-mail Jean Scott in the Statistics Office (jscott@stat.osu.edu) for the policy on section changes. If your fees are unpaid, you should not be attending class. However, if there is a valid reason (e.g., financial aid hasn't gone through), submit this in writing (with documentation) to Jean Scott asap (jscott@stat.osu.edu)