

# STAT 1430 SP 20: STATISTICS FOR THE BUSINESS SCIENCES

## Lecturers – Any of them can help you with statistics questions no matter which lecture you’re in

Dr. Rumsey: Course Coordinator, 8:00 MW lecturer and 12:45 T Th lecturer Office hours: <b>Monday and Wednesday 10:15-11:15 Cocksins Hall 227</b> , or by appointment Contact: <a href="mailto:rumsey-johnson.1@osu.edu">rumsey-johnson.1@osu.edu</a>
If not Dr. Rumsey, your lecturer is: _____ Office Hours: _____ Contact Info: _____

My Lead TA’s name is \_\_\_\_\_ . Their email address is:  
\_\_\_\_\_

**NOTE: Lines of communication:** We have more than 800 students in the class and we need to follow a certain line of communication in order to function efficiently and get you the help you need. All correspondence must be using your OSU name.# address, otherwise we cannot respond. Thanks for your cooperation!

1. For any questions regarding recitation or anything relating to your graded work contact your TA first. Your TA will give you their contact information during recitation. (Their name is also on your course schedule on BuckeyeLink; use “OSU Find People” or the Statistics Department website to find their contact information if you need it.)
2. **ONLINE RECITATION STUDENTS:** Under “Discussions” in Carmen is a way for you to ask TAs questions about the upcoming assignments. For in-class recitations, use recitation to ask TAs questions.
3. **For a place to ask specific statistical questions, get extra help on certain topics, or for a quiet place to study, visit the Statistics Help Room in Cocksins Hall, room 132. The Stat Help Room is open throughout the week, is free, and is always staffed by TAs. The Stat Help Room is open from 9:10 AM to 6:20 PM on Mondays through Thursdays and 9:10 AM to 1:40 PM on Fridays.**
4. For **technical help** with Carmen regarding the Carmen Homework, contact **Joel Bracken** at [bracken.52@osu.edu](mailto:bracken.52@osu.edu)
5. For statistical help, you may visit ANY of the lecturers during their posted office hours above.
6. If you have a personal issue that is confidential, requires special attention by the university, an unresolved issue, or would like a private discussion regarding your grade in the class, etc., contact Dr. Rumsey, the course coordinator at [rumsey-johnson.1@osu.edu](mailto:rumsey-johnson.1@osu.edu).

**Course Description:** Statistics 1430 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 is a GEC course for Data Analysis. The expected overall learning outcomes are:

Students understand basic concepts of statistics and probability, comprehend methods needed to analyze and critically evaluate statistical arguments, and recognize the importance of statistical ideas.

## Textbook

- **My Stat Lab** is REQUIRED for Stat 1430. It contains a good electronic textbook to use to follow along if you like to have a textbook to accompany your notes. Note MY STAT LAB AND ITS ELECTRONIC

TEXTBOOK ARE REQUIRED FOR BM2320, WHICH FOLLOWS THIS CLASS. So you can buy now, and use them for both courses. This is the least expensive option for getting the book. **The instructions for purchase are under the COURSE INFORMATION MODULE of Carmen.**

### Technology

- Calculators are required on the exams if you don't want to do hand-calculations. You are not allowed to use your phone as a calculator during recitation or exams.
- **INSPIRE BRAND CALCULATORS (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.**

**Stat 1430 Carmen Website:** Please check the course website frequently as new announcements and information are added all the time. You are responsible for all the information on Carmen.

### Here is some of the material that will be posted on Carmen:

- Course announcements, schedule, and other course information
- Announcements/changes/updates in the course – CHECK ANNOUNCEMENTS PAGE!!
- Lecture outlines for every lecture. Please print and bring them to lecture.
- Step by step instructions for analyzing data in Excel 2016
- All recitation materials; solutions posted as we go along.
- Solutions for certain course materials.
- Exam review materials

### Exam Information and Policies:

- **Number of exams.** There will one midterm exam and one final exam. The final exam will contain material after the midterm as well as regression and correlation.
- **Exam Content.** Exam questions are multiple choice / true/false, and short answer/work it out problems with interpretation. The amount of weight placed on the MC/TF vs the Short answer varies! Computer output could appear on exams and you will be expected to use the output to answer various questions. The main priority is to have a full set of lecture notes and study them very closely. Also, be sure to work as many problems as you can from the resources available on Carmen (including all recitation activities and past exams.) Read the information on how to study for my exams in the exam review materials module.
- **Exam materials.** No review/cheat sheets or any other outside materials are allowed on exams. We provide a copy of the Stat 1430 formula sheet attached to each exam. The formula sheet is posted on the Carmen website under the COURSE INFORMATION Module. The same formula sheet will be used on both exams in this class. Statistical tables from the text will also be provided on exams as needed; they are also on Carmen.
- You **MUST BRING** your Buck-ID, pencils (no pens please), and a scientific calculator (any type except one that can connect to the Internet) to each exam. **You will lose 5 points if you do not have a calculator or ID.**
- **Question policy during exams.** We are not able to answer questions during the exams. Questions during exams cause distraction for others. It can also create a situation where one student can get an unfair edge over the other students by asking certain questions in certain ways. **To that end, exam questions are written very clearly, to avoid misunderstanding.** Every attempt is made to avoid errors. However, **if you believe there is an error** on the exam, write a note to us on the exam.
- **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 will receive a penalty of 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 an emergency and are going to miss an exam please notify Dr. Rumsey as soon as possible so arrangements can be made. Please also have documentation (doctor's note, etc.) as to why you missed the exam. Your documentation must be approved prior to your being allowed to take a make-up.
- **No early final exams – no exceptions. Plan your schedule in advance, including the purchase of plane tickets, so you leave AFTER our final is over.**

**Midterm regrade requests:** If you would like us to reconsider how we graded a problem on your exam, you may submit a regrade request within one week of when the exams were returned to students in recitation. We have a formal process that must be followed in order for us to consider a regrade request:

1. Check the solutions to the exam and compare to your exam and how it was graded. We will not regrade problems that were graded in accordance with the solutions.
2. If you still have a question, use a separate sheet of paper and write down which problem(s) you want to be regraded and why. Also include your recitation day/time and your TA's name on this sheet of paper. **Do not write anything on your exam.**
3. **Your reason has to be very brief-no more than a few words. In fairness to all students, problems will be regraded based on what was originally written on the exam, not what is written on your regrade request. Long, drawn out arguments will NOT be considered.**
4. Show your request to your TA. They will advise you regarding your request. They know how the problems were graded and what we were expecting.
5. If you still want to send in a regrade request, attach your request to your exam and turn it in to your TA within one week after exams were returned to students in recitation.
6. Once the deadline passes decisions will be made all at once. Decisions are final. No requests will be considered once the deadline passes.
7. If you submit several questions for regrades, we reserve the right to regrade your entire exam. Do not request regrades for every point missed.
8. Regrade requests submitted after the deadline will not be considered. The deadline for regrades is always one week after the exams were returned in recitation.

#### **Recitation Assignments for those with IN-CLASS RECITATIONS (NOT ONLINE)**

- ✓ One recitation assignment is due at the end of each recitation, submitted on paper in class. Late work is not accepted. Online work is not accepted. **Attendance at recitation is required in order for your work to be accepted.** The lowest 3 assignments are dropped.
- ✓ For in-class recitation, each day you will work through a series of problems with a partner. Partners change every few weeks. The assignments are due at the end of the period on paper.
- ✓ In-class recitations: write the names of you and your partner on top of the assignment.
- ✓ 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.

#### **In-class Recitation Students**

1. We are not always in a computer lab for recitation but we are using computers, so we encourage you to bring your iPads/Laptops to recitation if you feel comfortable doing so if your recitation is not in the EA building. We have a **virtual desktop** that you can log into to have access to Excel, Carmen/Canvas, and the Internet if your device does not have those. See Carmen/Course Information for instructions.
2. **Make sure you bring completely filled-in lecture notes and go over them beforehand.** We do not have time to explain material from scratch and will not be able to do so in recitation.
  - a. Laptop is ok for your notes; your cell phone is not.

- b. You cannot bring or take photos or copies of other people's lecture notes or any solutions to problems on any assignment – that is considered academic misconduct.
  - c. Do not bring in partially filled-in lecture notes.
3. **Participate, work hard, and stay on task.** We expect you to contribute equally to your group and not be creating a distraction by surfing the internet, checking your phone, emailing, etc.
  4. **No cell phone use allowed. We will take off 5 points if we see your cell phone out or in use.**
  5. **We reserve the right to take off 5 of your recitation points if you do not have your lecture notes, if you are being distracted/distracting, if you come late, if you leave early, or if you are not participating with your partner.**

#### **Recitation Assignments for those with ONLINE-RECITATIONS (NOT IN-CLASS)**

1. Two recitation assignments are due each week, submitted online within each module. Late work is not accepted. The lowest 3 assignments are dropped.
2. **Both the assignments will be due each Friday at 11:59 pm unless otherwise stated.**
3. Each recitation assignment will be worth 10 possible points. Most of the time we will grade 5 random problems for 2 points each.
4. You will have a discussion group on Carmen where you can post your questions since you do not come in for an in-class recitation. We have 2 TAs monitoring the discussion groups. Ask any questions that you have. If you have any problems with the discussion groups contact **Nate Onnen at onnen.2@osu.edu**
5. You can also get help in the tutor room, which is open all week (Cockins 132), and/or visit your lecture during office hours or make an appointment.
6. **You are welcome to work with others but your submitted assignment must be your own in your own words, otherwise it will be treated as academic misconduct.**
7. **Check the weekly online recitation announcements for important information about things like the recitation assignments or the upcoming exam.**

#### **Additional Homework – Online Quizzes in Carmen:**

- ✓ Throughout the semester you will be given additional out-of-class Homework worth 10 points each. We drop the lowest HW grade. They will appear as quizzes on Carmen. You will have one hour from when you open the quiz to complete it. 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.

#### **Academic Misconduct:**

- ✓ Academic misconduct **will not be tolerated** and will be dealt with procedurally in accordance with University Rule 3335-31-02. (This policy can be found at <http://oaa.osu.edu/procedures/1.0.html>.)
- ✓ Academic Misconduct can result in receiving an E in the class, one full grade lower in the class, and/or academic probation.
- ✓ **Using unauthorized course resources, such as Course Hero, 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. We cannot have make-up recitations for every person who is ill or had to miss recitation. However, to cover these situations, we do drop 3 recitations and 1 homework assignment (See grade components section of the syllabus.)
- ✓ **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, or suffer a death in your immediate family, we will accommodate you in providing make up work. Please let your 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. Notification and documentation at the time of illness or within a week of returning will be required. If you will be absent on university approved business (e.g. athletes) or are observing a religious holiday, please make arrangements with your TA in advance to turn in the work you will be missing.
- ✓ We cannot add additional dropped assignments. Save the dropped recitations for when they are needed!

**IMPORTANT! Keep track of your grades!!**

- ✓ It is your responsibility to check the Carmen website for your recitation and exam scores.
- ✓ If something is wrong or your score is missing you must notify your TA within one week of when that item was returned to the class.
- ✓ We can't address problems regarding missing grades at the end of the semester. NO EXCEPTIONS.

GRADE COMPONENTS:

<b>Weekly Recitation Assignments</b> all graded on a 10-point scale. We drop the 3 lowest scores. Those on university business must make plans with your TA in advance to turn in missed work, and supply documentation – it's your responsibility to notify us <b>AHEAD OF TIME</b> .	25%
<b>Out-of-Class HW:</b> 10 points each. These are done as Quizzes on Carmen. We will drop the lowest score. This includes HW missed due to any reason except for extended illness and must include documentation.	15%
<b>Midterm</b> <b>DATE: Monday March 2, 6-7:15 pm, rooms to be announced.</b>	30%
<b>Final Exam</b> (All the material after the midterm plus regression/correlation) <b>DATE: Thurs April 23, 8-9:45pm, rooms to be announced</b> <b>NO EARLY FINALS! NO EXCEPTIONS!</b>	30%

**Grading Scale:**

- ✓ We fully expect final course grades to be assigned based on the grading scale below.
- ✓ We do not curve the class unless there is a major problem (which is rare.) Don't expect a curve!
- ✓ We don't move cutoffs. Many people end up close to cutoffs, but moving cutoffs only creates more people being close to the new cutoffs, etc. **We do not give extra credit.**

		B+	87% – 89%	C+	77% – 79%	D+	67% – 69%
A	93% – 100%	B	83% – 86%	C	73% – 76%	D	60% – 66%
A-	90% – 92%	B-	80% – 82%	C-	70% – 72%	F	below 60.0%

**Email Correspondence:**

- ✓ All course e-mail correspondence **must** be done through a valid OSU name.number account.
- ✓ **All course emails MUST include the time of your recitation and the name of your TA.**

**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.

**Section Changes, Unpaid Fees:** *The instructor and TA will not under any circumstances sign paperwork regarding section changes.* See Jean Scott in the Statistics Office (408A Cockins Hall) for the policy on section changes. If your fees are unpaid, you should not be attending class. Anyone with unpaid fees at the time of the midterm will not be allowed to take the midterm exam. In fact, you will be dropped from the course. However, if there is a valid reason for your fees being unpaid (e.g., financial aid hasn't gone through), submit this in writing (with documentation of the reason) to the course coordinator as soon as possible so that we allow you to take the midterm exam and do not drop you from the course.

**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](http://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](http://suicidepreventionlifeline.org)

**Course Topics List**

Data Collection: Surveys and Experiments
Organizing Data with Graphs
Organizing Data with Descriptive Statistics
Correlation and Regression
Two-way Tables and Independence
Probability Rules
Conditional Probability
Random Variables: Discrete
Random Variables: Continuous
Binomial Distribution
Normal Distribution
Sampling Distribution for the Sample Mean
Confidence Intervals for the Population Mean (sigma known)
T-distribution; CI and HT with sigma unknown
Hypothesis Tests for the Population Mean (sigma known); TYPE I, II errors
Confidence Intervals and Hypothesis Tests for the Population Proportion