



THE OHIO STATE UNIVERSITY

SYLLABUS:

STAT 1430.01: STATISTICS FOR THE BUSINESS SCIENCES (ONLINE)

Course overview

Instructors

Qing Xie (xie.735@osu.edu)

Office hours: **Friday, 9-10am**, or by appointment. Office hours will be held on Carmen Zoom. Zoom link will be posted on Carmen before it starts.

Teaching Assistants

Xiao Zang (zang.58@osu.edu)

Lecture and recitation time

Lecture: **MTWR 9:00-9:50am**

Recitation: **MTWR 10:05-10:55am**

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.

Course learning outcomes

General Education (GE) Requirement: This course satisfies the GE requirement in Data Analysis.

Expected Learning Outcomes: Upon successful completion of this course, 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.

Course materials

- **MyLab Statistics** 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 MYLAB STATISTICS AND ITS ELECTRONIC TEXTBOOK ARE REQUIRED FOR BM2320, WHICH FOLLOWS THIS CLASS. So you can buy the **24-month** access 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.

Online Course Delivery

Lectures:

Lectures are delivered through live zoom from **9:00 to 9:50am** on **MTWR**, the lecture will be recorded and posted on mediasite soon after. **Zoom link will be posted on Carmen before it starts.** You can join Zoom using an internet browser. You can also install the app on your device (Mac/PC/iPad etc), and whenever you click the link to a meeting the app will open (or you will be prompted to open the app, depending on your environment). I recommend you install the app.

Recitations:

There will be recitation sessions from **10:05 to 10:55am** on **MTWR**, which are also delivered through zoom meetings and recorded. You will work on a set of recitation problems and be able to ask the TA questions. The recitations may also include tutorials and worked out examples. **Zoom link and the recitation problems will be posted on Carmen before it starts.**

A Carmen Quiz will be posted after each recitation, and the quiz questions are selected from recitation problems. You are supposed to complete all the recitation problems before attempting the Quiz, as you will be only given very limited time to just transfer the answers. There will not be sufficient time for you to work on the Quiz from scratch. The Carmen Quiz for the recitations will be due at **8:00pm on the same day as it is posted.** For some recitations we may ask you to upload scanned PDF document of your work, and we will make announcements when that is to be the case.

Assessment

Homework: There will be weekly homework assignments posted on the Carmen Quizzes. Homework is due at **6:00pm on Sunday**, with the dates summarized in the course schedule table. Homework will be assigned through Carmen Quizzes, and each homework may include up to two sets of Quizzes.

Exams: There will be one midterm exams and one final exam. **All exams will be delivered remotely, via Carmen.** The final exam will take place at the time and date established by the University. Information regarding the exams will be posted well in advance through Carmen. **Proctorio** will be used during the exams.

Grade components

Recitation problems: 10 points for each recitation. We drop the 3 lowest scores, so we will not accept excuses for late or missed submission except for extended illness and must include documentation.	20%
Homework: 10 points for each HW Quiz. There will be about 13 Quizzes (thus most of the time we will have two homework Quizzes each week) and we will drop the lowest score. This includes Quizzes missed due to any reason except for extended illness and must include documentation.	10%
Midterm exam	35%
Final exam	35%

Course schedule

The following is a tentative weekly list of topics which will be covered during this course:

Week	Date	Topic	Homework & recitation due
1	5.13	Samples & surveys	Recitation 1A
	5.14	Experiment	Recitation 1B
2	5.18	Data display	Recitation 2A
	5.19	Descriptive statistics	Recitation 2B
	5.20	Probability rules I	Recitation 2C
	5.21	Conditional Probability	Recitation 2D
	5.24		Hw1
3	5.25	Memorial day, no class	
	5.26	Conditional probability	Recitation 3A

	5.27	Discrete random variables: Binomial distribution. Part 1	Recitation 3B
	5.28	Discrete random variables: Binomial distribution. Part 2	Recitation 3C
	5.31		Hw2
4	6.1	Discrete random variables: Binomial distribution. Part 3	Recitation 4A
	6.2	Review	Recitation 4B
	6.3	Continuous random variables: normal distribution. Part 1	Recitation 4C
	6.4	Continuous random variables: normal distribution. Part 2	Recitation 4D
	6.7		Hw3
5	6.8	Sampling distribution of the sample mean. Part 1	Recitation 5A
	6.9	Sampling distribution of the sample mean. Part 2	Recitation 5B
	6.10	Midterm review	
	6.11	Midterm (Hongyu Duan)	
	6.14		Hw4
6	6.15	Sampling distribution of the sample mean. Part 3	Recitation 6A
	6.16	Review	Recitation 6B
	6.17	Confidence intervals for the population mean.	Recitation 6C
	6.18	Hypothesis testing for the population mean.	Recitation 6D
	6.21		Hw5
7	6.22	Type I and II errors.	Recitation 7A
	6.23	Review	Recitation 7B
	6.24	The t-distribution	Recitation 7C
	6.25	Confidence intervals	Recitation 7D
	6.28		Hw6
8	6.29	Hypothesis testing with unknown variance. part 1	Recitation 8A
	6.30	Hypothesis testing with unknown variance. part 2	Recitation 8B
	7.1	Correlation and Regression. Part 1	Recitation 8C
	7.2	Correlation and Regression. Part 2	Recitation 8D
	7.5		Hw7
9	7.6	Final	

Course technology

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at <https://ocio.osu.edu/help>, and support for urgent issues is available 24x7.

- **Self-Service and Chat support:** <http://ocio.osu.edu/selfservice>
- **Phone:** 614-688-HELP (4357)
- **Email:** 8help@osu.edu
- **TDD:** 614-688-8743

Baseline technical skills necessary for online courses

- Basic computer and web-browsing skills
- Navigating Carmen; the following website may help you if you encounter difficulties with Carmen: <https://resourcecenter.odee.osu.edu/canvas/>.

Necessary equipment

- Computer: current Mac (macOS) or PC (Windows 8+) with a high-speed internet connection and an up-to-date browser. Installation of Zoom is highly recommended.
- CarmenZoom text, audio, and video chat. If you need technical assistance, either call 614-688-HELP, or refer to the online instructions: <https://resourcecenter.odee.osu.edu/carmenzoom>
- Calculators are required during the recitations and exams. You are not allowed to use your phone as a calculator during recitation or exams.
- INSPIRE BRAND CALCULATORS (or equivalent) ARE NOT ALLOWED.
- Necessary data sets can be accessed via the STAT 1430 Carmen Website.
- Computer Software: StatCrunch. This software is required and comes as a part of My Stat Lab. You will need it for recitations and possibly homework.

Staff response

Staff feedback and response time

We are providing the following list to give you an idea of our intended availability throughout the course. (Remember that you can call **614-688-HELP** at any time if you have a technical problem.)

Canvas Conversations

A course instructor or teaching assistant will reply to messages sent via Canvas Conversations within **24 hours on school days (Monday – Friday, excluding university holidays; list of holidays at <http://registrar.osu.edu/staff/bigcal.asp>)**.

Discussion board

We will check and reply to messages in the discussion boards as appropriate every **24 hours on school days**.

Live Zoom office hours.

Each week, there will be live Zoom office hours. The dates and times of these will be communicated clearly and well in advance. An announcement will also be posted on Carmen.

If you have questions about the Mastery Assessments (Quizzes, Exams, etc.) or notice any typos in the material, please message us directly via Canvas Conversations – please do not use the Discussion board.

Attendance, participation, and discussions

Communication guidelines

The following are our expectations for how we should communicate. Above all, please remember to be respectful and thoughtful.

- **Writing style:** While there is no need to communicate as if you were writing a research paper, you should remember to write using good grammar, spelling, and punctuation. Informality (including an occasional emoticon) is fine for non-academic topics.
- **Tone and civility:** Let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Remember that sarcasm doesn't always come across online.
- **Backing up your work:** Consider composing your academic posts in a word processor, where you can save your work, and then copying into the Carmen discussion.

Other course policies

Academic integrity policy

Policies for this online course

- **Assessments:** You must complete the exams and homework yourself, without any external help or communication.
- **Recitation activities** can be completed in a “group setting” by collaborating with other students in the class. Help from sources outside of this class is not allowed.
- **Exams** will use *Proctorio* as a proctoring tool.

Ohio State’s academic integrity policy

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University’s *Code of Student Conduct*, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University’s *Code of Student Conduct* and this syllabus may constitute “Academic Misconduct.”

The Ohio State University’s *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: “Any activity that tends to compromise the academic integrity of the University, or subvert the educational process.” Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University’s *Code of Student Conduct* is never considered an “excuse” for academic misconduct, so we recommend that you review the *Code of Student Conduct* and, specifically, the sections dealing with academic misconduct.

If we suspect that a student has committed academic misconduct in this course, we are obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University’s *Code of Student Conduct* (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- The Committee on Academic Misconduct web pages (<http://oaa.osu.edu/coam.html>)
- *Ten Suggestions for Preserving Academic Integrity* (<https://oaa.osu.edu/coamtensuggestions.html>)
- *Eight Cardinal Rules of Academic Integrity* (<http://www.northwestern.edu/uacc/8cards.htm>)

Copyright disclaimer

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Statement on Title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at titleix@osu.edu

Accessibility accommodations for students with disabilities

Requesting accommodations

If you would like to request academic accommodations based on the impact of a disability qualified under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, contact your instructor privately as soon as possible to discuss your specific needs. Discussions are confidential.

In addition to contacting the instructor, please contact the Student Life Disability Services at [614-292-3307](tel:614-292-3307) or ods@osu.edu to register for services and/or to coordinate any accommodations you might need in your courses at The Ohio State University.

Go to <http://ods.osu.edu> for more information.

Accessibility of course technology

This online course requires use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor.

- Carmen (Canvas) accessibility (<https://community.canvaslms.com/docs/DOC-2061>)
- Streaming audio and video