



THE OHIO STATE UNIVERSITY

COLLEGE OF ARTS AND SCIENCES

# SYLLABUS: STAT 2450

## INTRODUCTION TO STATISTICAL ANALYSIS I

### SUMMER 2021

## Course overview

### Instructor

Instructor: Kartik Lovekar

Email address: [lovekar.1@osu.edu](mailto:lovekar.1@osu.edu)

Office hours: Virtual Hours via Carmen Zoom. Wednesdays 9 AM to 10 AM.

### Graders/Teaching Assistants

- Pashmeen Kaur: [kaur.138@osu.edu](mailto:kaur.138@osu.edu)
- Lun Li: [li.9515@osu.edu](mailto:li.9515@osu.edu)
- Yuxuan Xin: [xin.155@osu.edu](mailto:xin.155@osu.edu)

### Course description

Statistics 2450 is a calculus-based introduction to statistical data analysis. The topics covered in the course include sampling, experimental design, probability, binomial and normal distributions, sampling distributions, inference, regression, ANOVA, two-way tables. The prerequisite for this is differential calculus.

### 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

- Textbook: *Introductory Statistics: A Problem-Solving Approach (2nd ed.)* Kokoska, ISBN 1464157618 or 19781464157615. The electronic version of this textbook and the accompanying homework management system Sapling are offered through CarmenBooks. <https://affordablelearning.osu.edu/carmenbooks/students>
- Need help with the textbook? The publisher's technical support team can be reached by phone, chat, or by email via the Student Support Community. To contact support please open a service request by filling out the webform at <https://macmillan.force.com/macmillanlearning/s/contactsupport>

## Online Course Delivery

Each week multiple lecture videos will be posted on the course website. Each video will be approximately 15-20 minutes in length. You are responsible for watching the videos and studying the material that is assigned each week. In addition to the lecture videos, weekly assignments will be posted on the class website. You will be given ample time to complete the assignments.

The instructor may elect to deliver live Zoom lectures in place of videos for certain topics. In this case, the lecture will be recorded and posted on the class website soon after.

The instructor will hold weekly office hours via Zoom. The instructor will also initiate and manage active discussion boards, also via Carmen.

You are assigned to a recitation section. Each week, a recitation activity will be posted on Carmen. This will be accompanied by live Zoom interactions, tutorial videos, worked out examples or other educational materials. The recitation will be recorded and posted on the class website soon after.

The vast majority of the course can be completed asynchronously, meaning that you will be able to study materials and work on assessments according to your own schedule. Regularly, live Zoom meetings will take place. The dates and times of these, will be announced later, see the Staff Response section below.

## Assessment

**Homework:** There will be weekly homework assignments posted on the course website. Homework is due once per week, with the dates and times provided as needed.

**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 the course website.

**Weekly Recitation assignments:** Each week, recitation assignments will be posted on Carmen. Typically, these will be due at the end of the week and will count towards your final grade.

Recitation assignments will count for 20% of your grade, homework will count for 20% of the final grade, the midterm exam will count for 30% of the grade and the final exam will count for 30% of the final grade. The weights are subject to change.

## Course schedule

A tentative weekly list of topics which will be covered during this course will be given as a separate file on Carmen.

## 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/hours>, 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](mailto:8help@osu.edu)
- **TDD:** 614-688-8743

### Baseline technical skills necessary for online courses

- Basic computer and web-browsing skills
- Navigating Carmen

### Technology skills necessary for this specific course

- CarmenZoom

- Collaborating in CarmenWiki
- Recording a slide presentation with audio narration
- Recording, editing, and uploading video

### Necessary equipment

- Computer: current Mac (OS X) or PC (Windows 10+) with high-speed internet connection
- Webcam: built-in or external webcam, fully installed
- Microphone: built-in laptop or tablet mic or external microphone

### Necessary software

The JMP software will be used in this course. Follow this [link](#) to download it. SE146414253X as the 12-digit authorization code. Proceed to download and install JMP-Student Edition.

## Faculty feedback and response time

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

### E-mail

I will reply to e-mails within **24 hours on school days**.

### Discussion board

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

# Attendance, participation, and discussions

## Discussion and communication guidelines

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

- **Writing style:** While there is no need to participate in class discussions 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.

- **Citing your sources:** When we have academic discussions, please cite your sources to back up what you say. (For the textbook or other course materials, list at least the title and page numbers. For online sources, include a link.)
- **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

### Health and safety

The Ohio State University Wexner Medical Center's Coronavirus Outbreak site (<https://wexnermedical.osu.edu/features/coronavirus>) includes the latest information about COVID-19 as well as guidance for students, faculty and staff.

I expect that you will read and follow the guidelines and requirements for campus safety, which are available at <https://safeandhealthy.osu.edu>.

### Student academic services

Student academic services offered on the OSU main campus  
<http://advising.osu.edu/welcome.shtml>.

### Student support services

Student support services offered on the OSU main campus <http://ssc.osu.edu>.

### 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.

## **Ohio State's academic integrity policy**

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct <http://studentlife.osu.edu/csc/>.

## **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](mailto:titleix@osu.edu)

## Accessibility accommodations for students with disabilities

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: [slds@osu.edu](mailto:slds@osu.edu); 614-292-3307; [slds.osu.edu](http://slds.osu.edu); 098 Baker Hall, 113 W. 12th Avenue.

### 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](#)
- Streaming audio and video
- Synchronous course tools

## Your mental health

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 or someone you know are 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 and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-800-273- TALK or at [suicidepreventionlifeline.org](http://suicidepreventionlifeline.org)

## **Disclaimer**

This syllabus should be taken as a fairly reliable guide for the course content. However, you cannot claim any rights from it and in particular we reserve the right to change due dates or the methods of grading and/or assessment if necessary. Any changes will be communicated to you through official course announcements.