



THE OHIO STATE UNIVERSITY

STAT 2450.01

Introduction to Statistical Analysis I

(25818)

Autumn 2026

Syllabus - Instructor Information

Jonathan Baker

Professional Qualifications

Ph.D., Mathematics Education (Statistics Emphasis), The Ohio State University

M.S., Statistics, The Ohio State University

B.S.Ed., Mathematics Education, Northwestern University

Syllabus - Required or Recommended Readings

Course Materials

Required Materials

- Introductory Statistics: A Problem-Solving Approach (3rd ed.) Kokoska.

ISBN 9781319272685

This course requires electronic access to the accompanying web-based materials via Sapling. The ebook, quizzes, and homework assignments are all located within this resource.

The text can be purchased through CarmenBooks.

The textbook and/or courseware for this course is being provided via CarmenBooks. Through CarmenBooks, students obtain publisher materials electronically through CarmenCanvas, saving them up to 80% per title. The fee for this material is included as part of tuition and is listed as CarmenBooks fee on your Statement of Account. In addition to cost-savings, materials provided through CarmenBooks are available immediately on or before the first day of class. There is no need to wait for financial aid or scholarship money to purchase your textbook.

Unless you choose to opt-out of the program, you do NOT need to purchase any materials for this course at the bookstore. For more information on the program or information on how to opt out, please visit the CarmenBooks website.

- [Kokoska] [SaplingPlus for The Basic Practice of Statistics] • [3rd edition]
 - [Macmillan]

Access the courseware for this title through the Macmillan Higher Education Learning tab on the left-side of the course navigation.

STUDENT REGISTRATION INSTRUCTIONS

- Log into STAT 2450 through Carmen.
- Click the MacMillan App in the left navigation panel.
- Click the Achieve Learning link (note: if you encounter an error message or blank screen, you will need to adjust your browser settings and/or disable pop-up blockers).
- Agree to Macmillan Learning terms of use and end user agreement.
- Select your access option (credit card payment, use an activation code, or, request trial access). Click on any Achieve assignment link to launch the assignment.
- Follow the associated steps and continue to your assignment page.
- You are now enrolled in the course and can access future assignments through the links on your instructor's course page.
- To access your ebook click on the image of the cover on the right sidebar of your course site. Create an account or login with an existing Macmillan Learning ebook account.

(Very) Highly recommended materials

- Texas Instruments 83 Plus (or higher) Graphing Calculator.

Syllabus - Course Schedule

Autumn 2026 STAT 2450 Calendar

Mondays	Wednesdays
August 24	August 26
No Lecture - Autumn Semester Eve	Chp.1 An Intro. to Statistics & Statistical Inference

August 31	September 2
2.1–2.3 Types of Data, Bar Charts, Pie Charts, Stem-and-Leaf Plots	2.4 Frequency Distributions and Histograms
September 7	September 9
No Lecture – Labor Day	3.1,3.2 Measures of Central Tendency& Variability
September 14 <u>HW 1 & Qz.1 Due</u>	September 16
3.3 Empirical Rule, Measures of Position, Box Plots	4.1 Experiments, Sample Spaces, Events
September 21	September 23
4.2 An Introduction to Probability	4.4 Conditional Probability
4.3 Counting Techniques	4.5 Independence
September 28 <u>HW 2 & Qz. 2 Due</u>	September 30 Short Qz. Review
5.4 The Binomial Distribution (with ref. to 5.1)	6.2 The Normal Distribution (with ref. to 6.1)
October 5	October 7
October Quiz (Chps. 1, 2, 3 &4a)	6.3 Checking the Normality Assumption
	6.4 Exponential Distribution
October 12 <u>HW 3 & Qz 3 Due</u>	October 14
7.1 Statistics, Parameters & Sampling Distributions	7.3 Distribution of the Sample Proportion (Fall Break Eve)
7.2 Sampling Distribution of the Sample Mean	

October 19	October 21
8.1 Point Estimation	8.2 Conf. Int. for a Pop. Mean when s is Known (z)
October 26 <u>HW 4 & Qz 4 Due</u>	October 28 Short Qz. Review
8.3 Conf.Int.for a Pop.Mean when s is Unknown (t)	8.4 Confidence Interval for a Population Proportion
November 2	November 4
November Quiz (Chps. 4b, 5 & 6)	9.1, 9.2 Parts of a Hypothesis Tests & Errors
November 9 <u>HW 5 & Qz. 5 Due</u>	November 11
9.3HypothesisTestsfor a Pop.Mean when s is Known(z)	No Lecture – Veteran's Day
9.4 P-Values	
November 16	November 18
9.5 Hypothesis for Pop. Mean w/s Unknown(t)	9.6 Hypothesis Tests for a Population Proportion
November 23 <u>HW6 &Qz.6 Due</u>	November 25
11.1 One-Way ANOVA	No Lecture – Thanksgiving Break
November 30	December 2 Short Qz. Review
12.1 Simple Linear Regression	12.2 Hypothesis Tests and Correlation

December 7	December 9 Short Exam Review
December Quiz (Chps. 7, 8, 9)	Course Wrap-up
	(Final Exam Wednesday, December 16th 2:00p–3:45p)

Course Details - Instructor Contact Details

Jonathan Baker

Ramseyer 260A

baker.375@osu.edu

Course Details - Office Hours

MW 1p – 130p (Jennings exact location TBD)

W4p – 430p Virtual hours are had via the CarmenZoom link: <https://go.osu.edu/jbaker>

Additional TTh hrs. to be added based upon student input.

Course Details - Additional Instructional Staff

Please reference your class schedule and circle YOUR TA

Yeming Lin.4466

Josef Vytopil.1

My TA's Tutor Room hours are _____

Course Details - Class Meeting Details

Class Meeting Details: 01:50 PM-02:45 PM - Jennings Hall 155 - MW

Course Details - Course Description

Calculus-based introduction to statistical data analysis. Includes sampling, experimental design, probability, binomial and normal distributions, sampling distributions, inference, regression, ANOVA, two-way tables. Prereq: Math 1131, 1141, 1151, 1156, 1161.xx, or 1181H, or equiv, or permission of instructor. Not open to students with credit for 2450, 2450.02, 2480, 2480.01, 2480.02, or 3202.

Prerequisite(s) / Corequisites: Prereq: Math 1131, 1141, 1151, 1156, 1161.xx, or 1181H, or equiv, or permission of instructor. Not open to students with credit for 2450, 2450.02, 2480, 2480.01, 2480.02, or 3202.

Course Details - More About This Course

Your Support System

Lecturer Provide the overarching view of the clusters of concepts.

Recitations Reinforce and extend content covered in lecture. Students will attend recitations with their TAs on Fridays. Recitation assignments must be submitted via Carmen DropBox by 11:59p.m. on Fridays. Students should still expect to be active participants in these sessions.

Tutor Hours The Math-Stat Learning Center will have an online component. The face-

to-face part of the operation opens Mon.-Thurs. at 10:20a. Closing at 7:30p each of those days. Look for exact times and virtual offerings that 2450 TAs will be available to help you. <https://mslc.osu.edu/tutoring> .

Course Details - Course Learning Outcomes

By the end of this course, students should successfully be able to:

- Use statistical concepts and methods to represent real-world situations.
- Use diverse statistical approaches, technologies and tools to communicate about data symbolically, visually, numerically and verbally.
- Draw appropriate inferences from data based on quantitative analysis.
- Make and evaluate important assumptions in estimation, modeling, and data analysis.
- Evaluate social and ethical implications in mathematical and quantitative reasoning.

Course Objectives:

- To enable you to use statistical tools for presentation and descriptions of data
- To enable you to correctly apply probability rules and counting techniques.
- To enable you to understand the use of sampling distributions as the foundation of inference.
- To enable you to analyze data through linear regression, confidence intervals, and hypothesis tests.
- To enable you to use your knowledge of calculus to conceptually

understand its role in computing probabilities.

GE Course Information:

- Foundations : Mathematical & Data Analysis Category

Dr. Baker's vision for your completion of STAT 2450

- You will become proficient in collecting, organizing, analyzing, and interpreting data
- You will become competent in the use of data analysis software.
- You will conceptually understand situations involving random phenomena.
- You will interpret findings and improve your ability to justify your results.
- Your metacognition & desire to reflect upon what you have learned will be heightened.
- You will respond to a problem by: considering any relevant assumptions, analyzing, and effectively communicating your results.
- You will gain a greater appreciation for statistics (and the underpinning mathematics).
- You will complete the Data Analysis GE requirement.

Personal Vision Statement & Commitment

Personal Vision Statement for STAT 2450: By successfully completing STAT 2450 I must: will: • • •	Personal Commitment to STAT 2450: To successfully complete STAT 2450, I • • •
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Course Details - Course Supplies

Top Hat

We will use the Top Hat software to elicit student responses during lectures. Students will use their smart phones to text responses to questions posed. Please use the following information and the Student Quick Start Guide that is posted on Carmen to complete the registration process. Your username must be

name.# (e.g. burrow.3).

Top Hat course name: STAT 2450 AU 2026 6-digit course code: 199704

Direct Link: <https://app.tophat.com/e/199704>

Required Materials

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Course Details - Canvas Assignment Schedule

Date	Name	Assignment Type	Points
8/28/26	Recitation 1 Dropbox	Assignment	10

Course Details - Grading Policy

Grades

Assignment or category	Percentage	Your Grade
(October Quiz) (Monday, October 5th)	10%	

Assignment or category	Percentage	Your Grade
(November Quiz) (Monday, November 2nd)	10%	
(December Quiz) (Monday, December 7th)	10%	
(Comprehensive Quiz) (Wednesday, December 16th)	20%	
Small Project "S.P." ("Ess-P.")	20%	
Homework Assignments (6 total, none are dropped)	10%	
Semi-monthly Quizzes (6 total, 1 is dropped)	10%	
Attendance & Participation (Combined For Lecture & Recitation)	10%	
Total	100	

The exact due dates will appear in the daily calendar at the end of this document.

Homeworks & quizzes are completed in our learning management system, Achieve. They'll be generally due on Mondays at 11:59p.m. Exams will be administered similarly or via Carmen "Secure Exam Proctor." The S.P. will not be due in either of the December recitations – with intermediate progress points.

Course Details - Grading Scale

Letter Grade	Percentage Range
A	100% to 93%
A-	< 93% to 90%
B+	< 90% to 87%
B	< 87% to 83%
B-	< 83% to 80%
C+	< 80% to 77%
C	< 77% to 73%
C-	< 73% to 70%
D+	< 70% to 67%
D	< 67% to 60%
E	< 60% to 0%

Course Details - Course Policies

Instructor feedback and response time

Grading and feedback

Assessments will be available within 1 recitation.

E-mail

All course e-mail correspondence must be done through a valid OSU name.n account. Expect a 24-hour response time when communicating with TAs and lecturers. We are here to support you, but just not quite in a true “on-demand” sense.

Discussion board

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

Student participation and responsibility

We expect you to be actively engaged in the learning process. You are responsible for your learning. Schedule a minimum of 6 hours to prepare for this course. This equates to 9 hours weekly when the 3 hours for lecture and recitation attendance are included. Successful students perform a variety of positive academic behaviors like: reviewing the Carmen page, downloading notes, being proactive in contacting a TA or classmate as necessary, etc.. Please seek assistance in managing any non-academic responsibilities prior to any potential for under-performance.

Successful students perform a variety of positive academic behaviors like: reviewing the Carmen twice a week, reviewing the weekly learning units the first half of each week, and completing all homework assignments and quizzes during the second half of each week.

Electronic devices

As a courtesy to fellow classmates, all cell phones and other electronic devices

must

be silenced during lectures and recitations. Your engagement with the class will require an attentiveness for note-taking. If necessary, TAs and lecturers can request that students place these devices out of plain view if their usage is deemed irrelevant to instruction.

Course Details - AI Use Policy

Students may use AI to generate practice exercises and other efforts to reinforce knowledge of topics covered. The Learning Management System for this course also has an abundance of exercises to strengthen your knowledge of topics. Students are ultimately for submitting their OWN WORK with accuracy and integrity. Unless explicitly permitted below, representing AI-generated content as your own work is a violation of the Code of Student Conduct.

These levels may apply to the entire course or specific assignments, as indicated by the instructor:

- Permitted: You may use GenAI as a virtual tutor to explain concepts, quiz you on course topics, or summarize content you have personally authored (e.g., your own class notes).
- Prohibited: The materials in this course may be subject to copyright protection. Do not input or allow AI to access external or instructor-created course materials (e.g., assigned readings, slides) without explicit instructor permission. Do not use GenAI to outline, draft, translate, or write any part of an assignment.
- On your class Project....
- On your Class ProjectBE Smart. I want to assess YOUR WORK!! You are ultimately responsible for the accuracy and integrity of your submitted work. U

These levels may apply to the entire course or specific assignments, as indicated by the instructor:

- Permitted: You may use GenAI to produce initial drafts, refine text, or co-create. You may use GenAI to translate materials.
- Prohibited: The materials in this course may be subject to copyright protection. Do not input or allow AI to access external or instructor-created course materials (e.g., assigned readings, slides) into AI systems without explicit instructor permission.
- Requirement: You must document and critically evaluate the accuracy of AI outputs. You are responsible for authoring the final text/work.

Course Details - College and/or Department Policies

Academic integrity policy

A guiding principle is that, if you are considering doing something that might be unethical, then “Don’t do it!!” This mantra applies to both academic and non-academic settings.

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/>.

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 I recommend that you review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct. <http://studentlife.osu.edu/csc/>.

If I suspect that a student has committed academic misconduct in this course, I am 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. In short, if you are considering doing something that might be unethical, then resist and refrain from pursuing it. This will help you in college and well-beyond.

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 (COAM Home)
- Ten Suggestions for Preserving Academic Integrity (Ten Suggestions)
- Eight Cardinal Rules of Academic Integrity (www.northwestern.edu/uacc/8cards.htm)

Syllabus - University Policies

Office of Undergraduate Education - Standard Syllabus Statements

- [Academic Misconduct](#)
- [Religious Accommodations](#)
- [Accommodations for Disability and Illness](#)
- [Intellectual Diversity](#)
- [Grievances and Solving Problems](#)
- [Creating an Environment Free from Harassment, Discrimination, and Sexual Misconduct](#)
- [Copyrights](#)
- [Content Warnings](#)
- [Mental Health Support](#)
- [Resources for Military-Connected Students](#)
- [Campus-wide Class Cancellations](#)