



THE OHIO STATE UNIVERSITY

STAT 1450.01

Introduction to the Practice of Statistics (25852) Autumn 2026

Syllabus - Instructor Information

Instructor - Michael Okanta

Professional Qualifications

- Master's, Statistics, Miami University
- Bachelor's, Mathematics, Kwame Nkrumah University of Science and Technology

Course Coordinator - Laura Jones

Professional Qualifications

- Master's, Statistics, The Ohio State University
- Specialization in College and University Teaching, The Ohio State University
- Master's, Mathematics, Ohio University
- Bachelor's, Mathematics and Gender and Women's Studies, Washington and Jefferson College

Syllabus - Required or Recommended Readings

The textbook and 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 eText Library 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.

Moore, Notz, and Fligner • The Basic Practice of Statistics • 9th • Macmillan • ISBN:9781319344641

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 [Teaching & Learning Resource Center](#). If you do opt out, you are still responsible for all readings/activities related to the materials and will need to purchase a copy independently.

If you wish to opt out, you will see a button to do so when you launch the materials on your CarmenBooks shelf. You have until the second Friday of any session to opt-out, but the course materials are required, and you will have to purchase them independently if you do so.

If you rely on assistive technology or need an accessibility accommodation for the digital materials provided via CarmenBooks, please contact the Alternative Media team in Student Life Disability Services at slds-altmedia@osu.edu.

STUDENT REGISTRATION INSTRUCTIONS

- Log into STAT 1450.01 through Carmen.
- Click on “Macmillan Higher Education” in the left navigation panel.
- Click the Achieve 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 and try again).
- Agree to Macmillan Learning terms of use and end user agreement.
- You are now enrolled in the course and can access future assignments through the Carmen links.
- To access your e-book, select the down arrow next to your name in the upper right corner or use the embedded e-book on the left side

panel of the Achieve course.

- Need Help? The 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:

<https://macmillan.force.com/macmillanlearning/s/contactsupport>

Syllabus - Course Schedule

Week	Topic
1	Graphical Displays
2	Numerical Summaries
3	Normal Distribution
4	Linear Regression
5	Two-way Tables
6	Sampling and Experimental Design
7	Probability
8	Sampling Distribution of the Sample Mean
9	Inference about a Population Mean
10	Inference about a Population Mean (sigma unknown)
11	Inference about Two Population Means
12	Inference about a Population Proportion
13	Inference about Two Population Proportions
14	Test of Independence

Course Details - Instructor Contact Details

Instructor: Michael Okanta - okanta.1@osu.edu

Course Coordinator: Laura Jones - jones.5810@osu.edu

All course e-mail correspondence must be done through a valid OSU name.# account. Emails received Monday through Thursday can expect a response within 24 hours. Emails sent Friday through Sunday may not be answered until the following business day. **In the subject line of your email, please include STAT 1450.01 and the class number, 25852.**

Course Details - Office Hours

Instructor: Michael Okanta

Tuesdays 10:00 am - 12:00 pm in Cockins Hall 212C

Thursdays 10:00 am - 12:00 pm in Cockins Hall 212C

Course Coordinator: Laura Jones

Mondays 8:00 pm - 9:00 pm via Zoom

Fridays 10:00 am - 11:00 am via Zoom

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Additional appointments can be made when needed. If you would like to arrange a time to talk through Zoom, please email me at least 24 hours in advance of the time you would like to meet. When scheduling an appointment, please provide your availability in the first email you send.

Mathematics and Statistics Learning Center

The Mathematics & Statistics Learning Center (MSLC) offers one-on-one assistance in-person and virtually. This is another good resource to use when you have questions. These sessions are held by the graduate teaching assistants, and you are welcome to attend any offering.

The center will open on Monday, August 31 and close on Wednesday, December 9. Once the MSLC schedule is finalized, all offerings will be posted on the Carmen homepage.

Course Details - Class Meeting Details

Lecture: Tuesdays and Thursdays - 5:20 pm - 6:15 pm in EA (209 W 18th Ave) Room 170

Recitation: Wednesdays - either at 3:00 pm, 4:10 pm, or 5:20 pm in EA (209 W 18th Ave)

Course Details - Course Description

Algebra-based introduction to data analysis, experimental design, sampling, probability, inference, and linear regression. Emphasis on applications, statistical reasoning, and data analysis using statistical software. Prereq: Math 1116 or 1130 or above, or Math Placement Level L or M, or permission of instructor. Not open to students with credit for 1450, 1450.02, 2450, 2450.01, 2450.02, 2480, 2480.01, or 2480.02.

Prerequisite(s) / Corequisites: Prereq: Math 1116 or 1130 or above, or Math Placement Level L or M, or permission of instructor. Not open to students with credit for 1450, 1450.02, 2450, 2450.01, 2450.02, 2480, 2480.01, or 2480.02.

Course Details - More About This Course

This course is an algebra-based introduction to data analysis, experimental design, sampling, probability, inference, and linear regression. The inference practices will involve confidence intervals and hypothesis tests for a population mean (both with sigma known and unknown) and a population proportion, the difference between 2 population means and 2 population proportions, paired data, and the Chi-square test of independence. Emphasis will be put on applications, statistical reasoning, and data analysis using statistical software. This 3-credit hour course expects all students to have completed a baccalaureate-level mathematics course.

Course Details - Course Learning Outcomes

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:

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

- 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:

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

This course will satisfy the above Expected Learning Outcomes by exposing students to a range of statistical approaches from introductory analysis to inference. Students will be able to explore these ideas in low-stake settings and demonstrate their understanding in high-stake settings. As much as possible, real-world data and figures will be applied to bridge the gap between classroom and practical application.

Course Details - Course Supplies

Recitation Device: For your weekly recitation, you must bring a device that is compatible with the JMP software to complete the assigned activity. Within 10 minutes of the conclusion of the session, you must submit the activity online via Carmen.

Top Hat: We will use the Top Hat software to elicit student participation during lecture (worth 5% of the overall grade). You will use your device to respond to questions. You may download the Top Hat app or use the direct link below. Your username must be your name.# (e.g., carter.5).

- **Top Hat Course Name:** STAT 1450.01 AU 26 Evening
- **Direct Link:** <https://app.tophat.com/e/486873>
- **6-digit join code:** 486873

JMP: JMP is the statistical software for this course. JMP is free via the following:

1. Go to https://www.jmp.com/en_us/academic/jmp-student-edition.html
2. Click on "Get JMP for free!"
3. Follow the remaining registration steps

Calculator: Highly Recommended - Texas Instruments 84 (or higher) Graphing Calculator (Note that at least a basic calculator is required)

Course Details - Detailed Course Schedule

Tuesdays	Thursdays	Due Dates
August 25 Ch.1 Picturing Distributions with Graphs	August 27 Ch. 2 Describing Distributions with Numbers (thru 2.4)	
September 1 Ch. 2 Describing Distributions with Numbers	September 3 Ch. 3 The Normal Distribution (thru 3.4)	HW 1 Due F 9/4 Qz 1 Due T 9/8
September 8 Ch. 3 The Normal Distribution	September 10 Ch. 4 Scatterplots & Correlation	HW 2 Due F 9/11

Tuesdays	Thursdays	Due Dates
September 15 Ch. 5 Regression (thru 5.2)	September 17 Ch. 5 Regression	HW 3 Due F 9/18 Qz 2 Due M 9/21
September 22 Ch. 6 Two-Way Tables	September 24 Ch. 8 Producing Data: Sampling	HW 4 Due F 9/25 Qz 3 Due M 9/28
September 29 Ch. 9 Producing Data: Experiments	October 1 Ch. 12 Introducing Probability	HW 5 Due F 10/2 Exam 1 Review Covering Chapters 1- 6, 8, & 9 (held outside of class)
October 6 Ch. 13 General Rules of Probability	October 8 Ch. 13 General Rules of Probability	Exam 1 Due M 10/5
October 13 Ch.15 Sampling Distributions	October 15 Fall Break – No Lecture	HW 6 Due M 10/19 Qz 4 Due T 10/20
October 20 Ch. 16 Confidence Intervals: The Basics (thru16.2)	October 22 Ch. 16 Confidence Intervals: The Basics Ch. 17 Tests of Significance: The Basics (thru 17.2)	HW 7 Due F 10/23

Tuesdays	Thursdays	Due Dates
October 27 Ch. 17 Tests of Significance: The Basics Ch.18: Inference in Practice	October 29 Ch. 20 Inference about a Population Mean (thru 20.4)	HW 8 Due F 10/30 Qz 5 Due M 11/2
November 3 (Asynchronous Day) Ch. 20 Inference about a Population Mean	November 5 Ch. 21 Two Means (thru 21.3)	HW 9 Due F 11/6 Exam 2 Review Covering Chapters 12,13,15,16-20 (held outside of class)
November 10 Ch. 21 Two Means	November 12 Ch.22 Inference about a Pop. Proportion (thru 22.3)	Exam 2 Due M 11/9
November 17 Ch.22 Inference about a Pop. Proportion	November 19 Ch. 23 Comparing Two Proportions (thru 23.3)	HW 10 Due F 11/20 Qz 6 Due M 11/23
November 24 Ch. 23 Comparing Two Proportions	November 26 Thanksgiving Day – No Lecture	
December 1 Ch. 25 Two Categorical Variables (thru 25.3)	December 3 Ch. 25 Two Categorical Variables	

Tuesdays	Thursdays	Due Dates
December 8		HW 11 Due W 12/9
Review for a cumulative final exam		Qz 7 Due Th 12/10
		LearningCurve Activities Due M 12/14
		Final Exam Review – TBD
		Final Exam Due T 12/15

Course Details - Grading Policy

The following is the *only* credit that will be offered. Please refrain from asking for additional work as a means to boost your grade. This is unfair to offer to one student and is impractical to offer to the entire class.

Assignment or Category	Grade Weight
Exam 1 (Mon, Oct 5th, 4:10 pm – 5:05 pm in Hitchcock Hall 131)	21%
Exam 2 (Mon, Nov 9th, 4:10 pm – 5:05 pm in Hitchcock Hall 131)	21%
Final Exam (Tues, Dec 15th, 6:00 pm – 7:45 pm in Schoenbaum Hall 105)	21%
Total	102%

Assignment or Category	Grade Weight
Participation in Learning Environment (5% Recitation Activities, 1% Recitation Surveys, and 5% Lecture Participation)	11%
Homework Assignments (11 total, 1.67% each, 2 are dropped)	15%
Quizzes (7 total, 1.83% each, 1 is dropped)	11%
Extra Credit – LearningCurve via Achieve (+0.105% for each chapter activity completed by meeting the target score)	2%
Total	102%

According to the weights above, Carmen will calculate your final grade as follows:

$$\begin{aligned}
 \text{Final Grade} = & 0.21(\text{Exam 1}\%) + 0.21(\text{Exam 2}\%) + 0.21(\text{Final Exam}\%) + \\
 & 0.05(\text{Recitation Activity}\%) + 0.01(\text{Recitation Survey}\%) + 0.05(\text{Lecture} \\
 & \text{Participation}\%) + 0.15(\text{HW}\%) + 0.11(\text{Quiz}\%)
 \end{aligned}$$

Exams: The format of the three course exams may include multiple choice and fill-in-the blank followed by short answer questions. To receive full credit, you must show appropriate work on the short answer questions including calculator functions with inputs.

- **Exam 1:** The duration of the exam will be 55 minutes. It will cover Chapters 1-6, 8, and 9.
- **Exam 2:** The duration of the exam will be 55 minutes. It will cover Chapters 12, 13, 15-18, and 20.
- **Final Exam:** The duration of the exam will be 1 hour and 45 minutes. It will be cumulative, but there will be an emphasis on the content you have not been tested on (ie Chapters 21-23, and 25).

You are expected to complete all exams independently, without external assistance or communication. Before the exam begins, you will be instructed to show that your phone has been placed in your bag and then to leave all personal belongings at the front of the classroom. Accordingly, having your phone in your possession during an exam will be considered a potential academic integrity concern and will be reported to COAM. During an exam proctoring, instructors and proctors reserve the right to record and/or photograph students when there is reasonable concern that suspicious or unauthorized activity may be occurring.

- **Alternative Exam Appointments:** Please advise that if you have a direct conflict with an exam date your exam alternative must be finalized at least one week prior to the scheduled exam time. Failure to meet this deadline may result in a grade reduction or the inability to take the exam. Please direct conflicts to the course coordinator, Professor Jones (jones.5810@osu.edu).
 - Students may request alternative means of taking the exams at an approved proctoring center like the [OSU testing center](#). The OSU testing center is located at 585 Student Academic Services Building, 281 West Lane Avenue, Columbus, Ohio 43210. Other approved centers can be found [here](#).
 - Due to fairness and the timeliness of grading, you will be expected to schedule your alternative appointment prior to the normally scheduled exam time (not after).
- **Makeup Exams:** Make-up exams will only be offered to those with extenuating circumstances if requests are received prior to missing the normally scheduled exam. Documentation of your absence may also be necessary.

Recitation Activities: Weekly recitation activities (due Wednesdays) are your first attempt at the material and therefore are graded based upon completion and good faith effort. Do your best while working through them. It is an opportunity to begin to think through the material in a group setting. They will be due at the conclusion of your scheduled recitation time via Carmen, but **note that you will ONLY earn credit if you attend the entire session and submit the activity.** The lowest 2 scores for each half of the semester will be dropped.

Recitation Surveys: For each recitation activity, there will be a corresponding participation survey. These surveys are meant to gauge your comfortability with the content and the effectiveness of your group work. They will be due at 11:59 pm the day after your scheduled recitation. The lowest 2 scores for each half of the semester will be dropped.

Lecture Participation: Students will be asked to answer Top Hat questions during lecture as a means of gauging student understanding and measuring participation. You will receive a first half and a second half of the semester lecture participation grade, and for each half, you will be given two freebies. Please advise that if you choose to use your 2 freebies for unexcused reasons, and then you need to miss class for an excused reason, you will be penalized. Please use your freebies wisely.

Homework Assignments: Weekly homework assignments (due Fridays) are a chance for you to further explore the material, so they have unlimited attempts. As long as you do not give up on the problem, you can attempt it as many times as you would like without penalty. Feel free to discuss ideas with others but make sure you are turning in your own work. The lowest 2 scores will be dropped.

Quizzes: Quizzes (due Mondays) have 1 attempt per question with a 90-minute time limit. You can reference your notes, the textbook, or any other Achieve resources. Unlike homework assignments, you should feel confident with the material before taking the quiz since you are expected to complete them independently. Quizzes should be completed on your own, but you do have the option to reference our course materials. The lowest score will be dropped.

Extra Credit: For each chapter that we cover, there is a corresponding LearningCurve activity in Achieve. These optional activities are good for extra practice and allow you to earn extra credit. An activity is considered complete when you meet or exceed the target score.

Late Submissions: Due to the large enrollment and the need to maintain consistency and fairness for all students, LATE WORK WILL NOT BE ACCEPTED. Many assignments are posted two weeks in advance, so feel free to work ahead. If you wait until after 4 pm on the assignment due date to complete the assignment and run into technical difficulties, an extension will not be granted.

For an extenuating circumstance, please contact Professor Jones (jones.5810@osu.edu) BEFORE the assignment deadline. If a request for an extension is received after 4 pm on the assignment due date, it will be considered one of your dropped assignments.

Multiple dropped assignments are worked into the system. They include: the lowest 2 homework assignments, the lowest quiz score, and the lowest 2 recitation activities and surveys for each half of the semester.

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 - Other

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 24/7.

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

Technology Skills Necessary for this Specific Course

- CarmenZoom text, audio, webcam, and screen share. If you need technical assistance, either call 614-688-HELP, or refer to the online

instructions: <https://resourcecenter.odee.osu.edu/carmenzoom>

- Use of Achieve, which you must purchase. If you need technical assistance, either call tech support at 1-800-936-6899 or fill out the form located at <https://macmillan.force.com/macmillanlearning/s/contactsupport>

Necessary Equipment

- Computer: Mac or PC
 - For specific system requirements, please see https://www.jump.com/en_us/support/system-requirements.html
- Internet Browser: Chrome
- Robust high-speed internet connection
- Webcam: built-in or external webcam, fully installed
- Microphone: built-in laptop or tablet mic or external microphone
- Microsoft Office 365 ProPlus - All Ohio State students are eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Office 365 is installed within your BuckeyeMail account. Full instructions for downloading and installation can be found <https://ocio.osu.edu/kb04733>.
- All Ohio State students now have access to Adobe Creative Cloud as part of the university suite of tech tools and programs.

Course Details - Instructor Policies

Email Correspondence: All course-related emails should be sent from a valid osu.edu email account. Please include STAT 1450.01 and your class number (25852) in the subject line. Emails received Monday through Thursday can expect a response within 24 hours. Emails sent Friday through Sunday may not be answered until the following business day.

Course Announcements: Course announcements will routinely be communicated through Carmen. It is your responsibility to regularly check

announcements and stay informed of important course information and updates.

Office Hour Requests: The teaching assistants, instructor, and course coordinator will provide support through office hours. All office hour offerings will be posted on the Carmen homepage. If you have a conflict with the scheduled office hours, we are happy to accommodate additional meeting requests when possible. For one-on-one meetings, please include your availability in your initial email and provide at least 24 hours' notice before your requested meeting time.

Tutors: The Statistics Department (Cockins 404) does keep a list of private tutors if necessary. Students currently enrolled in a statistics course offered by the Ohio State Department of Statistics may contact Jean Scott, Statistics Program Coordinator, about hiring a private tutor. She can be reached at 614-688-5913 or scott.961@osu.edu.

Course Details - Course Policies

Attendance: Regular attendance is essential for supporting your learning and success in the course. Lecture attendance will be monitored through Top Hat, and recitation activities will only receive credit if you are present during your scheduled recitation session.

Late Work: Due to the large enrollment and the need to maintain consistency and fairness for all students, LATE WORK WILL NOT BE ACCEPTED. To account for occasional absences or missed work, the course includes built-in flexibility through dropped assignments. For additional details, please see the Grading Policy section of the course syllabus.

Alternative Exam Appointments: Please advise that if you have a direct conflict with an exam date, your exam alternative must be finalized at least one week prior to the scheduled exam time. Due to fairness and the timeliness of grading, you will be expected to schedule your alternative appointment prior to the normally scheduled exam time (not after). For

additional details, please see the Grading Policy section of the course syllabus.

Makeup Exams: Make-up exams will only be offered to those with extenuating circumstances if requests are received prior to missing the normally scheduled exam. Documentation of your absence may also be necessary.

Additional Work: Please refrain from asking for additional work as a means to boost your grade. This is unfair to offer to one student and is impractical to offer to the entire class.

Course Details - AI Use Policy

You are ultimately responsible for the accuracy and integrity of your submitted work. Unless explicitly permitted below, representing AI-generated content as your own work is a violation of the Code of Student Conduct. Please check with your instructor if you have questions.

- **Permitted:** You may use the AI Student Tutor available within Achieve as a supplemental resource to assist with completing homework assignments. You may also use other AI tools to help explain course concepts and guide you through ungraded examples.
- **Prohibited:** You may not use AI tools to generate, provide, or complete solutions for any graded component of the course.

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](#)