Syllabus

STAT 5510

Statistical Foundations of Survey Research
Spring 2025 (full term)
3 credit hours
In-Person

# Course overview

## Instructor

Instructor: Elly Kaizar

Email address: kaizar.1@osu.edu (preferred contact method)

Phone number: (614) 247-2585

Office hours: Cockins Hall 404B, Fridays 10-11am, or by appointment

## Prerequisites

STAT 1350 (135), STAT 1450 (145), or STAT 5301 (528), and MATH 1075 (104), or equiv; or permission of instructor. Not open to students with credit for STAT 6510 (651) or STAT 551

## Course description

Understand and practice methods of survey research and data analysis including questionnaire design and pilot testing, non-sampling and sampling errors, sampling design, descriptive statistics, estimation, and hypothesis testing; and ethics

# How this course works

**Mode of delivery:** Lectures are held in person at the times and location listed below. Lecture recordings and simulcasts are typically not available. Should in-person classes be canceled, I will notify you as to which alternative methods of teaching will be offered to ensure continuity of instruction for this class. Communication will be via Announcements in Carmen.

* Tuesdays and Thursdays, 12:45-2:05pm, Cockins Hall room 312 (CH312)

**Credit hours and work expectations:** This is a **3-credit-hour course**. According to Ohio State policy ([go.osu.edu/credithours](http://go.osu.edu/credithours)), students should expect around 3 hours per week of time spent on direct instruction (attendance at lecture or occasional substitution such as instructor videos and supplemental activities) in addition to 6 hours of homework (reading and assignment preparation, for example) to receive a grade of (C) average.

**Seeking assistance:** Students with questions about course content (e.g., confusion about a definition) or mechanics (e.g., homework due date) should post these questions to the course discussion boards in Carmen. If a student asks such a question via email, I reserve the right to post that question directly to the discussion board and answer it there. Questions related to individual student situations (such as grades or accommodation requests) should be sent to the instructor via email or asked in person. Students should use their discretion when seeking assistance about homework assignments. Consider whether your question can be posed as a question about ideas discussed or presented in the course. If so, post it to the discussion boards. If not, then email the instructor. Unless a student posts assignment solutions directly to the discussion boards or the instructor has given prior guidance contrary to the post, discussion board posts would typically not be considered to be academic misconduct.

**Attendance and participation requirements:** Because this is an in-person course, your attendance is primarily based on your in-person activity and participation. However, you are also expected to actively participate outside of the classroom. The following is a summary of students’ expected participation:

* **Participating in in-person activities for attendance**: **TWICE PER WEEK**
You are expected to attend in-person lectures. I do not plan to provide lecture recordings of in-person activities. If you have a situation that might cause you to miss a substantial number of class periods, discuss it with me as soon as possible.
* **Office hours**: **OPTIONAL**
Students are welcome to attend office hours, but these are optional. I encourage you to visit during posted office hours; if this is not possible you may request individual office hours by appointment.
* **Viewing and interacting with Carmen**: **Several TIMES PER WEEK**
You are responsible for keeping up to date with course announcements and posts made to the Carmen website, as well as posting to the Carmen discussion boards or completing other activities on Carmen as requested/assigned. Note that you can control your [Carmen notification preferences](https://teaching.resources.osu.edu/toolsets/carmencanvas/guides/carmen-notification-preferences) to facilitate your keeping up with the course.

# Course materials and technologies

## Textbooks

### Required

* Groves, Robert M., Floyd J. Fowler Jr., Mick P. Couper, James M. Lepkowski, Eleanor Singer, Roger Tourangeau (2011) Survey Methodology (2nd ed.). Wiley.
* Supplemental readings may be assigned. These would be available electronically at no cost via The Ohio State University Library or publicly available resources.

## Course technology

### Technology support

For help with your password, university email, Carmen, or any other technology issues, questions, or requests, contact the Ohio State IT Service Desk. Standard support hours are available at [ocio.osu.edu/help/hours](https://ocio.osu.edu/help/hours), and support for urgent issues is available 24/7.

* **Self-Service and Chat support:** [ocio.osu.edu/help](http://ocio.osu.edu/help)
* **Phone:** 614-688-4357(HELP)
* **Email:** servicedesk@osu.edu
* **TDD:** 614-688-8743

### Technology skills needed for this course

* Basic computer and web-browsing skills
* Navigating Carmen ([go.osu.edu/canvasstudent](http://go.osu.edu/canvasstudent))
* CarmenZoom virtual meetings ([go.osu.edu/zoom-meetings](http://go.osu.edu/zoom-meetings))
* Recording a slide presentation with audio narration ([go.osu.edu/video-assignment-guide](http://go.osu.edu/video-assignment-guide))
* Recording, editing, and uploading video ([go.osu.edu/video-assignment-guide](http://go.osu.edu/video-assignment-guide))

### Required equipment

* Computer: current device with high-speed internet connection
* Webcam: built-in or external webcam, fully installed and tested
* Microphone: built-in laptop or tablet mic or external microphone
* Mobile device: a mobile device (smartphone or tablet) to use for BuckeyePass authentication and TopHat participation

### Required software

* No additional software is required beyond a web-browser; students will be given instructions for using the open-source **R** statistical software at the Ohio Supercomputer Center (OSC) through their web browser and the **RStudio** interface. This software will be accessible via either a laptop or a tablet.
	+ An account at the OSC is required for this course. If you do not already have one, please:
		- Go to <http://my.osc.edu> and click “Sign Up”
		- Enter your contact information. Please use your Ohio State email address. Submit your registration.
		- Verify your email address with the response code.
		- When prompted to fill out the registration form, enter the Project Code and Access Number.
		- Agree to the terms
		- Create a username and password.
		- Emails will be sent from no-reply@osc.edu. If you did not receive an email you expected, please check your junk/spam folder. Response codes expire in 4 hours, so be prompt!
	+ The R software package is also available as free software if a student chooses to download it to a personal computer instead of accessing it through OSC. You can download R for Windows, Mac, and Linux, from the CRAN archive at <https://cran.r-project.org>.
	+ A more user-friendly interface to R is available in the software package RStudio. This package is available for Windows, Mac, and Linux and can be downloaded for free from <https://posit.co/download/rstudio-desktop/>. Note that RStudio requires R to be installed first!
	+ An in-depth introduction to R is available at <http://cran.r-project.org/doc/manuals/Rintro.pdf>
	+ Hands-on tutorials are available in the Swirl system, which you can learn about at <http://swirlstats.com/>. In particular, “R Programming: The basics of programming in R” is an appropriate first tutorial for students who have never used R.
* **Qualtrics**: This class requires you to use the survey design, distribution, data collection and analysis web application called Qualtrics. All Ohio State students can access Qualtrics and Qualtrics-provided basecamp trainings via the SSO login via this website: <http://osu.qualtrics.com/>. When we reach an appropriate stage of the course, I will give you instructions for how to upgrade your account as necessary.
* **Microsoft Office 365**: All Ohio State students are now eligible for free Microsoft Office 365. Full instructions for downloading and installation can be found at [go.osu.edu/office365help](http://go.osu.edu/office365help).
* **Top Hat**: We will often use the Top Hat software to elicit student responses during lectures. Students will use their smart phones or other mobile device to text responses to questions posed. You may download the Top Hat app or use the direct link below. Instructions for Ohio State students getting started with Top Hat can be found at <https://teaching.resources.osu.edu/toolsets/top-hat/guides/getting-started-top-hat-students>.
	+ Top Hat course name: SP25 STAT 5510
	+ Direct Link: <https://app.tophat.com/e/919772>
	+ 6-digit join code: 919772

### Carmen access

You will need to use BuckeyePass ([buckeyepass.osu.edu](http://buckeyepass.osu.edu/)) multi-factor authentication to access your courses in Carmen.

# Grading and faculty response

## How your grade is calculated

|  |  |
| --- | --- |
| Assignment category | Points |
| Homework | 20 |
| Participation | 5 |
| Midterm 1 | 25 |
| Midterm 2 | 25 |
| Final Exam | 25 |
| **Total** | **100** |

*See course schedule below for approximate dates; See Carmen for most up-to-date information*

## Descriptions of major course assignments

### Homework

**Description**: The goal of homework assignments is to help you learn. Homework assignments will be assigned regularly during the semester, approximately every 1-2 weeks for a total of approximately 10 assignments. Assignments may vary in length and overall effort to account for other course assignments (exam/project) students may be working on or preparing for. All assignments should be submitted via Carmen – typically as an uploaded .pdf document or a completed Carmen quiz. Assignments are typically due to be received by Carmen at 11:59pm on Fridays, and are typically assigned a week prior to the due date. Each student’s lowest homework grade will be dropped. Homework grades will be deducted 5% for each hour it is submitted late, so be sure to leave enough time for the vagaries of Carmen processing and internet speed. Please talk to me as soon as possible if you experience some unusual circumstance that would affect your ability to work on homework during the week and thus submit it on time.

**Academic integrity and collaboration**: You are encouraged to work with other

STAT 5510 students on homework and you may freely consult references ***other than*** previously published homework solutions to STAT 5510 or STAT 6510. Each student must hand in solutions produced themselves that represents their own work. Do not copy any part of another student's homework solutions. You must list at the top of your homework your collaborators and any references that you consulted, and briefly describe how they contributed to your work. If you choose to use an AI Chatbot such as ChatGPT or Microsoft Copilot, you should also list this as a “reference” that you consulted. (See also the section on AI use below.). Here are some examples:

* Brutus Buckeye and I worked on problems 1 and 4 of this assignment together. We discussed possible solutions to these questions.
* I used Microsoft Copilot to improve the grammar of my submission.

### Participation

**Description**: The goal of participation is to facilitate the creation of a rich learning environment. Some formal measure of participation will typically be available during each lecture period, typically via Top Hat. For each student, the grades for the four days with lowest participation grades will be dropped.

**Academic integrity and collaboration**: Students should record their true participation. Entering a participation code or otherwise indicating participation when the student is not present to participate is considered academic misconduct. For example, answering a Top Hat question posed synchronously in class when not present in that class would typically be considered academic misconduct.

### Exams

**Description**: The goal of exams is for you to review and consolidate ideas and for me to assess your individual learning and understanding. Midterm exams will take place during class time. The final exam will take place during the time designated by the registrar. Tentative dates are listed in the course schedule below. Refer to Carmen for the most up-to-date information. Students may use calculators but not use any communication device.

**Academic integrity and collaboration**: Students may not communicate with anyone other than the course instructor during exams, and may only use resources (e.g., a calculator) specifically designated on the exam assignment.

## Late assignments

Late homework submissions have their grade deducted 5% for every hour late (rounded up). Exam make-ups are typically not allowed, but if circumstances may warrant an exam accommodation, such requests should be discussed with the instructor as soon as possible.

## Grading scale

93-100: A
90-92.9: A-
87-89.9: B+
87-89.9: B
83-86.9: B-
80-82.9: C+
77-79.9: C
73-76.9: C-
70-72.9: D+
60-66.9: D
below 60: E

## Instructor 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 **614-688-4357(HELP)** at any time if you have a technical problem.)

* **Grading and feedback:** For weekly assignments, you can generally expect feedback within **7 days**. For exams, you can generally expect feedback within **10 days**.
* **Email:** I will reply to emails within **48 hours on days when class is in session at the university**.
* **Discussion board:** I or the course teaching associate will check and reply to messages in the discussion boards every **48 hours on on days when class is in session at the university**.

# Other course policies

## Use of AI

The following statement taken from [NC State University Teaching Resources](https://teaching-resources.delta.ncsu.edu/develop-an-ai-syllabus-statement/) has been adopted for use in this course.

“In this course, students are encouraged to explore and utilize generative AI tools, such as chatbots, text generators, paraphrasers, etc., as part of their learning and coursework. These tools can be valuable for brainstorming, drafting, and enhancing your understanding of the material. However, it is important to critically assess and cite any AI-generated content used in your assignments and projects. Students are expected to demonstrate their own understanding and critical thinking in their final submissions. Proper attribution and transparency about your usage of an AI tool are expected.

We may also integrate AI Tools into some of our assignments. Here are some examples of ethical and responsible generative AI use.

* Use AI tools only for tasks that are appropriate for your level of learning and understanding. Do not use AI tools to replace your own thinking or analysis, or to avoid engaging with the course content.
* Cite any AI tools you use properly, following the citation style specified by the instructor. APA Example:
	+ OpenAI. (2024). *ChatGPT* (Mar 14 version) [Large language model]. https://chat.openai.com/chat
* Provide evidence of how you used the AI tool and how it contributed to your assignment. Explain what you learned from the AI tool, how you verified its accuracy and reliability, how you integrated its output with your own work, and how you acknowledged its limitations and biases.
* Take full responsibility for any mistakes or errors made by the AI tool. Do not rely on the AI tool to produce flawless or correct results. Always check and edit the output before submitting your work. If you discover any inaccuracies or inconsistencies in the output after submission, notify the instructor immediately and correct them as soon as possible.
* If you are working on a group assignment, discuss the use of AI tools with your group members and agree on how you plan to use them and how you will be transparent with the instructor regarding their use.

If you have any questions about what constitutes ethical and responsible use of AI tools, please consult with the instructor before submitting your work.”

Microsoft Copilot is the Generative AI application adopted by Ohio State. Please ask if you have questions!

## 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. A more conversational tone 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.

## Academic integrity policy

See **Descriptions of major course assignments**, above, for my specific guidelines about collaboration and academic integrity in the context of this class.

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 3335-5-48.7 (B)](https://trustees.osu.edu/bylaws-and-rules/3335-5)). For additional information, see the [Code of Student Conduct](http://studentlife.osu.edu/csc/).

## Student Services and Advising

University Student Services can be accessed through BuckeyeLink. More information is available here:

<https://contactbuckeyelink.osu.edu/> Advising resources for students are available here: <http://advising.osu.edu>

## Copyright for instructional materials

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](http://titleix.osu.edu/) or by contacting the Ohio State Title IX Coordinator at titleix@osu.edu

## Commitment to a diverse and inclusive learning environment

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

## Religious Accommodations

Ohio State has had a longstanding practice of making reasonable academic accommodations for students' religious beliefs and practices in accordance with applicable law. In 2023, Ohio State updated its practice to align with new state legislation. Under this new provision, students must be in early communication with their instructors regarding any known accommodation requests for religious beliefs and practices, providing notice of specific dates for which they request alternative accommodations within 14 days after the first instructional day of the course. Instructors in turn shall not question the sincerity of a student's religious or spiritual belief system in reviewing such requests and shall keep requests for accommodations confidential.

With sufficient notice, instructors will provide students with reasonable alternative accommodations with regard to examinations and other academic requirements with respect to students' sincerely held religious beliefs and practices by allowing up to three absences each semester for the student to attend or participate in religious activities. Examples of religious accommodations can include, but are not limited to, rescheduling an exam, altering the time of a student's presentation, allowing make-up assignments to substitute for missed class work, or flexibility in due dates or research responsibilities. If concerns arise about a requested accommodation, instructors are to consult their tenure initiating unit head for assistance.

A student's request for time off shall be provided if the student's sincerely held religious belief or practice severely affects the student's ability to take an exam or meet an academic requirement and the student has notified their instructor, in writing during the first 14 days after the course begins, of the date of each absence. Although students are required to provide notice within the first 14 days after a course begins, instructors are strongly encouraged to work with the student to provide a reasonable accommodation if a request is made outside the notice period. A student may not be penalized for an absence approved under this policy.

If students have questions or disputes related to academic accommodations, they should contact their course instructor, and then their department or college office. For questions or to report discrimination or harassment based on religion, individuals should contact the Office of Institutional Equity. (Policy: [Religious Holidays, Holy Days and Observances](https://oaa.osu.edu/religious-holidays-holy-days-and-observances))

# Accessibility accommodations for students with disabilities

## Requesting accommodations

The university strives to maintain a healthy and accessible environment to support student learning in and out of the classroom.  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.

If you are ill and need to miss class, including if you are staying home and away from others while experiencing symptoms of a viral infection or fever, please let me know immediately. In cases where illness interacts with an underlying medical condition, please consult with Student Life Disability Services to request reasonable accommodations. You can connect with them at slds@osu.edu; 614-292-3307; or [slds.osu.edu](https://slds.osu.edu/).

# Course schedule (Tentative)

Refer to the Carmen course for up-to-date assignments and due dates.

Unless otherwise indicated, readings are from the course textbook.

| Week | Dates | Topics, Readings, Assignments, Deadlines | Reading |
| --- | --- | --- | --- |
| 1 | Jan 6-12 | Technology; Introduction | Chapter 1 |
| 2 | Jan 13-19 | Inference and Error | Chapter 2 |
| 3 | Jan 20-26 | Populations, Frames and Coverage(Monday, Jan 20-University Closed) | Chapter 3 |
| 4 | Jan 27-Feb 2 | Design and Sampling Error | Chapter 4 |
| 5 | Feb 3-9 | Design and Sampling Error | Chapter 4 |
| 6 | Feb 10-16 | **Midterm 1: Feb 11**Data Collection Modes | Chapter 5 |
| 7 | Feb 17-23 | Data Collection Modes/Nonresponse | Chapters 5/6 |
| 8 | Feb 24-Mar 2 | Nonresponse | Chapter 6 |
| 9 | Mar 3-9 | Questions and Answers | Chapter 7 |
| 10 | Mar 10-16 | **SPRING BREAK** | ---- |
| 11 | Mar 17-23 | Evaluating Questions | Chapter 8 |
| 12 | Mar 24-30 | **Midterm 2: Mar 25**Postcollection Processing | Chapter 10 |
| 13 | Mar 31-Apr 6 | Postcollection Processing | Chapter 10 |
| 14 | Apr 7-13 | Nonprobability Samples | TBD |
| 15 | Apr 14-20 | Ethical Research | Chapter 11 |
| Exams | Apr 23-29 | **Final Exam: Thursday Apr 24 2:00pm-3:45pm** |  |