

Term Information

Effective Term Autumn 2022

Course Change Information

What change is being proposed? (If more than one, what changes are being proposed?)

Distance learning approval.

What is the rationale for the proposed change(s)?

Increased demand for online sections.

What are the programmatic implications of the proposed change(s)?

(e.g. program requirements to be added or removed, changes to be made in available resources, effect on other programs that use the course)?

No significant programmatic implications.

Is approval of the request contingent upon the approval of other course or curricular program request? No

Is this a request to withdraw the course? No

General Information

| | |
|--------------------------------------|--|
| Course Bulletin Listing/Subject Area | Sociology |
| Fiscal Unit/Academic Org | Sociology - D0777 |
| College/Academic Group | Arts and Sciences |
| Level/Career | Undergraduate |
| Course Number/Catalog | 3549 |
| Course Title | Statistics in Sociology |
| Transcript Abbreviation | Statistics in Soc |
| Course Description | An introduction to the application and interpretation of quantitative analysis in sociological research; emphasis on the description of social variables and hypothesis testing. Au, Sp, Su Sems. |
| Semester Credit Hours/Units | Fixed: 3 |

Offering Information

| | |
|--|---|
| Length Of Course | 14 Week, 12 Week, 8 Week, 7 Week, 6 Week |
| Flexibly Scheduled Course | Never |
| Does any section of this course have a distance education component? | Yes |
| Is any section of the course offered | 100% at a distance Greater or equal to 50% at a distance |
| <i>Previous Value</i> | <i>No</i> |
| Grading Basis | Letter Grade |
| Repeatable | No |
| Course Components | Laboratory, Lecture |
| Grade Roster Component | Lecture |
| Credit Available by Exam | No |
| Admission Condition Course | No |
| Off Campus | Never |
| Campus of Offering | Columbus, Lima, Mansfield, Marion, Newark, Wooster |
| <i>Previous Value</i> | <i>Columbus, Mansfield, Marion</i> |

Prerequisites and Exclusions

Prerequisites/Corequisites

Exclusions

Previous Value

Not open to students with credit for 549.

Electronically Enforced

No

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code

27.0501

Subsidy Level

Baccalaureate Course

Intended Rank

Sophomore

Requirement/Elective Designation

Required for this unit's degrees, majors, and/or minors

General Education course:

Data Analysis; Mathematical and Quantitative Reasoning (or Data Analysis)

The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

- An introduction to the application and interpretation of quantitative analysis in sociological research; emphasis on the description of social variables and hypothesis testing

Content Topic List

- Levels of measurement
- Frequency distributions
- Measures of central tendency
- Distributions
- Probability
- Central limit theorem
- Confidence intervals
- Hypothesis testing
- Analysis of variance
- Chi-square statistic
- Correlation & regression

Sought Concurrence

No

Previous Value

COURSE CHANGE REQUEST
3549 - Status: PENDING

Last Updated: Vankeerbergen,Bernadette
Chantal
10/28/2021

Attachments

- 3549-DLSyllabus.docx: DL syllabus
(Syllabus. Owner: Downey,Douglas B)
- Frank_Fall 19.pdf: Face-to-face syllabus
(Syllabus. Owner: Downey,Douglas B)
- 3549_ASC_DL_CoverSheet_Jeremie.docx
(Other Supporting Documentation. Owner: Downey,Douglas B)
- 3549-DLSyllabus Revisionb.docx: DL syllabus revision
(Syllabus. Owner: Downey,Douglas B)

Comments

- 3549-DLSyllabus Revision.docx responds to the committee's contingencies and recommendations: (1) the "F" was changed to "E" , (2) the schedule is now provided on a daily basis, with page numbers for each assigned reading, (3) to promote greater interaction, Carmen group exercises have been added that require a practical application of a statistical-based question. *(by Downey,Douglas B on 10/25/2021 11:06 AM)*
- See Panel feedback sent by E Cody on 10-1-21 *(by Vankeerbergen,Bernadette Chantal on 10/01/2021 03:01 PM)*

Workflow Information

| Status | User(s) | Date/Time | Step |
|--------------------|---|---------------------|------------------------|
| Submitted | Downey,Douglas B | 08/16/2021 11:08 AM | Submitted for Approval |
| Approved | Downey,Douglas B | 08/16/2021 11:09 AM | Unit Approval |
| Revision Requested | Vankeerbergen,Bernadette Chantal | 09/04/2021 02:21 PM | College Approval |
| Submitted | Downey,Douglas B | 09/06/2021 02:35 PM | Submitted for Approval |
| Approved | Downey,Douglas B | 09/06/2021 02:36 PM | Unit Approval |
| Revision Requested | Vankeerbergen,Bernadette Chantal | 09/15/2021 12:34 PM | College Approval |
| Submitted | Downey,Douglas B | 09/15/2021 02:01 PM | Submitted for Approval |
| Approved | Downey,Douglas B | 09/15/2021 02:01 PM | Unit Approval |
| Revision Requested | Vankeerbergen,Bernadette Chantal | 10/01/2021 03:02 PM | College Approval |
| Submitted | Downey,Douglas B | 10/25/2021 11:07 AM | Submitted for Approval |
| Approved | Downey,Douglas B | 10/25/2021 11:07 AM | Unit Approval |
| Approved | Vankeerbergen,Bernadette Chantal | 10/28/2021 01:51 PM | College Approval |
| Pending Approval | Cody,Emily Kathryn Jenkins,Mary Ellen Bigler Hanlin,Deborah Kay Hilty,Michael Vankeerbergen,Bernadette Chantal Steele,Rachel Lea | 10/28/2021 01:51 PM | ASCCAO Approval |

SYLLABUS

SOC/3549

Statistics in Sociology
Autumn 2020 (full term)
3 credit hours
Online

COURSE OVERVIEW

Instructor

Instructor: To be determined

Email address: (preferred contact method)

Phone number:

Office hours:

Prerequisites

None.

Course description

The aim of this course is familiarize the student with some basic techniques of statistical description and inference. The main focus, of course, will be on sociological data. The first part of the course is oriented towards describing data and conveying summaries of variables. The second part of the course is oriented towards probabilities and the distributions that are often assumed to underlie empirical data. The last part of the course is oriented towards inferential statistical tests including regression analyses, etc. By the end of the course, you will be familiar with a variety of basic statistical techniques that allow you to examine research questions. Additionally, the skills you learn will allow you to be more critical consumers of statistical information.

Course learning outcomes

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

- ▶ Describe data using summary statistics and basic visualizations
- ▶ Understand how to use a sample to make inferences about a population
- ▶ Make inferences about a population given sample data
- ▶ Critically consume quantitative/statistical information

HOW THIS ONLINE COURSE WORKS

Mode of delivery: This course is 100% online. Course content is delivered asynchronously. You are required to complete Carmen group exercises each week, however, and those are done synchronously (at the scheduled course meeting time).

Credit hours and work expectations: This is a **3-credit-hour course**. According to Ohio State policy (go.osu.edu/credithours), students should expect around 3 hours per week of time spent on direct instruction (instructor content and Carmen activities, for example) in addition to 6 hours of homework (reading and assignment preparation, for example) to receive a grade of (C) average.

In this course students will watch a series of short instructor lectures posted on Carmen. A typical week will consist of four 30-minute videos (for a total of two hours per week) along with additional curriculum related videos and activities (about one hour per week).

Attendance and participation requirements: Because this is an online course, your attendance is based on your online activity and participation. The following is a summary of students' expected participation:

- **Participating in online activities for attendance: AT LEAST ONCE PER WEEK**
You are expected to log in to the course in Carmen every week. (During most weeks you will probably log in many times.) If you have a situation that might cause you to miss an entire week of class, discuss it with me *as soon as possible*.
- **Office hours and live sessions: OPTIONAL**
All live, scheduled events for the course, including my office hours, are optional.

COURSE MATERIALS AND TECHNOLOGIES

Textbooks

Required

- There is no required textbook for this course.

Recommended/optional

- I do recommend the following book:
- Frankfort-Nachmias, Chava, Anna Leon-Guerrero, and Georgiann Davis. 2020. "Social Statistics for a Diverse Society." *9th edition*. Thousand Oaks, CA: Sage.
- In particular, if you anticipate missing any class periods then I highly recommend getting the book. I will not teach directly from the text, and the material covered in this course is pretty standard. The topics listed in the course outline can be found in most undergraduate statistics books, particularly those written for a social scientific audience. Having the most recent edition of this book is not of fundamental importance, but try to get a recent version so that the table of contents is as similar as possible

Other fees or requirements

The software for the course is R, which we will implement via RStudio. There are three options for accessing the software application (below). We will discuss relevant software details in class, but a good introduction is available here: <https://education.rstudio.com/>

- Both R and RStudio are free and open source. So you can download and install them on your personal computer for free.
 - You can download R here: <https://www.r-project.org/>
 - You can download RStudio here: <https://rstudio.com/>
- R and RStudio are installed on many campus computers in computer labs. All computers in the Research Commons in the Main Library, for example, are equipped with R and RStudio.
- OSU has partnered with the Ohio Supercomputing Center (OSC) to offer remote access to RStudio. You need to create an online account, but then can access the software (and data and code) via a web browser (e.g., Chrome, Firefox, or even Explorer if using your grandparents' computer). For this course, we're using "on demand" computing, meaning that you log into the OSC system, select our course, and then you will be granted access to a node on one of the supercomputers. Everything is done via a web browser with no need to have the R software installed locally (you'll be running R, but through a cloud implementation). I have uploaded a document to Carmen called "R Studio On Demand" with instructions for this option.

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, and support for urgent issues is available 24/7.

- **Self-Service and Chat support:** 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)
- CarmenZoom virtual meetings (go.osu.edu/zoom-meetings)
- Recording a slide presentation with audio narration (go.osu.edu/video-assignment-guide)
- Recording, editing, and uploading video (go.osu.edu/video-assignment-guide)

Required equipment

- Computer: current Mac (MacOs) or PC (Windows 10) 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
- Other: a mobile device (smartphone or tablet) to use for BuckeyePass authentication

Required software

- 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.

Carmen access

You will need to use BuckeyePass (buckeyepass.osu.edu) multi-factor authentication to access your courses in Carmen. To ensure that you are able to connect to Carmen at all times, it is recommended that you take the following steps:

- Register multiple devices in case something happens to your primary device. Visit the BuckeyePass - Adding a Device help article for step-by-step instructions (go.osu.edu/add-device).
- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click **Enter a Passcode** and then click the **Text me new**

codes button that appears. This will text you ten passcodes good for 365 days that can each be used once.

- Download the Duo Mobile application (go.osu.edu/install-duo) to all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service

If none of these options will meet the needs of your situation, you can contact the IT Service Desk at 614-688-4357(HELP) and IT support staff will work out a solution with you.

GRADING AND FACULTY RESPONSE

How your grade is calculated

| ASSIGNMENT CATEGORY | POINTS |
|---|-------------------|
| Carmen engagement (syllabus quiz, weekly log ins, ad hoc assignments) | 20 pts |
| Carmen group exercises | 100 points |
| Homework assignments | 120 pts |
| Exams | 360 pts |
| Total | 600 |

See course schedule below for due dates.

Descriptions of major course assignments

Carmen Engagement

Description: Research shows that consistent engagement with material promotes learning. To incentivize engagement in this course, we will monitor use of Carmen throughout the term. Out of 15 weeks, full credit is engagement with Carmen in 12 or more weeks. There will also be some (at least one) ad hoc assignments done through Carmen. For example, students will be expected to post a video introduction to allow the Instructor and other students to get to know one another. Finally, students are expected to take a quiz during the first week of classes on the course syllabus. The quiz will be available until Friday at 5:00pm. This ensures that students have read and understand the course syllabus and expectations for success in this course.

Academic integrity and collaboration: Discussion posts should be your own original work.

Carmen group exercises: You will be randomly assigned to a group of 4-5 students the first week of the semester and stay with this same group for the entire term. Most weeks (10 of 15) the group will be presented with a real-world problem that they must complete together. All group members must be logged in at the same time and contribute to the completion of the exercise. Each exercise is designed to build on the skills presented that week, and to provide practice applying those skills to real problems. For example, one of the first exercises presents the group with data and asks them to write a description of that data for a report, making sure to calculate and discuss the mean. Students can expect to spend about 30 minutes each week working on these exercises. As our course is a distance learning environment, your participation in the online group exercises is crucial for academic success.

Homework Assignments

Description: Homework assignments will entail compiling text (interpretations), code, output, figures and tables into a single PDF document. You can use Word or Docs to do this if you would like. To do so, you'll copy and paste things from RStudio into your Word processing program, and can compile a PDF from there. Alternatively, you can use R Mark Down, which compiles text, statistics, tables, figures, etc. into a single PDF. That is, within RStudio you can create PDF documents for the homework assignments. This format makes replication easy, and data and text are integrated seamlessly. Homework will be assigned approximately every other week.

Academic integrity and collaboration: Students may collaborate on homework assignments, but each student's unique contribution must be identifiable. In other words, each student must do their own calculations, code, and writeup of the homework, but you are free to discuss it. Any evidence to the contrary will result in a grade of E. If you have any doubts on this matter, please email me before uploading your assignment.

Exams

Description: There will be three exams in this class. The exams are not cumulative, per se, but the course content builds on itself in a way that you need to understand early material in order to grasp later material. Exams will be completed in Carmen. Students will have 2 hours to complete the exams from the time that they start it. Exams will be available at 9:00am on Tuesdays and must be started by 5:00pm on Friday. You are allowed to use class notes, lectures and the text to help you answer the questions. You will be given data and asked to compute and interpret statistical results. Exams will also include conceptual questions that only require a text response.

Academic integrity and collaboration: Collaboration on Exams is prohibited. Any evidence of collaboration on an exam will result in a grade of **E**. If you have any doubts on this matter, please email me before uploading your assignment.

Late assignments

Please refer to Carmen for due dates. Due dates are set to help you stay on pace and to allow timely feedback that will help you complete subsequent assignments. Homework assignments that are turned in late are docked 10% for each 24 hours that the assignment is late. So the maximum score on a Homework assignment that is turned in anywhere from 1 second to 24 hours late is 90%; the maximum score for a Homework assignment that is 24 hours and 1 second late to 48 hours late is 80%, and so on. Exams may not be turned in late except in extreme circumstances (i.e., an excused absence in the window in which the exam is to be taken).

Grading scale

93–100%: A
90–92.9: A-
87–89.9: B+
83–86.9: B
80–82.9: B-
77–79.9: C+
73–76.9: C
70–72.9: C-
67–69.9: 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 large weekly assignments, you can generally expect feedback within **7 days**.
- **Email:** I will reply to emails within **24 hours on days when class is in session at the university**.
- **Discussion board:** I will check and reply to messages in the discussion boards every **24 hours on school days**.

OTHER COURSE POLICIES

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 online 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 3335-5-487). For additional information, see the Code of Student Conduct <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.

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:

- Committee on Academic Misconduct web page (go.osu.edu/coam)
- Ten Suggestions for Preserving Academic Integrity (go.osu.edu/ten-suggestions)

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

All students and employees at Ohio State have the right to work and learn in an environment free from harassment and discrimination based on sex or gender, and the university can arrange interim measures, provide support resources, and explain investigation options, including referral to confidential resources. If you or someone you know has been harassed or discriminated against based on your sex or gender, including sexual harassment, sexual assault, relationship violence, stalking, or sexual exploitation, you may find information about your rights and options at titleix.osu.edu or by contacting the Ohio State Title IX Coordinator at titleix@osu.edu. Title IX is part of the Office of Institutional Equity (OIE) at Ohio State, which responds to all bias-motivated incidents of harassment and discrimination, such as race, religion, national origin and disability. For more information on OIE, visit equity.osu.edu or email equity@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.

Land Acknowledgement

We would like to acknowledge the land that The Ohio State University occupies is the ancestral and contemporary territory of the Shawnee, Potawatomi, Delaware, Miami, Peoria, Seneca, Wyandotte, Ojibwe and Cherokee peoples. Specifically, the university resides on land ceded in the 1795 Treaty of Greenville and the forced removal of tribes through the Indian Removal Act of 1830. I/We want to honor the resiliency of these tribal nations and recognize the historical contexts that has and continues to affect the Indigenous peoples of this land.

More information on OSU's land acknowledgement can be found here:

<https://mcc.osu.edu/about-us/land-acknowledgement>

Your mental health

As a student you may experience a range of issues that can cause barriers to learn, 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. No matter where you are engaged in distance learning, The Ohio State University's Student Life Counseling and Consultation Service (CCS) is here to support you. If you find yourself feeling isolated, anxious or overwhelmed, on-demand resources are available at go.osu.edu/ccsondemand. 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 Prevention Hotline at 1-800-273-TALK or at suicidepreventionlifeline.org. The Ohio State Wellness app is also a great resource available at go.osu.edu/wellnessapp.

ACCESSIBILITY ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

Requesting accommodations

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; 614-292-3307; 098 Baker Hall, 113 W. 12th Avenue.

Accessibility of course technology

This online course requires use of CarmenCanvas (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.

- Canvas accessibility (go.osu.edu/canvas-accessibility)
- Streaming audio and video
- CarmenZoom accessibility (go.osu.edu/zoom-accessibility)
- Collaborative course tools

COURSE SCHEDULE

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

| Week | Dates | Topics, Readings, Assignments, Deadlines |
|------|-------|--|
| 1 | 8/25 | Introduction to each other, the course, and the software |
| | 8/27 | Nature of statistics [Chapter 1, pp. 1-26] Syllabus quiz due@5pm Carmen exercise #1 |
| 2 | 8/31 | Nature of statistics [Pp 12-17 in: Agresti, Alan and Barbara Finlay. 2018. <i>Statistical Methods for the Social Sciences</i> . 4 th Edition. Boston: Pearson.] |
| | 9/2 | Quiz on Levels of Measurement and R due @5pm Carmen exercise #2 |
| 3 | 9/7 | 1 st Moment of the Distribution (Central Tendency) & Graphing Single Variables [Chapter 2, pp. 27-74] |

| Week | Dates | Topics, Readings, Assignments, Deadlines |
|------|-------|--|
| | 9/9 | 1 st Moment of the Distribution (Central Tendency) & Graphing Single Variables [Chapter 3, pp 75-112] |
| 4 | 9/14 | 2 nd Moment of the Distribution (Variability) [Chapter 4, pp. 113-150] Carmen exercise #3 |
| | 9/16 | Homework on Central Tendency and Variability due |
| 5 | 9/21 | Probability and the Binomial Distribution [Pp 109-125 in: Wonnacott, Thomas H. and Ronald J. Wonnacott. 1990. <i>Introductory Statistics</i> NY: Wiley.] |
| | 9/23 | Homework on Binomial due Carmen exercise #4 |
| 6 | 9/28 | Probability and the Normal Distribution [Chapter 5, pp. 151-178] |
| | 9/30 | Review session |
| 7 | 10/5 | Exam 1 |
| | 10/7 | Samples and Populations: Foundations of Nonparametric Statistics |
| 8 | 10/12 | Samples and Sampling Distributions [Chapter 6, pp.179-210] Carmen exercise #5 |
| | 10/14 | Homework on sampling due |
| 9 | 10/19 | Samples and Populations: Foundations of Parametric Statistics [Chapter 7, pp. 211-240] Carmen exercise #6 |
| | 10/21 | Samples and Populations: Foundations of Parametric Statistics [Chapter 8, pp. 241-280] Homework on Normal Distribution and Sampling due |
| 10 | 10/26 | Considering two variables and graphing two variables [Chapter 9, pp. 281-326] Carmen exercise #7 |
| | 10/28 | Review session |
| 11 | 11/2 | Exam 2 |
| | 11/4 | Association Between Two Variables [Chapter 10, pp. 327-372] |

| Week | Dates | Topics, Readings, Assignments, Deadlines |
|------|-------|--|
| 12 | 11/9 | Homework on two variables due Carmen exercise #8 |
| | 11/11 | Analysis of Variance (ANOVA) [Chapter 11, pp. 373-400] |
| 13 | 11/16 | Homework on ANOVA due Carmen exercise #9 |
| | 11/18 | Correlation and Regression [Chapter 12, pp. 401-457] |
| 14 | 11/23 | Homework on ANOVA and Regression due Carmen exercise #10 |
| | 11/25 | Thanksgiving break |
| 15 | 11/30 | Overview for final exam (Covers sessions 10, 12, 13, and 14) |
| | 12/5 | Final exam |

FINAL EXAM DISTRIBUTED DEC. 8TH/DUE IN "ASSIGNMENTS" IN CARMEN BY DECEMBER 11TH BY 5 P.M.



Statistics in Sociology (Sociol 3549)

Autumn 2019

Professor: Dr. Reanne Frank (frank.219@osu.edu)

GTA: Courtney DeRoche

Class Meetings: Mondays 10:20am-12:10pm

Lab Meetings: Tuesdays: 9:10-10:05am (23055); 10:20-11:15am (23055)

Lecture Classroom: Townshend Hall 247

Lab Classroom: Townshend Hall 250

Dr. Frank's Office Hours: Email for appointment (212 Townshend Hall)

Courtney DeRoche's Office Hours: Mondays 12:30-1:30pm and Tuesdays 11:15am-12:15pm (250 Townshend Hall)

Tutoring for 3549: Townshend Hall 160. Shannon Doane and Jordan Guthrie. Hours will be posted on Carmen.

Class Website is on Canvas (within Carmen): <https://carmen.osu.edu/>

Course Description:

This course provides a basic introduction to the application and interpretation of statistical analysis in the social sciences. Sociology 3549 fulfills the data analysis sub-requirement under the "Quantitative and Logical Skills" category of the General Educational Curriculum (GEC). The aim of the course and its GEC learning objective is for students to understand the basic concepts of statistics and probability, comprehend mathematical methods needed to analyze statistical arguments, and recognize the importance of statistical ideas.

By the end of the course, you will be familiar with a variety of basic statistical techniques that allow you to examine interesting social questions. In addition to understanding mainstream sociological research, the skills you learn in this class will allow you to be more critical consumers of statistical information.

The course is divided into three main sections: (1) Descriptive Statistics; (2) Inferential Statistics; and (3) Applied Statistical Techniques. Descriptive statistics are methods that allow you to present a set of scores in a summary form. The primary concepts that we emphasize are central tendency (e.g. mean, mode, median) and dispersion (e.g. standard deviation, variance). The second section, Inferential Statistics, is the backbone of statistical reasoning and it involves making estimates about a population (e.g. the entire class) based on a sample (e.g. 10 or 12 students in a class). This process necessarily involves the invocation of the basic rules of probability and it will introduce you to hypothesis testing which is used throughout the sciences. In the third section of the course, we will review several important applications of statistics (e.g. cross-tabs, correlation, simple regression). This section will emphasize interpretation rather than computation. You will also learn how to use one of the computer programs (STATA) that is widely used to perform statistical analysis.

Course Materials:

Frankfort-Nachmias, Chava and Anna Leon-Guerrero. *Social Statistics for a Diverse Society* OR *Essentials of Social Statistics for a Diverse Society*. Sage Publications. ANY edition.

I encourage all students to look for discounted versions of the book online. There is a CONSIDERABLE difference in price between a new copy and the less expensive options available online. I will also have the book on reserve at the main library.

Grading:

| | |
|----------------------|--|
| 2 exams | 50% |
| Attendance | 6% |
| <u>4 assignments</u> | 44% (four assignments, each worth 11%) |
| | 100% |

Final grades are based on each student's total point score as determined by performance on examinations, problem sets and attendance in lab and lecture. Grades are based on a percentage of 500 points (220 points from 4 assignments (55 points each); and two exams (125 points each). 30 points will be rewarded to those students who attend at least 85% of lectures and lab recitations (i.e. at least 22 of the 26 lectures and labs that follow the introductory class [12 lectures and 14 labs]). For each subsequent lab or lecture missed (**beyond the first 4**) 1.4 points will be deducted from the 30 points. Extra credit points (available through in-class exercises) will be added to the total number of points earned by the student.

| Percentage (%) | Points | Grade |
|----------------|---------|-------|
| 100 | 500+ | A+ |
| 99-93 | 499-465 | A |
| 92-90 | 464-450 | A- |
| 89-87 | 449-435 | B+ |
| 86-83 | 434-415 | B |
| 82-80 | 414-400 | B- |
| 79-77 | 399-385 | C+ |
| 76-73 | 384-365 | C |
| 72-70 | 364-350 | C- |
| 69-60 | 349-300 | D |
| 59-0 | 299-0 | F |

Requirements

1. Attendance to lecture and lab section is required. Attendance is worth 30 points or 6 percent of your grade. Each person is allowed to miss 4 labs/lectures before any points are deducted. Therefore, NO excuses for absenteeism will be accepted. **PLEASE refrain from notifying the TA and/or Dr. Frank every time you will be absent.** In the course of the semester many students will have reasonable excuses for missing class (these include all illnesses! Please do not come to class if you are feeling ill!). These will count towards the four classes you are allowed to miss. Dr. Frank and/or the TA do not need to be notified of the reason. Class notes will be posted on the class website prior to the lecture. You will print the class notes and bring them to class for note guides.
2. Four assignments will be made throughout the semester. These will include a combination of problem solving (hand and computer calculations) and conceptual interpretation of the results. Together these assignments are worth 44% of your

course grade (each is worth 11% of your grade). **Assignments must be turned in at the beginning of the lecture/lab in which they are due for full credit.** Problem set grades will go down 5 points for each day past the TIME on the due date that they are received by your GTA. Assignments turned in later on the same day will ALSO have 5 points deducted. Assignments are expected to be neatly done and easy to read, but they do not need to be typed. You must show work for ALL calculations on all assignments, or points will be deducted. When relevant, students must also attach their STATA output to assignments to show their work for these problems. Each person must turn in their own assignment that was written INDEPENDENTLY. Students are NOT allowed to turn in the same work (see the statement on academic misconduct on the following page).

3. Two examinations will be given during the semester as scheduled on the course outline below. Each of these exams count for 25% of your course grade. The second exam is not cumulative.
4. You will need to own or have frequent access to a hand calculator (this does NOT include your cell phone) to do the assignments, take in-class exams, and learn the material being taught in this course.

TopHat Technology

In this class we will be using the TopHap interactive interface. The motivation behind TopHat is to increase student-professor interaction, particularly in larger lecture environments. In this class TopHat will be used to ensure students understand fundamental concepts; to track attendance; and for in-class extra credit opportunities.

Extra Credit / Bonus Points

Occasionally, short in-class exercises will be offered during the lecture portion of the course. These opportunities are unscheduled and can only be completed during the class in which they are offered (i.e., you have to be there to get credit for it). They will sometimes be offered at the beginning of the lecture so please arrive on time! These assignments will count as extra credit points towards your final grade.

Additional Notes

Communications: All class announcements, lectures, and assignments will be posted on the course website at: <https://carmen.osu.edu/>

No make-up exams will be permitted unless in the case of extreme emergency. Notify Dr. Frank (exams) or the graduate teaching assistants (homework) PRIOR TO THE EXAM OR THE ASSIGNMENT DUE DATE. Even when prior notification is given regarding late homework, points may be deducted for each day it is late.

Religious Holidays: Please contact the instructor regarding any conflict between religious observance dates and course examinations or assignments.

Disability Statement: 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; [614-292-3307](tel:614-292-3307); slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

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. Please see the student handbook for a further definition of academic misconduct. We will report all violations. Unless otherwise notified, you should complete all tests and assignments by yourself. For this class that means that all of your homework answers **MUST BE IN YOUR OWN WORDS**. For more information see: <http://oaa.osu.edu/coamfaqs.html>

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

The Committee on Academic Misconduct web pages (oaa.osu.edu/coam/home.html)

Ten Suggestions for Preserving Academic Integrity
(oaa.osu.edu/coam/ten-suggestions.html)

Eight Cardinal Rules of Academic Integrity (www.northwestern.edu/uacc/8cards.html)

Unpaid Fees: Faculty rules specify that students are to have their fees paid by the first day of enrollment for the semester [Faculty Rule 3335-9-12]. If you have not paid your fees, you will not be allowed to continue attending class until your fees are paid OR you have a signed letter from Financial Aid stating that you are working with them to get your fees paid.

Please review the BSPH core and specialization competencies addressed by this course at the following link: <http://cph.osu.edu/sites/default/files/students/docs/Program-and-Course-Competencies.pdf>

NOTE: ALL EXAMS AND HOMEWORK WILL BE DISCARDED at the end of Autumn Semester 2019. If you have questions about individual grades or your final course grade, please raise them immediately so they can be resolved well before this deadline.

| COURSE SCHEDULE | | | |
|---|--------------------|---|--------------------------------|
| Week | Monday | Topic | Readings |
| SECTION ONE: DESCRIPTIVE STATISTICS | | | |
| 1 | August 26 | Introduction and Course Specifics | Appendix F. Basic Math Review |
| 2 | September 2 | NO CLASS LABOR DAY | Ch. 1 (Levels of Measurement), |
| 3 | September 9 | Measurement and Frequency Distributions | Ch. 2 (Freq Distributions) |
| 4 | September 16 | Central Tendency | Ch. 3 (Central Tendency) |
| 5 | September 23 | Variability and Dispersion | Ch. 4 (Variability) |
| 6 | September 30 | Standardized Distributions | Ch. 5 (Normal Distribution) |
| 7 | October 7 | The Normal Distribution | Ch. 6 (Sampling Distribution) |
| 8 | October 14 | Confidence Intervals | Ch. 7 (Confidence Intervals) |
| SECTION TWO: INFERENTIAL STATISTICS | | | |
| 9 | October 21 | MIDTERM | |
| 10 | October 28 | Hypothesis Testing I | Ch. 8 (Hypothesis Testing) |
| 11 | November 4 | Hypothesis Testing II | Ch. 8 (cont'd) |
| 12 | November 11 | NO CLASS VETEREN'S DAY | |
| 13 | November 18 | Hypothesis Tesing cont'd/ANOVA | Ch. 11 (Analysis of Variance) |
| SECTION THREE: BIVARIATE AND MULTIVARIATE APPLICATIONS | | | |
| 14 | November 25 | ANOVA cont'd/Chi-squared | Ch. 10 Chi-Square Statistic |
| 15 | December 2 | Chi-squared cont'd/Review for Final | |
| | December 10 (TUES) | FINAL 10:00am-11:45am | |

See Next Page for Lab Schedule

| LAB SCHEDULE – Tuesday Class | | |
|-------------------------------------|----------------|---|
| Week | Tuesday | Topic |
| 1 | August 27 | NO CLASS |
| 2 | September 3 | Introduction to Stata |
| 3 | September 10 | Measurement and Frequency Distributions |
| 4 | September 17 | Central Tendency |
| 5 | September 24 | Variability and Dispersion |
| 6 | October 1 | Standardized Distributions |
| 7 | October 8 | Standardized Distributions |
| 8 | October 15 | The Normal Distribution |
| 9 | October 22 | The Normal Distribution (cont'd) |
| 10 | October 29 | Confidence Intervals |
| 11 | November 5 | Hypothesis Testing I |
| 12 | November 12 | Hypothesis Testing II |
| 13 | November 19 | Hypothesis Testing III |
| 14 | November 26 | ANOVA |
| 15 | December 3 | Chi Square |

PROVISIONAL Assignment Due Dates:*

| Assignment # | Receive Assignment | Assignment Due Date |
|---------------------|---------------------------|----------------------------|
| 1 | September 9 | October 7 |
| 2 | October 7 | November 4 |
| 3 | November 4 | November 25 |
| 4 | November 25 | December 6** |

* Assignment due dates are tentative and may change slightly during the course of the semester. Assignments are due at the BEGINNING of the lecture on the due date.

**This assignment is due in your TA's mailbox by 5pm on December 6th (mailbox located on the 2nd floor of Townshend Hall. The mailroom closes promptly at 5pm so be sure to turn in your assignment before it closes).

Distance Approval Cover Sheet

For Permanent DL/DH Approval | College of Arts and Sciences

Course Number and Title: **Soc 3549, Statistics in Sociology**

Carmen Use

Please consider using [ASC's distance learning course template](https://teaching.resources.osu.edu/teaching-topics/carmen-common-sense-best-practices). For more on use of Carmen: <https://teaching.resources.osu.edu/teaching-topics/carmen-common-sense-best-practices>

A Carmen site will be created for the course, including a syllabus and gradebook at minimum. **Yes**

If no: Enter additional details if you responded no...

Syllabus

Proposed syllabus uses the ASC distance learning syllabus template, includes boilerplate language where required, as well as a clear description of the technical and academic support services offered, and how learners can obtain them. **Yes**

Syllabus is consistent and is easy to understand from the student perspective. **Yes**

Syllabus includes a schedule with dates and/or a description of what constitutes the beginning and end of a week or module. **Yes**

If there are required synchronous sessions, the syllabus clearly states when they will happen and how to access them. **Yes**

Additional comments (optional):
Enter any additional comments about syllabus...

Instructor Presence

For more on instructor presence: <https://teaching.resources.osu.edu/teaching-topics/online-instructor-presence>

Students should have opportunities for regular and substantive academic interactions with the course instructor. Some ways to achieve this objective:

- Regular instructor communications with the class via announcements or weekly check-ins
- Instructional content, such as video, audio, or interactive lessons, that is visibly created or mediated by the instructor
- Regular participation in class discussion, such as in Carmen discussions or synchronous sessions
- Regular opportunities for students to receive personal instructor feedback on assignments

Please comment on this dimension of the proposed course (or select/explain methods above):
 Students will hear from instructors through uploaded lecture videos, feedback on assignments, as well as optional office hours or email.

Delivery Well-Suited to DL/DH Environment

Technology questions adapted from the [Quality Matters](#) rubric. For information about Ohio State learning technologies: <https://teaching.resources.osu.edu/toolsets>

The tools used in the course support the learning outcomes and competencies. **Yes**

Course tools promote learner engagement and active learning. **Yes**

Technologies required in the course are current and readily obtainable. **Yes**

Links are provided to privacy policies for all external tools required in the course. **Yes**

Additional technology comments:

Enter any additional comments about course technology...

Which components of this course are planned for synchronous delivery and which for asynchronous delivery? (For DH, address what is planned for in-person meetings as well.)

This course is asynchronous, with a few optional synchronous components, such as office hours.

If you believe further explanation would be helpful, please comment on how course activities have been adjusted for distance learning:

Enter comments...

Workload Estimation

For more information about calculating online instruction time: [ODEE Credit Hour Estimation](#)

Course credit hours align with estimated average weekly time to complete the course successfully. **Yes**

Course includes direct (equivalent of “in-class”) and indirect (equivalent of “out-of-class”) instruction at a ratio of about 1:2. **Yes**

Provide a brief outline of a typical course week, categorizing course activities and estimating the approximate time to complete them or participate:

The course will typically look like watching instructor lecture content (1-2 hours), weekly canvas activities such as quizzes or posts (1-2 hours), completing reading and homework assignments (2-3 hours). Additional work will be present in certain weeks such as exams (2-3 hours).

In the case of course delivery change requests, the course demonstrates comparable rigor in meeting course learning outcomes. **Yes**

Accessibility

For more information or a further conversation, contact the [accessibility coordinator](#) for the College of Arts and Sciences. For tools and training on accessibility: [Digital Accessibility Services](#)

Instructor(s) teaching the course will have taken Digital Accessibility training (starting in 2022) and will ensure all course materials and activities meet requirements for diverse learners, including alternate means of accessing course materials when appropriate. **Yes**

Information is provided about the accessibility of all technologies required in the course. All third-party tools (tools without campus-wide license agreements) have their accessibility statements included. **Select**

Description of any anticipated accommodation requests and how they have been/will be addressed. **Any accommodation requests will be met and if the instructor has any questions about how best to do that, they will contact SLDS.**

Additional comments:

Enter any additional comments about accessibility...

Academic Integrity

For more information: <https://go.osu.edu/teaching-resources-academic-integrity>

The course syllabus includes online-specific policies about academic integrity, including specific parameters for each major assignment: **Yes**

Assignments are designed to deter cheating and plagiarism and/or course technologies such as online proctoring or plagiarism check or other strategies are in place to deter cheating: **Yes**

Additional comments:

Enter additional comments about academic integrity...

Frequent, Varied Assignments/Assessments

For more information: <https://teaching.resources.osu.edu/teaching-topics/designing-assessments-student>

Student success in online courses is maximized when there are frequent, varied learning activities. Possible approaches:

- Opportunities for students to receive course information through a variety of different sources, including indirect sources, such as textbooks and lectures, and direct sources, such as scholarly resources and field observation
- Variety of assignment formats to provide students with multiple means of demonstrating learning
- Opportunities for students to apply course knowledge and skills to authentic, real-world tasks in assignments

Comment briefly on the frequency and variety of assignment types and assessment approaches used in this course (or select methods above):

The students' learning will be assessed through a variety of measures, such as Canvas weekly activities, homework, and exams.

Community Building

For more information: <https://teaching.resources.osu.edu/teaching-topics/student-interaction-online>

Students engage more fully in courses when they have an opportunity to interact with their peers and feel they are part of a community of learners. Possible approaches:

- Opportunities for students to interact academically with classmates through regular class discussion or group assignments
- Opportunities for students to interact socially with classmates, such as through video conference sessions or a course Q&A forum
- Attention is paid to other ways to minimize transactional distance (psychological and communicative gaps between students and their peers, instructor, course content, and institution)

Please comment on this dimension of the proposed course (or select methods above):

Students will be able to interact with each other through both discussion board posts, and in the course Q&A format.

Transparency and Metacognitive Explanations

For more information: <https://teaching.resources.osu.edu/teaching-topics/supporting-student-learning-your>

Students have successful, meaningful experiences when they understand how the components of a course connect together, when they have guidance on how to study, and when they are encouraged to take ownership of their learning. Possible approaches:

- Instructor explanations about the learning goals and overall design or organization of the course
- Context or rationale to explain the purpose and relevance of major tasks and assignments
- Guidance or resources for ancillary skills necessary to complete assignments, such as conducting library research or using technology tools
- Opportunities for students to take ownership or leadership in their learning, such as by choosing topics of interest for an assignment or leading a group discussion or meeting
- Opportunities for students to reflect on their learning process, including their goals, study strategies, and progress
- Opportunities for students to provide feedback on the course

Please comment on this dimension of the proposed course (or select methods above):

Homework and other learning assessments will be linked with overall learning goals and objectives.

Additional Considerations

Comment on any other aspects of the online delivery not addressed above:

The course syllabus is clear and contains all required syllabus elements. However, the course syllabus does not fully explain expectations for "Carmen engagement". The course does not appear to require student interaction or substantively facilitate a community of learners. The course instructor should consider adjustments to the course to better address peer interaction and community building. – Jeremie Smith (Distance Education Coordinator)

Syllabus and cover sheet reviewed by Jeremie Smith on 7/26/2021.

Additional resources and examples can be found on [ASC's Office of Distance Education](#) website.