

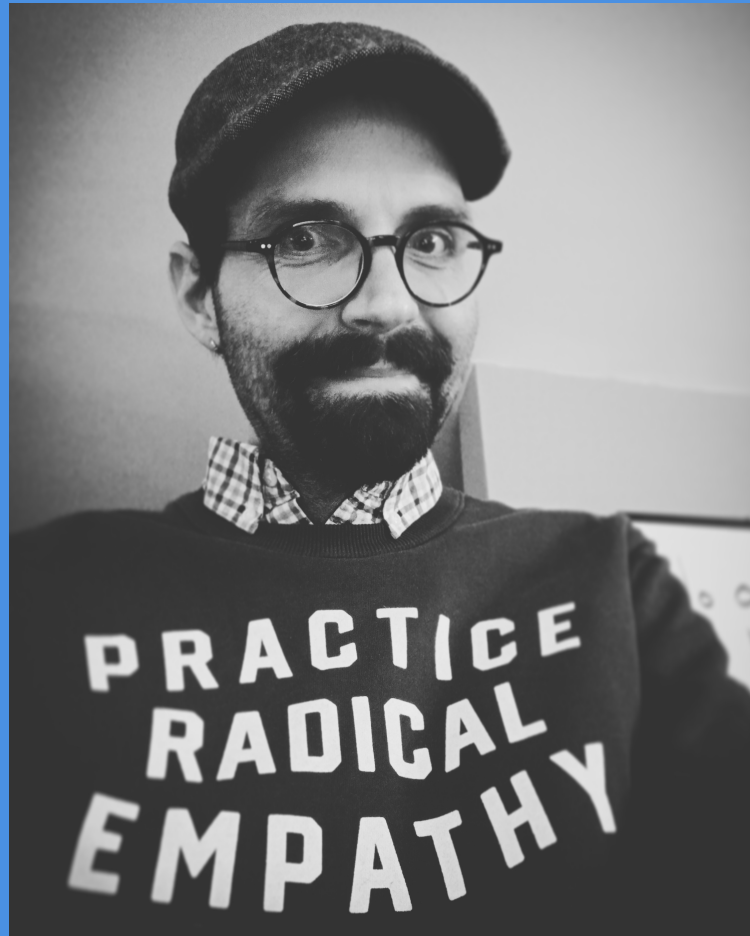
Spring 2022

Statistical Analysis of Social Data

SOC 3630



Instructor:



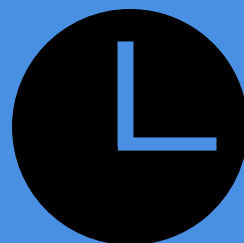
Dr. Michael Gillespie

Professor of Sociology
Director of Faculty Development and Innovation

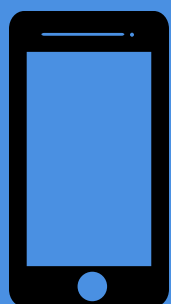
Contact Me



3139 Blair Hall



Office Hours:
W & F: 830a - 945a



734-717-0901



@eiuprofg



Course Description

This course is designed to introduce students to the methods that sociologists, social workers, criminologists, and other social scientists use to summarize and analyze relationships in numerical social data. Social scientists study the social world through responses to surveys, census demographic indicators, and rates and counts of social behavior (e.g., crime, unemployment, and welfare data). We also use similar data to study aggregate units of analysis such as nations, states, counties, and cities.

As a student in this course, you will create, analyze, and communicate common descriptive and inferential statistics including frequency distributions, graphical presentations of data, measures of central tendency and variation, sampling distributions, estimation procedures, and basic hypothesis tests in Microsoft Excel.

Hybrid Design

This course utilizes a hybrid design: course lectures are delivered in-person on Monday, Wednesdays, and Fridays from 10a to 10:50a; no lectures will be recorded or available.

Lab and applied components are asynchronous and available on D2L

Effort and Opportunity!



Attitude is everything! Saying that,

**"I'm not good
at math!"**

is self-limiting.

It's an excuse orientation not a
opportunity orientation!



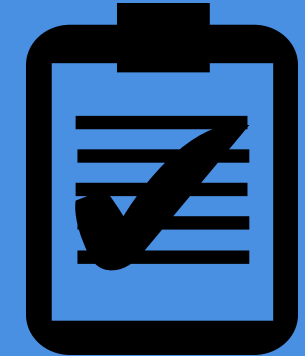
effort > ability

I have no doubt that you can and will be successful in this course as long as you focus on your best honest effort and not worry about your 'grade'. Bring an attitude of opportunity to this experience to learn, and you'll realize this is not a math class.



Course Resources

All linked in D2L



Text Book – Available in Red Shelf resource on D2L

- Keller, D. K. (2016). The Tao of Statistics: A Path to Understanding (With No Math) (2d ed.). Los Angeles: SAGE Publications.

Statistical Literacy Mobile App:

- I am developing a mobile app for this course to be used as a guide for key terms and concepts, links to course resources, polls, and other goodies.

The go to this link on your smart phone: <https://statliteracy.glideapp.io/> or scan the QR code above.

Other readings available on Perusall (linked in D2L):

- Best, J. (2012). Damned Lies and Statistics: Untangling Numbers from the Media, Politicians, and Activists (Updated ed). Berkeley, CA: University of California Press.
- Martinrogers, N., Rausch, E., & Mattessich, P. (2009). Communities that Don't Bowl in the Fog. Contexts, 8(1), 26–31.
- Wheelan, C. (2013). Naked Statistics: Stripping the Dread from the Data. New York: W.W. Norton.

I recommend the use of the Brightspace Pulse app for your mobile devices to stay up to date with your online materials, announcements, and feedback.

The Adobe Scan app allows for you to scan your hand-written work with your phone and convert it automatically to a PDF document.

Course Learning Objectives

Through this course, students will be able to:



CO 1: Identify key concepts of descriptive statistics

CO 2: Identify key concepts of inferential statistics



CO 3: Execute computational skills using Excel to manage and analyze data

CO 4: Perform calculations of descriptive and inferential statistics by hand and with Excel



CO 5: Apply critical thinking and problem-solving skills using quantitative information

CO 6: Integrate literacy and communication of statistics to apply a critical perspective on the widespread use of statistical information in society

Learning Activities



Student Self-Assessment Quizzes (CO 1, CO 2)

Weekly self-assessment activities in D2L
14 assessments, 10 points each, 140 total points

Self-assessment is a key component to engaged learning! Each learner will be evaluated on their responses to weekly self-assessment quizzes. Learners will be allowed unlimited attempts to each quiz, but the score of the first attempt is recorded.

Quizzes will be posted each Friday at 11am, after the final lecture of the week, and will be expected to be completed by 10am the following Monday before the first lecture of the week.

Learners may use their course read materials and notes to complete these assessments.

These self-assessments are timed – learners will have one hour to complete each assessment.

Learning Activities



Excel Exercises (CO 3, CO 4)

Activities to reproduce Excel data outcomes and perform statistical analyses

10 Exercises, 15 points each, 150 total points

Learners will be assessed on their completion of a series of Excel exercises. These exercises are designed for students to compute statistical data and identify outcomes of their analyses.

To complete these exercises students will watch a video demonstration from the Excel Video Guidebook (on D2L), follow detailed directions in the exercise explainer document, produce the required output, and answer questions by entering data on an exercise quiz in D2L. Completed Excel workbooks will be submitted via the dropbox on D2L.

Successful learners will produce Excel output, respond to data quizzes, and submit complete workbooks that meet the learning objectives of each exercise.

Learning Activities



A Applied Analysis Projects (CO 5, CO 6)

Written projects incorporating, key concepts, data analysis, social science phenomena, and critical thinking

3 assessments, 25 points, 35 points, and 50 points; 110 total points

Applied analysis projects will assess how learners execute data analyses in Excel, interpret statistical information, and write a complete analysis.

Separate project guides will be posted in D2L.

Project 1: Probabilities of Risk of Poverty (25 points, due March 11, 2022)

Project 2: Testing Differences in Exonerations (35 points, due April 15, 2022)

Project 3: Student Anxiety and Mental Health (50 points, due May 4, 2022)

Levels of Evaluation for Excel Exercises and Applied Analysis Projects



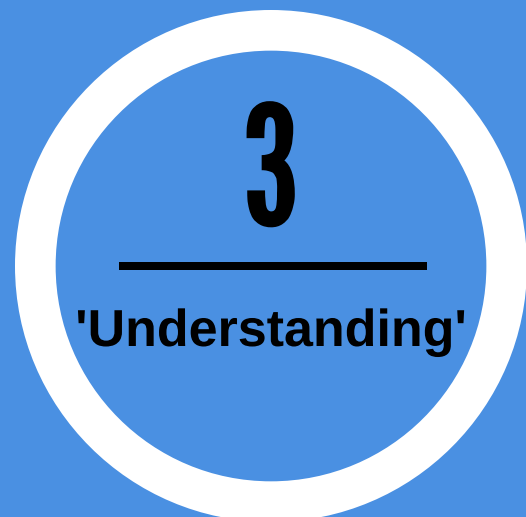
Project is not submitted or submitted with substantial components missing



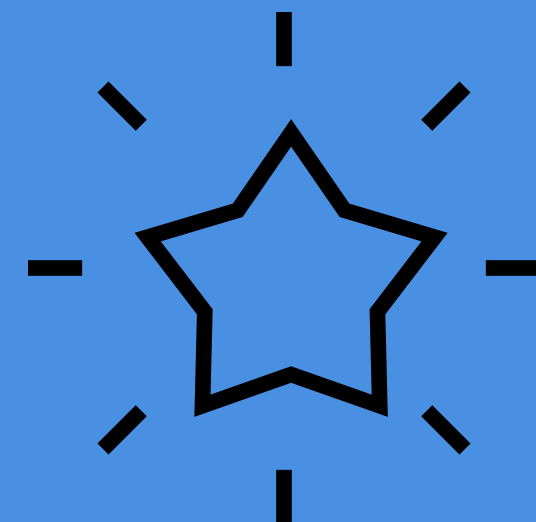
Project is completed but requires more time and attention
Required revision within 48 hours for partial points



Project completed with some areas for growth
Optional revision within 48 hours for partial points



Project completed and demonstrated a working understanding of the material
Final submission



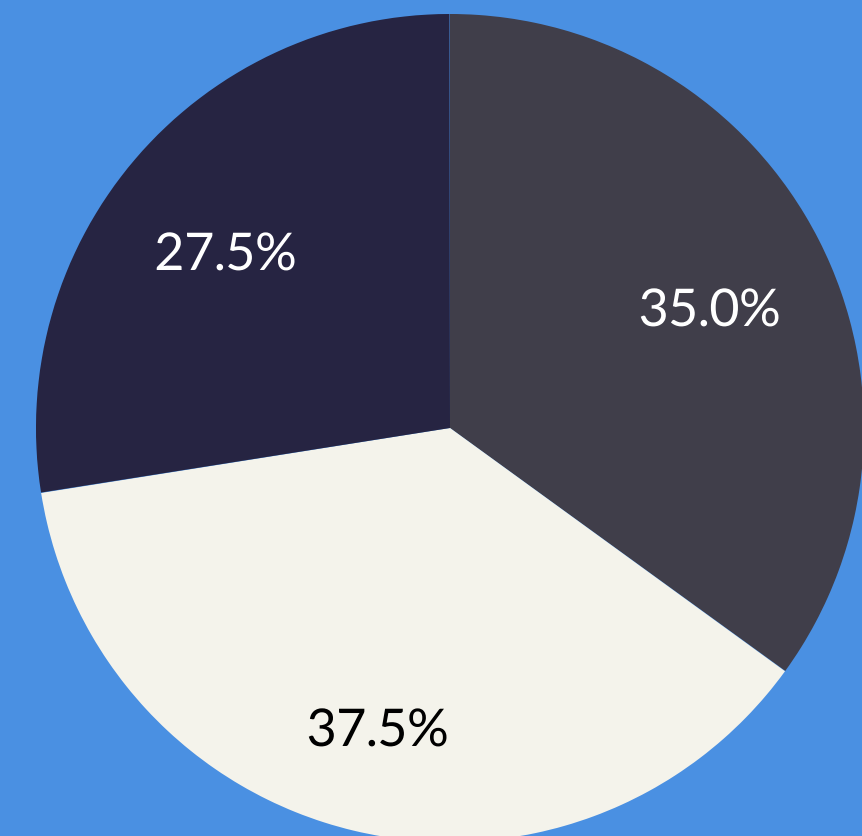


Life happens. It is a fact of life, really! Therefore, I grant each student 5 tokens that can be redeemed when, well, life happens.

Perhaps you will need them, perhaps not. But if you need an extra day for an Excel Exercise or Applied Analysis Project, use a token.

You still must complete the work, but if life happens, let me know ***ahead of the due date*** and turn in a token. That's it.

Distribution of Evaluation Points



- Self-Assessment Quizzes (35%)
- Excel Exercises (37.5%)
- Applied Analysis Projects (27.5%)



Units, Topics, and Dates

Unit 1

Introduction

January 10-14, 2022

Unit 2

Basic Descriptive Statistics

January 19-21, 2022

Unit 3

Measures of Central Tendency

January 24-28, 2022

Unit 4

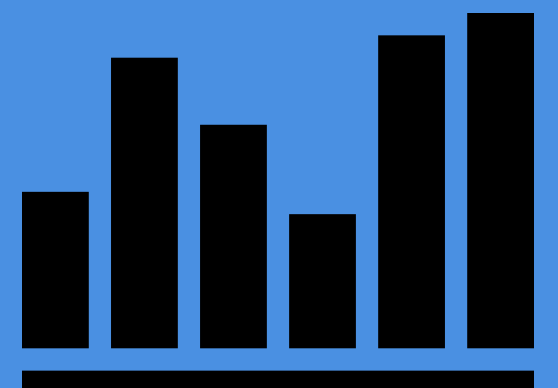
Measures of Variability

January 31- February 4, 2022

Unit 5

The Normal Distribution

February 7-18, 2022



Units, Topics, and Dates, cont.

Unit 6

Samples, Sampling and Risk

February 21 - March 11, 2022

Unit 7

Hypothesis Testing

March 21 - April 15, 2022

Unit 8

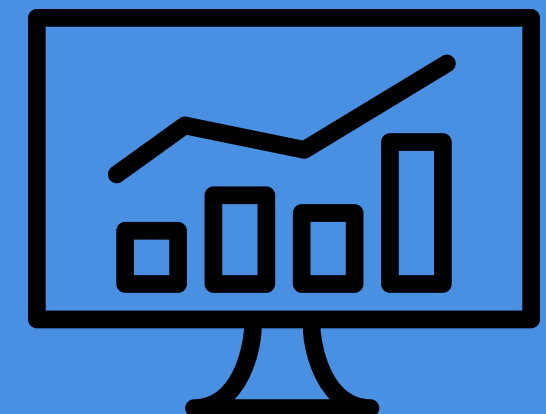
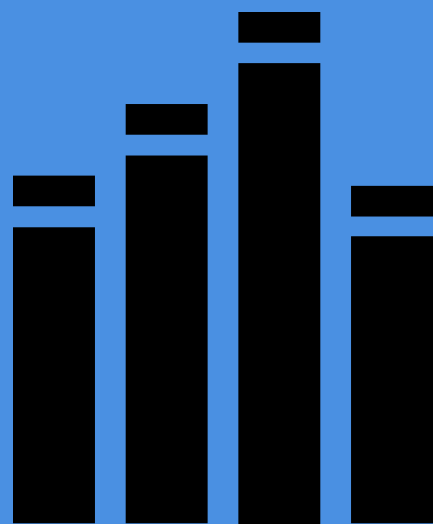
Analysis of Variance

April 18-22, 2022

Unit 9

Real World Research

April 25-29, 2022



Student Performance Expectations

BE DILIGENT

You are expected to work hard in this course and should expect to put in plenty of work time outside of the classroom.

BE ENGAGED

Engagement is your continued and productive attendance, use of learning activities as opportunities to learn, and mindful participation in active learning.

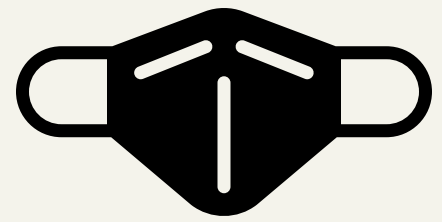
BE PROACTIVE

Statistics is not a subject that is learned without practice and help. Do not be afraid to ask for help or come see me in my student office hours – I am more than willing to go the extra mile, but only if you are, too.

ASK. ASK. ASK.

Ask for help: There is NO SUCH THING AS A STUPID QUESTION!

COVID-19 Practices & Expectations on EIU's Campus



The University is asking all of us to take precautions to prevent the spread of COVID-19. EIU's policy is intended to protect all of us on campus, as well as the community, your roommates, and loved ones at home.

- All students, regardless of vaccination status, are required to wear face coverings during class.
- Students may sit in any classroom seat where they are most comfortable. All reasonable efforts will be made to provide modifications to classroom seating arrangements if needed; however, this may not be possible in all situations.
- Students should not attend class if they are ill and should consult the student health clinic if they have any COVID-19-like symptoms.

EIU's COVID-19 campus practices including face coverings, when and where required, avoiding campus if sick, sanitizing surfaces, social distancing, and hand washing all of which are based on the best available public health guidance. Everyone in the campus community is responsible for following practices that reduce risk.

If you have a health condition that may require a potential classroom accommodation or variation from current EIU COVID-19 policy, please contact Student Disability Services (studentdisability@eiu.edu or 581-6583) to determine what options may be available based on current CDC guidance.

If you are unable to follow EIU's COVID-19 guidelines, you may be asked to leave class or office hours as compliance with public health guidance is essential.

Accommodations for instruction and make-up work will be made for students with documented medical absences according to IGP #43 [<https://castle.eiu.edu/auditing/043.php>].

To view the latest EIU COVID-19 related information and any policy updates, please visit <https://www.eiu.edu/covid/>