

SOCY 4156: Quantitative Analysis

Summer 2026 • Asynchronous

Instructor: Kingsford Onyina

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Virtual Office Hours: By Appointment

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Note: Although the lab is a separate course section, all materials have been consolidated here for easy access. You will find lab details, assignments, and content under the Lab Module section.

Course Description & Objectives

Social scientists ask hard questions: Who gets ahead, and why? How do policies shape life outcomes? What does the data actually say? This course equips sociology and social science majors at large with the quantitative tools to begin answering them. You will build core competency in descriptive statistics, sampling, hypothesis testing, confidence intervals, and regression analysis, applied to real social phenomena like inequality, health, and public policy. The emphasis is on reading data carefully, interpreting results clearly, and understanding what the numbers do and do not tell us about the social world. By the end of the course, you will be prepared to engage with quantitative research in your field, evaluate evidence critically, and carry these skills into upper-division coursework and beyond.

Textbooks

1. Frankfort-Nachmias & Leon-Guerrero. *Social Statistics for a Diverse Society*, 9th or 10th edition. [REQUIRED]

Course Module Structure

This course is structured into modules with readings, participation assignments, and other tasks (e.g., quizzes) due at the end of each module. All course content you need for the respective module will be in Canvas. Each weekly course module will generally consist of the content noted below:

- **Course Readings and PowerPoint Presentations:** Students will be assigned readings from the class textbook. An instructor-prepared PowerPoint will accompany these readings to ensure that students understand the key points and to provide additional explanation. The presentations complement the readings; they do not substitute for them (you'll still need to read the course material!).
- **Short Videos:** Modules often include links to short, dynamic videos that further explain relevant course content. These give the broad overview or "big picture" and can help you make sense of the denser material in the textbook. I strongly suggest referring back to these videos throughout the semester, since they provide foundational material and serve as a helpful reminder of key concepts.
- **Knowledge Checkpoints:** To ensure students understand the course material, quizzes will be

administered through Canvas covering the content of that weekly module.

- **Participation Assignments:** Several short individual assignments designed to reinforce course content and mirror the active engagement of a face-to-face classroom. They may include short written responses, interpretation exercises, or discussion-board posts. Low-stakes by design: the goal is genuine engagement, not a perfect answer.
- **Practice Assignments:** Students may work on practice assignments together or independently. Either way, each student must submit his/her own practice assignment to receive credit.
- **Lab Assignments:** There is a lab section to this course. The labs are periodic, with 11 total labs throughout the semester (not one each week). The weekly modules note when to start a lab and when it is due.

Course Requirements

1. **Participation Assignments (10%):** Periodic participation assignments and activities designed to reinforce course content and foster engagement. Your grade reflects (a) completion and (b) quality and effort demonstrated in each submission.
2. **Practice Assignments (15%):** Several short individual assignments that ask you to apply or reflect on module material. Low-stakes by design: the goal is genuine engagement, not a perfect answer.
3. **Knowledge Checkpoints (10%):** At the end of each weekly module, a short quiz (multiple choice and short answer) assesses your understanding. There are approximately 13 quizzes (<1% each). No make-up or late quizzes without advance approval and arrangements.
4. **Exams (45% total, 15% each):** Three exams. You may use the textbook and course materials but may not consult other people. Exams may include multiple-choice, short-answer, and problem sets. No make-up or late exams without advance approval.
5. **Lab Assignments (20% total):** Lab sessions accompany lectures. The software used is SPSS for Windows. There are 11 lab assignments (~2% each). The TA leads the lab sessions and has a separate syllabus; please contact the TA lab instructor first with any questions.

Grading Scale: 100–90% (A); 89–80% (B); 79–70% (C); 69–60% (D); 59–0% (F)

Course Policies

Email Communication

If you have a question about the course or materials (e.g., details of an assignment, clarification of a term), please post it to the *Ask a Question* discussion forum on Canvas. Since many students have similar questions, I will answer there, so check there first.

- I will only answer these general questions if they are posted to the Q&A, not if they are emailed to me.

Email me directly for a personal question or to set up a one-on-one meeting, using the subject line "SOCY 4156." Please use appropriate email etiquette (salutation, signature, no abbreviations). I will try to respond within a 24-hour window if sent during the work week (M–F), though there may be exceptions.

Email **tech support** for all technology issues; I cannot resolve them. If you have trouble submitting an assignment, email tech support, not the instructor. If you cannot resolve the issue before the deadline, email me about it and I will decide whether to extend the deadline. The key is to submit early!

Late Assignment Policy

All assignments, exams, and quizzes must be completed by the deadline provided. If you have legitimate conflicts (e.g., religious observance, university-authorized travel) with an exam, due date, or class meeting, please let me know as soon as possible so we can arrange accommodations ahead of time. No make-ups for participation or for exams/assignments will be offered unless arranged in advance.

Policy on Extra Credit

No extra credit will be given beyond what is noted in this syllabus, so put your best effort into every assignment. If you are experiencing difficulty at any point, please reach out as soon as possible; do not wait until it is too late.

Reading a syllabus is rarely anyone's idea of a good time, but getting here means you are already ahead of the curve. As a reward: email me a picture of an elephant before May 20 at 9am for an extra participation credit.

Religious Accommodation

If you will be observing any religious holidays this semester that interfere with fulfilling a course requirement, please contact me to make arrangements within two weeks of the beginning of the semester (or three days before any holidays that fall within the first two weeks of class). See University Policy 409: <http://legal.uncc.edu/policies/up-409>

The Syllabus

This syllabus is a guide to the course for the student. Sound educational practice requires flexibility, and the instructor may therefore, at her/his discretion, change content and requirements during the semester.

Access

UNC Charlotte is committed to access to education. If you have a disability and need academic accommodations, please provide a letter of accommodation from Disability Services early in the semester. For more information, contact the Office of Disability Services at 704-687-0040 or visit Fretwell 230. I am not able to provide accommodations without verification from DS.

Academic Integrity

All students are required to read and abide by the UNC Charlotte Code of Student Academic Integrity: <http://legal.uncc.edu/policies/up-407> Violations of the Code, including plagiarism, will result in disciplinary action.

Artificial Intelligence (AI) Policy

The use of AI tools (e.g., ChatGPT, Gemini, Claude) is restricted in this course. They may only be used in a very limited way to help you understand course concepts or review material covered in lectures. AI tools must not be used to generate answers, code, statistical analysis, or any part of submitted assignments.

Sexual Harassment, Assault, and Relationship Violence

UNC Charlotte is committed to a campus free of discrimination, sexual harassment, assault, domestic violence, dating violence, and stalking. If you or someone you know has experienced any of these, you are not alone and support is available. As a faculty member, I am a required reporter: if you disclose a relevant incident to me, I must report it to the Title IX Coordinator. You will still have options about how your case is handled.

Confidential on-campus resources:

- University Counseling Center: counselingcenter.uncc.edu | 704-687-0311
- Student Health Center: studenthealth.uncc.edu | 704-687-7400
- Center for Wellness Promotion: wellness.uncc.edu | 704-687-7407

Off-campus:

- National Sexual Assault Hotline: 1-800-656-4673
- Mecklenburg County Rape Crisis Hotline: 704-687-2200

Additional options at titleix.uncc.edu under the Students tab.

Counseling Services

The UNC Charlotte University Counseling Center in Atkins 158 is available to support your emotional and educational concerns. Assistance is confidential and free of charge, with a wide range of options including individual counseling and support groups. Visit <http://counselingcenter.uncc.edu/> or call 704-687-0311. You can also call the Disaster Distress Helpline at 800-985-5990 or visit <http://www.samhsa.gov/find-help/disaster-distress-helpline>

Weekly Course Content

Note: See Canvas Modules for specific readings, tasks, and assignments each week; class schedule subject to change.

Week 05/18

Monday–Wednesday (all materials due end of Wed):

- Module 1: Class Introduction & The What and Why of Statistics (Chapter 1)

Thursday–Friday (all materials due next Monday by 9am):

- Module 2: The Organization and Graphic Presentation of Data (Chapter 2)
- Module 3: Measures of Central Tendency (Chapter 3)

Week 05/25

Monday–Wednesday (all materials due end of Wed; no class Monday):

- Module 4: Measures of Variability (Chapter 4)
- Module 5: Review for Exam 1 — Review Assignment #1 (Check-In & Exam 1 Review) Due

Thursday (all materials due by end of day Thursday):

- **Exam 1 due Thursday, May 28th**

Friday (all materials due next Monday by 9am):

- Module 6: The Normal Distribution (Chapter 5)

Week 06/01

- Module 7: Sampling and Sampling Distributions (Chapter 6)
- Module 8: Estimation (Chapter 7)

Thursday–Friday (all materials due next Monday 9am):

- Module 9: Testing Hypotheses, Part 1 (Chapter 8)

Week 06/08

Monday–Wednesday (all materials due end of Wed):

- Module 10: Testing Hypotheses, Part 2 (Chapter 8)
- Module 11: Review for Exam 2 — Review Assignment #2 (Check-In & Exam 2 Review)

Thursday:

- **Exam 2 due Thursday, June 11th**

Friday (all materials due next Monday):

- Module 12: Bivariate Tables (Chapter 9)

Week 06/15

Monday–Wednesday (all materials due end of Wed):

- Module 13: The Chi-Square Test and Measures of Association (Chapter 10) & Analysis of Variance (Chapter 11)
- Module 14: Regression and Correlation, Part 1 (Chapter 12)

Thursday–Friday (all materials due next Monday by 9am):

- Module 15: Regression and Correlation, Part 2 (Chapter 12)
- Module 16: Review for Exam 3 — Review Assignment #3 (Check-In & Exam 3 Review)
- **Final Exam (Exam 3) due Wednesday, June 23rd**