

# STOR 155.006 – Spring 2023 – Syllabus

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## Introduction to Data Models and Inference

### Instructor

Ms. Morgan Smith

smithmor@email.unc.edu

### Instructor's Office Hours

**On Zoom:** Tuesdays 9:30am - 10:15am

Zoom link:

<https://unc.zoom.us/j/92033079718?pwd=eEFtT0Rud2ZNb2h0M2JKSXIYNkU2dz09>

**In office:** Wednesdays 9:00am - 10:15am

Location: In our classroom or Hanes B46

### Open Tutorial Sessions

Led by Doctorial students in STOR – Yang Luo, Soohyun Kim, Jason Hu, Brian White, & Amy Song

**On Zoom:** Sunday – Thursday from 7:00PM to 8:00PM

Zoom link:

<https://unc.zoom.us/j/94271275803?pwd=UVJGdzhpRkZLaG13TFNMcZlEelZjd09>

### Instructional Assistant (IA)

Ms. Amy Song

*Additional information is on Sakai*

Ms. Song should be contacted about any WebAssign grading questions

### Course Overview

Data analysis; correlation and regression; sampling and experimental design; basic probability (random variables, expected values, normal and binomial distributions); hypothesis testing and confidence intervals for means, proportions, and regression parameters; use of spreadsheet software.

### Class Location & Time

Davie 112

MWF 8:00am - 8:50am

### Required Text

OpenIntro Statistics, 4th Edition by Diez, Barr, and Rundel.

Available freely through: <https://www.openintro.org/book/os/>. It is also available through WebAssign and will be posted on Sakai.

### Resources

This course for many of you will be your first introduction to statistics. This material tends to build on itself. Thus, it is imperative to not fall behind. I suggest taking advantage of all available resources; some of which are listed below.

- Instructor's Office Hours
- Open Tutorial Sessions (Through STOR)
- IA's Office Hours
- Study Groups (Form your own)
- Learning Center (Weekly meetings on Tuesdays & Tutoring)
- Textbook

## Grading

Assignment	Percentage
Homework	30%
Midterm 1	15%
Midterm 2	20%
Final Exam	30%
Lecture Project	5%

A	93 or above	C+	77 to 79.99
A-	90 to 92.99	C	73 to 76.99
B+	87 to 89.99	C-	70 to 72.99
B	83 to 86.99	D+	67 to 69.99
B-	80 to 82.99	D	60 to 66.99
		F	Below 60

## Tentative Exam Schedule

Exam	Date	Subjects
Midterm I	Friday, February 24 <sup>th</sup>	Chapters 1, 2, 3, & 4
Midterm II	Friday, April 14 <sup>th</sup>	Chapters 5, 6, & 7
Final Exam	According to Final Exam Schedule	Cumulative: Chapters 1 - 8

## Material that will be Covered

Chapter	Subject
Chapter 1	Introduction to Data
Chapter 2	Summarizing Data
Chapter 3	Probability
Chapter 4	Distributions of Random Variables
Chapter 5	Foundations for Inference
Chapter 6	Inference for Categorical Data
Chapter 7	Inference for Numerical Data
Chapter 8	Introduction to Linear Regression

## **Class Schedule**

A tentative schedule for lecture topics, exams, homeworks, and more is posted on Sakai. I will communicate any changes with you as soon as possible. Please be aware that the goal is to lecture at least at the pace outlined in this schedule. Extra time will be filled with relevant topics or review lectures. Homework due dates can also be found on this schedule.

## **Homework Policy**

Homework will be assigned once we begin a new topic (approximately 3 assignments every two weeks). It will be due approximately one week after completing the topic. The schedule of these can be found on Sakai and on WebAssign. If you are not able to complete the homework on time, you are able to request an extension. An extension will be granted for up to 3 days (72 hours). Any work completed during this extended period will earn 30% of the original credit. The only exception to this penalty is for university approved absences on the due date. I will extend the homework assignment for any many days that are excused by the university. All questions about homework grading should be brought to the attention of the IA.

I will drop your lowest graded homework assignment.

All sections of STOR 155 will be using WebAssign for homework. You will need to log onto [www.webassign.net](http://www.webassign.net) and enter the class key to be added to my class. If you need assistance with your first login, ask your instructor or IA. This needs to be done by **January 16<sup>th</sup>** at the latest as your first homework assignment is due on the 18<sup>th</sup>. You will be responsible for obtaining an appropriate access code.

**Key for WebAssign: unc 3553 2427**

## **Exam Policy**

The tentative dates of all exams are posted above. Make-up midterm exams will only be allowed with a university approved absence or with a documented (and approved) medical absence. I must be made aware of this approval before the solutions of the exam are released which can be as early as 8 hours after the exam is scheduled. If your absence does not satisfy these two things, I will allow you to replace the missing exam with your final exam grade. Similarly, for those who are not satisfied with their midterm grade (for whatever reason), I will allow your lowest midterm grade to be replaced by your final grade if this change improves your grade.

The university has a special policy for missing Final Exams. Questions about missing final exams should be brought up to the office of the Dean of Students.

I will allow an index-sized (front and back) cheat sheet on all exams. These must be handwritten.

## **Lecture Project**

More information on this project will be released later in the semester. The completion of this project will entail recording a short lecture on a relevant topic from the course and also a review of another student's lecture.

## **Attendance Policy**

This course is classified as in-person meaning:

- Students will attend classes live in-person
- Students will take exams on specific dates/times in-person

No right or privilege exists that permits a student to be absent from any class meetings, even online classes, except for these university approved absences:

- Authorized university activities,
- Disability/religious observance/pregnancy, as required by law and approved by Accessibility Resources and Service and/or the Equal Opportunity and Compliance Office (EOC),
- Significant health condition and/or personal/family emergency as approved by the Office of the Dean of Students, Gender Violence Service Coordinators, and/or the Equal Opportunity and Compliance Office (EOC)\*.

## **Honor Code**

All students are expected to follow the guidelines of the UNC Honor Code. In particular, students are expected to refrain from “lying, cheating, or stealing” in the academic context. If you are unsure about which actions violate the Honor Code, please see me or consult [studentconduct.unc.edu](http://studentconduct.unc.edu).

## **Technology Use**

You are welcome to bring a calculator, laptop, and cellphone to class.

Technology can support student learning, but it can also become a distraction. You should not use laptops or other devices for entertainment during class and should not display any material on the laptop which may be distracting or offensive to your fellow students. Laptops should only be used for legitimate classroom purposes, such as coding, taking notes, or downloading class information from Sakai. E-mail, messaging, surfing the Internet, reading the news, or playing games are not considered legitimate classroom purposes. Such inappropriate use is distracting and is unprofessional.

## **Learning Cooperatively**

We encourage you to discuss course content with your friends and classmates as you are working on your weekly assignments. No matter what your academic background, you will learn more in this class if you work with others than if you do not. Ask questions, answer questions, and share ideas liberally.

## **Other Disclaimers**

### **Acceptable Use Policy**

By attending the University of North Carolina at Chapel Hill, you agree to abide by the University of North Carolina at Chapel Hill policies related to the acceptable use of IT systems and services. The Acceptable Use Policy (AUP) sets the expectation that you will use the University's technology resources responsibly, consistent with the University's mission. In the context of a class, it's quite likely you will participate in online activities that could include personal information about you or your peers, and the AUP addresses your obligations to protect the privacy of class participants. In addition, the AUP addresses matters of others' intellectual property, including copyright. These are only a couple of typical examples, so you should consult the full Information Technology Acceptable Use Policy, which covers topics related to using digital resources, such as privacy, confidentiality, and intellectual property.

Additionally, consult the Safe Computing at UNC website for information about data security policies, updates, and tips on keeping your identity, information, and devices safe.

### **Accessibility Resources and Service**

The University of North Carolina at Chapel Hill facilitates the implementation of reasonable accommodations, including resources and services, for students with a disability and/or a chronic health diagnosis resulting in barriers to fully accessing University courses, programs and activities.

Accommodations are determined by the Office of Accessibility Resources and Service (ARS) through their Student and Applicant Accommodations Policy, which documents qualifying disabilities in accordance with applicable state and federal laws. See the ARS website (<https://ars.unc.edu>) for contact information or email [ars@unc.edu](mailto:ars@unc.edu).

### **Counseling and Psychological Services**

UNC-Chapel Hill is strongly committed to addressing the mental health needs of a diverse student body. The Heels Care Network website is a place to access the many mental health resources at Carolina. CAPS is the primary mental health provider for students, offering timely access to consultation and connection to clinically appropriate services. Go to their website <https://caps.unc.edu/> or visit their facilities on the third floor of the Campus Health building for an initial evaluation to learn more. Students can also call CAPS 24/7 at 919-966-3658 for immediate assistance.

### **Title IX and Related Resources**

Any student who is impacted by discrimination, harassment, interpersonal (relationship) violence, sexual violence, sexual exploitation, or stalking is encouraged to seek resources on campus or in the community. Reports can be made online to the EOC at <https://eoc.unc.edu/report-an-incident/>. Please contact the University's Title IX Coordinator (Elizabeth Hall, [titleixcoordinator@unc.edu](mailto:titleixcoordinator@unc.edu)), Report and Response Coordinators in the Equal Opportunity and Compliance Office ([reportandresponse@unc.edu](mailto:reportandresponse@unc.edu)), Counseling and Psychological Services (confidential), or the Gender Violence Services Coordinators ([gvsc@unc.edu](mailto:gvsc@unc.edu); confidential) to discuss your specific needs. Additional resources are available at [safe.unc.edu](https://safe.unc.edu).

### **Policy on Non-Discrimination**

The University is committed to providing an inclusive and welcoming environment for all members of our community and to ensuring that educational and employment decisions are based on individuals' abilities and qualifications. Consistent with this principle and applicable laws, the University's Policy Statement on Non-Discrimination offers access to its educational programs and activities as well as employment terms and conditions without respect to race, color, gender, national origin, age, religion, genetic information, disability, veteran's status, sexual orientation, gender identity or gender expression. Such a policy ensures that only relevant factors are considered, and that equitable and consistent standards of conduct and performance are applied.

If you are experiencing harassment or discrimination, you can seek assistance and file a report through the Report and Response Coordinators (see contact info at [safe.unc.edu](https://safe.unc.edu)) or the Equal Opportunity and Compliance Office at <https://eoc.unc.edu/report-an-incident/>.

### **Diversity Statement**

I value the perspectives of individuals from all backgrounds reflecting the diversity of our students. I broadly define diversity to include race, gender identity, national origin, ethnicity, religion, social class, age, sexual orientation, political background, and physical and learning ability. I strive to make this classroom an inclusive space for all students. Please let me know if there is anything I can do to improve. I appreciate any suggestions.

### **Undergraduate Testing Center**

The College of Arts and Sciences provides a secure, proctored environment in which exams can be taken. The center works with instructors to proctor exams for their undergraduate students who are not registered with ARS and who do not need testing accommodations as provided by ARS. In other words, the Center provides a proctored testing environment for students who are unable to take an exam at the normally scheduled time (with pre-arrangement by your instructor). For more information, visit <http://testingcenter.web.unc.edu/>.

### **Learning Center**

Want to get the most out of this course or others this semester? Visit UNC's Learning Center at <http://learningcenter.unc.edu> to make an appointment or register for an event. Their free, popular programs will help you optimize your academic performance. Try academic coaching, peer tutoring, STEM support, ADHD/LD services, workshops and study camps, or review tips and tools available on the website.

### **Writing Center**

For free feedback on any course writing projects, check out UNC's Writing Center. Writing Center coaches can assist with any writing project, including multimedia projects and application essays, at any stage of the writing process. You don't even need a draft to come visit. To schedule a 45-minute appointment, review quick tips, or request written feedback online, visit <http://writingcenter.unc.edu>.

### **Grade Appeal Process**

If you feel you have been awarded an incorrect grade, please discuss with me. If we cannot resolve the issue, you may talk to our departmental director of undergraduate studies or appeal the grade through a formal university process based on arithmetic/clerical error, arbitrariness, discrimination, harassment, or personal malice. To learn more, go to the Academic Advising Program website.

### **Syllabus Changes**

The professor reserves the right to make changes to the syllabus including project due dates and test dates. These changes will be announced as early as possible.