MATH 117: Introduction to Statistics
02, 03 — Spring 2025

Instructor Information

Name: Dylan Green
Office: MECC 269
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Office Hours: M 1 – 2pm, W 2 – 3pm, Th 11am – 12pm or by appointment

Time: 02, 11:00 – 11:50am; 03, 10:00 – 10:50am
Classroom: MECC 220

Course Description

Per the course catalogue: This course will provide a basic foundation in descriptive and inferential statistics, including constructing models from data. Students will learn to think critically about data, apply discrete and continuous probability models, and utilize statistical inference procedures using computational tools. Topics include descriptive and inferential statistics, including one and two-sample hypothesis testing, and single and multiple regression.

Learning Objectives

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

- Differentiate between descriptive and inferential statistics.
- Describe quantitative data with graphs and numerical measures.
- Utilize probability as a measure of reliability for inference.
- Describe and use both discrete and continuous random variables.
- Understand and effectively use the Central Limit Theorem.
- Estimate a population parameter on the basis of a sample selected from the population.
- Form confidence intervals for unknown population parameters.
- Understand and implement techniques for describing sets of data, including numerical measures of central tendency and variability.
- Formulate and test hypotheses for various sets of data.
- Utilize the simple linear regression model to predict the value of one variable from a specified value of another variable.
- Implement multiple-regression models when an unknown of interest depends on two or more independent variables.

- Effectively communicate mathematical notions and ideas using a blend of English prose and mathematical notation.

Textbook, Calculators, & Software

Textbook: *Introductory Statistics* (2nd Edition) – OpenStax.org

- https://openstax.org/details/books/introductory-statistics-2e

Grading

The course grade is determined by the following components:

Attendance/Participation	10%
Homework	10%
In-Class Exams (4)	60% (each 15%)
Final Exam	20%

Important Dates

Please pay attention to the following important dates this semester:

Tue, Jan 27	Add/Drop Deadline
	Last Day to Declare a Class Pass/Low Pass/Fail
Mar 30 – Apr 3	Advising Week
Fri, Apr 3	Last Day to Withdraw from Fall Semester Courses
Wed, Apr 29	Last Day of Classes
May 4 – 8	Final Exams

Expectations

We will follow a *flipped classroom* model for this course. Before each class time, you are responsible for watching a 10 – 20 minute lecture video uploaded to Moodle and completing a short quiz based on the video's content. Class time will then be spent completing problems and exercises based on the video lecture. The attendance/participation component of your final grade will be based on completion of the video lecture quizzes and in-class worksheets. Expect to spend around 8 – 12 hours per week outside of class on watching lecture videos, completing homework, and studying. If you feel yourself falling behind, please come to office hours and take advantage of the tutoring services available to you.

Office Hours

Office hours, which are held Monday 1 – 2pm, Wednesday 2 – 3pm, and Thursday 11am – 12pm in MECC 269, are a great opportunity to come with questions about lecture and homework material. If you are unable to attend the regularly scheduled office hours and would like to meet, please reach out to me in advance and we can schedule an appointment.

Homework

Written homework assignments will be assigned periodically, and you will be given at least one week to complete each assignment. Homework should be turned in by 11:59pm on the day that it is due. Late work will be penalized by 25% per calendar day after it is due.

You are encouraged to form study groups and visit office hours or the Tutoring Center for help with homework problems, but you must write your solutions independently. You will be asked to indicate who (if anyone) you collaborated with.

Exams

There are four in-class exams as indicated on the schedule below as well as one cumulative final exam. See below for the final exam time based on your section of the course. **Do not make arrangements to leave for break before the final exam date.**

Final Exam:

- Section 02, class time 11-11:50am: Tuesday, May 5, 12 – 2:30pm
- Section 03, class time 10-10:50am: Wednesday, May 6, 12 – 2:30pm

Students with Accommodations

Trinity College is committed to creating an inclusive and accessible learning environment consistent with the Americans with Disabilities Act. Students with disabilities who may need some accommodation in order to fully participate in this class are urged to contact the Student Accessibility Resource Center, as soon as possible, to explore what arrangements need to be made to assure access.

If you have approval for academic accommodations, please notify me by the end of week two of classes. For those students with accommodations approved after the start of the semester, a minimum of 10 days' notice is required. Please be sure to meet with me privately to discuss implementation.

Student Accessibility Resources can be reached by emailing SARC@trincoll.edu

Academic Integrity

In accordance with the Trinity College Student Integrity Contract, students are expected to abide by the highest standards of intellectual honesty in all academic exercises. Intellectual honesty assumes that student do their own work and that they credit properly those upon whose work and thought they draw. It is the responsibility of each student to make sure that they are fully aware of what constitutes intellectually honest work in every exam, quiz, homework, or other academic exercise submitted for evaluation in a course at Trinity College.

Use of Generative AI Tools

As machine learning continues to advance, the use of generate AI tools, such as ChatGPT, is becoming more widespread. These models can at times be useful tools to accelerate productivity and understanding. While you may use these tools when reviewing lecture notes or studying for an exam to help better your understanding of the course material, the use of such AI tools **is not permitted** for any assignments in our course.

It is worth noting that, in some cases, AI tools may give an answer to a prompt that is completely (and sometimes wildly) incorrect. As such, always be skeptical of any generative AI output you see and verify the veracity of the information contained within. If you have any questions about the use of these tools in the class, please reach out to the instructor.

Tutoring

Drop-in tutoring is available in the Math Tutoring Center (Q-Center), located in MECC 172, Monday through Thursday 4-10pm and Sunday 7-10pm. The schedule and instructions to access tutoring will be made available in the second week of classes and linked from Moodle as well as at the webpage https://www.trincoll.edu/quantitative-center/tutoring-support/

Class Attendance and Participation

Attendance of all lectures is required. Attendance will be measured by completion of in-class worksheets and will be counted toward the Attendance/Participation grade at the end of the semester. More than **three** recorded unexcused absences may result in a lower Attendance/Participation grade.

Under normal circumstances, missed homework or exams cannot be made up and will receive a grade of zero. In the event of an unforeseen unavoidable circumstance which prevents you from attending class on the day of an exam or homework due date, a suitable make-up assignment, or excusal from the assignment will be granted on a case-by-case basis, provided written documentation of illness or emergency, or a note from the Dean of Students office.

It is your responsibility to find out what was covered in any lecture that you miss and to arrange for the submission of any assignments before the due date.

Course Policies

- **Low Exam Policy:** If your grade on the final exam is better than the grade on your lowest midterm exam, your final exam grade will replace your lowest exam grade. Note: you must take all three midterm exams.
- **Low Homework Policy:** Your lowest homework grade will not count towards your final grade.
- **Formula Sheet:** A formula sheet will be provided for exams. You will be told in advance what will be included on the formula sheet.

- **Calculator Policy:** The use of a graphing calculator on quizzes and exams is prohibited. You may use any calculator during class, but not any other electronic devices, except for note taking (this includes cell phones, laptops, and MP3 players).
- **Use of Moodle:** *All homework will be submitted via Moodle.* I will use Moodle to post links to supplemental and review material, copies of homework assignments, solutions, handouts, etc. Please make sure you are able to access the Moodle site and bookmark it.
- **Use of Email:** I will use trincoll email to make mass announcements. Please make sure that your Trinity email account is working and check regularly for announcements.

Tentative Schedule

Monday	Wednesday	Friday
	1/21: Chapter 1	1/23: Sec. 2.1 – 2.2
1/26: Sec. 2.3 – 2.4	1/28: Sec. 2.5 – 2.7	1/30: Sec. 3.1 – 3.2
2/2: Sec. 3.3	2/4: Sec. 3.4	2/6: Sec. 3.5
2/9: Review	2/11: **Exam 1**	2/13: Sec. 4.1 – 4.2
2/16: Sec. 4.3	2/18: Sec. 5.1 – 5.2	2/20: Trinity Days
2/23: Sec. 6.1 – 6.2	2/25: Sec. 6.1 – 6.2	2/27: Sec. 7.1
3/2: Sec. 7.3	3/4: Review	3/6: **Exam 2**
3/9: Sec. 8.1	3/11: Sec. 8.2	3/13: Sec. 8.3
3/16: Spring Break	3/18: Spring Break	3/20: Spring Break
3/23: Sec. 9.1 – 9.2	3/25: Sec. 9.3	3/27: Sec. 9.4
3/30: Sec. 9.5	4/1: Review	4/3: **Exam 3**
4/6: Sec. 12.1 – 12.2	4/8: Sec. 12.3	4/10: Sec. 12.4
4/13: Sec. 12.5	4/15: Chap. 12 Supplements	4/17: Multilinear Regression
4/20: Multilinear Regression	4/22: Review	4/24: **Exam 4**
4/27: Final Review	4/29: Final Review	

The contents of this syllabus may change at the discretion of the instructor. Any such changes will be communicated to the class.