STAT 1000: Applied Statistical Methods
Fall 2025

Instructor: Ruth Mihalyi
Email: rmm151@pitt.edu
Class Hours: Mon, Wed 4:00 p.m. – 5:15 p.m.
Office: 1826 Posvar Hall, #1800B
Office Hours: Wednesdays, 2:00 – 3:30 p.m.
Room: 107 Lawrence Hall
Textbook: *Introduction to the Practice of Statistics*, 9th Edition, Moore
ALEKS homework software with Inclusive Access
Prerequisite: MATH 0031 (Algebra) or its equivalent

Description
This course is an introduction to statistical methods which stresses the development of critical thinking skills and increased awareness of how these methods are applied in a variety of disciplines. It is designed for students who want to do data analysis and to study further ideas in applied statistics beyond this course. Students are encouraged to investigate applications in their own major or areas of personal interest. The topics covered include descriptive statistics, elementary probability, random sampling, controlled experiments, hypothesis testing, regression, chi-square, and the analysis of variance. In addition, students will be exposed to more advanced topics in modern statistical practice. Emphasis will be placed on the statistical reasoning underlying the methods. Students will also become proficient at the use of a statistical software package, R and R Studio (Minitab and Excel examples may also be used in some components of the course).

Grades
The grade you earn will be a reflection of how closely you meet the goal of mastering all topics listed on the course calendar. The four criteria listed below will be used to measure your mastery of these topics:

I. Homework/Project Assignments (15% of your grade)
- There will be up to **nine (9)** homework assignments throughout the semester.
- Homework assignments and any necessary data will be completed through the ALEKS homework platform that will be accessible through Canvas.
- Homework assignment due dates may need to be extended, depending on the pace of the lectures. Please pay attention to announcements that are posted in Canvas (as well as emailed to you) for any changes.
- Homework assignments may vary in total points.
- Late homework will be accepted after the due date, up to December 6th, for 50% credit.
- Extended excused absences due to illness, family emergencies, etc. will be handled on a case-by-case basis and may be subject to a departure from the above policy.

II. Quizzes & Recitation Labs (20% of your grade)
- There will be quizzes and labs given throughout the semester during recitation and **your two (2) lowest grades in this category will be dropped.**
- All six quizzes/labs will have an equal number of total points (20 points).
- Since your **2 lowest grades in this section will be dropped**, there will be **no makeup quizzes or labs for any reason**. In the course of a semester, an occasional illness or emergency is to be expected.
- Dates for the upcoming quizzes and/or labs will be posted on Canvas in advance; please regularly check your email or announcements on Canvas to ensure you don't miss a due date for a lab or quiz.

III. Exams (Each 20% of your grade for a total of 40%)
- There will be **two (2)** exams given on the following dates.
  - **Exam #1: Wednesday, October 8 (Lectures 1 - 10)**
  - **Exam #2: Wednesday, November 12 (Lectures 11 - 19)**
- If you need to miss an exam due to an emergency such as illness, family emergency, or court appearance, **you must provide appropriate documentation**. **Appropriate documentation for your**

absence during the exam window is required. **If you cannot provide documentation, you will receive a score of zero.** In the event that an exam is legitimately missed, a decision will be made as to whether you can make up the exam or not. If it is not possible for a makeup exam to be administered, your final exam grade will be used to replace the grade of the exam that was missed.
- For each exam, you may use any notes you can fit on the front and back of **one sheet of 8½" x 11" paper**. Formula sheets must be **handwritten**. The exams are **closed book** and **closed notes**.
- **No hats, headphones/airpods, cellphones, translators, or AI tools are permitted during exams.**

IV. Final Exam (25% of your grade)
- The final exam will be given during the week **of Dec. 8th – Dec. 12th.**
- The final exam will be **comprehensive**. A majority of the points will come from **Lectures 11-23**. The remainder of the final exam will be review of the material covered from **Lectures 1-10.**
- **The final exam must be taken during the time period scheduled for your class.** Exceptions will only be granted to students who have three exams scheduled for the same day or another exam scheduled at the same time as this exam. Exceptions will <u>not</u> be granted due to your travel arrangements.

Final Course Grade

Percentage	Letter Grade
99% and up	A+
93% - 98%	A
90% – 92%	A-
87% – 89%	B+
83% – 86%	B
80% – 82%	B-
77% – 79%	C+

Percentage	Letter Grade
73% – 76%	C
70% – 72%	C-
67% – 69%	D+
63% – 66%	D
60% – 62%	D-
Under 60%	F

<u>Grades are not negotiable at the end of the semester</u>. You have plenty of opportunities to display your mastery of the topics throughout the semester. If you want or need help understanding the material, come talk to me or the TA long before the end of the semester.

Recitations
The recitations for this class are not mandatory, but attendance will be taken. I think you will find that attending these sessions will enhance your knowledge of the material. Your TA may review material from the past week, review selected homework problems, pose additional problems regarding the content, or provide valuable assistance using Excel. You will also have the opportunity to complete Excel labs throughout the semester. Recitations may serve as additional review sessions for the exams. Please make every attempt to attend the recitation for which you are registered. If you have a scheduling conflict, please contact the TA about attending at a different time. Extra credit will be given for recitation attendance at the end of the semester. Extra credit points will be added to the Homework portion of your grade (HW grade not to exceed 105%).

The TA for this section of STAT 1000 is: **Shi Qu**
         Office Hours: **Tuesdays, 12:30 p.m. – 2:30 p.m.**
         Location: **Statistics Dept. at 1826 Posvar Hall, Room #1824**
         Email: **SHQ35@pitt.edu**

Please attend your assigned recitation during the following times:

Day	Time	Location
Tue	3:00 - 3:50 p.m.	111 Victoria
Wed	9:00 – 9:50 a.m.	5602 Posvar
Wed	10:00 – 10:50 a.m.	5602 Posvar
Wed	11:00 – 11:50 a.m.	209 Lawrence

Statistics Tutoring
Pitt has a Study Lab/Peer Tutoring program and this one-on-one tutoring serves all students in introductory statistics classes (200, 800, 1000 and 1100); undergraduate and graduate students are available to help you. Please check their website for hours and to schedule an appointment. Only 1-on-1 one hour tutoring sessions are available. To receive help, book an appointment through https://www.asundergrad.pitt.edu/study-lab , the student app or by visiting their office in the Gardner Steel Conference Center. Hillman Library also has drop-in tutoring and the schedule can be found here: https://www.asundergrad.pitt.edu/study-lab/peer-tutoring/drop-tutoring-schedule .

Quantitative Reasoning General Education Requirement
This course fulfills the Dietrich School of Arts and Sciences Quantitative Reasoning General Education Requirement (GER) which reads as follows: Quantitative and Formal Reasoning: All students are required to take and pass with a grade of C- or better at least one course in university level mathematics (other than trigonometry) for which algebra is a prerequisite, or an approved course in statistics or mathematical or formal logic.

Academic Integrity
Students in this course are expected to comply with the University of Pittsburgh's Academic Integrity policy, which can be found at https://www.as.pitt.edu/faculty/policies-and-procedures/academic-integrity-code Any student found to be deliberately copying another student's homework/lab/extra credit assignment will receive a zero for that assignment. Any student allowing another student to copy his/her assignments will also receive a zero for the assignment. Any student found cheating on an exam or assisting others in cheating on an exam will receive an **F** for the course and may be subject to further disciplinary action. Generally speaking, it is expected that you do not lie, cheat, or steal in your academic endeavors.

Disabilities
Students with documented disabilities are entitled to reasonable accommodations if necessary. If you have a disability that requires special accommodations, please contact Disability Resources and Services in 140 William Pitt Union no later than the second week of the semester. Their website is http://www.drs.pitt.edu/ and their phone number is 412-648-7890. Accommodations will not be granted retrospectively. They will verify your disability and determine reasonable accommodations for this course.

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FALL 2025 COURSE CALENDAR
Any unforeseen changes to the schedule will be emailed to the class and posted in announcements on Canvas. Make sure that you are frequently checking Canvas & emails throughout the semester.

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Lecture	Day	Date	Topic	Due Dates	Rec. Notes
1	Mon	Aug. 25	Introduction; Variables and Data		
2	Wed	Aug. 27	Sampling Methods and Surveys		
	Mon	Sept. 1	**Labor Day – NO CLASS**		
3	Wed	Sept. 3	Observational Studies and Experiments	**HW #1 Due by 11:59 p.m. 9/7**	*INTRO TO R*
4	Mon	Sept. 8	Categorical Data; Displaying and Describing		*QUIZ*
5	Wed	Sept. 10	Quantitative Data; Displaying and Describing	HW #2 Due 9/14	
6	Mon	Sept. 15	Quantitative Data; Displaying and Describing		*LAB*
7	Wed	Sept. 17	2 Quantitative Variables; Correlation	HW #3 Due 9/21	
8	Mon	Sept. 22	2 Quantitative Variables; Regression		*QUIZ*
9	Wed	Sept. 24	Probability (part 1)	HW #4 Due 9/28	
10	Mon	Sept. 29	Probability (part 2)		*LAB*
11	Wed	Oct. 1	Random Variables and Probability Distributions	HW #5 Due 10/5	
	Mon	Oct. 6	Lecture wrap-up and Exam 1 review		
	Wed	Oct. 8	***EXAM #1***		
12	Mon	Oct. 13	The Binomial Distribution		
13	Wed	Oct. 15	Normal Distribution	HW #6 Due 10/19	
14	Mon	Oct. 20	Normal Distribution, Part 2		*QUIZ*

15	Wed	Oct. 22	Sampling Dist. of Sample Proportions		
16	Mon	Oct. 27	Sampling Dist. of Sample Means		*LAB*
17	Wed	Oct. 29	Confidence Intervals	HW #7 Due 11/2	
18	Mon	Nov. 3	Hypothesis Testing		*LAB*
19	Wed	Nov. 5	Hypothesis Testing/t distribution	HW #8 Due 11/9	
	Mon	Nov. 10	Lecture wrap-up and Exam 2 Review		
	Wed	Nov. 12	***EXAM #2***		
19	Mon	Nov. 17	Inference for Diff. between 2 Means & Paired Data		*LAB*
20	Wed	Nov. 19	Inference for 2 Categorical – Chi Square Test	HW #9 Due 11/23	
		Nov. 23-30	***Thanksgiving Break***		
21	Mon	Dec. 1	Inference for 2 Quan; Regression		*LAB*
22	Wed	Dec. 3	Inference for 2+ Quan Variables; ANOVA		
	Wed - Tues	**Dec. 8-12**	**FINAL EXAMS WEEK**		