

1070-070 INTRODUCTION TO STATISTICAL INFERENCE

Fall 2020

Instructor: Jammin Gieber	Time: M 6:00-9:00 PM
Email: gieber@math.utah.edu	Place: Online

Note that this syllabus is subject to change throughout the semester as I see fit, with or without notice. By not withdrawing/transferring from this class, you hereby agree to the following class policies and procedures outlined below.

Class Time: Monday 6:00-9:00 PM

Office Hours: Tuesday 5:00-6:00 PM or by appointment.

Main References:

- *The Basic Practice of Statistics*, 6th Edition. David S. Moore et al. **ISBN-13: 9781464102547**

Objectives: This course is a survey of the important topics used in making inferences from data. The course emphasizes material on descriptive statistics, estimation of the mean in one or two populations, simple linear regression, and one-way analysis of variance. After successful completion of this course, students will be able to:

- Summarize data using charts, graphs, histograms, and calculate basic descriptive statistics like the mean, standard deviation, median, and quartiles.
- Work with the normal distribution and use z-score tables to find probabilities.
- Understand the difference between correlation and causation.
- Perform rudimentary regression analysis and compute correlation.
- Understand the Central Limit Theorem and the normality assumption.
- Understand the basics of tests of significance and confidence intervals including z-tests, t-tests, proportion tests, χ^2 tests, ANOVA, and non-parametric tests.

Grade Distribution:

Weekly Homework	10%
Weekly Quizzes	15%
Project	15%
Midterm Exam 1	20%
Midterm Exam 2	20%
Final Exam	20%

Letter Grade Distribution:

≥ 93.00	A	90.00-92.99	A-	87.00-89.99	B+
83.00-86.99	B	80.00-82.99	B-	77.00-79.99	C+
73.00-76.99	C	70.00-72.99	C-	67.00-69.99	D+
63.00-66.99	D	60.00-62.99	D-	≤ 59.99	E/F

Course Policies:

- The class meetings and office hours will be held through Zoom. The Zoom meeting links and passwords will be available through the course's Canvas page. While attendance to every class period is not mandatory, it is highly recommended as many concepts and examples will be discussed during the class period time.
- While this course is held entirely online, if you test positive for COVID-19, you must self-report at coronavirus.utah.edu.
- Required Materials
 - High speed internet (in order to access course materials and take exams).
 - A webcam on your computer or camera on your phone (this is necessary for taking exams in Zoom; it is useful for online meetings).
 - A scanning device (smartphones can be used as scanning devices) which is different than the device you are using for your camera.
 - If you don't have a laptop/computer for this semester, you check a laptop out from the University of Utah at <https://lib.utah.edu/coronavirus/checkout-equipment.php>
 - Recommended: Microphone for online meetings.
- Homework
 - **There will be regular homework assignments, due on Wednesdays by midnight.** The problem sets will be taken from the 6th edition of the textbook.
 - You will have about a week and a half to complete homework assignments. This is to give class time to answer any questions and so Tuesday office hours will be able to help with homework if needed as well.
 - Your solutions to a homework assignment should be submitted as a file upload to Canvas through the proper assignment listing. Please keep in mind the course grader is not required to award points on homework that is illegible due to poor formatting, poor handwriting, ruined paper, poor quality of uploaded file, etcetera. If you submit a photo of your assignment (rather than a scan or digital file), it must be legible, in good lighting, taken from directly above, and not blurry.
 - Homework will be graded on completion. However, you must make a concerted effort on every assigned problem; your work will be evidence of this effort. If, for some reason, a problem requires little work, please write 2-5 sentences explaining the concepts underlying the problem. This way, you can avoid losing points. A problem that is missing or perceptibly has no effort will receive zero (0) points. Examples of acceptable homework are on the course's Canvas page.
 - The two lowest homework grades will be dropped from your final total grade. Thus, late homework will not be accepted.
 - While students are allowed to work together and discuss homework problems, your solutions are expected to be your own; your work and explanations of it should be unique and each student must submit their own file. Any referenced work must be clearly documented, cited, and attributed, regardless of media or distribution. Even in the case of work licensed as public domain or Copyleft, (See: <http://creativecommons.org/>) you must provide attribution of that work in order to uphold the standards of intent and authorship. Please note that plagiarism will not be tolerated and will be dealt with in accordance to university policy.
- Quizzes and Exams
 - **Quizzes and Exams will be given through Canvas. When scheduled, quizzes will be held at the end of the class time and exams will be held during the regular class time.**

- Like with the homework assignments, your work must be your own work. You are **not** permitted to work with other students on quizzes or exams, and you are **not** permitted to post quiz and exam questions online. To do so will put you in violation of the University of Utah’s academic conduct policies.
 - The lowest two quiz grades will be dropped from your final total grade; thus, no makeup quizzes will be given. No exam grades will be dropped. An exam can be reassigned if and only if prior arrangements have been made between you and I. If extenuating circumstances arise, please contact me; however, to maintain fairness in the classroom, I will require official evidence: for instance, a letter from the dean of students, a doctor’s note, official letters from the relevant academic administrators, or, perhaps, a police report.
- Grades
 - Grades will be listed on the Canvas page. Students are required to track their progress throughout the semester and voice any concerns or questions with me through the appropriate channels of communication. While the Canvas listing can be a fairly accurate representation of your grade, the final grades may vary slightly.
 - Contacting Me
 - My math department email address (gieber@math.utah.edu) is the best way to reach me. During weekdays (Monday-Friday), I will try to respond within 24 hours. Concerning e-mails sent on weekends, do not expect a reply until Monday.
 - You can also message me through the Canvas message system.

Tentative Course Outline and Important Dates:

Midterm Exam 1	Monday 12 October, 6:00-6:50 PM
Project Due	Friday 23 October, 11:59 PM
Midterm Exam 2	Monday 9 November, 6:00-6:50 PM
Final Exam	Thursday 10 December, 1:00-3:00 PM

Tutoring Help: The U of U Math Tutoring Center offers online tutoring. You can find more information at <http://www.math.utah.edu/undergrad/mathcenter.php>. U of U Learning Center offers subsidized one-on-one tutoring. The Learning Center offers three free tutoring sessions per student per semester. Learn more at <https://learningcenter.utah.edu>.

Covid Help: Here is information from the University about logistics in light of COVID-19. There is also information about financial assistance, counseling, the food pantry, and much more. <https://coronavirus.utah.edu/#students>

Equipment Help: The UofU has a laptop and mobile hotspot loan program – laptops, mobile hotspots mailed to current U students on a first-come, first-served basis. <https://lib.utah.edu/coronavirus/checkout-equipment.php>

For technical assistance, review the Canvas Getting Started Guide for Students <https://community.canvaslms.com/docs/DOC-10701> and/or contact TLT, Knowledge Commons, etc.

ADA Statement: The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability & Access (CDA), 162 Olpin Union Building, 801-581-5020 (V/TDD). The CDA will work with you and me to make arrangements for accommodations. All information in this course can be made available in alternative format with prior notification to CDA. If you need

accommodations, it is your responsibility to give me the paperwork and take initiative in telling me what you need. We can work something out; however, I will not know what you need, if you do not tell me.

Safety Statement: The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.

Inclusivity Statement: It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength, and benefit. It is my intent to present materials and activities that are respectful of diversity: age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, and veteran status, and other unique identities. Gender, sexuality, disability, age, socioeconomic status, ethnicity, race, culture, and other unique identities. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups.

Discrimination and Harassment: If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or Office of the Dean of Students, 270 Union Building, 801-581-7066. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS). Please see Student Bill of Rights, section E <http://regulations.utah.edu/academics/6-400.php>. I will listen and believe you if someone is threatening you.

Crisis Services Center: This center offers services Mo-Fr 8 am – 5 pm. If you would like to talk to one of the staff members, please call 801-581-6826 or walk into the Center at 426 Student Services Building (SSB). For more urgent situations and after hours, please go to the University Neuropsychiatric Institute (UNI), 501 Chipeta Way, or to the Emergency Department at the University Hospital.

UNI Crisis Line: 801-587-3000 offers crisis response 24/7, including: crisis support over the phone, a mobile outreach option (MCOT) that will respond to persons in their home, and the Receiving Center where individuals from Salt Lake County can access a safe and supportive environment to help individuals work through their crisis situation. Individuals may spend up to 23 hours at the Receiving Center, at no cost.

Sexual Misconduct: Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted on the basis of your sex, including sexual orientation or gender identity/expression, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

Student Names and Personal Pronouns Statement: Class rosters are provided to the instructor with the student's legal name as well as "Preferred first name" (if previously entered by you in the Student Profile section of your CIS account). While CIS refers to this as merely a preference, I will honor you by referring to you with the name and pronoun that feels best for you in class, on papers, exams, group projects, etc. Please advise me of any name or pronoun changes (and update CIS) so I can help create a learning environment in which you, your name, and your pronoun will be respected. If you need assistance getting your preferred name on your UID card, please visit the LGBT Resource Center Room 409 in the Olpin Union Building, or email bpeacock@sa.utah.edu to schedule a time to drop by. The LGBT Resource Center hours are M-F

8am-5pm, and 8am-6pm on Tuesdays.

English Language Learners: If you are an English language learner, please be aware of several resources on campus that will support you with your language and writing development. These resources include: the Writing Center (<http://writingcenter.utah.edu/>); the Writing Program (<http://writing-program.utah.edu/>); the English Language Institute (<http://continue.utah.edu/eli/>). Please let me know if there is any additional support you would like to discuss for this class.

Undocumented Student Support: Immigration is a complex phenomenon with broad impact—those who are directly affected by it, as well as those who are indirectly affected by their relationships with family members, friends, and loved ones. If your immigration status presents obstacles to engaging in specific activities or fulfilling specific course criteria, confidential arrangements may be requested from the Dream Center. Arrangements with the Dream Center will not jeopardize your student status, your financial aid, or any other part of your residence. The Dream Center offers a wide range of resources to support undocumented students (with and without DACA) as well as students from mixed-status families. To learn more, please contact the Dream Center at 801.213.3697 or visit dream.utah.edu.

Veterans Center: If you are a student veteran, the U of Utah has a Veterans Support Center located in Room 161 in the Olpin Union Building. Hours: M-F 8-5pm. Please visit their website for more information about what support they offer, a list of ongoing events and links to outside resources: <http://veteranscenter.utah.edu/>. Please also let me know if you need any additional support in this class for any reason.

Wellness Statement: Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at www.wellness.utah.edu or 801-581-7776.

Student Success Advocates: The mission of Student Success Advocates is to support students in making the most of their University of Utah experience (<http://ssa.utah.edu>). They can assist with mentoring, resources, etc. Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact a Student Success Advocate for support (<https://asu.utah.edu/displaced-students>).

University Counseling Center: The University Counseling Center (UCC) provides developmental, preventive, and therapeutic services and programs that promote the intellectual, emotional, cultural, and social development of University of Utah students. They advocate a philosophy of acceptance, compassion, and support for those they serve, as well as for each other. They aspire to respect cultural, individual and role differences as they continually work toward creating a safe and affirming climate for individuals of all ages, cultures, ethnicities, genders, gender identities, languages, mental and physical abilities, national origins, races, religions, sexual orientations, sizes and socioeconomic statuses.

Office of the Dean of Students: The Office of the Dean of Students is dedicated to being a resource to students through support, advocacy, involvement, and accountability. It serves as a support for students facing challenges to their success as students, and assists with the interpretation of University policy and regulations. Please consider reaching out to the Office of Dean of Students for any questions, issues and concerns. 200 South Central Campus Dr., Suite 270. Monday-Friday 8 am-5 pm.

Academic Honesty: Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Basically, don't cheat. For questions about what constitutes academic misconduct, see University of Utah Policy 6-400, or ask me.