

MATH 3070-02, 3070-03, 3170-02, 3170-03: R Lab I

Fall 2023 Syllabus

Welcome to the first semester R lab! I'm excited to work together in this lab which introduces statistical programming in R. In my view, statistical programming is one of the most useful tools for many careers, and can even be useful in our daily lives. No previous programming experience is necessary for this lab. Please let me know when questions come up!

Time and Location: Section 2: Thursdays 7:30am-8:50am in [LCB 115](#)
Section 3: Thursdays 9:10am-10:30am in [LCB 115](#)

Instructor: Sean Groathouse, PhD
he/him/his pronouns
Please feel free to call me Sean

Email: sean@math.utah.edu or Canvas Message

I try to respond to emails and messages within 24 hours (usually faster than that). Rarely, I might miss a message, so if you don't hear back from me please feel free to reach out again.

Office Hours: Thursdays 10:30am-11:30am, on campus (or Zoom by request),
before, in-between (8:50-9:10), and after class each Thursday,
or by appointment

Course Web Page: I will post course information and announcements on Canvas:
<https://utah.instructure.com/courses/920252>

Up-to-date Covid-19 information: <https://coronavirus.utah.edu/>

Textbook: For this lab, no textbooks are required. Your Math 3070 textbook may be helpful at times. Optional: If you want an additional textbook for R programming, you might consider getting *Using R for Introductory Statistics*, by *Verzani*, 2nd edition, but this is not required.

Prerequisites: If you are taking this class as the lab for Math 3070, the prerequisite for Math 3070 is Calculus 2. The different options are listed below.

- C grade or higher in Math 1220, 1250, 1311, 1320, 1321, 2210, or 2310
- AP Calculus BC score of 4 or higher

Some students may take this lab as Math 3170 (the lab only without the 3070 class) with department consent, to make sure you don't need the 3070 class for your degree and that your background will help support you in this lab. If you have any questions about the prerequisites or your background, please don't hesitate to contact me.

Course objectives and expected learning outcomes: This lab introduces students to statistical programming in R. No previous programming experience is needed. At the end of the course, students will be able to write R code utilizing if-else statements, for-loops, and while-loops, and write their own functions. Additionally, students will be able to use R to:

- Display and summarize low-dimensional datasets, graphically and numerically.
- Solve probability problems utilizing various common probability distributions.

- Calculate and interpret confidence intervals.
- Conduct hypothesis tests and interpret the results.
- Suggest appropriate experimental designs for practical problems.

Class Structure: We will usually start each lab with a brief demonstration and discussion. After that, we will work in groups on the lab activity for the week. I will walk around and help with any questions or issues that come up. At the end of the activity, there will be a few questions that will be turned in for the lab assignment.

Attending Labs: In-class attendance is an essential component of our labs. Attendance does not count directly towards your grade, but attending the labs will directly help you with learning the material by allowing you to work with others, ask questions, view demonstrations, and ask me questions. You are welcome to attend the other lab section that I teach (sections 2 and 3) as long as there are extra seats available in the room.

Grading: We will have 13 lab assignments during the semester, each worth 20 points. I will drop your lowest lab score, and the other 12 will make up your lab grade. If you are taking Math 3070, I will send your overall lab grade to your 3070 instructor at the end of the semester. Your lab grade will factor into your overall Math 3070 grade. Your 3070 class syllabus and instructor will have details about how your grade will be calculated. **Please note that you must pass this lab portion with a score of 73% or higher in order to pass Math 3070. If you do not pass this lab portion, you cannot pass Math 3070.** If you are enrolled for Math 3170 (the lab without the 3070 class), then your lab grade alone will make up your Math 3170 grade.

Lab Assignments: There will be 13 lab assignments, each due the following Thursday by 11:59pm. The assignments will be turned in digitally on GradeScope (see the section below). You are welcome to work together, ask me questions, and get help from tutors in the math center. You must turn in your own solutions to the problems, and avoid copying code from others.

GradeScope: The lab assignments will be submitted and graded on GradeScope. You can access GradeScope through a link on our Canvas page. I will create a computer grader for each lab which will run automated tests on your R code to grade the questions. Once you submit an assignment on GradeScope, the automated tests will run and you will receive your lab score. You are welcome to resubmit your lab to improve your score as many times as you like. We will spend some time the first lab making sure everyone can submit to GradeScope. I hope that the instant feedback and opportunity to fix any errors in your code will be valuable. Sometimes an assignment will have a part which asks you to type an explanation or create a document, which I will grade individually. These parts will be graded only once.

Late Work: Each lab is due the following Thursday, at 11:59pm. This means you can ask questions about the previous lab that day during our group work time or the office hour. Late labs are also accepted, but will have a late penalty of 10% per week they are late, up to a maximum of 20%. The goal is to try to keep all of us working on the same labs each week, to best utilize our group work time each week. If you have an emergency or other extenuating circumstances, please let me know as soon as possible and we can work out another arrangement so that you don't have the late penalties during the emergency. All late lab assignments must be submitted by Friday, December 15, so that I can get the final grades calculated and sent to your 3070 instructor.

Additional Class Policies

- I aim for our classroom to be a respectful, inclusive environment where we acknowledge that mistakes and failures are an essential part of learning. I thank you for your help in building this learning environment that will benefit all of us. I also welcome any comments and suggestions you have about our class.
- The Canvas discussion boards are an excellent place to ask and answer questions about the labs if you want to post there. I will respond to these discussion boards as well. Emails and messages are still great ways to reach out for questions or issues that are more personal, like grades, or if you are not comfortable posting something on the discussion board.
- You can set your name and pronouns in Canvas, and I will ask at the beginning of the semester what name and pronouns you would like me to use for you in our class.
- I will post announcements, messages, and grades on Canvas, so it is essential that you either check Canvas regularly or have Canvas notifications forwarded to an email that you do check.
- Please make sure you do your best throughout the semester, knowing the grading scheme and what's expected of you, and talk to me if you need further study strategies. I am happy to brainstorm ideas to help you maximize your study strategies and improve your mathematical understanding. No extra credit will be provided at the end of the course, so please talk with me early on about any concerns with your grade, so we have time to address them.
- If you have crisis-level extenuating circumstances which affect your class performance, and you need guidance/advice/flexibility, please communicate with me as soon as possible so I can help you in some manner, which I'm truly happy to do. The longer you wait to communicate with me, the less I am able to help.
- If you want to appeal the grading of a lab, I ask that you please bring it to me within one week of it being returned. Also, please note after December 15, I will finalize the grades and will not be able to modify any lab grades. This policy helps me maintain consistency in grading and helps make sure I can address any grading issues before the final grades are submitted. I'm always happy to look over any classwork with you, answer any questions you have, and fix any grading issues when appropriate.
- It is possible during the semester that I may need to modify this syllabus to help meet the learning goals of our class. If I do need to make any changes, I will announce them in class and on Canvas.

Important Dates:

We will meet for lab every Thursday except for university holidays. Some important dates are listed below:

Monday, September 4 (Labor Day holiday)

Monday-Friday October 9-13 (Fall Break)

Thursday-Friday, November 23-24 (Thanksgiving Break)

Friday, December 8 (Reading Day)

Last day to add, drop, elect CR/NC, or audit Friday, September 1

Last day to withdraw Friday, October 20

Last day to reverse CR/NC Friday, December 1

Last day to submit late lab assignments Friday, December 15

Resources to help you:

Please feel free to contact me by Canvas message or email, come to in-person or online office hours, or set up an appointment with me to get help. I am always happy to talk about our course and helping you

succeed in our class.

Here are some additional resources that may be helpful to you:

- U of U Math Tutoring Center (free, drop-in tutoring). The math center offers in person and on-line tutoring, Monday through Thursday 8 am – 8 pm and Fridays 8 am – 6 pm. You can find more information here: <https://utah.instructure.com/courses/613503/>
- U of U Learning Center (formerly ASUU Tutoring; offers subsidized one-on-one tutoring) The Learning Center offers three free tutoring sessions per student per semester. Additional hours can be purchased after that. Scholarship assistance is also available. Here is a link to more information: <https://learningcenter.utah.edu/>

University of Utah Policies:

Academic Misconduct: Students are encouraged to review the Student Code for the University of Utah: <https://regulations.utah.edu/academics/6-400.php>

In order to ensure that the highest standards of academic conduct are promoted and supported at the University, students must adhere to generally accepted standards of academic honesty, including but not limited to refraining from cheating, plagiarizing, research misconduct, misrepresenting one's work, and/or inappropriately collaborating. A student who engages in academic misconduct as defined in Part I.B. may be subject to academic sanctions including but not limited to a grade reduction, failing grade, probation, suspension or dismissal from the program or the University, or revocation of the student's degree or certificate. Sanctions may also include community service, a written reprimand, and/or a written statement of misconduct that can be put into an appropriate record maintained for purposes of the profession or discipline for which the student is preparing. Cheating and plagiarism are serious offenses and can result in getting a grade of zero on the assignment, failing a class, a note in your record, or being expelled. Please know that looking at someone else's exam is cheating and will be dealt with seriously as stated above. By accepting admission to the University you have agreed to abide by the University rules provided to you in the student handbook. Incidents of academic misconduct (e.g. cheating, plagiarizing, misrepresenting one's work, and/or inappropriately collaborating on exams) will be subject to penalty per Section V of Policy 6-400, the Student Code. Incidents of academic dishonesty on homework assignments will result in a minimum penalty of a full letter-grade reduction and up to a failing grade (E) for the course. Incidents of academic dishonesty on exams will result in a minimum penalty of a failing grade (E) for the course, and the incident(s) will be referred to the dean of your major-department college for possible further sanction.

Other Policies and Resources

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. 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.

Student Names and Personal Pronouns: Class rosters are provided to the instructor with the students' 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 U-ID 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.

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.

Learners of English as an Additional/Second Language: 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 www.dream.utah.edu.

Veterans Center: If you are a student veteran, the University of Utah has a Veterans Support Center located in Room 161 in the Olpin Union Building. Hours: M-F 8:00am – 5:00pm. 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.

Center for Student Wellness: Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., may interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources, contact the Center for Student Wellness: <https://wellness.utah.edu/>

The Americans with Disabilities Act: 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, 162 Olpin Union Building, 801-581-5020, <https://disability.utah.edu/>. CDA will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability & Access.

Addressing 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, office for equal opportunity and affirmative action including sexual orientation or gender identity/expression, you are encouraged to report it to the University's Title IX Coordinator; Director, Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, <https://oeo.utah.edu/contact-us/index.php> or to the Office of the Dean of Students, 270 Union Building, 801-581-7066, <https://deanofstudents.utah.edu/>. For support and confidential consultation, contact the

Center for Student Wellness, 426 SSB, 801-581-7776. To report to police, contact the Department of Public Safety, 801-585-2677(COPS), <https://police.utah.edu/>.

Faculty and Student Responsibilities: All students are expected to maintain professional behavior in the classroom setting, according to the Student Code, spelled out in the Student Handbook. Students have specific rights in the classroom as detailed in Article III of the Code. The Code also specifies proscribed conduct (Article XI) that involves cheating on tests, plagiarism, and/or collusion, as well as fraud, theft, etc. Students should read the Code carefully and know that they are responsible for the content. According to Faculty Rules and Regulations, it is the faculty's responsibility to enforce responsible classroom behaviors, beginning with verbal warnings and progressing to dismissal from class and a failing grade. Students have the right to appeal such action to the Student Behavior Committee. See <http://regulations.utah.edu/academics/6-400.php>

Campus Safety: 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

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.

Student Success Advocates: <https://ssa.utah.edu/> The mission of Student Success Advocates is to support students in making the most of their University of Utah experience (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://asuu.utah.edu/displaced-students>).

University Counseling Center: The UCC staff is committed to supporting the mental health needs of our campus community. Their phone number is 801-581-6826. Their hours are Monday-Friday, 8:00am-5:00pm. For after-hours emergencies, contact the 24/7 Crisis Line: 801-587-3000 . More information is at <https://counselingcenter.utah.edu/> .

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. To contact the Office of the Dean of Students, please email deanofstudents@utah.edu or call 801-581-7066. There is more information at <https://deanofstudents.utah.edu/> .

Disclaimer: This syllabus is meant to serve as an outline and guide for our course. During the course of the semester, I may need to adjust this syllabus or the course schedule to accommodate the needs of our class. Any changes will be announced in class and posted on Canvas.