

Syllabus Stats 20 - Section 1 - Summer A 2020

grading + due dates may change due to current events

22 June, 2020

Course Content

If Statistics is a unified collection of methods which allow us to draw conclusions from data, then the language of Statistics is R. This course is an introduction to R. It is designed to prepare students with Freshman or Sophomore standing for upper division work in Statistics. A pre-requisite is one introductory statistics course (e.g., Statistics 10) as you are expected to possess basic statistical literacy such as familiarity with descriptive statistics, statistical graphics and inference.

The Course Management System (CMS)

Through what is known as the Common Collaboration and Learning Environment (CCLE), the department of Statistics employs a CMS. This system serves as the starting location for all things related to this course.

Lectures on Zoom

During this time of online instruction, the lecture will be held live during the scheduled time using Zoom (<https://ucla.zoom.us/>) and recorded and posted to CCLE (they will be deleted at the end of the course). Your attendance during lecture is not a requirement for the final grade in the course, but if you do attend there are some rules applied during lecture:

- Please turn your video on. If we were in a real classroom, it would be odd to see students hiding their faces. This is also true for our online class. In this time period of social distancing, it is even more important for us to draw together as a community as best as we are able.
- You will be muted when you enter, but you can unmute and press “raise hand” if you wish to ask questions (please do ask questions if you are participating in the live lecture, otherwise why bother attending?)
- Handouts and other materials (for example, slides) will be uploaded to CCLE and made available before the lecture.
- The lecture will be divided into 2 parts with a break in between. This will help us to:
 1. Be in a better condition to learn
 2. Avoid burnout
 3. Avoid creating video files that are too large
- and if you are able, have a computer with R available when you are viewing the lecture, just to help fully absorb the material and get live feedback on hands-on activities during the lecture.

Instructor: Vivian Lew
Office: Math Sciences 8923
Contact Info: vlew@stat.ucla.edu
Office Hours:
TTh 10:30p - 11:59p
W 1:00p - 4:00p
and by appointment
all office hours are online PDT,
check CCLE
Lecture Times:
TTh 1:00p - 2:50p
online PDT, check CCLE
Discussion Times:
1A TTh 3:00p - 3:50p PDT online
1B TTh 4:00p - 4:50p PDT online
Led by Kexin Li



Figure 1: UCLA CCLE
Please take the time to explore
and login, this is the website:
<http://ccle.ucla.edu/>



Figure 2: Zoom for video communication
I've used Zoom on desktops, laptops,
tablets and phones. Use whatever
you're most comfortable using.

Course Materials (all are optional)

Your choice as to whether you should purchase any of these. The course is taught from my notes but I relied on the following books and web pages

- The Book of R: A First Course in Programming and Statistics by Tilman Davies. No Starch Press. ISBN-13: 978-1593276515
- Learning R by Richard Cotton. O'Reilly 2013. ISBN-13: 978-1449357108.

<http://www.r-bloggers.com/> and

<http://stackoverflow.com/questions/tagged/r>

Software

You may download the course software from:

- R: <http://cran.r-project.org>
- RStudio: <http://rstudio.org>
- L^AT_EX : <http://www.latex-project.org/ftp.html>

We will use and support R version 4.0.1 (“See Things Now”) this quarter. We will use RStudio (a GUI for R) and for some of you (optional): L^AT_EX. This syllabus was written using R and L^AT_EX. All are free and we advise you to download your own copy of R and RStudio to your computer (those are not optional).

Your Final Grade Is Based On The Following:

Engagement (outside of lecture time and outside of discussion time minimum once per week, 5%)

Engagement means using Campuswire with your classmates (and sometimes with me and your TA) to develop a community within Stats 20. It allows the sharing of ideas, needs, wants, concerns, fears in a moderated environment. Even if it is just to say “hello” or to let us know that you’re doing fine.

Lessons (uploaded to CCLE 15% total)

There are 15 lessons. Lessons are short and posted to CCLE three times a week. You have about a week to complete them (upload the completed lesson to CCLE) before they are graded. They are graded 0 = “not done” and 1 = “major error(s)”, 2 = “no or minor errors”. Your three lowest scores will be dropped at the end of the quarter.

On campus or via VPN from home, obtain Springer publications for free by visiting www.springerlink.com. For example: Introductory Statistics with R (Statistics and Computing) Second Edition by Peter Dalggaard. Springer 2008. ISBN: 0387790535. See <http://link.springer.com/book/10.1007/978-0-387-79054-1> and ggplot2: Elegant Graphics for Data Analysis (Use R) by Hadley Wickham. <http://link.springer.com/book/10.1007/978-0-387-98141-3>



Figure 3: R.



Figure 4: Use R with RStudio.



Figure 5: L^AT_EX for high quality typesetting.

Quizzes (15% total)

There are 10 online quizzes (2 per week) and they are based on the Lessons. You can take them as many times as you want to get the score you want. But they must be completed by the last Tuesday of the quarter if they are to count towards your final grade. Your two lowest scores will be dropped at the end of the quarter.

Labs (uploaded to CCLE 40% total or 10% each)

There are 4 lab assignments which are like multiple lessons and more project-based. Lab assignments are posted on CCLE approximately 10 days before the due date. Completed labs are uploaded to CCLE for grading. There are no make-ups or excuses for late or incomplete labs. All lab scores are kept.

Final Exam (take home 25%)

The final exam is modeled on a technical interview and will be made available on Thursday July 30th at the usual start of lecture (1pm) and your answers must be uploaded to CCLE no later than Friday, July 31st at 4:00pm. You will need internet access and a working computer with R and RStudio installed. It is open note/open book and is like a timed lab assignment.

There is no “make-up” final exam unless you have a legitimate and verifiable medical excuse (i.e., doctor’s note in English with a signature or stamp from a Licensed Medical Professional, no exceptions whatsoever) or a properly documented non-medical excuse (e.g., a signed letter from your employer, local police report, athletic department letter, death in family, etc.).

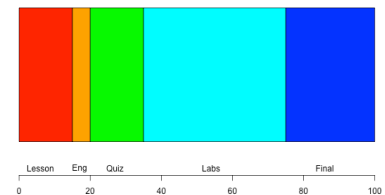


Figure 6: Grade Breakdown

Extra Credit – attending lectures on Zoom (max 10%)

Attending lecture with **video on** so that your face is visible (no exceptions, and no still photos of yourself or your pet or whatever) will help deliver a course online. Your presence makes the course more real. Zoom creates reports which will allow me to credit you for being there and doing things like asking questions, answering polls and having your video on. One percent per meeting date for the first five weeks.

OR Extra Credit – view the recorded lectures and submit questions related to the material (max 10%)

We recognize that you may be unable or unwilling to participate in a live lecture with video on. We respect your schedule and privacy, so as an alternative, you can view the recorded lectures and upload (to CCLE) 2 questions related to each course meeting. One percent per meeting date for the first five weeks. Must be uploaded within a week of the recorded posting for credit.

Maximum extra credit is 10 percent total (any combination of the two types is acceptable.)

ABOUT THE FINAL GRADE ITSELF: it's straight scale which may be "curved" to allow flexibility at the low end of the scale. So for example anyone who receives a 90-100% is guaranteed some type of "A" grade, anyone who receives an 80-89% is guaranteed a some type of "B" grade etc. In the past, when curved, a "51 - 79%" was a "C" (as opposed to a 70-79%). Official grades are only recorded on myUCLA, not CCLE. If you believe that an item grade (e.g., lab, quiz etc.) is incorrect, you must inform the professor in writing (e-mail is writing) regarding the nature of the mistake and why you believe your answer is correct within 3 business days of the return of the materials. The return of materials is defined as when graded materials were made available to the class and NOT when a student decides to review them. If your final grade is incorrect after it has been issued, please contact me anytime before finals week of the next quarter. Requests for corrections after that time period are denied.

Academic Integrity

As a Bruin, I Commit Myself to the Highest Ethical Standards

Read more at <https://www.deanofstudents.ucla.edu/Individual-Student-Code>

- **Respect** • I will respect the rights and dignity of others.
- **Accountability** • I will be accountable as an individual & member of this community for my ethical conduct.
- **Integrity** • I will conduct myself with integrity in my dealings with & on behalf of the University.
- **Service** • I will make an impact in our global community through public service.
- **Excellence** • I will conscientiously strive for excellence in my work.

From <http://www.deanofstudents.ucla.edu/Academic-Integrity>: "With its status as a world-class research institution, it is critical that the University uphold the highest standards of integrity both inside and outside the classroom. As a student and member of the UCLA community, you are expected to demonstrate integrity in all of your academic endeavors. Accordingly, when accusations of academic dishonesty occur, The Office of the Dean of Students is charged with investigating and adjudicating suspected violations. Academic dishonesty, includes, but is not limited to, cheating, fabrication, plagiarism, multiple submissions or facilitating academic misconduct." For more information see <http://www.deanofstudents.ucla.edu/Student-Conduct-Code>

Course Outline (due dates will be posted to CCLE)

Date	Description
Wk 1	Orientation to the Course and R Language Fundamentals
Wk 2	More Language Fundamentals and Data
Wk 3	Graphics Week
Wk 4	Miscellaneous iRritations and the Apply Family
Wk 5	Programming – functions, environments, flow control, loops
Wk 6	Catch Up, Review, Take Home Final – July 30th 1pm (available) - July 31st 4pm (due)

DISABILITY ACCOMMODATIONS: Students needing academic accommodations based on a disability must

contact the Center for Accessible Education (CAE) at (310)825-1501 or present in person at Murphy Hall A255. As the professionals delegated authority from the campus to determine reasonable disability accommodations, CAE will assess all requested accommodations and communicate appropriately with faculty. In the event that a student has approval for proctoring arrangements during exams, please inform your respective professors and/or Teaching Assistant(s) before date of exam(s). When possible, students should contact the CAE within the first two weeks of the term as reasonable notice is needed to coordinate accommodations. For more information visit <http://www.cae.ucla.edu>.

Other student resources

Title IX Resources

UCLA prohibits gender discrimination, including sexual harassment, domestic and dating violence, sexual assault, and stalking. If you have experienced sexual harassment or sexual violence, there are a variety of resources to assist you.

- **CONFIDENTIAL RESOURCES:** You can receive confidential support and advocacy at the CARE Advocacy Office for Sexual and Gender-Based Violence, 1st Floor Wooden Center West, CAREadvocate@careprogram.ucla.edu, (310) 206-2465. Counseling and Psychological Services (CAPS) also provides confidential counseling to all students and can be reached 24/7 at (310) 825-0768.
- **NON-CONFIDENTIAL RESOURCES:** You can also report sexual violence or sexual harassment directly to the University's Title IX Coordinator, 2241 Murphy Hall, titleix@conet.ucla.edu, (310) 206-3417. Reports to law enforcement can be made to UCPD at (310) 825-1491. These offices may be required to pursue an official investigation.

Psychological Health, Well-Being and Resilience

UCLA is renowned for academic excellence, and yet we know that many students feel overwhelmed at times by demands to succeed academically, socially and personally. Our campus community is committed to helping all students thrive, learn to cope with stress, and build resilience. Remember, self-care is a skill that is critical to your long-term success. Here are some of the many resources available at UCLA to support you:

- Counseling and Psychological Services (CAPS): <https://www.counseling.ucla.edu/> Provides counseling and other psychological/mental health services to students. Walk-in hours are Monday-Thursday 8am-4:30pm and Friday 9am-4:30pm in John Wooden Center West. Crisis counseling is also available 24 hours/day at (310) 825-0768.
- Ashe Student Health and Wellness Center: <http://www.studenthealth.ucla.edu> Provides high quality and accessible ambulatory healthcare and education by caring professionals to support the academic success and personal development of all UCLA students.
- Healthy Campus Initiative (HCI): <https://healthy.ucla.edu> Provides links to a wide variety of resources for enhancing physical and psychological well-being, positive social interactions, healthy sleep, healthy eating, healthy physical activity and more.
- Campus and Student Resilience: <https://www.resilience.ucla.edu/> Provides programs to promote resilience and trains students to help support their peers.
- UCLA Recreation: <https://www.recreation.ucla.edu/> Offers a broad array of services and programs including fitness, yoga, dance, martial arts, meditation, sports, and much more.
- Equity, Diversity and Inclusion: <https://equity.ucla.edu/> Committed to providing an equal learning,

working and living environment at UCLA and supports a range of programs to promote these goals campus-wide.

- UCLA GRIT Coaching Program: <https://www.grit.ucla.edu/> GRIT stands for Guidance, Resilience, Integrity and Transformation. In this program, UCLA students receive individualized support from trained peer coaches to manage stress, fostering positive social connections, set goals, and navigate campus resources.

Resources for Students Dealing with Financial Stress

Life is unpredictable and can create financial emergencies. If you find yourself in this situation, please seek assistance:

- Bruin Shelter: <http://www.bruinshelter.org/> Provides a safe, supportive environment for fellow college students experiencing homelessness by fostering a collaborative effort between universities, community-based organizations, and service providers.
- The CPO Food Shelter: <http://www.cpo.ucla.edu/cpo/foodcloset/> Provides free food for any UCLA student who may be experiencing hunger and/or struggling to attain food due to financial hardships.

Emergency Preparedness/Course Continuity in a Crisis

In case of a declared emergency that may affect your safety, please proceed immediately to a safe place and do not concern yourself with the course until the emergency has ended. We will address any course related issues afterwards and will try to be as flexible as possible given the current worldwide crisis.

Thinking about Data and Data Science

