

# Syllabus

## STAT 3038-001 Probability and Statistics II Spring 2026

**Tuesdays/Thursdays 9:30 -10:50 am, 60WCHARL 120**

**Instructor:** Dr. Xuan Cao, Associate Professor

**Office:** 5306 French Hall West

**E-mail:** [xuan.cao@uc.edu](mailto:xuan.cao@uc.edu) (mailto:xuan.cao@uc.edu) (Most efficient way of communication)

**Office Hours:** Tuesday 12:30 pm -2:30 pm in my office or by appointment

**Personal Website:** <http://homepages.uc.edu/~caox4/>  (<http://homepages.uc.edu/~caox4/>)

### Course Description:

- This course is an introductory level course of regression analysis for undergrads who have strong background in basic statistical concepts.
- This course requires to use the programming language R. Lab session will be demonstrated by using R Studio.

**Statistical Software:** The course uses free statistical software R for the “in-class” lab sessions and homework. We DO NOT assume that students have prior experiences in using R. The instructor will help you learn R during classes, but you are also expected to put in enough time outside classes. You are required to bring **your personal laptop** in the lab sessions to be held during some regular lecture time.

**Textbook:** A Second Course in Statistics: Regression Analysis, 8th edition, by Mendenhall & Sincich.

**Coverage:** See the last page of the syllabus.

**Prerequisites:** Students are required to pass STAT 2037 and recommended to have strong background knowledge of basic mathematical/statistical concepts (reviewed in Chapter 1 of the textbook described above).

**Course Webpage:** All course-related information will be posted on UC Canvas (<https://uc.instructure.com/>), including course syllabus, handouts, homework assignments and announcements. Visit Canvas frequently.

### Midterm and Final Exam:

**Midterm Exam: Friday, Mar 5, in class**

**Final Exam: Thursday, Apr 23, in class**

All tests (midterm/final exam) are closed-book. You are allowed to prepare one crib-sheet for each exam (8.5" 11" sheets of paper, double-sided, any content, but nothing photocopied).

- You will need to bring a calculator for each test. Cell phones should not be used during tests.
- Academic misconduct including act of cheating will not be tolerated.

**Homework:** Homework will be assigned from each chapter.

- Homework will be assigned on Canvas throughout the semester.
- Please note that homework will be graded by a grader, not by the instructor. Solutions must be presented in a clear, readable format with sufficient details that your solutions need to be presented in a clear, readable format with sufficient details. NO CREDIT will be given to solutions lacking details or that are hard to read.
- All students must submit their own written work in their own words. Academic misconduct including plagiarism will not be tolerated.
- Homework must be scanned into **one single pdf file** and submitted online by the due date specified on Canvas.
- One homework with the lowest score will be dropped before counting the final points. **No late assignments will be accepted! Use your drops wisely!**

**Semester Grade Calculation:** Your final course grade will be assigned based on the total points that you have accumulated from

**Attendance (in-class lab assignments): 10 pts Homework: 30 pts Midterm Exam: 30 pts Final Exam: 30 pts**

out of the maximum possible **100 points**, according to the following grading scales:

A: 92 -100 pts, A-: 89 -91pts, B+: 86 – 88 pts, B: 83 -85 pts, B-: 80 – 82 pts, C+: 76 – 79 pts,  
C: 72 – 75 pts, C-: 69 - 71pts, D+: 66 – 68 pts, D: 63-65 pts, D-: 60 – 62 pts, F: 59 or less pts

**About Withdrawal:** The last day to withdraw from the course is April 10, 2026. In case a withdrawal shall occur, the instructor will be required to affirm whether or not you minimally participated in the class. Although the instructors will do the best to answer accurately, in the absence of any evidence to the contrary the instructors will affirm that you did **not** minimally participate. Ways for you to provide clear evidence of your presence in the class include submitting a homework.

**Attendance:** Starting Fall 2016, Title IV provisions will require that undergraduate students who wish to maintain their eligibility to receive federal financial aid show that they have participated in each course in which they have enrolled. To accomplish this, the University and A&S have developed a simple procedure that will be made available through Blackboard. When you access the sites for each of your courses, you will see a link at the top of the control panel at left entitled “**Attendance Verification.**” Clicking on this link will take you to a simple question: “What three actions will you take to succeed in this course?” By answering this question, you will have verified participation.

**Academic Integrity Policy:** The University Rules, including the Student Code of Conduct, and other documented policies of the department, college, and university related to academic integrity will be enforced. Any violation of these regulations, including acts of plagiarism or cheating, will be dealt with on an individual basis according to the severity of the misconduct.


([http://www.uc.edu/conduct/Academic\\_Integrity.html](http://www.uc.edu/conduct/Academic_Integrity.html) )

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**Regarding Policy:** If a student believes that a grading error has occurred, he/she should request for regarding within the next 5 days after the work is returned to the class. This will apply even if the student is absence in the class on the day the work is returned unless prior permission was obtained from the instructor.

**Policy about Make-Up Exam:** **There will be no scheduled make-up examinations.** Only students with legitimate excuses will be allowed to make up missed exam. The student must contact the instructor **before the examination date** after one of the following excusable events occurs:

1. **Illness.** Need official certification from you doctor, typed on medical stationary (with their license # to practice medicine on it).
2. **Attending the funeral of an immediate relative.** Need proof of attending the funeral with the date of the ceremony.
3. **Mandatory courtroom appearance.** Need a copy of your official court summons with the date.
4. **Athletic event participation.** Need a signed letter from your coach no later than **one week prior** to the day of the exam.

**Special Needs Policy:** If you have any special needs related to your participation in this course, including identified visual impairment, hearing impairment, physical impairment, communication disorder, and/or specific learning disability that may influence your performance in this course, you should meet with the instructor to arrange for reasonable provisions to ensure an equitable opportunity to meet all the requirements of this course. At the discretion of the instructor, some accommodations may require prior approval by Accessibility Resources. In order to take advantage of those available accommodations, students may contact the Accessibility Resources Office at Commons Edge North Pavilion ( [www.uc.edu/accessibility](http://www.uc.edu/accessibility) )

([https://nam11.safelinks.protection.outlook.com/?](https://nam11.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.uc.edu%2Faccessibility&data=05%7C01%7Ccaox4%40UCMAIL.UC.EDU%7C4651ab9f4b9642b8c91c08dba013eff7%7Cf5222e6c5fc648eb8f0373db18203b63%7C0%7C0%7C638279779714400984%7CUnknown%7CTWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Ikl1haWwiLCJXVCi6Mn0%3D%7C3000%7C%7C%7C&sdata=atgRxQdiE1hT9HsaIXUmJgsHQ1x4be9hW1Weu%2FOpI%2FA%3D&reserved=0)

[url=http%3A%2F%2Fwww.uc.edu%2Faccessibility&data=05%7C01%7Ccaox4%40UCMAIL.UC.EDU%7C4651ab9f4b9642b8c91c08dba013eff7%7Cf5222e6c5fc648eb8f0373db18203b63%7C0%7C0%7C638279779714400984%7CUnknown%7CTWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Ikl1haWwiLCJXVCi6Mn0%3D%7C3000%7C%7C%7C&sdata=atgRxQdiE1hT9HsaIXUmJgsHQ1x4be9hW1Weu%2FOpI%2FA%3D&reserved=0](https://nam11.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.uc.edu%2Faccessibility&data=05%7C01%7Ccaox4%40UCMAIL.UC.EDU%7C4651ab9f4b9642b8c91c08dba013eff7%7Cf5222e6c5fc648eb8f0373db18203b63%7C0%7C0%7C638279779714400984%7CUnknown%7CTWFpbGZsb3d8eyJWljojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Ikl1haWwiLCJXVCi6Mn0%3D%7C3000%7C%7C%7C&sdata=atgRxQdiE1hT9HsaIXUmJgsHQ1x4be9hW1Weu%2FOpI%2FA%3D&reserved=0)).

Ohio law and the University's Student Religious Accommodations for Courses Policy 1.3.7 permits a student, upon request, to be absent for reasons of faith or religious or spiritual belief system or participate in organized activities conducted under the auspices of a religious denomination, church, or other religious or spiritual organization and/or to receive alternative accommodations with regard to

examinations and other course requirements due to an absence permitted for the above-described reasons. Not later than fourteen days after the first day of instruction in the course, a student should provide the instructor with written notice of the specific dates for which the student requests alternative accommodations. For additional information about this policy, please contact the Executive Director of the Office of Equal Opportunity and Access at (513) 556-5503 or [oeohelp@ucmail.uc.edu](mailto:oeohelp@ucmail.uc.edu) (<mailto:oeohelp@ucmail.uc.edu>)..

**Personal Communication Devices Policy:** Cell phones and PDAs must be either turned off or put on vibrate mode during class. **Additionally, please make all efforts not to use cell phones or laptops during the class time. Cell phone usage is strictly prohibited during exams.**

**Email Communication Policy:** All communications will be done via UCmail. The instructor will try her best to reply within 24 hours from receipt of emails.

### **Tentative Schedule (subject to change)**

#### Chapters Covered / Tentative Schedule

Chapters 1.1(\*), 1.2, 1.4, 1.5(\*), 1.6, 1.7, 1.8, 1.9 [Lab1] [HW1]

Chapters 2.1, 2.2, 2.3(\*), 2.4(\*)

Chapters 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.8 [Lab2] [HW2] [Midterm] Chapters 4.1, 4.2, 4.3, 4.4, 4.5, 4.7, 4.8, 4.6, 4.10, 4.11, 4.13 [HW3] Chapters 6.1, 6.3, 6.4

Chapters 7.1(\*), 7.2, 7.4, 7.5(\*) [HW4] [Lab3]

Chapters 8.1, 8.2, 8.3, 8.4, 8.5, 8.7 [Lab4] [HW5] [Final] Possible added materials, if time allows [Extra homework]

The symbol (\*) indicates the section might be covered by the reading assignment.

- The chapters with (\*) are not covered during the lectures, but students should read the textbook for those chapters. The contents will be used for homework and tests.