

STATISTICS 251 SYLLABUS

Section A

Fall 2021

Professor: Jeff Buzas

Office Hours: (Room XXX, Innovation Building) TBD and by appointment.

Phone: 656-2971

Class: Tuesday and Thursday 10:05-11:20 in Lafayette 107. Please arrive to class ON TIME. In the unlikely event that you need to leave class early, please notify me before class starts

E-mail: jeff.buzas@uvm.edu

Text: Statistical Inference, 2nd edition by Casella and Berger. THIS IS THE TENTATIVE TEXT

Learning Outcomes (tentative):

- Understand the basic probability theory, the concepts of probability distributions, and distribution functions.
- Understand the most commonly used discrete and continuous distributions, including their genesis, pdfs, moments, and uses.
- Solve probability problems.
- Understand the concept of joint distributions and derive marginal and conditional distributions from joint distributions.
- Derive and utilize conditional distributions from joint distributions.
- Derive the distribution of a transformation of a random variable.
- Utilize the Central Limit Theorem to derive distribution of common statistics.

The course will include material from the following chapters.

Topics **Reading**
 (Sections of Casella and Berger, 2nd edition)

Probability theory	1.1-1.7
Transformations/Expectation	2.1-2.3
Distributions	3.1-3.6
Multiple Random Variables	4.1-4.7
Large Samples	5.1-5.6
Further topics in statistics, review of course	

<u>GRADES</u>	<u>DATE SCHEDULED</u>
EXAM I 30%	TBD
EXAM II 30%	TBD
FINAL 40%	TBD

Homework: The best way to learn about statistics is to work problems— many problems. To this end, exercises will be assigned on approximately a weekly basis. It is important that you think about and struggle with problems.

Homework problems and the date due will be posted on the webpage. Homework is due at the **beginning** of class. Late homework will not be accepted, and emailed homework will not be accepted—hard copy only.

Homework must be done on 8.5x11 paper, should be neat, organized and multiple pages **must** be attached together using staples or paper clips. I will penalize sloppy work. Collaboration with other students is allowed. However, each homework assignment should be a unique submission. NO CREDIT will be given for photocopied material. We will adhere strictly to the University Code of Academic Integrity, see <http://www.uvm.edu/uvmppg/ppg/student/acadintegrity.pdf>.

Each homework must have header information as follows.

Your Name
 STAT 251
 March 22, 2021
 Homework #2

There will be NO makeup exams. If you miss an exam, that material will be made up during the final exam period.

Course Evaluation: All students are expected to complete an evaluation of the course at its conclusion. Evaluations will be anonymous and confidential. The information gained, including constructive criticisms, will be used to improve the course.

Statement about Academic Integrity

<https://www.uvm.edu/policies/student/acadintegrity.pdf>

Statement about Alcohol and Cannabis Use The Division of Student Affairs has offered the following statement on alcohol and cannabis use that faculty may choose to include, or modify for inclusion, in their syllabus or Blackboard site. **Statement on Alcohol and Cannabis in the Academic Environment** As a faculty member, I want you to get the most you can out of this course. You play a crucial role in your education and in your readiness to learn and fully engage with the course material. It is important to note that alcohol and cannabis have no place in an academic environment. They can seriously impair your ability to learn and retain information not only in the moment you may be using, but up to 48 hours or more afterwards. In addition, alcohol and cannabis can:

1. Cause issues with attention, memory and concentration
2. Negatively impact the quality of how information is processed and ultimately stored
3. Affect sleep patterns, which interferes with long-term memory formation

It is my expectation that you will do everything you can to optimize your learning and to fully participate in this course.

Statement on Students with Disabilities

In keeping with University policy, any student with a documented disability interested in utilizing accommodations should contact SAS, the office of Disability Services on campus. SAS works with students and faculty in an interactive process to explore reasonable and appropriate accommodations, which are communicated to faculty in an accommodation letter. All students are strongly encouraged to meet with their faculty to discuss the accommodations they plan to use in each course. A student's accommodation letter lists those accommodations that will not be implemented until the student meets with their faculty to create a plan. Contact SAS: A170 Living/Learning Center; 802-656-7753; access@uvm.edu; or www.uvm.edu/access

Religious Holidays: You, of course, have the right to practice the religion of your choice. Each semester you must submit in writing to me by the end of the second full week of

classes your documented religious holiday schedule for the semester. Faculty must permit students who miss work for the purpose of religious observance to make up this work.

Classroom Environment: University of Vermont Classroom Code of Conduct. Please see the current course catalog for the policy. Faculty and students will at all times conduct themselves in a manner that serves to maintain, promote, and enhance the high quality academic environment befitting the University of Vermont. To this end, it is expected that all members of the learning community will adhere to the following guidelines:

1. Faculty and students will attend all regularly scheduled classes, except for those occasions warranting an excused absence under the University Attendance Policy (e.g., religious, athletic, and medical).
2. Students and faculty will arrive prepared for class and on time, and will remain until the class is dismissed.
3. Faculty and students will treat all members of the learning community with respect.
4. Students and faculty will maintain an appropriate academic climate by refraining from all actions that disrupt the learning environment.
5. Students and faculty should turn off cell phones and not use TEXT MESSAGING during class. Surfing the web is not an acceptable behavior in class unless it is an explicit part of a class assignment.