

STAT 461/661: Probability Theory (Section 1001) – Spring 2021
Tu/Th 12:00-1:15pm, Zoom

Instructor: Dr. Deena Schmidt

Office: DMSC 219

Office Phone: 775-784-4642

E-mail: drschmidt@unr.edu

Office Hours: Monday 9:30-10:30am, Thursday 4-5pm, or by appointment

Course Website: WebCampus aka Canvas: unr.canvaslms.com

- **Course Catalog Description:** Probability space axioms; random variables; expectation, univariate and multivariate distribution theory, sequences of random variables, Chebychev inequality, law of large numbers, and central limit theorem.
- **Course Prerequisite:** Math 283 with a C or better.
- **Required Textbook and Course Materials:**
 - *An Introduction to Mathematical Statistics and Its Applications* by R.J. Larsen and M.L. Marx, 6th Edition, Prentice Hall.
 - Webcam and Microphone are required for identity verification.
- **Course Content:** Book chapters 1-4, and some additional material.
- **Class Procedure:** This course will be delivered **entirely online via zoom** which you will access through Canvas. Students will be required to access materials (lecture notes, homework, exams) via Canvas and upload completed assignments to Canvas. The course schedule will be posted on Canvas and updated weekly. I will announce upcoming assignments at the beginning of each lecture, but it is your responsibility to check the schedule each week.
- **Student Learning Outcomes:** Upon completion of Math 461/661, students will be able to:
 - Demonstrate understanding of randomness and be able to use probability models to explain simple random phenomena.
 - Compute summaries of probability distributions (univariate and multivariate).
 - Compute measures of location, dispersion, and association, as well as probability of interest for many univariate and multivariate distributions.
 - Assess and make use of the asymptotic results provided by the Law of Large Numbers and the Central Limit Theorem and their connection to the estimates of quantities from data.

COURSE REQUIREMENTS:

- **Zoom account:** You are required to go to <http://unr.zoom.us> and log in using the SSO option, and link your zoom account with your UNR email address. **Only authenticated zoom accounts, associated with a UNR email address, will be able to join the zoom lectures.** (More on zoom participation on the next page).
- **Proctorio:** All students taking fully online courses will be required to complete a proctored identity-verification assessment or activity. In this course, you will be required to complete one proctored activity (e.g. assignment, quiz, exam) using the remote proctoring service, Proctorio. Students will be required to show identification to enter the activity and allow for the recording of the area via webcam and microphone. More information can be found on Canvas.
- **Homework:** Homework will be assigned weekly (most weeks) and will be due at 11:59pm on the listed due date (PDF file uploaded to Canvas). A subset of the assigned problems will be graded. Please write legibly or type using LaTeX. Your solutions must show all relevant work and be a clear explanation of your reasoning. The same applies to exams. In addition to assigned homework, I expect students to read ahead in the book.
- **Exams:** There will be three midterm exams and a comprehensive final exam. See the tentative course schedule at the end of the syllabus for more details.
- **Final Exam:** (Optional) Monday May 10, 2021 12:10-2:10pm

Prior to the Final Exam, a **pre-final score will be calculated that is 25% Homework, 75% Midterm Exams**. Near the end of the term, you will be given this pre-final score, along with the opportunity to opt out of the final exam and accept your pre-final score as your final grade for this course. This will be a one-time opportunity. You may not take the final and then request to use your pre-final score.

If you decide to take the final, your grade for the course will be calculated after the final as:

Homework: 25%

Midterm Exams: 50%

Final Exam: 25%.

- **Grading Scale:**

A	93.0 – 100%	C	73.0 – 76.9%
A-	90.0 – 92.9%	C-	70.0 – 72.9%
B+	87.0 – 89.9%	D+	67.0 – 69.9%
B	83.0 – 86.9%	D	63.0 – 66.9%
B-	80.0 – 82.9%	D-	60.0 – 62.9%
C+	77.0 – 79.9%	F	0 – 59.9%

Make-up/Late Policy: Late homework will not be graded but may be turned in late to be graded on completion for a penalty. There will be no early or makeup exams, unless there is a compelling reason (medical/family emergency, university approved activity, religious holiday). Students participating in official university activities that interfere with exams must make arrangements with the instructor at least two weeks prior to the exam in question. UNR policies are provided in [UAM 3,020](#) and at

<https://med.unr.edu/shc/insurance/clinic-policies>. Any student requiring accommodations through the DRC must schedule their exams on the same day as the in-class exam.

Attendance: Students are strongly encouraged to attend all classes.

Academic Misconduct: Cheating, plagiarism or otherwise obtaining grades under false pretenses constitute academic dishonesty according to the code of this university. Academic dishonesty will not be tolerated, and penalties can include canceling a student's enrollment without a grade, giving an F for the course or for the assignment. The University Academic Standards Policy defines academic dishonesty, and mandates specific sanctions for violations. See the University Academic Standards policy: [UAM 6,502](#), particularly Subsection C, *Levels of Academic Dishonesty*, so that you are familiar with examples of such violations, and the mandated consequences associated with the levels of academic misconduct. For more details, see the [University of Nevada, Reno General Catalog](#).

Etiquette: Please be considerate of your fellow students and instructor. Please turn off all extraneous electronics (those not being used for zoom) before class. Behavior that may disrupt the learning environment will not be tolerated. To clarify what counts as disruptive, please ask the instructor and see the definition given in the University Academic Standards policy: [UAM 6,502](#).

Please familiarize yourself with UNR 365 Learning's Netiquette recommendations, available online at <https://www.unr.edu/365/policies/netiquette>, and also with the University of Memphis Netiquette Guide for Online Courses: <https://www.memphis.edu/fcbe/students/netiquette.php>

PARTICIPATION DURING ZOOM MEETINGS:

Every class will take place synchronously via Zoom. During these meetings, students are expected to pay attention, engage with the material, and answer questions posed by the instructor. Please find a quiet space without interruptions/background noise to use during class time.

Video: I would appreciate you setting a profile picture of your face or turning on your video during class—it helps to see some faces while I lecture, and it helps me recognize you outside of lecture :) Note that all participants will be able to see you, so prepare accordingly (i.e., be dressed appropriately, avoid lying down, etc.). Note that UNR has loaded campus-themed virtual backgrounds into all Zoom accounts that can be used to hide your surroundings, if desired.

Audio: You should immediately mute yourself upon entering the session (if you are not already muted). You can unmute yourself when you want to participate. Please use the hand-raising symbol if you'd like to ask a question using audio and/or video.

Chat: Use the chat tool to ask questions or contribute ideas during lectures; please stay on topic.

Audio and Video Recording: Surreptitious or covert video-taping of class or unauthorized audio recording of class is prohibited by law and by Board of Regents policy. This class may be videotaped or audio recorded only with the written permission of the instructor. In order to accommodate students with disabilities, some students may have been given permission to record class lectures and discussions. Therefore, students should understand that their comments during class may be recorded.

Class sessions will be audio-visually recorded for students in the class to review and for enrolled students who are unable to attend live to view (via Canvas) at a later time. Students who participate with their camera on or who use a profile image are consenting to have their video or image recorded. If you do not consent to have your profile or video image recorded, keep your camera off and do not use a profile image. Students who unmute during class and speak are consenting to have their voices recorded. If you do not consent to have your voice recorded during class, keep your mute button on and only communicate by using the "chat" feature, which allows you to type questions and comments live.

IMPORTANT DATES:

- Mar 31: Final day to drop with a 'W'

<https://www.unr.edu/academic-central/academic-resources/academic-calendar>

CAMPUS RESOURCES:

Academic Success Services: Your student fees cover usage of the [Math Center](#) (775) 784-4422, [Tutoring Center](#) (775) 784-6801, and University [Writing Center](#) (775) 784-6030. These centers support your classroom learning; it is your responsibility to take advantage of their services. Keep in mind that seeking help outside of class is the sign of a responsible and successful student.

Equal Opportunity and Title IX: The University of Nevada, Reno is committed to providing a safe learning and work environment for all. If you believe you have experienced discrimination, sexual harassment, sexual assault, domestic/dating violence, or stalking, whether on or off campus, or need information related to immigration concerns, please contact the University's Equal Opportunity & Title IX office at 775-784-1547. Resources and interim measures are available to assist you. For more information, please visit: <https://www.unr.edu/equal-opportunity-title-ix>.

Pack Provisions: ASUN Pack Provisions strives to support all members of the University with daily resources they need to ensure success. This mission is carried out by providing access to basic necessities to students in need such as food, school supplies, hygiene items and more. To utilize this service, visit ASUN Center for Student Engagement on the Third Floor of the Joe Crowley Student Union, visit <https://www.unr.edu/student-engagement/support-services/pack-provisions>, and/or email packprovisions@asun.unr.edu.

Disability Services: Any student with a disability needing academic adjustments or accommodations is requested to speak with the [Disability Resource Center](#) as soon as possible to arrange for appropriate accommodations. If you are a student who would normally seek accommodations in a traditional classroom, please contact me as soon as possible. You may also contact the Disability Resource Center for services for online courses by emailing drc@unr.edu or calling 775-784-6000. Academic accommodations for online courses may be different than those for seated classrooms; it is important that you contact us as soon as possible to discuss services. The University of Nevada, Reno supports equal access for students with disabilities. For more information, visit the [Disability Resource Center](#).

COVID-19 Training Policies: Students must complete and follow all guidelines as stated in the Student COVID-19 Training modules found on Canvas, or any other trainings or directives provided by UNR.

COVID-19, COVID-19 Like Symptoms, & Contact with Someone Testing SARS-CoV-2 Positive:

Students must conduct daily health checks in accordance with [CDC guidelines](#). Students testing positive for SARS-CoV-2 (the virus that causes COVID-19), exhibiting COVID-19 symptoms or who have been in direct contact with someone testing positive for SARS-CoV-2 will not be allowed to attend in-person instructional activities and must leave the venue immediately. Students should contact the [Student Health Center](#) or their health care provider to receive care and who can provide the latest direction on quarantine and self-isolation. Contact your instructor immediately to make instructional and learning arrangements.

COVID-19 Face Coverings: In response to COVID-19, and in alignment with State of Nevada Governor Executive Orders, Roadmap to Recovery for Nevada plans, Nevada System of Higher Education's directives, the University of Nevada President directives, and local, state, and national health official guidelines face coverings are required at all times while on campus, except when alone in a private office. This includes the classroom, laboratory, studio, creative space, or any type of in-person instructional activity, and public spaces.

A "face covering" is defined as a covering that fully covers a person's nose and mouth, including without limitation, cloth face mask, surgical mask, towels, scarves, and bandanas. Students that cannot wear a face covering due to a medical condition or disability, or who are unable to remove a mask without assistance may seek an accommodation through the Disability Resource Center.

COVID-19 Social Distancing: Face coverings are not a substitute for social distancing. Students shall observe current social distancing guidelines when possible in accordance with the Phase we are in while in the classroom. Laboratory, studio, creative space (hereafter referred to as an instructional space) setting and in public spaces. Students should avoid congregating around instructional space entrances before or after class sessions. If the instructional space has designated entrances and exit doors students are required to use them. Students should exit the instructional space immediately after the end of instruction to help ensure social distancing and allow for the persons attending the next scheduled class session to enter.

Failure to Comply with Policy (including as outlined in this Syllabus) or Directives of a University

Employee: In accordance with section 6,502 of the University Administrative Manual, a student may receive academic and disciplinary sanctions for failure to comply with policy, including this syllabus, for failure to comply with the directions of a University Official, for disruptive behavior in the classroom, or any other prohibited action. "Disruptive behavior" is defined in part as behavior, including but not limited to failure to follow course, laboratory or safety rules, or endangering the health of others. A student may be dropped from class at any time for misconduct or disruptive behavior in the classroom upon recommendation of the instructor and with approval of the college dean. A student may also receive disciplinary sanctions through the Office of Student Conduct for misconduct or disruptive behavior, including endangering the health of others, in the classroom. The student shall not receive a refund for course fees or tuition.

CLASS SCHEDULE (tentative)

	Monday	Tuesday	Wednesday	Thursday	Friday
January	25	26 Syllabus, 2.2	27	28 2.3	29
February	1	2 2.3, 2.4	3	4 2.4	5
	8	9 2.5	10	11 2.6	12
	15 President's Day	16 2.7	17	18 3.1, Review	19
	22	23 Exam 1	24	25 Reading Day	26
March	1	2 3.2	3	4 3.3	5
	8	9 Reading Day	10 Reading Day	11 3.4	12
	15	16 3.5	17	18 3.5, 3.6	19
	22	23 3.6, 3.7	24 No-Instruction Day	25 3.7	26
	29	30 3.8	31 Last Drop Day	1 Exam 2	2
April	5	6 3.9, 3.10	7	8 3.11	9
	12	13 3.12	14	15 4.2	16
	19	20 4.4	21 Reading Day	22 4.5, 4.6	23
	26	27 4.3	28	29 4.3, R demos	30
May	3	4 Exam 3	5 Prep Day	6	7
	10 Final Exam (<i>Optional</i>) 12:10-2:10pm	11	12	13	14