FALL 2016 Probability and Statistics (MATH/STAT 352) 3 credits
AB 102, TR 11:00-12:15 PM

Instructor: Anna Panorska, Office: DMS, Room 222
Office hours: T 4-5 pm, Wed 10:30 -12 (noon) + by appt
Phone: (775) 784-6548 E-mail: ania@unr.edu

TA: Brandon Woudhuysen, Office: MS 204A, Office Hours: Mon 2:30 p.m.-4:30 p.m., Wed 2:30-3:30 p.m.
E-mail: brandonUNRTA@gmail.com

Discussion sections meet on Fridays in DMS 106 at the following times: 8 am, 9 am, and 2 pm

Course info is available on the course web site: (http://wolfweb.unr.edu/homepage/ania/teaching.html)

Intro: The use of probability models and statistical methods for data analysis has become common practice in virtually all scientific disciplines. This course provides an introduction to the theory and practice of probability and statistics emphasizing their language, essential ideas, and concepts. We will discuss the foundations of probability theory, basic description statistics, graphical representation of data, point and interval estimation, hypothesis testing, correlation and regression analyses. Working with a statistical package R or MINITAB will give you an opportunity to see how the concepts discussed in the class are applied to the real data sets, and will give you practical knowledge for your careers.


Statistical package: We will decide what, if any package, to use as we go. It will probably be R or MINITAB. R is free, MINITAB is available in the Math Center (WRB 1003) and in the Data Works Lab in the Knowledge Center. MINITAB can also be accessed remotely via Citrix server at www.knowledgecenter.unr.edu/dataworks/citrixinfo.html with your Net ID. MINITAB is very easy to use, R requires some programming skills.

Required scientific calculator: Any calculator that will add, subtract, multiply, divide, compute factorials, raise numbers to powers, AND THAT YOU KNOW HOW TO USE is required for the course. You do not need built-in statistical functions. PDAs, cell phones, etc., are prohibited on all exams including the final.

Tentative list of topics: Probability experiments, random events, sample spaces, random variables, discrete and continuous distributions (including Bernoulli, Binomial, Poisson and Normal), quantitative measures of location and variability, exploratory data analysis, statistical plots, point and interval estimation, hypothesis testing, correlation analysis, linear regression

Grading: Your letter grade is determined by the score accumulated during semester:

<table>
<thead>
<tr>
<th>Letter</th>
<th>A</th>
<th>A-</th>
<th>B+</th>
<th>B</th>
<th>B-</th>
<th>C+</th>
<th>C</th>
<th>C-</th>
<th>D+</th>
<th>D</th>
</tr>
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<tbody>
<tr>
<td>Min. Score</td>
<td>90%</td>
<td>87%</td>
<td>85%</td>
<td>80%</td>
<td>77%</td>
<td>75%</td>
<td>70%</td>
<td>67%</td>
<td>65%</td>
<td>60%</td>
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How to calculate the score:

- Before Tuesday, Dec 13 the score is calculated as follows:

  HW - 10%; Midterms -75% (=3x25%); Quizzes 15%

On Tuesday, Dec 13 you will get a “grade before final” from the Instructor. You will have an opportunity of accepting this grade and skipping the final. In this case, your grade for the course will be determined by your score as of Dec 13. This will be a one-time opportunity. You must be present in class on Dec 13 and sign an appropriate document to get this opportunity.

If you decide to take the final, your score will be calculated after the final as described below and only that new score will be used to determine your course grade. You may not go to final and then request to use your pre-final (Dec 13) score.
• After the final, the score is calculated as follows:

HW - 10%; Midterms - 60% (=3x20%); Final - 20%; Quizzes -10%

Midterms: There will be 3 midterms, on Thursday, Sep 29, Thursday, Nov 3, and Tuesday, Dec 6.
Final exam (comprehensive) will be given on Thursday, Dec 16, 8 – 10 am, AB 106.

Exam policy (for midterms and final): You will be allowed one 8.5x11in page of handwritten (on both sides) notes for each midterm and three such pages for the final exam. Calculator is required on exams. There will be no make-ups for exams, except legitimate and documented medical reasons. Students participating in official school activities that will interfere with exams have to make arrangements with the instructor at least two weeks prior to the exam in question.

Homeworks will consist of solving textbook problems and/or MINITAB computing assignments. It will be given and graded weekly. To get the full HW credit, the assignments are due at your discussion section each week. A late homework results in zero score. E-mails with HW will not be accepted.

Quizzes: There will be weekly quizzes given at the recitation sections and quizzes at lecture times. The quizzes during recitations will be on homework problems. The quizzes at lecture times will assess your preparation for the lecture, and will be on the content of the previous lecture. Lecture quizzes may be done in groups up to 3 students per group. There will be no make-up or early quizzes. Instead, I will drop three lowest quiz scores.

Recitation attendance is required. There will be quizzes during the recitations. If you have any questions regarding coming to a different section than the one you are registered in, you must ask you TA and get his permission.

Lecture attendance is strongly suggested but not required. It is your responsibility to know the material covered and announcements made in class.

Re-grading: If you found that your grade for exam or HW is incorrect, contact instructor at the office hours with a rational justification. All such requests must be submitted to instructor within one week after a grade is announced; late requests will not be granted. The final decision about new grade is made by the instructor. Please understand that everyone can make a mistake, and that mistakes can go both ways: higher or lower than deserved grade.

Course Web site will be maintained at http://wolfweb.unr.edu/homepage/ania/teaching.html
It will show the course progress, post homework assignments and important announcements. You are responsible for being familiar with the site content and required to check the email you listed on MyNevada, which will be used for communication between instructor and students. It will not be possible to request instructor to contact you at an alternative e-mail.

Prerequisites: Two semesters of calculus (math 181 and math 182).

General Rules: All students in this class are expected to respect each other and the instructor. Any form of disruption or disrespect to other students or to the instructor will not be tolerated. Please be on time. All electronic devises have to be turned off (not just set to vibrate) before you enter the class and stay off until you leave the class. If found talking, reading, texting, eating in the class, you will be asked to leave.

Academic Dishonesty: Cases of academic dishonesty are viewed as a serious violation of the student code of conduct. Examples of academic dishonesty include, but are not limited to: (1) Copying homework assignments, (2) Cheating on quizzes or exams including sharing answers with students in other sections of the course, (3) Including information in written assignments without proper citations(4) cheating on quizzes and exams including using unauthorized amterials.

Any incidents of any type of academic dishonesty will result in a student receiving an F for the course. See the "Student Conduct Information" section of the UNR General Catalog for specific University policies and procedures regarding academic dishonesty.
Course Objectives: The students will use probability and statistics methods to formulate, solve and interpret the solutions for real world problems involving randomness.

Students’ Learning Outcomes: Upon successful completion of Math/STAT 352 a student will be able to:

- Recognize the role of and application of probability theory, descriptive and inferential statistics in many different fields,
- Define, illustrate, and apply the concepts of probability and conditional probability, discrete and continuous random variables, expectation, variance, and covariance of random variables,
- Identify and demonstrate appropriate sampling and data collection processes, classification of variables, and graphical summaries,
- Apply parametric testing techniques including single and multi-sample tests for mean and proportion and regression, and
- Use statistical software for probability simulations and data analysis.

Important dates: Thursday, Sep 8: Late registration ends and it is the final date to receive a 100% refund if dropping individual classes or completely withdrawing from the university. November 2: Final date to drop a class and receive a ‘W’.

Disability resources: Any student with a disability needing academic adjustments or accommodations is requested to speak with me or the Disability Resource Center (Thompson Building, Suite 101) as soon as possible to arrange for appropriate accommodations.

Academic Success Services: Your student fees cover usage of the Math Center (784-4433 or www.unr.edu/mathcenter/ ), Tutoring Center (784-6801 or www.unr.edu/tutoring-center ), and University Writing Center (784-6030 or http://www.unr.edu/writing-center). 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 a responsible and successful student.

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.

Athletics and Other Sanctioned Activities: Students participating in official school activities that will interfere with exams have to make arrangements with the instructor at least two weeks prior to the exam in question.

HAVE A GREAT SEMESTER!