Spring 2009  
Probability and Statistics (MATH/STAT 352) 3 credits  
William J. Raggio Building (WRB) Room 2003  
TR 11:00AM-12:15PM

Instructor: Ilya Zaliapin  
Office: Ansari Business Bldg., Room 609  
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The course website is maintained at WebCT (http://webct6.unr.edu)

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 MINITAB will give you an opportunity to see how the concepts discussed in the class are applied to the real data sets.

Required textbook:

Required statistical package:
- MINITAB – available free of charge in the Math Center (AB610) or via UNR Citrix Server (http://www.knowledgecenter.unr.edu/dataworks/citrixinfo.html). You can install it on your computer for $30 per 6 month from www.minitab.com. The package is an integral part of the course and will be required for homeworks.

Required scientific calculator:
- A calculator that will add, subtract, multiply, divide, compute factorials, and raise numbers to powers is required for the course. You do not need built-in statistical functions. The Math Center (AB610) lends calculators for $20 per semester (first come first served).

Tentative list of topics:
- Probability experiments
- Random events, sample spaces
- Random variables, discrete and continuous distributions
- 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:
How to calculate the score:

- Before Tuesday, May 5 the score is calculated as follows:

<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>D+</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. Score</td>
<td>93%</td>
<td>90%</td>
<td>87%</td>
<td>83%</td>
<td>80%</td>
<td>77%</td>
<td>70%</td>
<td>67%</td>
<td>60%</td>
</tr>
</tbody>
</table>

  HW  20%
  Minitab  15%
  Midterms  50% (=2x25%)
  Attendance  10%
  Quizzes  5%
  Extra Points  5%

  If on Tuesday, May 5 your score is 83% or higher (i.e., your letter grade is B or higher) you can skip the final. In this case, your letter grade for the course will be determined by your score as of May 5.

  If on Tuesday, May 5 your score is 83% or higher, you still have a right to attend the final. In this case, 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 score.

  If on Tuesday, May 5 your score is below 83%, you must attend the final.

- After the final, the score is calculated as follows (lower weight for HWs and midterms):

  HW  10%
  Minitab  15%
  Midterms  40% (=2x20%)
  Final  20%
  Attendance  10%
  Quizzes  5%
  Extra Points  5%

**Midterms:** There will be two midterms scheduled tentatively on Thursday, March 5 and Thursday, April 30.

**Final exam (comprehensive)** will be given on Thursday, May 7, 2008, 7:30 – 9:30AM.

**Exam policy (for midterms and final):** Open notes, open books. Calculator is required on exams. There will be no make-ups for exams, except legitimate medical reasons. In case of participating in University-related activities or in any other special circumstances, contact instructor in advance. If you miss a midterm for a legitimate reason, your final will cost 40%. If you miss both midterms for a legitimate reason, your final will cost 60%.

**Home works** that consist of solving textbook problems will be given and graded weekly. **Minitab computer assignments** will be given and graded approximately every second week; you will need to solve problems involving statistical computing and prepare an illustrated report. You are encouraged to discuss HW and Minitab assignments between each other, with TA, and with instructor during office hours; but your work must be written individually. To get the full HW/Minitab credit, the assignment is due by the end of a Thursday lecture. A late home work results in zero score. E-mails with HW/Minitab reports will not be accepted.
Quizzes: There will be occasional pop quizzes given via WebCT or in recitation sections. Quizzes contribute 5% to your overall performance.

Extra Points will be given for extra problems announced during the lectures.

Re-grading: If you found that your grade for exam or HW is incorrect, contact instructor with a rational justification. All regarding 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.

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

Recitation attendance is required. You earn 1 point by attending each recitation section (10 points maximum).

Recitation sections will be held by a TA at the following times/locations:
- Fri 12:00 – 12:50 AB 635 (section 001)
- Fri 1:00 – 1:50 AB 635 (section 002)
- Fri 4:00 – 4:50 AB 635 (section 003)
The goal of recitation sections is to discuss the problem solving techniques, answer questions about the HW, and provide an opportunity for more personal discussion of the class topics. You may attend any one of these sections (or all of them), independently of your section number. However, if too many people show up, TA has a right to leave only the students from the current section.

Course Web site will be maintained at http://webct6.unr.edu
It will show the course progress, post homework assignments and important announcements. You are responsible for being familiar with the site content. Also, you are required to check your UNR e-mail, which will be used for communication between instructor and students. It will be not possible to request instructor to contact you at an alternative e-mail.

Prerequisites: two semesters of calculus.

Classroom Policy: Any successful learning experience requires mutual respect on behalf of the student and the instructor. In particular, it is assumed that we are coming to the class for the total duration of a lecture. Should there be a need to come later or leave earlier, choose a seat closest to the door. Switch phones to silent mode. No food or drinks.

Academic dishonesty will not be tolerated and will lead to an F grade. See http://www.unr.edu/stsv/acdispol.html

Important dates:

Thu, January 29, 2008: Final date for late registration and paying all tuition and fees (with late registration penalties included). Final date to receive a 100% refund if dropping individual classes or completely withdrawing from the university.

Fri, March 13, 2008: Final drop date for individual classes.
See more at http://www.ss.unr.edu/records/
Tentative schedule (may vary as course progresses)

<table>
<thead>
<tr>
<th>Week</th>
<th>Tuesdays</th>
<th>Thursdays</th>
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<tbody>
<tr>
<td></td>
<td>Date</td>
<td>Topic</td>
</tr>
<tr>
<td>1</td>
<td>Jan 20</td>
<td>Intro</td>
</tr>
<tr>
<td>2</td>
<td>Jan 27</td>
<td>1.2-1.3</td>
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<tr>
<td>3</td>
<td>Feb 3</td>
<td>2.3</td>
</tr>
<tr>
<td>4</td>
<td>Feb 10</td>
<td>2.4</td>
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<tr>
<td>5</td>
<td>Feb 17</td>
<td>2.5</td>
</tr>
<tr>
<td>6</td>
<td>Feb 24</td>
<td>4.2-4.3</td>
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<tr>
<td>7</td>
<td>Mar 3</td>
<td><strong>Review</strong></td>
</tr>
<tr>
<td>8</td>
<td>Mar 10</td>
<td>4.5</td>
</tr>
<tr>
<td>9</td>
<td><strong>Spring Break, March 14-22</strong></td>
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<tr>
<td>11</td>
<td>Mar 31</td>
<td>5.1</td>
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<tr>
<td>12</td>
<td>Apr 7</td>
<td>5.3</td>
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<tr>
<td>13</td>
<td>Apr 14</td>
<td>6.1-6.3</td>
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<tr>
<td>14</td>
<td>Apr 21</td>
<td>7.1</td>
</tr>
<tr>
<td>15</td>
<td>Apr 28</td>
<td><strong>Review</strong></td>
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<tr>
<td>16</td>
<td>May 5</td>
<td><strong>Final Review</strong></td>
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Disability Statement: The Department of Mathematics and Statistics supports providing equal access for students with disabilities. Any student needing accommodations for a specific disability is encouraged to meet with instructor or any Department representative to ensure timely and appropriate accommodations.