Learning responsibility rests on YOU
Doing HW is not equivalent to Learning
No cell phones or handheld electronic devices in classroom
No laptops in classroom

Probability and Statistics (MATH 4337 – 01)
CRN 50612 – Spring 2017

Instructor
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Office hours
MW 11:00 am – 12:00 pm,
TR 2:00 – 2:45 pm
or by appointment

Class time and room
MW 9:25 – 10:40 am at ECOBE 119

Textbook
Title: Miller & Freund’s Probability and Statistics for Engineers
Author: Richard A. Johnson
Edition: 9 (you can still use the 8th)
(Classnotes taking, by handwriting, is important, though.)

Textbook Description
We will cover chapters 3 through 8. Answers of odd-numbered problems could be found at the end of the textbook (Appendix D) along with statistical/numerical tables (Appendix B) and R codes (Appendix C).

Course Description
It is a calculus-based course of senior level probability and statistics that covers concepts of probability, random variables, discrete and continuous probability distributions, moments and moment generating functions, functions of random variables, limiting distributions, sampling distributions, and inference concerning one or more means.

Prerequisite
MATH 2414 (or MATH 2488) with a grade of 'C' or better.

Homework
HW will be assigned weekly from the textbook’s even-numbered problems and odd-numbered problems are left for you to do for learning. Legible HW solution must be handed in the beginning of the due class.

Group work
You are highly encouraged to study and work in teams and solve the problems together. But please submit your own solution and not a copy of someone else’s solution. The latter will not be tolerated and will be reported to the dean of students.

Midterm
There will be two midterm exams on Mondays 2/20/17 and 4/3/17.

Final Exam
A semi-comprehensive final exam on Wednesday 5/10/17 from 8:00 to 9:45 AM.
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Project
Limited extra-credit projects could be provided with a grade based on a presentation in the UTRGV Statistics Student Conference.

Grading policy
Homework 30%, Two midterm exams 50%, Final exam 25%, Attendance 2% (Total 107%)

Grade Distribution

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100%</td>
<td>A</td>
</tr>
<tr>
<td>70-79%</td>
<td>C</td>
</tr>
<tr>
<td>0-59%</td>
<td>F</td>
</tr>
<tr>
<td>80-89%</td>
<td>B</td>
</tr>
<tr>
<td>60-69%</td>
<td>D</td>
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Attendance
Attendance is mandatory. If you miss more than three classes during the semester, you will be automatically dropped out of the course. Please come on time. If you come late, you will be counted absent unless you have a valid excuse.

Special Accommodations
If you have a documented disability (physical, psychological, learning, or other disability which affects your academic performance) and would like to receive academic accommodations, please inform your instructor and contact Student Accessibility Services to schedule an appointment to initiate services. It is recommended that you schedule an appointment with Student Accessibility Services before classes start. However, accommodations can be provided at any time.

Drop Policy
According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the “3-peat rule” and the “6-drop” rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.

Makeup Policy
In case of illness and in rare cases of other conflicts, students with documented excuses may request to take a makeup exam after scheduled exam. In all cases, makeup must be requested before the regularly scheduled exam.

Important Dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>February 20</td>
<td>Midterm exam 1</td>
</tr>
<tr>
<td>March 13-18</td>
<td>Spring break</td>
</tr>
<tr>
<td>April 3</td>
<td>Midterm exam 2</td>
</tr>
<tr>
<td>April 13</td>
<td>Last day to drop (DR grade) a class or withdraw (W)</td>
</tr>
<tr>
<td>April 12- May 3</td>
<td>Course evaluation</td>
</tr>
<tr>
<td>May 4</td>
<td>Study Day; no classes</td>
</tr>
<tr>
<td>May 10</td>
<td>Final Exam 8:00 - 9:45 AM</td>
</tr>
</tbody>
</table>
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Electronic Communication Policy
The university policy requires all electronic communications between the University and students be conducted through the official University supplied systems; namely EM ail for email or Blackboard for course specific correspondence. Therefore, please use your UTRGV assigned EM ail or Blackboard account for all future correspondence with UTRGV faculty and staff.

Mandatory Course Evaluations
Mandatory Course Evaluations Period (April 12- May 3). Students are required to complete an online evaluation of this course, accessed through your UTRGV account (http://my.utrgv.edu); you will be contacted through email with further instructions. Students who complete their evaluations will have priority access to their grades. Online evaluations will be available April 12- May 3.

Scholastic Integrity
As members of a community dedicated to Honesty, Integrity and Respect, students are reminded that those who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and expulsion from the University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism, and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts. Since scholastic dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced (Board of Regents Rules and Regulations and UTRGV Academic Integrity Guidelines). All scholastic dishonesty incidents will be reported to the Dean of Students.

SEXUAL HARASSMENT, DISCRIMINATION, and VIOLENCE:
In accordance with UT System regulations, your instructor is a “responsible employee” for reporting purposes under Title IX regulations and so must report any instance, occurring during a student’s time in college, of sexual assault, stalking, dating violence, domestic violence, or sexual harassment about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at www.utrgv.edu/equity, including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect in an environment free from sexual misconduct and discrimination.

Student Learning Outcomes: After completing this course students will be able

1. To calculate probabilities of events after identifying sample spaces of random experiments.
2. To use calculus of probability to calculate probability of events described in word and non-word problems.
3. To use Bayes’ theorem to calculate posterior probabilities.
4. To recognize the difference between discrete and continuous random variables.
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5. To use discrete and continuous probability distributions to calculate probabilities, the cumulative distribution, the moments, and the moment generating function.
6. To use cumulative distributions to find discrete and continuous probability distributions.
7. To use the correct discrete probability distribution to model its respective random experiment.
8. To use a number of continuous probability distributions to model some random phenomena.
9. To use sampling distributions of the sample mean and variance to calculate probabilities concerning them.
10. To make inference (point estimation, confidence interval and perform tests of hypothesis) for a single mean.
11. To use likelihood concept for estimation and understand the estimates properties.
12. To understand the concept of power of test, errors of tests of hypothesis and operating characteristic curves.
13. To make inference about two treatments in different designs of experiments (matched pairs and two independent samples).
14. To recognize the relationship between critical regions and P-value.