University of North Texas at Dallas  
Spring 2016  
SYLLABUS  

Math 1680-001 Elementary Probability and Statistics (3CR)

Department of: Mathematics and Information Sciences  
Division of: Liberal Arts and Sciences

Instructor Name: Dr. Johnny M. Moore  
Office Location: Adjunct Office  
Office Phone:  
Email Address: Johnny.Moore@untdallas.edu

Office Hours: Mon. & Wed. 1:30 pm – 2:30pm  
Math Lab Hours: Mon & Wed 1:00 pm – 7 pm; T/Thu 9:00 am – 7 pm

Classroom Location: DAL2 - 240  
Class Meeting Days & Times: Mon. & Wed. 5:30pm – 6:50pm

Course Catalog Description: An introductory statistics course to serve students of any field who want to apply statistical inference. Descriptive statistics, elementary probability, estimation, hypothesis testing and small samples.

Prerequisites: Math 1010D with grade C or better, or the placement test result appropriate for this course.

Co-requisites:  

Required Text: Web Assign (http://www.webassign.net) Class Key: unt 3055 1424


Access to Learning Resources:  
- UNT Dallas Library:  
  phone: (972) 780-3625;  
  web: http://www.unt.edu/unt-dallas/library.htm  
- UNT Dallas Bookstore:  
  phone: (972) 780-3652;  
  e-mail: 1012mgr@fheg.follett.com

Course Goals or Overview:  
The goal of this course is to introduce students to the concepts of elementary probability and statistics.

Learning Objectives/Outcomes:  
- At the end of this course, the student will be able to
  1. Explain the use of data collection and statistics as tools to reach reasonable conclusions.
  2. Recognize, examine and interpret the basic principles of describing and presenting data.
  3. Compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinatorics.
  4. Explain the role of probability in statistics.
  5. Examine, analyze and compare various sampling distributions for both discrete and continuous random variables.
  6. Describe and compute confidence intervals.
  7. Solve linear regression and correlation problems.
  8. Perform hypothesis testing using statistical methods.
Course Outline

This schedule is subject to change by the instructor. Any changes to this schedule will be communicated by the class website.

<table>
<thead>
<tr>
<th>Monday</th>
<th>Wednesday</th>
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</thead>
<tbody>
<tr>
<td>Week 1 1. Statistics</td>
<td>2. Descriptive Statistics of Single-Variable Data</td>
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<tr>
<td>Week 2 2. Descriptive Statistics of Single Variable</td>
<td>3. Descriptive Statistics of Bivariate Data</td>
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<tr>
<td>Week 3 3. Descriptive Statistics of Bivariate Data</td>
<td>4. Probability</td>
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<td>Week 4 4. Probability</td>
<td>5. Probability Distribution</td>
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<tr>
<td>Week 5 5. Probability Distribution</td>
<td>6. Normal Distribution</td>
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<tr>
<td>Week 6 6. Normal Distribution</td>
<td>7. Sample Variability</td>
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<tr>
<td>Week 7 7. Sample Variability</td>
<td>Review</td>
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<tr>
<td>Week 8 <strong>Midterm Exam</strong></td>
<td>8. Introduction to Statistical Inference</td>
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<tr>
<td>Week 9 8. Introduction to Statistical Inference</td>
<td>9. Inferences Involving One Population</td>
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<tr>
<td>Week 10 Spring Break</td>
<td>Spring Break</td>
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<tr>
<td>Week 11 10. Inferences Involving Two Populations</td>
<td>11. Applications of Chi-Square</td>
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<tr>
<td>Week 12 11. Applications of Chi-Square</td>
<td>12. Analysis of Variance</td>
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<tr>
<td>Week 13 12. Analysis of Variance</td>
<td>13. Linear Correlation and Regression Analysis</td>
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<tr>
<td>Week 14 13. Linear Correlation and Regression Analysis</td>
<td><strong>Exam #2</strong></td>
</tr>
<tr>
<td>Week 16 Class Project</td>
<td>Project Presentation</td>
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<tr>
<td>Final</td>
<td>Final Exam TBA</td>
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Course Evaluation Methods

This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course.

**Exams:** written tests designed to measure knowledge of presented course material

**Home Works:** written assignments designed to supplement and reinforce course material

**Project:** a large scale written assignment that concerns more toward the application

**Quizzes:** small-scale written tests designed to provide more frequent feedbacks on the students’ understanding

**Class Participation:** daily attendance and participation in class discussions

**Grading Matrix:**

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Value (points or percentages)</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>Exam # 1</td>
<td>20% of Course Grade</td>
<td>200</td>
</tr>
<tr>
<td>Exam # 2</td>
<td>20% of Course Grade</td>
<td>200</td>
</tr>
<tr>
<td>Final Exam (Comprehensive)</td>
<td>40% of Course Grade</td>
<td>400</td>
</tr>
<tr>
<td>Home Works (hand-written)</td>
<td>5% of Course Grade</td>
<td>50</td>
</tr>
<tr>
<td>Home Works (computerized)</td>
<td>5% of Course Grade</td>
<td>50</td>
</tr>
<tr>
<td>Project and Presentation</td>
<td>10% of Course Grade</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td>1,000</td>
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**Grading Determination:**

A: \((\text{total score}) \geq 90\%\).

B: \(80\% \leq (\text{total score}) < 90\%\).

C: \(70\% \leq (\text{total score}) < 80\%\).

D: \(60\% \leq (\text{total score}) < 70\%\).

F: \((\text{total score}) < 60\%\).
Instructor Specific Policies and Procedures

Exam Policy:
The midterm and the final exams must be taken in person as scheduled, except for documented emergencies approved by the instructor in individual bases.

Assignment Policy:
The projects and the assignments must be submitted electronically through the course website. Late submission will be accepted with the late penalty of 10% per day, and the final submission must be done before the final week begins.

University Policies and Procedures

Students with Disabilities (ADA Compliance): The University of North Texas Dallas faculty is committed to complying with the Americans with Disabilities Act (ADA). Students' with documented disabilities are responsible for informing faculty of their needs for reasonable accommodations and providing written authorized documentation. Grades assigned before an accommodation is provided will not be changed as accommodations are not retroactive. For more information, you may visit the Student Life Office, Suite 200, Building 2 or call Laura Smith at 972-780-3632.

Student Evaluation of Teaching Effectiveness Policy: The Student Evaluation of Teaching Effectiveness (SETE) is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider the SETE to be an important part of your participation in this class.

Academic Integrity: Academic integrity is a hallmark of higher education. You are expected to abide by the University’s code of Academic Integrity policy. Any person suspected of academic dishonesty (i.e., cheating or plagiarism) will be handled in accordance with the University’s policies and procedures. In addition, all academic work submitted for this class, including exams, papers, and written assignments should include the following statement: On my honor, I have not given, nor received, nor witnessed any unauthorized assistance that violates the UNTD Academic Integrity Policy.

Bad Weather Policy: On those days that present severe weather and driving conditions, a decision may be made to close the campus. In case of inclement weather, call UNT Dallas Campuses main voicemail number (972) 780-3600 or search postings on the campus website www.unt.edu/dallas. Students are encouraged to update their Eagle Alert contact information, so they will receive this information automatically.

Attendance and Participation Policy: The University attendance policy is in effect for this course. Class attendance and participation is expected because the class is designed as a shared learning experience and because essential information not in the textbook will be discussed in class. The dynamic and intensive nature of this course makes it impossible for students to make-up or to receive credit for missed classes. Attendance and participation in all class meetings is essential to the integration of course material and your ability to demonstrate proficiency. Students are responsible to notify the instructor if they are missing class and for what reason. Students are also responsible to make up any work covered in class. It is recommended that each student coordinate with a student colleague to obtain a copy of the class notes, if they are absent.

Diversity/Tolerance Policy: Students are encouraged to contribute their perspectives and insights to class discussions. However, offensive & inappropriate language (swearing) and remarks offensive to others of particular nationalities, ethnic groups, sexual preferences, religious groups, genders, or other ascribed statuses will not be tolerated. Disruptions which violate the Code of Student Conduct will be referred to the Office of Student Life as the instructor deems appropriate.