Elementary Statistical Methods Syllabus
North Lake College

Instructor Information
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Office Hours: on request
Division Office and Phone: P330, 972-273-3500

Course Information
Course Title: Elementary Statistical Methods
Course Number: Math 1342
Section Number: 70212
Semester/Year: Spring, 2020
Credit Hours: 3
Class Meeting Time/Location: Tuesdays & Thursdays, 9:30am – 12:20am, P316
Certification Date: March 20, 2020
Last Day to Withdraw: May 1, 2020

Course Prerequisites
College level ready in Mathematics at the non-algebra or algebra levels.

Course Description
This course is a study of collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Use of appropriate technology is recommended.
**Student Learning Outcomes**

Upon successful completion of this course, students will:

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. *(Empirical and Quantitative)*
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. *(Communication)*
8. Perform hypothesis testing using statistical methods *(Critical Thinking)*

**Texas Core Objectives**

The College defines essential knowledge and skills that students need to develop during their college experience. These general education competencies parallel the Texas Core Objectives for Student Learning. In this course, the activities you engage in will give you the opportunity to practice two or more of the following core competencies:

1. **Critical Thinking Skills** - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
2. **Communication Skills** - to include effective development, interpretation, and expression of ideas through written, oral, and visual communication
3. **Empirical and Quantitative Skills** - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
4. **Teamwork** - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal
5. **Personal Responsibility** - to include the ability to connect choices, actions, and consequences to ethical decision-making
6. **Social Responsibility** - to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities
Required/Recommended Course Materials
The textbook for this course is: A Brief Version Elementary Statistics, 8th Edition, by Bluman. Accompanying the textbook is McGraw-Hill’s ConnectMath - a complete online homework system for mathematics and statistics with a powerful student assessment diagnostic tool. You can purchase it from the NLC bookstore. This software includes the textbook. Therefore if you are ok using an ebook there is no need to buy the textbook. Note: A student of this institution is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Graded Work
The tables below provide a summary of the graded work in this course and an explanation of how your final course grade will be calculated.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Percent of Final Grade</th>
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</thead>
<tbody>
<tr>
<td>Unit 1 Test</td>
<td>20%</td>
</tr>
<tr>
<td>Unit 2 Test</td>
<td>20%</td>
</tr>
<tr>
<td>Unit 3 Test</td>
<td>20%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>20%</td>
</tr>
<tr>
<td>Attendance</td>
<td>10%</td>
</tr>
<tr>
<td>ConnectMath Assignments</td>
<td>10%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Final Course Grade

<table>
<thead>
<tr>
<th>Final Calculated Grade</th>
<th>Letter Grade</th>
</tr>
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<tbody>
<tr>
<td>90 - 100</td>
<td>A</td>
</tr>
<tr>
<td>80 - 89</td>
<td>B</td>
</tr>
<tr>
<td>70 - 79</td>
<td>C</td>
</tr>
<tr>
<td>60 - 69</td>
<td>D</td>
</tr>
<tr>
<td>0 – 59</td>
<td>F</td>
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</tbody>
</table>
Description of Graded Work

Tests: Three unit tests will be given during regular class periods. If you are unable to take a test at the scheduled time, please make prior arrangements with the instructor, giving a valid reason for missing the test. No retests will be given.

Quizzes: Eight short quizzes, each worth a maximum of 20 points, will be given. Being present at the time the quiz is given out is a requirement for taking the quiz. No makeup quizzes will be given. The final quiz grade will be the sum of the five quizzes having the highest number of points.

Attendance: The attendance grade will be determined by the number of classes attended by the student.

<table>
<thead>
<tr>
<th>Number of Classes Attended</th>
<th>Grade</th>
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<tbody>
<tr>
<td>14 or 15</td>
<td>100</td>
</tr>
<tr>
<td>12 or 13</td>
<td>90</td>
</tr>
<tr>
<td>10 or 11</td>
<td>80</td>
</tr>
<tr>
<td>8 or 9</td>
<td>70</td>
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<tr>
<td>6 or 7</td>
<td>60</td>
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<tr>
<td>4 or 5</td>
<td>50</td>
</tr>
<tr>
<td>2 or 3</td>
<td>40</td>
</tr>
<tr>
<td>0 or 1</td>
<td>0</td>
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ConnectMath Assignments: During the semester, several assignments will be made. These assignments should be completed before the next class.

Projects: Students will have the option of completing outside projects that must be turned in to the instructor on or before the final class meeting. The overall grade for these projects will replace the lowest nonzero grade of the three unit tests.

Absences
Absences are generally detrimental to one’s performance in a course. You are expected to attend regularly in order that you may increase your chances for a successful semester in algebra. If you must miss a class, it is your responsibility to make up any missed work. Roll will be taken every class period. Tardiness is strongly discouraged.
as it is disruptive to the class and thus the students who are on time. It is better to come late than not at all, however, as long as it is not a habit with one particular individual. If you anticipate a particular problem, please discuss it with me before or after class.

**Late Work Policy**
All deadlines for graded work must be met unless permission is given for such work to be late.

**Other Course Policies**
Distractive talking or any disorderly conduct is prohibited. Please be courteous of others. A warning will be given for behavior an instructor considers disruptive and if the warning is not heeded, the student will be asked to leave. See Student Code of Conduct for more details. The use of cell phones or other similar devices is prohibited during class time. You are expected to turn OFF all such devices BEFORE entering the classroom. You may be asked to leave class if your cell phone causes you or others to be distracted in class; i.e. contact calls or texting.

**STEM Center – Free Tutoring**
The STEM Center, located in L137 and L139 provides assistance and resources free to students enrolled in mathematics and developmental mathematics classes at North Lake College. This is a great place to bring a study group, study quietly, get help with math classes, and use the center’s various resources.

Services offered:
- Tutorial services in all math courses taught at North Lake College
- Computers for use by students enrolled in courses that have an Internet component such as homework systems (i.e., MyLabsPlus, ConnectMath)
- Graphing calculators for use in the center
- Textbooks for use in the center
- A quiet area to study (Just ask one of the tutors)
- Opportunity for students to make up class absences
- Whiteboards space for study groups
- Content workshops covering how to use graphing calculators, course topics, review sessions, and study skills

Contact the STEM Center Manager (Math)
Hours of Operation
Monday – Thursday: 9 a.m. – 6 p.m.
Friday & Saturday: 9 a.m. – 2 p.m.
Manager: Camrunn Beck, Room L135, camrunn.beck@dcccd.edu
**Institutional Policies**

[North Lake Institutional Policies](http://www.northlakecollege.edu/syllabipolicies)

**Course Schedule**

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Quizzes &amp; Tests</th>
</tr>
</thead>
</table>
| 1    | o descriptive and inferential statistics  
 o variables and types of data  
 o data collection  
 o observational and experimental studies  
 o organizing data  
 o histograms, frequency polygons, ogives  
 o time series graphs  
 o pie graphs | o Quiz 1 |
| 2    | o measures of central tendency  
 o measures of variation  
 o measures of position  
 o Unit 1 review | o Quiz 2  
 o Quiz 3 |
| 3    | o sample space and probability  
 o probability rules  
 o conditional probability  
 o probability and counting rules  
 o probability distributions  
 o binomial distributions | o Unit 1 test |
| 4    | o properties of normal distribution  
 o standard normal distribution  
 o applications of normal distribution | o Quiz 4  
 o Quiz 5 |
| 5    | o Unit 2 review | o Quiz 6  
 o Unit 2 test |
| 6    | o confidence intervals for the mean  
 o sample size for the mean  
 o confidence intervals for proportions  
 o sample size for proportions  
 o steps in hypothesis testing  
 o z test for a mean  
 o t test for a mean  
 o z test for a proportion | o Quiz 7 |
| 7    | o correlation and regression  
 o Unit 3 review | o Quiz 8 |
| 8    | | o Unit 3 test |