MATH 1342 Syllabus
Brookhaven College

Instructor Information
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Division Office and Phone: Science, Mathematics, and Engineering.
Room K224. 972-860-4750

Course Information
Course Title: Elementary Statistical Methods
Course Number: MATH 1342
Section Number: 29401
Semester/Year: Spring 2020
Credit Hours: 3
Class Meeting Time/Location: None

Certification Date: January 27, 2020. Attendance for Certification purposes is having registered for MyStatLab and completed at least one homework assignment by January 26, 2020.

Last Day to Withdraw: February 26, 2020. A student is responsible for withdrawing from a course. Please talk to your Instructor, Advisor, Veteran’s Affairs Official and Financial Aid Official, as appropriate, before making the decision to withdraw from any course.

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.
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.

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 Course Materials

5th Edition by Michael Sullivan III with Pearson MyMathLab access

**ISBN:** 978-0-134-13353-9

This course will run using interactive software called MyStatLab. MyStatLab is an online, textbook-based software where you will complete assignments. Students must have access to a computer with Internet to complete the required work for this course. Standard plug-ins are needed to access this tool. To access MyStatLab click the following link: MyMathLab. Students may use computers on campus to complete assignments: Library, Computer Lab (J-122), The HUB (S-251), STEM Resource Center (K-137).

To enroll into your MyStatLab course you will need the following course ID: johanon79285. You can use temporary access but will only have access from the first day of the semester through day 14. After this point, you must enter a valid MyStatLab student access code. If the access code is not entered by that day, access to all online assignments will be suspended. Students should have permanent access to MyStatLab by the end of the first test.

If you purchase your MyStatLab code online you MAY have the option of purchasing a 10 or an 18 week subscription. You may purchase the 10 week subscription.

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.

This is a self-paced online course. Students should read over the material in the online textbook, look through PowerPoints, and watch videos in MyStatLab and then attempt the Homework assignments. Quizzes and tests should not be taken until a student feels they have mastered the material covered on the test.

**TI-Graphing Calculator Required:**

The recommended calculator is a TI-84. Students are NOT allowed to use a TI-89, TI-92, or a TI-Nspire.
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.

Summary of Graded Work

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>10%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>10%</td>
</tr>
<tr>
<td>Four Unit Exams</td>
<td>60% (15% each)</td>
</tr>
<tr>
<td>Departmental Final Exam</td>
<td>20%</td>
</tr>
</tbody>
</table>

TOTAL: 100%

Final Grade

<table>
<thead>
<tr>
<th>Percentages</th>
<th>Letter Grade</th>
</tr>
</thead>
<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

**Homework:** Each section covered will have a homework assignment on MyStatLab for the student to complete outside of class. Each problem will allow 3 attempts, then the student will be able to use the “Similar Question” feature to get a new problem to attempt. The student will have the ability to get a perfect 100 on every homework assignment with the “Similar Question” feature. Homework will count for 10% of your course average.

**Quizzes:** The unit quizzes on MyStatLab must be completed within a 60-minute time-limit. You will be allowed two attempts at the quiz and your highest score will be counted towards your final course grade. Quizzes will count for 10% of your course average.
**Tests:** You will have 4 tests each worth 100 points. Each test will be over a chapter or two in the course. Tests will be taken online on MyStatLab. Each test will count for 15% of your course average.

**Final Exam:** The final exam is comprehensive. The Final Exam is on MyStatLab. The final exam will count for 20% of the course average. The Final Exam score may replace the lowest test score if doing so would improve your overall average.

**Late Work Policy**

The deadline for the homework, quizzes, tests, and the final exam is March 12, without exception.

**Other Course Policies**

If you are struggling with the course material, you are encouraged to speak with your instructor as there are resources that should be taken advantage of (e.g. your instructor’s office hours and tutoring at the HUB)

As with any online course, you are expected to do your own work. By starting the work in this course you are agreeing to follow the honor system. Any indication that you are being dishonest will result in taking your tests at the Brookhaven College Testing Center, receiving an F for the course, and/or academic suspension. Don’t cheat.

**Institutional Policies**

Institutional Policies relating to this course can be accessed using the link below. These policies include information about tutoring, Disabilities Services, class drop and repeat options, Title IX, and more.

[Brookhaven Institutional Policies](#)

**Suggested Course Schedule**

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jan 21 – 25</td>
<td>1.1 Introduction to the Practice of Statistics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.2 Observational Studies versus Designed Experiments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.3 Simple Random Sampling</td>
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<tr>
<td></td>
<td></td>
<td>1.4 Other Effective Sampling Methods</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.5 Bias in Sampling</td>
</tr>
<tr>
<td>Week</td>
<td>Dates</td>
<td>Topic</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 2    | Jan 26 – Feb 1 | 2.1 Organizing Qualitative Data  
                    2.2 Organizing Quantitative Data: The Popular Displays  
                    2.4 Graphical Misrepresentations of Data  
                    Test #1                                        |
| 3    | Feb 2 – 8    | 3.1 Measures of Central Tendency  
                    3.2 Measures of Dispersion  
                    3.4 Measures of Position and Outliers  
                    3.5 The Five-Number Summary and Boxplots |
| 4    | Feb 9 – 15   | 4.1 Scatter Diagrams and Correlation  
                    4.2 Least-Squares Regression  
                    4.3 Diagnostics on the Least-Squares Regression Line |
| 5    | Feb 16 – 22  | 5.1 Probability Rules  
                    5.2 The Addition Rule and Complements  
                    5.3 Independence and the Multiplication Rule  
                    5.4 Conditional Probability and the General Multiplication Rule  
                    5.6 Putting It Together: Which Method Do I Use?  
                    Test #2                                        |
| 6    | Feb 23 – 29  | 7.1 Properties of the Normal Distribution  
                    7.2 Applications of the Normal Distribution  
                    8.1 Distribution of the Sample Mean  
                    8.2 Distribution of the Sample Proportion  
                    Test #3                                        |
| 7    | Mar 1 – 7    | 9.1 Estimating a Population Proportion  
                    9.2 Estimating a Population Mean  
                    10.1 The Language of Hypothesis Testing  
                    10.2 Hypothesis Tests for a Population Proportion  
                    10.3 Hypothesis Tests for a Population Mean  
                    10.5 Putting It Together: Which Method Do I Use?  
                    Test #4                                        |
| 8    | Mar 8 – 12   | 11.1 Inference about Two Population Proportions  
                    11.2 Inference about Two Means: Dependent Samples  
                    11.3 Inference about Two Means: Independent Samples  
                    11.5 Putting It Together: Which Method Do I Use?  
                    Comprehensive Final Exam                       |