

Angelina College
Division of Science and Mathematics
MATH 1342 – Elementary Statistics
Instructional Syllabus – Spring 2017 (INTERNET)

I. BASIC COURSE INFORMATION:

- A. Elementary Statistics – MATH 1342 – 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. Three lecture hours each week.
- B. The intended audience is mathematics, science, business, and certain liberal arts and fine arts majors.
- C. Instructor: Julie Mays
Office Location: 113B
Office Hours: as posted on office door
Phone: (936) 633-5460
E-mail Address: jmays@angelina.edu

II. INTENDED STUDENT OUTCOMES:

A. Core Objectives Required for this Course

- 1. **Critical Thinking:** to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
- 2. **Communication:** 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

B. Course Learning Outcomes for all Sections

- 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.

III. ASSESSMENT MEASURES

A. Assessments for the Core Objectives

- 1. **Critical thinking:** Students will answer multiple-choice questions in an assignment which will be used to assess critical thinking. A rubric will be used to assess critical thinking skills and correctness of conclusions.
- 2. **Communication:** Students will answer multiple-choice questions in an assignment which will assess written, oral, and visual communication skills. A rubric will be used to assess written, oral, and visual communication skills.
- 3. **Empirical and Quantitative Skills:** Students will answer multiple-choice questions in an assignment which will assess their skills in manipulation and analysis of numerical data to form conclusions. A rubric will be used to assess the empirical and quantitative skills. This may be assessed in embedded questions.

B. Assessments for Course Learning Outcomes

1. The student's ability to explain the use of data collection and statistics as tools to reach reasonable conclusions will be assessed through embedded test questions.
2. The student's ability to recognize, examine, and interpret the basic principles of describing and presenting data will be assessed through embedded homework and test questions.
3. The student's ability to compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinatorics will be assessed through embedded homework and/or test questions.
4. The student's ability to explain the role of probability in statistics will be assessed through embedded homework and/or test questions.
5. The student's ability to examine, analyze, and compare various sampling distributions for both discrete and continuous random variables will be assessed through embedded homework and/or test questions.
6. The student's ability to describe and compute confidence intervals will be assessed through an assigned project.
7. The student's ability to solve linear regression and correlation problems will be assessed through embedded homework and/or final exam questions.
8. The student's ability to perform hypothesis testing using statistical methods will be assessed through embedded homework and/or test questions.

IV. INSTRUCTIONAL PROCEDURES:

The course is taught using a combination of lectures, discussions, and practice exercises. The amount of time spent using any one technique will vary from class to class and from lesson to lesson as determined to be most appropriate by the instructor.

V. COURSE REQUIREMENTS AND POLICIES:

A. Required Textbooks and Recommended Readings, Materials and Equipment

1. Elementary Statistics: Picturing the World, 6th ed. by Larson & Farber (Pearson).
2. Access to MyLabsPlus (included with new book bought at AC bookstore)
3. Use of a graphing calculator is encouraged – The TI-84 graphing calculator will be used by the instructor in classroom demonstrations.

B. Course Policies – This course conforms to the policies of Angelina College as stated in the Angelina College Handbook.

1. **Academic Assistance** – If you have a disability (as cited in Section 504 of the Rehabilitation Act of 1973 or Title II of the Americans with Disabilities Act of 1990) that may affect your participation in this class, you should see Sellestine Hunt – Associate Dean of Student Services – Student Center, Room 200. At a post-secondary institution, you must self-identify as a person with a disability; Ms. Hunt will assist you with the necessary information to do so. To report any complaints of discrimination related to disability, you should contact Mr. Steve Hudman – Dean of Student Affairs, Student Center, Room 101, (936)633-5292 or by email shudman@angelina.edu.
2. **Attendance** – This course conforms to the Angelina College attendance policy as stated in the Angelina College Policies and Procedures Manual. Records will be turned in to the academic dean at the end of the semester. Do not assume that non-attendance in class will always result in an instructor drop. **You must officially drop a class or risk receiving an F.** This is official Angelina College Policy.

3. Additional Policies Established by the Instructor

MAKE-UP EXAMS

No make-up exams will be offered. The grade on the final exam can replace the lowest exam grade, including the grades from a missed exam.

INTERNET COURSE

Internet classes require a greater degree of independence and responsibility than traditional classes. You must find time in your schedule to work on the class as much as you would in a traditional class. Do not allow yourself to fall behind on your assignments. **Computer problems are NOT an acceptable excuse for not completing assignments.** If you do not have a reliable computer, you should not be taking an Internet course.

Cheating on tests is not tolerated as per Angelina College policy and may result in expulsion from the course. Plagiarism is not tolerated and will result in a zero for any assignment in which it is detected.

CELL PHONES

Students may not have access to cell phones, iPads, etc. during tests.

VI. COURSE OUTLINE:

See attached COURSE SCHEDULE

VII. EVALUATION AND GRADING:

1. Your grade will be assessed by:
 - a. Four tests valued at 100 points each for a total of 400 points.
 - b. Homework on MyLabsPlus valued at 100 points.
 - c. Project valued at 20 points.
 - d. A comprehensive final examination valued at 100 points.
2. Homework will be completed on MyLabsPlus and **is required**.
 - a. MyLabsPlus comes with new books from the AC bookstore. It may also be purchased with a major credit card on the website www.angelina.mylabsplus.com
 - b. Homework will have due dates and penalties for late work. Each homework grade will be a zero if it is not done within the allotted time.
3. **Exams will be taken at a college testing center or with a proctor approved by the Office of Distance Learning and must be taken within the scheduled week.** Proctor-U cannot be used at this time with this course due to scratch paper and formula sheets provided for some exams. Exams may only be reviewed in person with the instructor.
4. No makeup tests will be allowed. The final exam will replace any one missed test or the lowest test grade during the semester.
5. Those who drop the course on or before February 1st will not receive a grade for the course. Those dropping between February 1st and April 3rd (inclusive) will receive a W in the course. April 3rd is the last day for dropping a course.

The instructor may modify the provisions of the syllabus to meet individual class needs by informing the class in advance as to the changes being made.

COURSE SCHEDULE
MATH 1342 – *Elementary Statistics*

<u>Week</u>	<u>Dates</u>	<u>Sections</u>	<u>Description</u>
1	01/17-01/22	1.1 1.2 1.3 2.1	An Overview of Statistics Data Classification Data Collection Frequency Distributions and Their Graphs
2	01/23-01/29	2.2 2.3 2.4 2.5	More Graphs and Displays Measures of Central Tendency Measures of Variation Measures of Position
3	01/30-02/05	Exam #1	Exam #1 (Sections 1.1 – 1.3, 2.1 – 2.5)
4	02/06-02/12	3.1 3.2 3.3	Basic Concepts of Probability and Counting Conditional Probability and the Multiplication Rule The Addition Rule
5	02/13-02/19	3.4 4.1 4.2	Additional Topics in Probability and Counting Probability Distributions Binomial Distributions
6	02/20-02/26	Exam #2	Exam #2 (Sections 3.1 – 3.4, 4.1 – 4.2)
7	02/27-03/05	5.1 5.2 5.3	Introduction to Normal Distributions and the Standard Normal Distribution Normal Distributions: Finding Probabilities Normal Distributions: Finding Values
8	03/06-03/12	5.4 5.5 6.1	Sampling Distributions and the Central Limit Theorem Normal Approximations to Binomial Distributions Confidence Intervals for the Mean (Large Samples)
9	03/20-03/26	6.2 6.3	Confidence Intervals for the Mean (Small Samples) Confidence Intervals for Population Proportions
10	03/27-04/02	Exam #3	Exam #3 (Sections 5.1 – 5.5, 6.1 – 6.3)
11	04/03-04/09	7.1 7.2 7.3 7.4	Introduction to Hypothesis Testing Hypothesis Testing for the Mean (Large Samples) Hypothesis Testing for the Mean (Small Samples) Hypothesis Testing for Proportions
12	04/10-04/16	8.1 8.2 8.3 8.4	Testing the Difference Between Means (Large Independent Samples) Testing the Difference Between Means (Small Independent Samples) Testing the Difference Between Means (Dependent Samples) Testing the Difference Between Proportions
13	04/17-04/23	Exam #4	Exam #4 (Sections 7.1 – 7.4, 8.1 – 8.4) Project Due (available 04/10-04/23)
14	04/24-04/30	9.1 9.2 9.3	Correlation Linear Regression Measures of Regression
15	05/02-05/08	Final	Comprehensive Final Exam