Math11-Elementary Statistics

Course Syllabus-SP 2023 Section #52027

Class: 9 WEEKS

100% Online: All class materials located on Canvas and in MyLab Math.

Instructor:

Mr. Garcia

e-mail:

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MyMathLab ID: garcia26718

Course Communication Policy:

When you log in to view your course content in Canvas, you will find a welcome announcement in the home page. In there you will find the Syllabus with a link and the MyMath Lab instructions hand out with a link as well. Then under modules you will find a road map of the Online Math course broken down into modules. In each of the modules you will find directions on what to do each week. Make sure to carefully read the instructions and don't just relay on the calendar of events because you might miss critical details on each assignment.

I will be communicating with you via inbox Canvas messaging to inform you about important assignments or exams. It is your responsibility to read each announcement to keep up with the course progression and don't follow behind this course.

You can also reach me at jose.garcia@reedleycollege.edu or at jogarciamath@gmail.com . I will respond to your concerns or questions within 24 hours Monday-Saturday. I may be able to respond to you on Sundays upon an opportunity but I don't promise anything. If you don't hear from me within 24 hours then resend your message via Canvas or email. Remember, this the best communication method to reach me.

There will be a discussion forum in Canvas so you can communicate with your classmates. It will be called "Math Thinkers forum Q & A". The purpose of this discussion forum is to post and answer questions that you might have as the semester progresses. We might possibly have discussion within Canvas modules to help you and learn from each other by expressing and sharing your unique ideas. I will check your posts frequently if common questions arise so I can answer them for you.

Course information:

Welcome to Math 11, Elementary Statistics! Our section number is 52027. This class is 100% online.

Course Description:
This course is an introduction to statistical methods and techniques with applications in the fields of business, behavioral and social science, as well as in science, technology, engineering, and mathematics. Topics include descriptive measures of central tendency and variability, probability, binomial and normal distributions, random variables, sampling, estimating, hypothesis testing (parametric and nonparametric), correlation and regression.

Basic Skills Advisories:
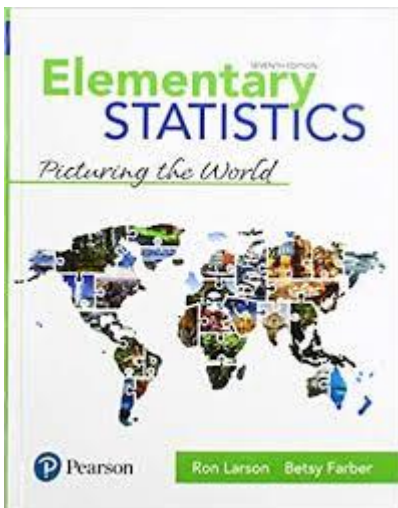English 1A

Subject Prerequisites:
Math 103 or AB 705 Placement
Credits:
4 units
Optional Textbook:
Ron Larson, Elementary Statistics, Pearson, 7th Edition, 2017.

Student Learning Outcomes:
Upon completion of this course, students will be able to:

1. Organize, analyze, and utilize appropriate methods to draw conclusions based on sample data by using tables, graphs, measures of central tendency, and measures of dispersions.
2. Apply concepts and terminology of statistics.
3. Implement the rules of probability.
4. Collect data, interpret and communicate the results using statistical analyses such as confidence intervals, hypothesis test, and regression analysis.

Course Objectives:
In the process of completing this course, students will:

1. Distinguish among different scales of measurement and their implications;
 2. Identify the standard methods of obtaining data and identify advantages and disadvantages of each;

3. Interpret data displayed in tables and graphically;

4. Calculate measures of central tendency and variation for a given data set;

5. Apply concepts of sample space and probability;

6. Calculate the mean and variance of a discrete distribution;

7. Calculate probabilities using normal and t-distributions;

8. Distinguish the difference between sample and population distributions and analyze the role played by the Central Limit Theorem;

9. Construct and interpret confidence intervals;

10. Determine and interpret levels of statistical significance including p-values;

11. Interpret the output of a technology-based statistical analysis;

12. Identify the basic concept of hypothesis testing including Type I and II errors;

13. Formulate hypothesis tests involving samples from one and two populations;

14. Select the appropriate technique for testing a hypothesis and interpret the result;

15. Use linear regression and ANOVA analysis for estimation and inference, and interpret the associated statistics; and

16. Use appropriate statistical techniques to analyze and interpret applications based on data from disciplines including business, social sciences, psychology, life science, health science, and education.

Lecture Content:
A. Introduction to Statistics
1. Summarizing data graphically and numerically: Frequency distributions and Graphs
2. Descriptive statistics: Measures of central tendency: mean, median, mode, measures of variation: variance, standard deviation, quartiles, range, relative position, levels/scales of measurement
B. Probability
1. Sample spaces and probability
2. Random variables and expected value
3. Sampling and sampling distributions
4. Discrete distributions – Binomial
5. Continuous distributions – Normal
C. Sampling Theory
1. Simple random sample
2. Central Limit Theorem
D. Estimating Population Parameters
1. Estimation and confidence intervals from a small or large sample.
2. Sample size.
E. Hypothesis Testing (Parametric/Nonparametric)
1. One population, one- and two-sided tests, z-test for means and proportions, and t-test for means (independent and dependent samples)
2. Two populations, sampling distributions
3. Chi-square (Goodness of Fit and Contingency Tables)
F. Correlation and Simple Linear Regression
1. Correlation coefficient
2. Regression coefficient
3. Test of hypothesis about the value of correlation/regression coefficient.
4. Analysis of variance (ANOVA)

G. Applications/Technology
1. Applications using data from disciplines including business, social sciences, psychology, life science, health science, and education
2. Statistical analysis using technology such as SPSS, EXCEL, Minitab, or graphing calculators

Required Materials:
- Paper **8 ½" by 11"**
- Pencils
- TI-84 or PLUS (Can be checked out at Reedley College Library with your RC ID)

Assignments:
The assignments will account for 35% of your grade. Each homework assignment will be completed online and the assignments can be found at the MyMathLab website, www.pearsonmylabandmastering.com. You may work ahead if you like; all homework assignments for the entire chapter will be made available to the student on the weekly basis. **It is important to stay current to be successful in this course!** Each assignment has a due date and time. Any late submission on an assigned assignment will lose 10% and you can still earn up 90% based on your effort.

Importance Notice:
While working on an assignment, you do not have to complete an entire assignment in one seating. If you choose to stop for a while, make sure to click **SAVE** icon and the program will save your work. You can come back to work on the assignment and continue where you left off at another convenient time.

Tutorial Services:
The Math Center in the FEM building at Reedley College

- YouTube also has many good videos for help.
- Video for the Academic Support Centers
- **Note:** If you have any questions you would like to ask of me, your, please ask me during class time or contact me via email and I will do my best to help you.

Assignment Notebook:
ALL online assignments problems are to be worked out completely, with all work shown in your **8 ½" by 11"** listed in the materials list. The purpose of this is to help you get your solutions written out so you can have a deeper understanding of concepts being learned.

Math Discussions:
We will have a Math Thinkers Forum Q & A available for you on the weekly basis to post a question and answer any question that you might have regarding a topic or about his course. We might possibly have math discussion within Canvas to create a math learning community as well as to learn from each other and grow in our knowledge of math concepts.

Attendance and Drop Policy:

Actively participation is one of the Key pillars of your success. Everyone can learn math, but don't do it alone. Students who do not sign up at www.pearsonmylabandmastering.com and complete the first two assignments (Sections 1-1 and 1-2 for example) within the **first week (March 17, 2023)** of instruction will be dropped. MyMathLab will allow you to enroll on their site with a temporary access without buying the access code.

Any student who enrolls with a temporary access code will be required to have purchased the access code and be permanently enrolled in the MyMathlab course by **second week (March 24, 2023).** Failure to do so will result in a drop from the course!

Exams:

- There will be several chapter exams including Ch 1, Ch 2, Ch 3, Ch 4, Ch 5, Ch 6, Ch 7, Ch 9 (only two sections) will be on Final Exam. Note, the final exam will be cumulative final exam.

- If you absolutely cannot take a test on the day of an exam is scheduled, you must discuss with me the possibility of taking the exam early. **Please send me an email so I can make the necessary changes and you don't get a zero.**

Important Dates:

March 13, 2023	(M)	First Day of school
March 13, 2023	(M)	First Day to Drop
March 17, 2023	(W)	Students who have don't do Sec. 1.1 and 1.2 HW in Mylab Math by this date will be dropped as a No Show
March 24, 2023	(F)	Deadline to permanently enrolled in MyMathLab
March 25, 2023	(SA)	Last Day to Add the class
March 25, 2023	(SA)	Last Day to Drop (No W assigned)
March 26, 2023	(SU)	**Census date**
April 15, 2023	(SA)	Last Day to Drop (W assigned)
May 18, 2023	(F)	Last date to turn any missing assignment or assessment
May 15-19, 2023	(F)	Final Exam Week

College Policies:
Behavioral Standards:

Your classmates and I would greatly appreciate that you take care of any personal needs (i.e., using the restroom, getting a drink, sharpening a pencil) before class begins. Please turn your phone off, put it out of sight, and remove any earbuds when you come into class. You may **not** use your phone as a calculator while doing class work or during testing time. Make sure to follow the rules for this course provided to you by the instructor in separate document and the school policies to ensure success in this course. I am looking forward to have a good semester with all of you!

Special Needs Requests:

If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504

of the Rehabilitation Act, you are encouraged to provide me with your notification of authorized services form from DSPS office and consult with me immediately so that arrangements can be made.

Academic Integrity:
You are expected to be honest. In this course, that primarily means you should never submit work that is not your own. This does not mean that you are not allowed to work with other students. I encourage you to collaborate on homework problems! It is often more fruitful and enjoyable to work with other people when trying to figure something out. They can give you a fresh insight or different perspective on the problem. Conversely, explaining your idea to another person forces you to clarify your thoughts and can help to highlight flaws you may have previously overlooked. However, if you work with others to come up with a solution, afterward you should write up your work on your own. You should not base your homework on another's student's homework, and never put your name on something you do not understand.

Below is the official School policy on academic dishonesty, cheating and plagiarism.

Cheating:
Is the act or attempted act of taking an examination or performing an assigned, evaluated task in a fraudulent or deceptive manner, such as having improper access to answers, in an attempt to gain an unearned academic advantage. Cheating may include, but is not limited to, copying from another's work, supplying one's work to another, giving or receiving copies of examinations without an instructor's permission, using or displaying notes or devices inappropriate to the conditions of the examination, allowing someone other than the officially enrolled student to represent the student, or failing to disclose research results completely.

Plagiarism:
Is a specific form of cheating: the use of another's words or ideas without identifying them as such or giving credit to the source. Plagiarism may include, but is not limited to, failing to provide complete citations and references for all work that draws on the ideas, words, or work of others, failing to identify the contributors to work done in collaboration, submitting duplicate work to be evaluated in different courses without the knowledge and consent of the instructors involved, or failing to observe computer security systems and software copyrights.

Incidents of cheating and plagiarism may result in any of a variety of sanctions and penalties, which may range from a failing grade on a particular examination, paper, project, or assignment in question to a failing grade in the course, at the discretion of the instructor and depending on the severity and frequency of the incidents.

Personal and Technology Emergencies:
I am well aware that sometimes emergencies occur. To account for these unexpected events, I have made the following allowances:
- The at least **two lower homework assignments grades** will be dropped.
- The final exam will replace the lowest exam (or a zero score if you miss an exam) if the final exam score is higher.

Final Exam:
The final may be used to replace a low exam score or a missed exam. The final may cannot be used more than once.

Grading Scale:

Letter Grade	Percent Range	Categories	Percent of Grade
A	90%-100%	Assignments	35%
B	80%-89%	Exams and Final Exam	65%
C	68%-79%	**This is a transferable course!!**	
D	55%-67%		
F	0%-54%		

Example:
If your homework assignments average is 82, and the average of the **average of your exams and the final exam 76**, then you would compute your grade as follows;

$(0.35) (82) +(0.65) (76) = 28.7 + 49.4 = 78.10\%$

- Your grade will then be determined by reading the above chart with the grading scale. Thus, your grade in the above example will be 78.10% or C.
- Note: To receive college credit you need at least 68% or C, or better to pass.
- **What is your goal for this course? My goal for this course is _____.**

Late Work policy:
It is important to stay current to be successful in this course. Each assignment will have a due date and time. I will be accepting any late assignment or project. However, for any assignments or project that is late you will receive credit based on your effort.

There will be no quizzes.

For exams, I understand that we all have personal emergencies so for this case you may contact me via inbox Canvas or email notifying me why you are not able to take the test on due date and time. This way I may give you a new deadline. Please be sure to state in your message, Hello Mr. Garcia, or Good morning Mr. Garcia, Good after noon Mr. Garcia, or Good evening Mr. Garcia depending on the time of day and start explaining your concerns or questions. I will get to you in a given opportunity and will consider your situation and will provide a reasonable extension according your situation.

For the discussion forums, there will be strictly deadlines with these ones because Math topics are going to be new for every discussion. Hence, your late post will not be accepted.

Notice: *This Syllabus is subject to change at the discretion of the Math instructor.*