

STA 2023 – Summer 2013-3
InterAmerican Campus

Instructor: Dr. Jose Serpa e-mail: jserpa@mdc.edu Office: 1369

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Reference Number: 803263

Class Times: MWF 9:00 a.m – 11:15 a.m

Room #: 1375

Textbook: Elementary Statistics; M. F. Triola. 12th Edition Addison-Wesley Publishing Co.

Course Objectives: Students in this course will acquire knowledge in the following topics: Collecting, grouping, and presenting data; measures of central tendency and dispersion; probability; estimation and hypothesis testing, linear correlation and regression.

Competencies: At the end of the course the student should be able to:

- a) Identify the population and the sample in an inferential study.
- b) Construct data tables, histograms, dot-plots, pie charts, bar graphs, stem-and-leaf diagrams.
- c) Compute and interpret the mean, the median, the mode, and the standard deviation of a data set.
- d) Determine and interpret the quartiles, deciles and percentiles of a data set. Construct and interpret a box-and whisker diagram.
- e) Construct probability distributions, and compute conditional probabilities.
- f) Apply the binomial and normal distributions.
- g) Determine confidence intervals and sample sizes.
- h) Conduct hypotheses testing.
- i) Basic concepts of regression and correlation.

TESTING AND GRADING POLICY: There will be five tests worth 100 points each, and a cumulative final exam. The lowest grade among the five tests will be dropped. The Final Exam is never dropped. **THERE ARE NO MAKEUPS.** See me if you know you are going to miss a test. I may assign the seating during any of the tests or the Final Exam. **Your Final Grade will be based on the average of your Final Exam and the best four scores on tests 1-5.**

COURSE GRADE FORMULA: (sum of 4 best test scores and Final Exam) / 5

GRADING SCALE: A: 90-100, B: 80-89, C: 70-79, D: 60-69, F: below 60

INCOMPLETES: Incompletes will be given in very limited situations. In order to qualify for an “I” grade, the student must be passing the course at the time the “I” grade is negotiated; be so near the end of the course that he/she requires no further instruction; and have a justifiable and documented reason for not being able to finish the course on schedule.

HOMEWORK: Homework will be posted online. They are all due the same day of the corresponding test. HW is worth up to 10 points added to the score on the test.

ATTENDANCE: Attendance is highly encouraged. Students are responsible for all material covered and/or distributed in class.

MATH LAB: Available on Campus, Room 1214

WITHDRAWAL POLICY: If you decide to withdraw from this course it is your responsibility to do so in order to receive a grade of “W”. Drop/withdrawals should be conducted through the office of the registrar. However, I periodically purge my class roster. If you are continuously absent and do not inform me of a reason, you may be purged from the class.

CLASSROOM BEHAVIOR:

Beepers, cellular phones and any electronic devices must be turned off before class.

Please, be prompt. Late arrivals are very disturbing for the instructor and disruptive to fellow students. You should plan to leave enough time to allow for traffic, parking, inclement weather, etc.

Cheating: Cheating will not be tolerated in this course. Any student caught will receive an automatic F in the test.

Learning Outcomes: The competencies and objectives included in this course will address some of the recently adopted Miami Dade College General outcomes, a set of 10 learning outcomes we expect graduating students to master in the years to come.

As graduate of Miami Dade College, students will be able to:

1. Communicate effectively using listening, speaking, reading, and writing skills.
2. Use quantitative analytical skills to evaluate and process numerical data.
3. Solve problems using critical and creative thinking and scientific reasoning.
4. Formulate strategies to locate, evaluate, and apply information.
5. Demonstrate knowledge of diverse cultures, including global and historical perspectives.
6. Create strategies that can be used to fulfill personal, civic, and social responsibilities.
7. Demonstrate knowledge of ethical thinking and its applications to issues in society.
8. Use computer and emerging technologies effectively.
9. Demonstrate an appreciation for aesthetics and creative activities.
10. Describe how natural systems function and recognize the impact of humans on the environment.

The learning activities designed in this course will address outcomes 1, 2, 3, 4, 8 & 10.

I reserve the right to make changes in this syllabus as needed. Any changes will be announced in class as early as possible

Week	Topics to be Covered
1	1.3 Types of Data. 1.4 Methods to Collect Data. 2.2 Frequency Distributions. 2.3 Histograms. 2.4 Statistical Graphics. 3.2 Measures of Center 3.3 Measures of Variation. 3.4 Measures of Relative Standing and Boxplots
2	Review Test #1 . 4.2 Probability. Fundamentals 4.3 Addition Rule 4.4 Multiplication Rule. 4.5 Complements and Conditional Probabilities. 4.6 Counting Rules
3	Review Test #2 5.2 probability Distributions. 5.2 Expected Value of a Discrete Random Value. 5.2 Variance, Standard Deviation of a Discrete Random Variable. 5.3 Binomial Probability Distribution. 5.4 Mean, Variance and Standard Deviation for the Binomial Distribution. 6.2 Continuous Random Variable. The Standard Normal Distribution. 6.3 Applications of Normal Distribution.
4	Review Test #3 6.4 Sampling Distributions. Estimators. 6.5 The Central Limit Theorem. 7.2 Estimating a Population Proportion. 7.3 Estimating a Population Mean (σ Known) 7.3 Estimating a Population Mean (σ Unknown)
5	Review Test # 4 8.2 Basic of Hypothesis Testing 8.3 Testing a Claim about a Proportion. 8.4 Testing a Claim about a Mean (σ Known) 8.5 Testing a Claim about a Mean (σ Unknown) 10.1, 10.2, 10.3 Introduction to Regression. Basic Concepts. Test #5 THT is assigned
6	Test #5 THT is due Review for the final Exam. Final Exam