# SEMINOLE STATE COLLEGE
### OF FLORIDA

# Statistical Methods I Syllabus
**STA2023, Summer 2021, May 17 – June 18**

## Course & Instructor Information

**Instructor:** Kristine Buddemeyer

**Office Hours:** By Appointment

**Course Time:** 1.8 contact hours per day, Monday through Friday

**Contact Hours:** 45

**Credits:** 3

## Course Description

Statistics and probability constitute the mathematics of uncertainty. This is an introductory course that gives the students knowledge on both descriptive and inferential statistics. Topics include graphic and numerical representations of various types of data; probability and statistics, discrete and continuous probability distributions; sampling and estimations; statistical inferences.

## Prerequisites

 MAT 1033 (Intermediate Algebra) or equivalent.

## Textbook Information

Triola, *Elementary Statistics*, Pearson Publishing, 12th Edition

**You are required to purchase access to the online homework system: MyMathLab. This comes with access to an e-book, so purchasing the physical textbook is optional. You will also need to purchase access to StatCrunch for the semester. We will use this software in lieu of a calculator.**

**The course code you will need to enroll in the homework is: buddemeyer57520**

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# Collegewide Student Learning Outcomes

The Collegewide Student Learning Outcomes assessed and reinforced in this course include the following:

- Communication

- Critical Thinking

- Scientific and Quantitative Reasoning

- Information Literacy

- Global Sociocultural Responsibility

# Course Requirements

- Required weekly textbook reading

- Required course assignments to be completed before the due date

- Required preparation for the class

# Attendance/Makeup Policy

The College recognizes the correlation between attendance and both student retention and achievement. Per College Policy 3.060 **Students are expected to attend all class meetings of all courses for which they are registered**.

Class attendance is mandatory, attendance will be measured by the submission of written homework, online homework, and exams by their published due dates. Poor attendance, habitual tardiness, and disruptive conduct will adversely affect your grade.

You will be allowed to make up work for full credit only under extreme circumstances (such as a documented, serious health-related emergency). *Written assignments cannot be made up as the key will be posted after the assignment is due.*

Cheating will not be tolerated. This includes giving or receiving aid on a quiz or exam and plagiarizing the work of others (including your classmates). There will likely be homework or in-class work that will allow for collaboration, but all work you turn in must be in your own words.

# Classroom rules

Please respect the education of your fellow students. All exams must be proctored. The following are not allowed:

- Unauthorized materials on exams

# Course Outline

Please note that this outline is meant to give an overview of the major concepts of this course. Changes may occur in this calendar as needed to aid in the student's development.

**Week 1:** Describing data

Section 1.1: Statistical & Critical Thinking

Section 1.2: Types of Data

Section 1.3: Collecting Sample Data

Section 2.1: Frequency Distributions for Organizing and Summarizing Data

Section 2.2: Histograms

Section 2.3: Graphs that Enlighten & Graphs that Deceive

Section 2.4: Scatterplots, Correlation, and Regression

Section 3.1: Measures of Center

Section 3.2: Measures of Variation

**Week 2:** Describing data and basic probability

Section 3.2 *continued*

Section 3.3: Measures of Relative Standing and Boxplots

Section 4.1: Basic Concepts of Probability

Section 4.2: Addition Rule & Multiplication Rule

Section 4.3: Complements, Conditional Probability, and Bayes' Theorem

Section 4.4: Counting

**End of Exam #1 Material**

Section 5.1: Probability Distributions

Section 5.2: Binomial Probability Distribution

**EXAM #1 (Chapters 1 – 4)**

**Week 3:** Probability and Normal Distribution

Section 5.3: Poisson Probability Distributions

Section 6.1: The Standard Normal Distribution

Section 6.2: Real Applications of the Normal Distribution

Section 6.3: Sampling Distributions & Estimators

Section 6.4: The Central Limit Theorem


**Week 4:** Estimation, test of hypotheses

Section 7.1: Estimating a Population Proportion

Section 7.2: Estimating a Population Mean

Section 8.1: Basics of Hypothesis Testing

Section 8.2: Testing a Claim About a Proportion

Section 8.3: Testing a Claim About a Mean

**End of Exam #2 Material**


Section 9.1: Two Proportions

**EXAM #2 (Chapters 5 – 8)**


**Week 5:** Regression

Section 9.2: Two Means: Independent Samples

Section 9.3: Two Dependent Samples (Matched Pairs)

Section 10.1: Correlation

Section 10.2: Regression

**FINAL EXAM (Cumulative)**

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# Grading Policy

Your grade will be based on online homework, written homework that will be scanned and submitted each week, and exams.

| Online Homework | 15% |
|---|---|
| Written Assignments | 10% |
| Exams | 50% |
| Final Exam | 25% |

# Grading Scale

A = 90-100%        B = 80-89%       C = 70-79%              D = 60-69%         F = Below 60%

**"A"** grades are given for outstanding work. You are doing extremely well. The student has exceeded expectation.

**"B"** grades are given for above average work. You are doing very well.  Improvements will be toward higher refinements of concept.

**"C"** grades are given for average work. You are meeting an acceptable level or expectation. Improvements will be towards acceptable levels of project requirements.

**"D"** grades are given for below average work. You are under-achieving in quality and/or motivation. Improvements will be towards acceptable level of project requirements.

**"F"** grades are given for failure. You are not reaching the expected level for college work. Improvements are to review goals, seek assistance and increase efforts.

# Academic Integrity

As members of the Seminole State College of Florida community, students are expected to be honest in all of their academic coursework and activities.

Academic dishonesty, such as cheating of any kind on examinations, course assignments or projects, plagiarism, misrepresentation and the unauthorized possession of examinations or other course-related materials, is prohibited.

Plagiarism is unacceptable to the college community. Academic work that is submitted by students is assumed to be the result of their own thought,  research or self-expression. When students borrow ideas, wording or organization from another source, they are expected to acknowledge that fact in an appropriate manner. Plagiarism is the deliberate use and appropriation of another's work without identifying the source and trying to pass-off such work  as the student's own. Any student who fails to give full credit for ideas or materials taken from another has plagiarized.

Students who share their work for the purpose of cheating on class assignments or tests are subject to the same penalties as the student who commits the act of cheating.

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When cheating or plagiarism has occurred, instructors may take academic action that ranges from denial of credit for the assignment or a grade of "F" on a specific assignment, examination or project, to the assignment of a grade of "F" for the course. Students may also be subject to further sanctions imposed by the judicial officer, such as disciplinary probation, suspension or dismissal from the College.