

**MATH 250-06 (FALL 2017)**  
**STATISTICAL METHODS I**

**COURSE OUTLINE**

**Instructor Information:**

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**Office Hours:** 4-5PM (Tuesday), 3-4PM (Wednesday), or by appointment

**Course Meeting:** Monday and Wednesday, Maybank 108, 4-5:15PM

**Course objectives:** This course is designed to develop quantitative skills along with critical and interpretive judgment. It focuses on both methodology and applications in statistics. It provides students for advanced courses in statistics or methodological tools in their research disciplines, by approaching real world problems and analyzing real data. Emphasis will be placed on the elements of sound statistical reasoning.

**Course Prerequisite:** MATH 105 with a C- or better or MATH 111 or MATH 120

**Course Student Learning Outcomes:** By end of the course, students will be able to

1. Summarize data by using methods of descriptive statistics.
2. Choose appropriate inferential procedures and apply them to make inferences about populations.
3. Understand the capabilities and limitations of statistical methods
4. Use appropriate technology, such as Minitab, to perform various statistical procedures
5. Interpret results and draw conclusions from statistical analysis.

**Gen Ed Student Learning Outcomes:** Students will

1. Model phenomena in mathematical terms.
2. Apply models and establish conclusions.
3. Demonstrate an understanding of the supporting theory apart from any particular application.

These outcomes will be assessed on the tests.

**Textbook:** Neil A. Weiss, *Introductory Statistics* (10<sup>th</sup> Edition), Pearson Addison Wesley

**Course Topics:**

Descriptive Measures (Ch.3)

Probability Concepts (Ch.4)

Discrete Random Variables (Ch.5)

The Normal Distribution (Ch.6)

Sampling Distribution of the Sample Mean (Ch.7)

Confidence Intervals for One Population Mean (Ch.8)

Hypothesis Tests for One Populations Mean (Ch.9)

Inferences for Two Population Means (Ch.10)

Inferences for Population Proportions (Ch.12)

Inferences for Population Standard Deviations & Chi-Square Procedures (Ch.11&13)

Regression, Correlation and ANOVA (Ch.14-16)

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**Statistical Software:** Students will learn how to use a statistical package, MINITAB, for computations of projects and assignments.

**Calculator:** Any calculator except for TI-83 or above.

**Grading Policy:**

1. Problem Sets\*
2. Four tests and Final Exam (80%)\*\*
3. Projects & Quizzes (20%)\*\*\*

A: 90 or above; A-: 87-89; B+:83-86; B: 80-82; B-: 77-79; C+:73-76; C: 70-72; C-: 67-69;  
D+: 63-66; D: 60-62; D-:57-59; F: 56 or below

*\* Most problems are selected from Textbook exercise which students must study by themselves at home. Not required to submit but an important course materials for Quizzes, Tests, and Final.*

*\*\* Each test is 20% of your course grade. Final Exam is a comprehensive test. You may drop the final if you are satisfied with all your tests. Nevertheless, you cannot drop one of tests without an official excuse. I do NOT plan on giving make-up tests.*

*\*\*\* The projects are take-home assignments using MINITAB statistical package. There may be 30 minutes quizzes, whose date will not be announced in advance. Hence, I STRONGLY recommend bring your study guides, a calculator and STAT tables to all classes. Your lowest scores among quizzes and projects will be dropped. A make-up quiz or project is not necessary.*

**Attendance Policy:**

1. Full participation in all classes is expected.
2. A student who misses five classes\* will get F in this course.
3. If you are more than 10 minutes late or leave earlier, it will be counted as an absence.

*\* It includes excused absences. So, you are not required to submit an excuse document or college absence memo.*

**Midterm Policy:**

Instructor strongly recommends withdrawing this course if your midterm grade is less than 60%.

**Important Dates:**

August 28: Last day of drop/add

September 13: Test 1

October 9: Test 2 (covers the first half)

October 16: Fall Break (no class)

October 26: Last day for students to withdraw with a W

November 6: Test 3

November 22: Thanksgiving (no class)

December 4: Test 4 (covers the second half)

December 8: Final Exam (4 – 5:30PM)

**Accommodations for Students with Disabilities:**

If there is a student in this class who has a documented disability and has been approved to receive accommodations through the Center for Disability Services/SNAP (Students Needing Access Parity), please come and discuss this with me during my office hours.

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**College Honor Code:**

Any violation of the College's Honor Code will be reported to the Honor Board. For more details, see <http://studentaffairs.cofc.edu/honor-system/> and the Student Handbook at <http://studentaffairs.cofc.edu/honor-system/studenthandbook/>

**Note:**

1. I will utilize email to send the course materials and announce the important schedules fairly often. Therefore it is important that you check your email regularly. I encourage you to contact me via email if you have a question that does not require an office hour visit.
2. The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.
3. The last test and final will not return to you based on college policy.