# Elementary Statistics
# MAT 123

**INSTRUCTOR:** Brian F. Kennedy
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## REQUIRED TEXT
*Introductory Statistics* 9th ed. by Weiss, a graphing calculator is also required.

## CREDIT: 3 credit hours

## COURSE DESCRIPTION
This course considers fundamental concepts of probability and statistics. The topics include exploratory data analysis (tables, graphs, measures of central tendency and dispersion), basic probability, applications of binomial and normal distributions, confidence intervals and hypothesis testing.

## PREREQUISITE: MAT 095 or acceptable placement score.

## GRADING POLICY
A student will receive one of the following grades: A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F, I, W, P or Audit. Determination of that grade will be based on the following. Throughout the semester there will be four, 100 point exams (an exam will be announced at least one week prior to its administration). A comprehensive final exam worth 200 points. Quizzes and projects throughout the semester totaling 75 points. Your final grade will be computed by totaling all the points earned on the four tests, quizzes and final exam grade then dividing that total by the 675 possible points.

| Grade Equivalents: | | | |
|---|---|---|---|
| A  93 - 100 | B  83 - 86 | C  73 - 76 | D 63 - 66 |
| A- 90 - 92 | B- 80 - 82 | C- 70 - 72 | D- 60 - 62 |
| B+ 87 - 89 | C+ 77 - 79 | D+ 67 - 69 | F 59 or less |

Quizzes will be take home and cannot be made up. No test can be made up without prior arrangement with the instructor. All makeup tests will take place during final exam week.

## COLLEGE WITHDRAWAL POLICY
Course withdrawals are accepted up until the week before classes end. Specific dates are posted in the academic calendar and withdrawal forms are available online or at the Registrar's office. The withdrawal does not have to be signed by the instructor but it is strongly recommended that you speak with your instructor before withdrawing. If you are receiving financial aid you must contact their office for approval before withdrawing. If necessary, you can withdraw over the phone by calling the Registrar's Office at 860-892-5756.

## DISABILITIES STATEMENT
If you have a hidden or visible disability which may require classroom or test-taking modifications, please see me as soon as possible. If you have not already done so, please be sure to register with Chris Scarborough.

## ACADEMIC INTEGRITY POLICY
All students are expected to demonstrate their knowledge of the material on each quiz and test. Any student caught cheating will receive a zero on that assignment.

## CLASS CANCELATION POLICY
If class is canceled by the instructor a notice will be placed on the classroom door. If time permits, the class will be notified by email.

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**COURSE OUTLINE** (subject to change)

| Date | Chapters (Sections) covered |
|------|------------------------------|
| 1/23 | Ch. 2.1, 2.2 |
| 1/28 | Ch. 2.3, 2.4 |
| 1/30 | Ch. 3.1, 3.2 |
| 2/4  | Ch. 3.2, 3.3 |
| 2/11 | Ch. 3.4 |
| 2/13 | Review |
| 2/18 | Test #1 |
| 2/20 | Ch. 4.1, 4.2 |
| 2/25 | Ch. 4.3, 4.4 |
| 2/27 | Ch. 4.6, 4.8 |
| 3/4  | Ch. 5.1, 5.2 |
| 3/6  | Ch. 5.3 |
| 3/11 | Review |
| 3/13 | Test #2 |
| 3/25 | Ch. 6.1, 6.2 |
| 3/27 | Ch. 6.3 |
| 4/1  | Ch. 6.5 |
| 4/3  | Ch. 7.1, 7.2 |
| 4/8  | Ch. 7.3 |
| 4/10 | Review |
| 4/15 | Test #3 |
| 4/17 | Ch. 8.1, 8.2 |
| 4/22 | Ch. 8.3, 8.4 |
| 4/24 | Ch. 9.1, 9.2 |
| 4/29 | Ch. 9.3 |
| 5/1  | Ch. 9.4 |
| 5/6  | Ch. 9.5, 9.7 |
| 5/8  | Review |
| 5/13 | Test # 4 |
|      |  |
| 5/15 | Review for Final Exam |
| 5/20 | Final Exam |

## Course Outcomes

1. Construct and interpret graphs (histograms, bar graphs, stem and leaf plots) and tables (frequency and relative frequency) for sets of data.
2. Calculate and interpret 3 measures of center (mean, median and mode) and select the appropriate measure of center to use for the set of data presented.
3. Calculate and interpret 3 Measures of Dispersion (range, standard deviation and five-number summary) then select the appropriate Measure of Dispersion to use for the data presented.
4. Solve and interpret word problems using the z score to measure relative position(s).
5. Understand and use the definition of probability and the basic rules of addition, multiplication and counting to solve probability word problems.
6. Understand and use contingency tables to solve probability word problems.
7. Understand and apply the appropriate probability distribution (binomial, standard normal or normal) needed to solve probability word problems.
8. Explain what the Central Limit Theorem is and how it is used in Inferential Statistics.
9. Determine appropriate sample sizes necessary for estimating population means.
10. Understand and develop confidence intervals for estimating population means.
11. Understand and use Hypothesis Testing to test a claim about a population mean.

All students are required to maintain an online learning portfolio in Digication that uses the college template.