

**BERGEN COMMUNITY COLLEGE
DIVISION OF MATHEMATICS, SCIENCE AND TECHNOLOGY
DEPARTMENT OF MATHEMATICS**

COURSE SYLLABUS

MAT-150 STATISTICS I

COURSE DESCRIPTION: Statistics I is a study of frequency distributions, measures of central tendency and dispersion, probability, the normal distribution, sampling and sampling distributions, the central limit theorem, confidence interval estimation, hypothesis testing and analysis of bivariate data

CREDITS/HOURS: 3 credits, 3 hours

PREREQUISITE: MAT-040 or MAT-048 or equivalent by testing.

GENERAL EDUCATION COURSE: Yes

STUDENT LEARNING OBJECTIVES: **Upon successful completion of this course the student will be able to:**

1. Use data from various information sources to effectively evaluate and organize data. Create graphical displays of data and use the graphs to analyze the data.
2. Correctly utilize the appropriate statistical terminology in order to develop competency in recognizing, understanding, and reading statistical problems.
3. Compute measures of dispersion, central tendency, and relative positions.
4. Use the results of the Central Limit Theorem to construct and interpret a sampling distribution.
5. Analyze sample data in order to construct a confidence interval and make inferences based on the results.
6. Conduct a test of hypothesis by using information from various sources, then organizing and synthesizing the information to draw conclusions about the validity of a claim to draw conclusions about the validity of a claim.
7. Perform an analysis of bivariate data using linear correlation and linear regression techniques.

ASSESSMENT MEASURES: Each of the above listed student learning objectives will be assessed by,

1. Written assignments and/or quizzes.
2. Written examinations
3. Other, as announced by the instructor

COURSE GRADE: Students should refer to the instructor's grading policy which will be distributed during the first meeting of the class.

TEXTBOOK: Elementary Statistics, A Step by Step Approach, Bluman, 10th Edition, McGraw Hill Publisher

Each student *must* have their own *scientific* calculator.

COURSE CONTENT:

<u>TOPIC</u>	<u>CHAPTER</u>	<u>SECTIONS</u>
The Nature of Probability and Statistics	1	1-4
Frequency Distributions and Graphs	2	1-3
Descriptive Statistics	3	1-3
Probability and Discrete Probability Distributions *	4 5	1-5 1-3
Normal Probability Distributions	6	1-4
Estimation	7	1-4
Hypothesis Testing	8	1-6
Analysis of Bivariate Data – Correlation & Regression	10	1-3

* Optional – A maximum of three classes for the combination of these topics.

REFERENCES: Fanur, Mosteller, et al., Statistics: A Guide to the Unknown, Holden-Day.
Larson and Farber, Elementary Statistics, Pearson/Prentice-Hall
Richmond, Statistical Inference, Ronald Press.
Spiegel, Statistics, Schaum Publishing Co.
Weinberg and Schumaker, Statistics: An Intuitive Approach, Brooks/Cole

ELECTRONIC DEVICES: **The Department of Mathematics prohibits the use of cell-phones, PDA's, laptops, headphones, IPODs and other such devices in mathematics classes unless otherwise specified by the grading policy provided by the instructor at the beginning of the semester.**

FACULTY ABSENCE PROCEDURE: CLASS CANCELLATIONS may be found at www.bergen.edu/classcancellations
A list is also posted in a glass case near A-129, the main corridor on the first floor and in Ender Hall. If a cancelled class is not listed, it should be reported to the Department Office or the Adjunct Office (C-107).

WEBSITE: Go to www.bergen.edu/academics/academic-divisions-departments/mathematics for more information regarding the Mathematics Department.

STUDENT SUPPORT SERVICES:	Learning Assistance Center	Room: L-125	879-7489
	Math and Science Walk-In	Room: L-131	879-7489
	Office of Specialized Services	Room: L-115	612-5269