

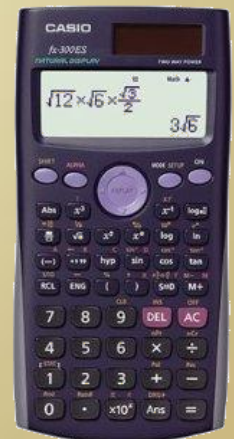
MA171

**Introduction to Probability
and Statistics**

Winter 2013

MA171 Syllabus

- Class Meeting Hours
 - Monday, Wednesday, Thursday, Friday
 - 10:00 – 10:50 AM, West Science 3803
- Instructor
 - Roxin Zhang, New Science Building 3013, rzhang@nmu.edu
 - Office Hours: MWRF 11am – 11:50 am and any time by appointments
- Computer and Calculator Requirements
 - A computer with Excel installed (mandatory)
 - A scientific calculator is needed for day-to-day work

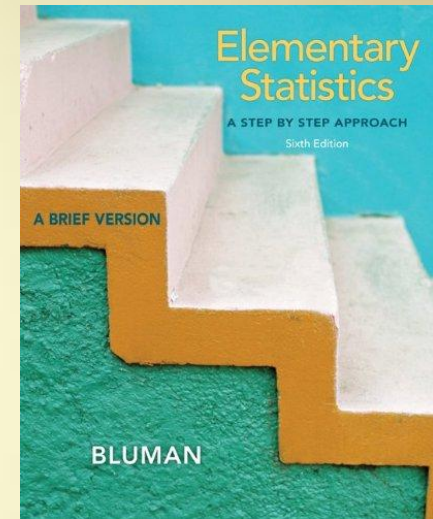


- Prerequisite

- A C- or better from MA103/104/105 or Recommendation from NMU Math Placement

- Text Book

- Elementary Statistics
– A Brief Version (4e)
by Allan G. Bluman



- Tests and Quizzes

- 5-6 Biweekly Quizzes or Projects (drop one lowest quiz)
- One Midterm (possible multiple choice)
- One final exam (possible multiple choice), Tuesday April 30, 10:00 – 11:50am

- Grading (Weighted average)

- Quizzes and Projects 50%
- Midterm 20%
- Final Exam 25%
- Attendance 5%

The grade is given based on the weighted average of the above:

A 95%, A- 90%, B+ 85%, B 80%, B- 75%, C+ 70%, C 65%, C- 60%, D+55%
etc.

- Homework

- Homework will be assigned daily and you must work on the assigned problems to understand the concepts.

- **Liberal Studies Requirement**

This course satisfies the Formal Communication Studies requirement.

This course is designed to introduce students to the ways in which information and ideas are expressed using a communication system other than English. Such courses should foster the student's ability to conceptualize and communicate in an orderly, rational manner.

Characteristics of a communication system include: 1) possession of a grammar; 2) operation from an established set of rules; 3) reasoning properties such as deduction, inference drawing and problem solving. This includes courses in languages and those in which the central focus of the course is on statistics, computers or formal logic.

● **DISABILITY SERVICES**

- If you have a need for disability-related accommodations or services, please inform the Coordinator of Disability Services in the Disability Services Office by: coming into the office at 2001 C. B. Hedgcock; calling 227-1700; or e-mailing disserv@nmu.edu.
- Reasonable and effective accommodations and services will be provided to students if requests are made in a timely manner, with appropriate documentation, in accordance with federal, state, and University guidelines.

What is Statistics?

Even though you may not have realized it, you probably have made some statistical statements in your everyday conversation or thinking. Statements like the following are actually statistical in nature.

Jenny: “I sleep for about eight hours each night on average.”

Thomas: “If I spend more time to study, I will do better on the tests and understand the materials more.”

Note: Each of these statement:

- a. Made an assertion about the things happening in the future;
- b. Was based on things happened in the past;
- c. Will not be 100% true so there is some kind of likelihood for it to be true;

Statistics

Statistics is a discipline which is concerned with:

- designing **experiments** and other **data** collection,
- summarizing information to aid understanding,
- drawing **conclusions** from data, and
- estimating the present or predicting the **future**.
- The two statements at the beginning illustrate some of these points.
- In making **predictions**, Statistics uses the companion subject of Probability, which models **chance** mathematically and enables calculations of chance in complicated cases.

Course Contents

- Chapter 1-6: Descriptive Statistics
 - Nature of Probability and Statistics
 - Frequency Distributions and Graphs (Brief)
 - Data Description (Central Tendency, Variation and Position)
 - Probability and Counting Rules
 - Discrete Probability Distributions
 - Normal Distributions
- Chapter 7-11: Inferential Statistics (more computer)
 - Confidence Intervals
 - Hypothesis Testing
 - Two-sample Tests
 - Correlation and Regression
 - Chi-Square and Analysis of Variance (ANOVA)