

OFFICIAL SYLLABUS
STAT 244 – STATISTICS

(Adopted Fall 2003)

Catalog Description: Summarizing data, including distributions, change and growth, relationships. Basics of survey design and experimental design. Inferential statistics, including confidence intervals and hypothesis testing. Credit may not be granted for both STAT 107 and STAT 244. Prerequisite: MATH 120.

Textbook: *Introduction to the Practice of Statistics*, 4th Edition, by David Moore and George McCabe

Course Outline and Topics

Chapter 1 – Looking at Data – Distributions

1.1 Displaying Distributions with Graphs; 1.2 Describing Distributions with Numbers; 1.3 The Normal Distributions

Chapter 2 – Looking at Data – Relationships

2.1 Scatterplots; 2.2 Correlation; 2.3 Least-Squares Regression; 2.4 Cautions about Regression and Correlation; 2.5 The Question of Causation

Chapter 3 – Producing Data

3.1 First Steps; 3.2 Design of Experiments; 3.3 Sampling Design; 3.4 Toward Statistical Inference

Chapter 4 – Probability – The Study of Randomness

4.1 Randomness; 4.2 Probability Models; 4.3 Random Variables; 4.4 Means and Variances of Random Variables

Chapter 5 – Sampling Distributions

5.1 Sampling Distributions for Counts and Proportions; 5.2 The Sampling Distribution of a Sample Mean

Chapter 6 – Introduction to Inference

6.1 Estimating with Confidence; 6.2 Tests of Significance; 6.3 Use and Abuse of Tests

Chapter 7 – Inference for Distributions

7.1 Inference for the Mean of a Population; 7.2 Comparing Two Means

Chapter 8 – Inference for Proportions

8.1 Inference for a Single Proportion; 8.2 Comparing Two Proportions

Chapter 9 – Analysis of Two-Way Tables

9.1 Data Analysis for Two-Way Tables; 9.2 Inference for Two-Way Tables

Any instructor should cover all of the material specified, additional sections are optional.