

AP Statistics

Full Year Course

Text and Calculator:

A calculator capable of doing statistical tests is required. The TI-83 family is the most popular and is highly recommended.

The required text is: **The Practice of Statistics, TI-83/89 Graphing Calculator Enhanced** -- Dan Yates, David S. Moore, Daren S. Starnes
Second Edition, 2003, W.H. Freeman and Company, ISBN 0-7167-4773-167

Course Outline:

Semester 1

PART I. ORGANIZING DATA: LOOKING FOR PATTERNS AND DEPARTURES FROM PATTERNS

1. Exploring Data
 - 1.1 Displaying Distributions with Graphs
 - 1.2 Describing Distributions with Numbers

2. The Normal Distributions
 - 2.1 Density Curves and the Normal Distribution
 - 2.2 Standard Normal Calculations

3. Examining Relationships
 - 3.1 Scatterplots
 - 3.2 Correlation
 - 3.3 Least-Squares Regression

4. More on Two-Variable Data
 - 4.1 Transforming Relationships
 - 4.2 Cautions about Correlation and Regression
 - 4.3 Relations in Categorical Data

PART II. PRODUCING DATA: SAMPLES, EXPERIMENTS, AND SIMULATIONS

5. Producing Data
 - 5.1 Designing Samples
 - 5.2 Designing Experiments
 - 5.3 Simulating Experiments

PART III PROBABILITY: FOUNDATIONS OF INFERENCE

6. Probability: The Study of Randomness
 - 6.1 The Idea of Probability

6.2 Probability Models
6.3 General Probability Rules

7. Random Variables
7.1 Discrete and Continuous Random Variables
7.2 Means and Variances of Random Variables

Semester 2

8. The Binomial and Geometric Distributions
8.1 The Binomial Distributions
8.2 The Geometric Distributions

9. Sampling Distributions
9.1 Sampling Distributions
9.2 Sample Proportions
9.3 Sample Means

PART IV. INFERENCE: CONCLUSIONS WITH CONFIDENCE

10. Introduction to Inference
10.1 Estimating with Confidence
10.2 Tests of Significance
10.3 Making Sense of Statistical Significance
10.4 Inference as Decision

11. Inference for Distributions
11.1 Inference for the Mean of a Population
11.2 Comparing Two Means

12. Inference for Proportions
12.1 Inference for a Population Proportion
12.2 Comparing Two Proportions

13. Inference for Tables: Chi-Square Procedures
13.1 Test for Goodness of Fit
13.2 Inference for Two-Way Tables

14. Inference for Regression
14.1 Inference about the Model

Week by Week Course Breakdown:

Semester 1

	<ul style="list-style-type: none">• Submit your course schedule• Discussion - Introducing Yourself• Self Check 1• Assignment 1• Self Check 2• Assignment 2• Self Check 3• Mult Choice 1• Self Check 4
	<ul style="list-style-type: none">• Self Check 5• Self Check 6• Assignment 3• Mult Choice 2• Self Check 7• Discussion - Unit 1 Wrap Up• Exam 1 MC• Exam 1 FR
	<ul style="list-style-type: none">• Discussion - What does it mean to be normal?• Self Check 8• Assignment 4• Self Check 9• Mult Choice 3• Self Check 10• Self Check 11• Self Check 12
	<ul style="list-style-type: none">• Assignment 5• Self Check 13• Mult Choice 4• Discussion - Unit 2 Wrap Up• Exam 2 MC• Exam 2 FR• Discussion - Correlation?• Self Check 14
	<ul style="list-style-type: none">• Self Check 15• Mult Choice 5

	<ul style="list-style-type: none"> • Assignment 6 • Self Check 16 • Self Check 17 • Mult Choice 6 • Assignment 7 • Discussion - Unit 3 Wrap Up
	<ul style="list-style-type: none"> • Exam 3 MC • Exam 3 FR • Discussion - Causation • Self Check 18 • Assignment 8 • Self Check 19 • Self Check 20
	<ul style="list-style-type: none"> • Mult Choice 7 • Self Check 21 • Assignment 9 • Discussion - Unit 4 Wrap Up • Exam 4 MC • Exam 4 FR • Discussion - Surveys
	<ul style="list-style-type: none"> • Self Check 22 • Self Check 23 • Mult Choice 8 • Assignment 10 • Self Check 24 • Self Check 25 • Self Check 26
	<ul style="list-style-type: none"> • Assignment 11 • Discussion - Unit 5 Wrap Up • Exam 5 MC • Exam 5 FR • Discussion - Lottery • Self Check 27 • Self Check 28
	<ul style="list-style-type: none"> • Mult Choice 9 • Self Check 29 • Self Check 30

	<ul style="list-style-type: none"> • Assignment 12 • Self Check 31 • Discussion - Unit 6 Wrap Up • Exam 6 MC
	<ul style="list-style-type: none"> • Exam 6 FR • Discussion - Choices • Self Check 32 • Mult Choice 10 • Self Check 33 • Assignment 13 • Self Check 34
	No tasks due
	<ul style="list-style-type: none"> • Mult Choice 11 • Self Check 35 • Self Check 36 • Mult Choice 12 • Discussion - Unit 7 Wrap Up • Exam 7 MC • Exam 7 FR

Semester 2

	<ul style="list-style-type: none"> • Discussion - Binomial Discussion • Self Check 1 • Self Check 2 • Mult Choice 1 • Self Check 3 • Mult Choice 2
	<ul style="list-style-type: none"> • Assignment 1 • Self Check 4 • Mult Choice 3 • Assignment 3 • Discussion - Unit 1 Wrap Up • Unit 1 Exam MC
	<ul style="list-style-type: none"> • Unit 1 Exam FR • Discussion - Sampling • Self Check 5

	<ul style="list-style-type: none">• Self Check 6• Self Check 7• Assignment 2
	<ul style="list-style-type: none">• Assignment 3• Mult Choice 4• Self Check 8• Discussion - Unit 2 Wrap Up• Unit 2 Exam MC• Unit 2 Exam FR
	<ul style="list-style-type: none">• Discussion - Inference• Self Check 9• Self Check 10• Mult Choice 5• Self Check 11• Assignment 4
	<ul style="list-style-type: none">• Assignment 5• Timed Writing• Self Check 12• Assignment 6• Discussion - Unit 3 Wrap Up• Unit 3 Exam MC
	<ul style="list-style-type: none">• Unit 3 Exam FR• Discussion - Shoplifting• Self Check 13• Assignment 7• Assignment 8• Self Check 14
	<ul style="list-style-type: none">• Mult Choice 6• Self Check 15• Mult Choice 7• Assignment 9• Discussion - Unit 4 Wrap Up• Unit 4 Exam MC
	<ul style="list-style-type: none">• Unit 4 Exam FR• Discussion - The Polling of America• Self Check 16

	<ul style="list-style-type: none"> • Self Check 17 • Mult Choice 8 • Assignment 10
	<ul style="list-style-type: none"> • Self Check 18 • Self Check 19 • Assignment 11 • Discussion - Unit 5 Wrap Up • Unit 5 Exam MC • Unit 5 Exam FR
	No tasks due
	<ul style="list-style-type: none"> • Discussion - Does Order Matter? • Self Check 20 • Assignment 12 • Self Check 21 • Mult Choice 9 • Assignment 13
	<ul style="list-style-type: none"> • Discussion - Unit 6 Wrap Up • Unit 6 Exam MC • Unit 6 Exam FR • Discussion - Election Prediction from the Dismal Science • Self Check 22 • Self Check 23
	<ul style="list-style-type: none"> • Mult Choice 10 • Assignment 14 • Discussion - Unit 7 Wrap Up • Final Exam MC1 • Final Exam MC2 • Final Exam FR