STT 1600
DEPARTMENTAL SYLLABUS

(Revised 1/2023)

TEXT: Elementary Statistics Using Excel, Sixth Edition by Mario F. Triola, (Pearson Addison Wesley).
COMPUTER LAB: 9 to 10 Excel labs during the semester.
WRIGHT STATE CORE: STT 1600 is a Core Element 2 (Mathematics) course
COORDINATOR: Julan Al-Yassin

Chapter/Section		Textbook Problems	Comments
1.1-1.3 Introduction	1.1 1.2 1.3	1,2,5,6,10,11 2,5,12,14,17,21,22,24,25 9,11,12,13,21,22	Intro, statistical thinking, types of data, sampling
2.1-2.4 Graphs	2.1 2.2 2.3 2.4	1,2,3,8,9,11 1,3,4,5,7 1,5,7,12,14 2,5,9	Section 2.3 give examples of dotplots, scatterplots, and time series
3.1-3.3 Descriptive Statistics	3.1 3.2 3.3	3,4,6,15,23 1,6,15,41,42 1,2,3,4,7,10,14,17,21,22,29	Skip mid-range, skip formula 3-5 and use only formula 3-4 for std dev., skip coefficient of variation, skip Chebyshev's Theorem
4.1-4.4 Probability	4.1 4.2 4.3 4.4	5,6,13,14,21-24,28-30,33,34 1,2,5,9-14 3-5,13-16,17-20 2,5-8,10,11,22,23,29	
5.1-5.2 Discrete Distributions	5.1 5.2	1,2,3,6,9,12,18 2,7,8,21-24,27	Introduce random variables and illustrate with binomial distribution Omit Poisson distribution
6.1-6.4 Normal Distribution	6.1 6.2 6.3 6.4	3-8,17,22,25,36-38,45 2,3,13-15,17,18,21,22 4,6 3,5-7	Use Excel to compute normal probabilities
7.1-7.2 Confidence Intervals	7.1 7.2	2,13,14,17,19 9-14	Interpret C.I., skip determining sample size n
8.1-8.3 Hypothesis Testing	8.1 8.2 8.3	2,3,6-8,14,15,17-19,21-23,25,26 1,2,9,10,13,15,16,23,26 5,7,13-17	Skip power
9.2 2-Sample t-Test	9.2	1,2,5,6,8-10	Part 1 of section 9.2 only
10.1-10.2 Correlation and Regression	10.1 10.2	1-11 (Skip hypothesis testing for correlation – just plot data and compute r) 1-8	Skip Part 2 of section 10-1. Use the formula on page 507 for correlation r. Use a handout to illustrate correlation and regression examples.
12.1 One-Way ANOVA	12.1	3-7,9,10	Give printout of an ANOVA example and multiple comparisons
11.2 (Optional) Chi-Square Test	11.2	6-9,11	2x2 tables only (1 df)

It is also recommended that the students are shown at least one journal article with an emphasis on how to interpret the statistical analysis and in particular, p-values. This can be made into a lab, group, or homework assignment, at the Instructor's discretion.

UNIVERSITY OBJECTIVE AND CORE GOALS

This course will meet university objective 2: "demonstrate mathematical literacy". The Core learning outcomes in Element 2 that we will meet are below.

2. Mathematics *The foundational skills required to use and interpret mathematics and statistics*	a. Identify the various elements of a mathematical or statistical model b. Determine the values of specific components of a mathematical/statistical model or relationships among various components c. Apply a mathematical/statistical model to a real-world problem d. Interpret and draw conclusions from graphical, tabular, and other numerical or statistical representations of data e. Summarize and justify analyses of mathematical/statistical models for problems, expressing solutions using an appropriate combination of words, symbols, tables or graphs

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