**Course Module**

Stephen F. Austin State University

STAT 5340-001 Statistical Analysis I

Bush (Math) 214 TR 3:30-4:45PM

ZOOM Mtg#: 996 0147 9317; PC: 891241

**Instructor**

Robert (Bob) Henderson

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BA in Math & History – Trinity University, San Antonio, TX (1978)

MS in Mathematical Statistics – Southern Methodist University, Dallas, TX (1980)

PhD in Mathematical Statistics – Southern Methodist University, Dallas, TX (1982)

MBA – University of Delaware, Newark, DE (1988)

Worked in industry for 27 years, 6 years with DuPont as internal consultant for a variety of businesses and staff groups, then 21 years in the semiconductor business, most with a supplier of a key enabling material for semiconductor production, and later with Samsung working primarily with engineers in process control efforts. The entire 27 years included many training delivery, as well as course development activities related to basic statistics, experimental design, and process control systems. Started at SFA in the fall of 2009.

Teaching Hours – TR 9:30-10:45AM, 2:00-3:15PM, 3:30-4:45PM

Office Hours – MW 10:00 to 11:30AM, 2:00 to 3:30PM, and by appointment. During these times, you can also send me an e-mail at the e-mail address above, and I will send you back a ZOOM Meeting Number and Passcode.

## Course Goals

This course ideally will provide students with an introduction to and understanding of the most basic statistical analysis procedures.

## Text

None.

**Computer Access/Skills**

This course is largely applied in nature; consequently, it will be helpful to have some facility in working with data using a computer. The course work will be greatly facilitated with the use of a statistical software package (R is one such package that is freely available and JMP is another that is available via MySFA). Knowledge of and ability to utilize Microsoft Office programs – Excel, Word, and Powerpoint – will also often be beneficial. Almost all workplaces expect some skills in working with these packages, and use them for reporting and/or presentation purposes.

## Prerequisites

MATH 1342 or equivalent, while desirable, it is not entirely necessary.

**Course Syllabus**

The official course syllabus can be found at:

<https://math.sfasu.edu/math/docs/syllabi/STAT5340Syllabus.pdf>

**Course Overview**

Week 1-2: Introduction and Descriptive Statistics (including Workshop 1)

Week 2-4: Probability and Probability Distributions (including Class Exercise)

Week 4-5: Inferences about Population Central Values

Week 5-6: Inferences about Two Population Central Values

Week 6-7: Inferences about Population Variances (including Workshop 2)

Week 7-8: Inferences about >2 Population Central Values

Week 8-9: Multiple Comparisons (including Workshop 3)

Week 9-10: Categorical Data Analysis (including Class Exercise)

Week 10-11: Linear Regression and Correlation

Week 11-13: Multiple Regression and the General Linear Model

Week 13-14: Additional Regression Topics (including Workshop 4)

## Grading

Grades will be determined by the following:

Workshop/Class Exercises 70%

Mid-Term 10%

Final 20%

**About Assignments**

There will be 5 to 6 in-class workshops/class exercises. Students will work in small groups on specific assigned projects, and then present their results/reports to the class. The presentations will be evaluated by the instructor. In addition, students will be asked to evaluate the contribution of their fellow group members (colleague evaluations). Finally, if possible, students will be asked to evaluate the presentations of other groups (peer evaluations).

**Attendance**

This is a graduate level class, and I do not expect attendance issues. Since a significant proportion of the evaluation is based on in-class activities, missing a class is not desirable. If you know you are going to have to miss a specific class, please let me know via e-mail or phone **prior** to the class.