This course is designed to introduce students to statistical thinking. It deals with simple graphical descriptions, various numerical descriptive measures, the notion of probability, discrete and continuous random variables, and sampling distributions. Students will also examine aspects of hypothesis testing involving one or two populations. Throughout the course, students should emphasize the understanding of statistical concepts—what these concepts involve and when they should or should not be used. Finally, students are expected to demonstrate competence in the use of statistical programs.

TEXT:


Statistical Program: This text is accompanied by a statistical program entitled, Minitab. This program is simple to use, and students will find it helpful. It may, for example, reduce the time spent working through problems and allow students to concentrate on the nature of the result. While a statistical program is helpful (and any statistical program will do), students must concentrate on both the nature of the calculation and the interpretation of the results. Thus, once the nature of the calculation is understood, the use of a statistical program is encouraged.

Assignments:

Week 1: Introduction to the course, Defining Statistics, Chp 1

Week 1: Chapter 2, Descriptive Statistics, Assigned Problems.

Week 2: Chapter 3, Descriptive Statistics, Assigned Problems

Week 2: Chapter 4, Intro to Probability, Assigned Problems.

Week 3: Chapter 4, Intro to Probability, Assigned Problems.

Week 3: Chapter 4, Intro to Probability, Assigned Problems.

Week 4: Exam, Chp 1,2,3,4, Problems Due
Week 5: Chapter 5, Discrete Probability Distributions

Week 5: Chapter 5, Discrete Probability Distributions, Assigned Problems.

Week 6: Chapter 6, Continuous Probability Distribution

Week 6: Chapter 6, Continuous Probability Distribution Assigned Problems.

Week 7: Exam, Chapters 5 and 6 Problems Due.

Week 8: Chapter 7, Sampling and Sampling Distribution.

Week 8: Chapter 7, Sampling and Sampling Distributions Assigned Problems.

Week 9: Exam, Chapter 7, Problems Due

Week 10: Chapter 8, Interval Estimation.

Week 10: Chapter 8, Interval Estimation, Assigned Problems

Week 11: Exam, Chapter 8, All Problems Due.

Week 12: Hypothesis Testing: Single Sample, Chp 9


Week 13: Hypothesis Testing: Exam Assigned Problems Due

Week 14: Chapter 10, Statistical Inference.

Week 14: Chapter 10, Stat Inference.

Week 15: Exam, Chapter 10, Statistical Inference, Assigned problems due.

Evaluation:

The five examinations will be used to assign grades. Each of the five exams carries the same weight in determining the final grade for the course. In addition to the five exams,
students may gain up to five bonus points toward their final grade by completing all assigned problems and submitting them when due.

The grade distribution is as follows:

A: 92 - 100
B: 80 - 91
C: 70 - 79
D: 60 - 69
F: <69

Notes on the Course:

1. There is no secret to the successful completion of this course. It is simple. Do the assigned problems. Experience in previous classes demonstrates that students who do the assigned problems do well in the course. Conversely, students who do not do the assigned problems, do not do well in the course. To encourage you to do the problems, you may earn up to five bonus points for the successful completion of them. There is no penalty for those students who chose not to do the problems.

2. Doing the problems is essential to understanding statistical concepts. But another very important strategy to help you do well in the course is to form study groups with your fellow students. Research on small study groups has shown that the members of such groups tend to score much higher on exams than those who are not members. Further, you will find that the study group will be very important in helping each member complete the assigned problem.

3. The computing center has several statistical programs that you may use to solve the assigned problems. In working through the problems you will find that the computer program is a very efficient device for completing your assigned problems. In working with the program, you will save many, many hours of work and, in addition, improve your array of personal skills.

4. If you develop difficulty as we proceed through the course, the best approach is to ask questions, lots of questions. If you feel the need for additional discussion, see me during office hours or make arrangements to spend time with a statistical tutor who is available, free of charge, to students.

5. While the pace of the course is quite slow in the beginning weeks of the course, things pick up quite rapidly after that. This increased pace, in turn, will require more time and attention by you to the assigned problems.

6. All exams will be completed in the classroom. Students will be required to provide their own paper.

7. A calculator with statistical functions will be a necessity in this course. Any of the TI 30 series would be sufficient. Students must read the manual that accompanies the
calculator and be able to apply the statistical functions. This will enable students to quickly enter problem data and to display solutions. Proper use of the calculator, for example, could reduce the time spent on one problem from 15 minutes to approximately 2 minutes. Don't be foolish, learn how to use the calculator in a proper fashion!!!