Departmental Syllabus
Math 1830 -- Elementary Statistics

Textbook: The Basic Practice of Statistics (7th Edition), by David Moore, William Notz, and Michael Fligner

Prerequisites: MATH 10, 12 or 15 with a grade of “C-” or better or mathematics proficiency level of 10 or above.

Calculators: A scientific calculator (such as one of the TI-30 models) or a graphing calculator (such as the TI-83, 84, 85, 86 or the TI-Nspire with TI-84 keypad) is required. For a student who does not already own a graphing calculator, it is recommended that a purchase of a graphing calculator be delayed until after the first class meeting, when an instructor will provide specific calculator requirements for that class. Calculators with Computer Algebra Systems (CAS), (e.g. the TI-89, TI-92 and TI-Nspire with CAS keypad, or their equivalent), are not allowed in any math classes. On occasion, individual instructors may restrict the use of any type of calculator.

Software: Minitab will be used throughout the course.

Student Learning Outcomes: Students should be able to:
- identify and demonstrate appropriate sampling and data collection techniques;
- summarize data both graphically and numerically;
- choose an appropriate method of analysis;
- analyze data using either a hypothesis test or a confidence interval; and
- communicate the results of an analysis.

General Education Learning Outcomes: UW-Platteville students shall:
1-1 Recognize mathematical patterns to solve problems
1-2 Demonstrate ability to work with numbers, space and data
1-3 Construct articulate explanations using the language of each discipline being studied
1-9 Assess the plausibility of proposed solutions

Course Description: An introduction to statistical analytical methods including graphing distributions, numerical summaries, linear regression and correlation, the normal distribution, confidence intervals and hypothesis tests for means and proportions, analyzing two-way tables, and analysis of variance.

Chapters and Topics to be covered:
1. Picturing Distributions with Graphs
2. Describing Distributions with Numbers
3. The Normal Distributions
4. Scatterplots and Correlation
5. Regression
6. Two-Way Tables
7. Exploring Data: Part I Review
8. Producing Data: Sampling
9. Producing Data: Experiments
10. Data Ethics (Optional)
11. Producing Data: Part II Review
12. Introducing Probability
15. Sampling Distributions
16. Confidence Intervals: The Basics
17. Tests of Significance: The Basics
18. Inference in Practice
19. From Data Production to Inference: Part II Review

20. Inference about a Population Mean
21. Comparing Two Means
22. Inference about a Population Proportion
23. Comparing Two Proportions
24. Inference about Variables: Part IV Review

25. Two Categorical Variables: The Chi-Square Test
27. One-Way Analysis of Variance: Comparing Several Means

If you require an accommodation due to a disability, please make an appointment to see me as soon as possible to discuss arrangements for the accommodations. You will need a Verified Individualized Services and Accommodations (VISA) form from Services for Students with Disabilities.