STT 2640 Syllabus

I. **College/School:** College of Science and Mathematics  
   **Department:** Mathematics and Statistics

II. **Course Information**  
   **Course Title:** Elementary Statistics  
   **Course Abbreviation and Number:** STT 2640  
   **Course Credit Hours:** 4  
   **Course Cross Listing(s) Abbreviation and Number:**  
   Check (“x”) all applicable:  
   General Education Course __X__  
   Writing Intensive Course_____  
   Service Learning Course_____  
   Laboratory Course___X__  
   Ohio TAG (Transfer Assurance Guide) Course ______  
   Ohio Transfer Module Course__X__  
   Others (specify)

**Course Registration**

**Prerequisites:**  
MTH 1260 or WSU Math Level 4

**Corequisites:** None

**Restrictions:** None

III. **Course Learning Outcomes:**

1. Statistical thinking  
2. Basics of collecting and summarizing data  
3. Quantifying uncertainty – probability  
4. Fundamentals of statistical inference (estimation and hypothesis testing)  
5. Classic statistical inference techniques from t-test to regression

**WSU Core Learning Outcomes**  

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
IV. Suggested Course Materials (required and recommended)

Required:

V. Suggested Method of Instruction

Lecture and Lab

VI. Suggested Evaluation and Policy

Homework and quizzes, two exams during the quarter, weekly lab reports, and a comprehensive final exam

VII. Suggested Grading Policy

Test 1 20%, Test 2 20%, Quizzes and homework 25%, Lab reports 10%, Final exam 25%

VIII. Suggested Assignments and Course Outline

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<tr>
<th>Week</th>
<th>Topic</th>
<th>Assignment</th>
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| 1    | Statistics, Data, and Statistical Thinking (1.1-1.5)  
Graphing Data (2.1-2.2) |                      |
| 2    | Measures of Central Tendency and Variability (2.4-2.7) |                      |
| 3    | Probability (3.1-3.7) |                      |
| 4    | Review and Exam I  
Discrete Random Variables (4.1-4.3) |                      |
| 5    | Binomial Distribution (4.4)  
Continuous Distributions (5.1-5.2) |                      |
| 6    | Normal Distribution (5.3)  
Sampling Distributions (6.1) |                      |
| 7    | Central Limit Theorem (6.3)  
Estimation and Confidence Intervals (7.1 – 7.3) |                      |
| 8    | Hypothesis Testing (8.1-8.3) |                      |
| 9    | Review and Test 2  
Small Sample Tests about the Mean (8.4) |                      |
<p>| 10   | Two Sample Inference (9.1-9.3) |                      |</p>
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| 11 | Analysis of Variance  
(10.1 – 10.2) |
| 12 | Simple Linear Regression  
(11.1 – 11.7) |
| 13 | Categorical Data Analysis  
(13.1 – 13.3) |
| 14 | Wrap-up and Review |

**IX. Other Information**