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Syllabus For Math 1530
Fall 2024 PROBABILITY AND STATISTICS
East Tennessee State University, 3 credit hours

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INSTRUCTORS: JOHN HICKS
EMAIL: hicksj2@mail.etsu.edu
OFFICE HOURS: MWF 9:15-12:30 Room 308C, or by
appointment
TEXT: David S. Moore; William I. Notz; Michael A. Fligner,
      Achieve for *The Basic Practice of Statistics*
      ISBN for students: 9781319434830

GOALS & OBJECTIVES FOR THIS COURSE:

To develop a basic understanding of probability and statistics and how they relate to the world around us. Topics are illustrated by using current newspaper, magazine articles, and the world wide web.

See the **Chapter Summary** sections at the end of each chapter or the course Web page; these, with appropriate deletions, serve as specific course objectives. In addition, the following topics will be incorporated into the course (See: Utts, J. (2003), "What Educated Citizens Should Know About Statistics and Probability," *The American Statistician*, 57, 74-79.) Seven topics that she lists that are important are the following

1. When can it be concluded that a relationship is one of cause and effect and when it cannot.

2. The difference between statistical significance and practical significance, especially when using large sample sizes.

3. The difference between finding "no effect" or "no difference" and finding no statistically significant effect or difference, especially when using small sample sizes.

4. Common sources of bias in surveys and experiments.

5. The idea of coincidences and seemingly rare events are not uncommon because there are so many possibilities.

6. Conditional probability in one direction is confused with the conditional probability in the other direction.

7. Understanding that variability is natural, and that "normal" is not the same as "average."

Web sites for course resources

- D2L: `https://elearn.etsu.edu`
  For notes and news items posted for each class meeting, as well as, supplemental material.

- Minitab Web-App Potentially the easiest way to access Minitab is through `https://app.minitab.com`. Please see guide posted on D2L for more information.

- Website associated with textbook: `https://achieve.macmillanlearning.com/start`

TECHNOLOGY REQUIRED OF STUDENTS:

- MINITAB, a statistical software package, will be introduced and used in the class. It is a spread sheet format software to do statistical analysis with. It will be used quite frequently through the course.

- A calculator that does basic math is sufficient.

PREREQUISITE:

Two years of high school algebra

TUTORING:

Please never hesitate to send me an email for any questions you may have and I will respond to you as quickly as possible. I will post notes on D2L for each chapter and have videos posted as well to help guide you.

- **Center for Academic Achievement (CFAA):** Provides free individual tutoring seven days a week. Visit their website (`http://www.etsu.edu/uged/cfaa/default.aspx`) for instructions about how to schedule and participate in an online tutoring session. For assistance you can contact their front desk on the first floor of the Sherrod Library in room 144 via phone (423-439-7111) or email (learning@etsu.edu).

- Please check with services that may apply to you in terms of tutoring such as disability services, athletics, ect., .

Text Package

- David S. Moore; William I. Notz; Michael A. Fligner, Achieve for The Basic Practice of Statistics.

- This package contains Achieve access code which includes standard interactive ebook, extensive resources and is available via the prior website posted above and on D2L.

Evaluation for the Course

The course will be based out of 1000 points summarized below.

- A Comprehensive departmental final examination will be administered. A grade of 40% must be meet on this final. Failure to meet this requirement will constitute an automatic Failing Grade for the Course. The Final will count as 200 points for your final grade.

- Three chapter tests worth 100 points a piece. See Schedule for dates. These exams will be posted on D2L.

- A Capstone assignment that will be valued at a total of 100 points, where you will be asked to demonstrate your knowledge of Minitab and how it applies to the material covered in the course. I will give you examples in class and labs to help with this program.

- Quizzes through Learning Curve found through Achieve for 50 points. Each quiz is worth approximately 2.5 points and there should be no

time commitment and unlimited attempts. These quizzes will all be
due by Finals Week.

- A total of 350 points will be determined by a series of 10 Achieve
  Homework assignments worth 35 points each. These assignments will
  be graded by taking a 2% penalty for every new attempt at a question,
  but unlimited attempts are given per question. Just never "Give Up"
  on a question or it will not allow you to retake the question.

- **Bonus Points:** Bonus points will be awarded through a series of
  Minitab Activities through Acheive. There are a total of 10 Minitab
  Activities up to 5 points each for a total of 50 possible points.

New Attachment

https://www.etsu.edu/curriculum-innovation/syllabusattachment.php

Grading Scale for the Course

The grade will be based on a possible 1000 points (see below))

A 950-1000	A- 900-949	B+ 880-899	B 820-879
B- 800-819	C+ 780-799	C 720-779	C- 700-719
D+ 650-699	D 600-649	F Less Than 600	