

**Instructor:** John Lindhe

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**Office Hours:** M, W, Th: 12-1, Tu: 2-3 or by appointment

**Text:** Statistics by Freedman, Pisani, Purves (4th edition)

**Outline:** The aim of the course is to introduce the student to the statistical method of thinking and to gain an appreciation of the role of statistics in the world today. This is not a how-to manual course, with a lot of statistical calculations. It is a course to enable the student to develop adequate insight into the concepts and limitations of statistical techniques. The student will then be better prepared to read and interpret articles involving statistics whether in journals or newspapers.

The course is divided into three main sections.

I. Collecting Data - how do you collect data whether it is a poll, survey or experimental program?

II Organizing Data - once you have the data how do you present it? We will investigate the one and two variables cases.

III Conclusions from data - what inferences can you draw from the sample to the population.

The materials we will cover will depend on available time but might include Chapters 1-5, 8-13, 16-21, 23, 24, 26, 27, and 29. We might also go over material that is not in the text. This material includes collecting data, correlation and regression, basic probability, confidence intervals, and hypothesis testing.

**Calculator:** You will need at least a basic calculator (you will need a square root key).

**Grades:**

Papers: 15%

Tests and Quizzes: 45%

Final (cumulative): 40%

**Attendance:** If you miss a class, you are responsible for learning any material you missed and for keeping informed about any announcements in class.

**Final:** The final will be cumulative. The date for the final has been tentatively set for December ?. The date of the final may change and you should be prepared to be on campus until the last day of final's week. **You will not be able to take the final at a separate time unless you have a legitimate conflict** (This would include having another final scheduled at the same time or three finals on the same day. It would NOT include early travel plans.)

**If you have any concerns about the course or Instructor:** You should first try to resolve it with me. If this does not resolve the issue, I will direct you to someone who can.

**Withdrawing:** The last day to drop a course without a W grade is Friday September 29. The last day to drop a course with a W grade is Friday November 20, for this grade you will have to see your instructor.

**Tutoring:** Free tutoring is available in 540B NI starting Monday September 21 (Mon – Wed: 10am- 9 pm, Thurs: 10am - 6 pm, Fri: 10am -1 pm). Tutoring is done on a first come first served basis.

This syllabus is subject to change. You are responsible for changes announced in class.

**Chapters 1-2: Experiments and Observational Studies**

p20: 1-13

p24: 1, 4-7, 9-11

**Chapter 3: The Histogram**

p33: 1, 3, 8

p38: 1, 2

p41: 1, 4

p44: 1, 2

p50: 2, 4, 11, 12

**Chapter 4: Numerical Summary Statistics**

p72: 1, 2, 5-7, 11

p74: 1, 3, 5, 9

**Chapter 5: The Normal Distribution**

p84: 1, 3

p88: 1, 2

p92: 1-3

p93: 1-4, 7, 8

**Chapter 8: Correlation**

p128: 1,2,5,6

p134: 1

p134(rev.): 1,3,5,7,9,11,12

**Chapter 9: More About Correlation**

p143: 1-10

p148: 1,4

p149: 1,2

p152: 2-5

p154: 3,5-8, 10, 11

**Chapter 10: Regression**

p161: 2,4

p174: 1-3

p176: 2-5,7-9

**Chapter 12: The Regression Line**

p207: 2,3

p213: 1-3,5,9

**Chapter 13: Probability**

p226: 4

p227: 1, 3, 4

p229: 1, 2, 7

p234: 1, 4, 8, 9

**Chapter 16: The Law of Averages**

p285: 1, 3, 5, 7, 8

**Chapter 17: Expected Value and Standard Error**

p290: 1, 3-6

p293: 1, 2, 4, 5

p296: 1,2

p299: 1-3

p303: 1, 2, 3, 6, 7

p304: 1-4, 7, 11

**Chapter 19: Samples**

p349: 2, 4, 7-9, 12

p351: 2, 3, 6, 12

**Chapter 20: Chance Errors in Sampling**

p361: 2, 4

p366: 1, 2

p370: 1, 4

p371: 1, 2, 5, 6, 9-12

**Chapter 21: The Accuracy of Percentages**

p383: 2

p386: 3, 6

p388: 1

p391: 1, 2, 4

**Chapter 23: The Accuracy of Averages**

p413: 2, 3, 5

p421: 6, 7

p425: 1, 3, 6

**Chapter 26: Tests of Significance**

p481: 1, 2, 4

p482: 1, 2

p486: 6, 7, 10

p494: 1, 6, 7

p495: 2, 4, 5, 7, 8

**Chapter 27: More Tests for the Average**

TBA