Math 130 Introductory Statistics 3 credits, Spring, 2010
Section 2: MWF 9:00 - 9:50 MC 314
Section 3: MWF 2:10- 3:00 MC 314
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Catalog Course Description: An introductory course which deals with the organization and processing of various types of data, normal and binomial distributions, estimation theory, hypothesis testing, correlation and regression, and some nonparametric tests. Prerequisite: acceptable placement score or grade of C or higher in Math 001.

Text: Elementary Statistics by Mario Triola, 11th edition, Addison-Wesley, 2010.

Core Abilities

1. Thinking: Students engage in the process of inquiry and problem solving that involves both critical and creative thinking.

A. Reason deductively by learning general principles which are then applied to specific problems.

B. Reason inductively by studying examples, seeing the common characteristics, and broadening the solution to the generic case.

C. Learn to use the statistical process as one of the means of answering a question or supporting a position.

This ability is assessed by evaluating performance on exams and quizzes where students use skills acquired to solve problems.

2. Life Value Skills: Students analyze, evaluate and respond to ethical issues from an informed personal value system.

A. Learn of some classic examples of the misuse of statistics and its consequences.

B. Acquire an appreciation for the importance of honesty in the presentation of all (not just favorable) outcomes of statistical research.

This ability is assessed by evaluating performance on pertinent exam and quiz questions relating to the chapter covering misuse of statistics, and on the course project where the students will report the outcome of their project, regardless of the favorability of the results based on the data collected.

3. Communication Skills: Students communicate orally and in writing in an appropriate manner both personally and professionally.

A. Read text and reference materials outside of class.

B. Observe examples and discusses questions and solutions in class.

C. Communicate solutions to statistical problems in writing on assignments, quizzes, exams, and course project in appropriate statistical format.

This ability will be assessed using a combination of evaluation of performance on exams, quizzes, oral in-class contributions, and the course project write-up.

General Course Objectives: This “consumer-oriented” course is designed to cause students to learn basic concepts in descriptive and inferential statistics, and introductory probability.

Students demonstrate knowledge of these concepts by solving numerous assigned homework problems, and by providing written solutions to exam problems in accepted statistical format.

References: Rossman and Chance. Workshop Statistics, Springer-Verlag.
Auslander, Louis et al. Mathematics Through Statistics, Williams and Wilkens.
De Santo, Carmine et al. Statistics Through Problem Solving, Mathematics Alternatives Inc.
Kimble, G.A. How to Use and Misuse Statistics, Prentice-Hall.
Moore, David. Statistics - Concepts and Controversies, Freeman.
Moore and McCabe. Introduction to the Practice of Statistics, Freeman.
Notter, Lucille. Essentials of Nursing Research, Springer.
Phillips, David. Basic Statistics for Health Science Students, Freeman.
Reichman, W.J. Use and Abuse of Statistics, Penguin.
Williams, Fredrick. Reasoning with Statistics, 2nd ed, HRW.
Ball, SPSS Student Laboratory Manual and Workbook, Addison-Wesley.

Content: Introduction: What is Statistics?
Descriptive Statistics
Ethics in Descriptive Statistics
Probability
Probability Distributions- Binomial
Normal Distribution
Interval Estimation
Sample Sizes
Hypothesis Testing
Linear Correlation and Regression
Multinomial Experiments and Contingency Tables
Analysis of Variance
Non-parametrics (if time permits)

Grading:	4 exams	400 points
	quizzes/homework	100 points
	comprehensive final exam	100 points (minimum)
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	total	600 points

Note: Grades are based on points allocated above; <u>no extra credit</u>.

Note: Exams are "closed book". Tables in the back of the book and 1 sheet (8.5"x 1l" both sides) of notes is allowed for exams. Exams cover assigned readings, even if not discussed in class, and topics discussed in class, even if not in the text. Calculators and SPSS are allowed for exams and quizzes. Quizzes, usually daily, are open book and open notes.

Note: All tests are taken in regular classroom at scheduled times. No exams taken in learning center unless diagnosed learning disability exists (verified by Jane Eddy in writing). Quizzes or homework will be turned in each class day.

Attendance: Required. See Viterbo University catalog for guidelines followed.
A valid verifiable excuse must be presented in order to make up missed exams or other work. Make-up exams for valid excused absences must be done in a timely manner (within one week normally).

Calculating Equipment: SPSS is available on most computers on campus. It is also recommended that you have a hand-held calculator.

Cheating: First offense - zero credit on pertinent work; second offense - failure in the course. See student handbook for more details.

ADA Statement: If you are a person with a disability and require any auxiliary aids, services, or other accommodations for this class, please see me and Jane Eddy, the Americans with Disabilities Act coordinator (MC332, 796-3194) within the 10 days to discuss your accommodation needs.
Note: accommodation for special test-taking needs will be made only after these needs are confirmed in writing by Jane Eddy..