CENTRAL MICHIGAN UNIVERSITY
COLLEGE OF SCIENCE AND TECHNOLOGY
COURSE SYLLABUS

STA	**282**	**Introduction to Statistics**	**3(3-0) F, SP**
Desig.	No.	Title	Credit/Mode

I. *Bulletin* Description:

Descriptive statistics, probability, sampling, distributions, statistical inference, regression. Course does not count on major, minor in mathematics. Credit may not be earned in both STA 282 and STA 382.

II. Prerequisites:

Successful completion of MTH 105, or passing another math class 100-level or higher, or 50% or better on the Basic Mathematics Placement Test, or a score of 11 or above on the Elementary Algebra portion of the ACT, or a score of 10 or above on the Intermediate Algebra portion of the ACT.

III. Rationale for Course Level:

IV. Textbooks and Other Materials to be Furnished by the Student:

McClave, Benson, and Sincich, A First Course in Business Statistics, 7th Edition, Prentice Hall.

Recommended: Calculators with statistics function Σx, Σx^2, Σxy, a, b, (TI 83) strongly recommended.

V. Special Requirements of the Course:

None.

VI. General Methodology Used in Conducting the Course:

Lecture, homework, problem solving, calculator activities.

VII. Course Objectives:

1. To introduce the student to the language and philosophy of descriptive statistics and inferential statistics.
2. To introduce the student to the basic concepts of counting and probability.
3. To introduce the student to the concept of expected value.
4. To acquaint students with the types of problems that lend themselves to statistical solutions.

5. To provide adequate explanations of the reasoning behind certain statistical methods used in confidence interval estimation and testing hypotheses.
6. To present enough basic statistical techniques and procedures so that the student can work some standard type problems that represent confidence interval estimations and tests hypotheses.
7. To provide an introduction to the basic concepts of regression analysis.
8. To enable the student to read and understand the summarized results of statistical experiments performed by others.
9. To interest some students in the further study of statistics.

VIII. Course Outline:

Introduction	(1 hour)
Descriptive Statistics	(4 hours)
Probability	(4 hours)
Random Variables and Probability Distributions	(8 hours)
Sampling Distributions	(4 hours)
Estimation and Tests of Hypotheses	(12 hours)
Comparing Two Population Means	(3 hours)
Comparing Two Population Proportions	(1 hour)
Simple Linear Regression	(4 hours)

IX. Evaluation:

3-4 hours exams
5-12 quizzes and/or homework

X. Bibliography:

Aliaga and Gunderson, Interactive Statistics, Prelim. Edition, Prentice Hall, 1998.

Anderson and Sclove, The Statistical Analysis of Data, 2nd edition, The Scientific Press, 1986.

Anderson, Sweeney, Williams, Introduction to Statistics, Concepts and Applications, 3rd edition, West Publishing Company, 1994.

Huntsberger and Billingsley, Elements of Statistical Inference, 6th edition, Allyn and Bacon, 1987.

Johnson, Robert, Elementary Statistics, 5th edition, PWS Kent, 1988.

Mendenhall, William, Introduction to the Practice of Statistics, 7th edition, Duxbury Press, 1987.

Moore and McCabe, Introduction to the Practice of Statistics, 3rd edition, W.H. Freeman and Company, 1999.

Moore, David, The Active Practice of Statistics, 1st edition, and Statistics – Computer Based Instruction, 1st edition, W.H. Freeman and Co., 1997.

Rossman, Chance, Workshop Statistics – Discovery with Data and Minitab, 1st edition, Springer, 1998.

Schefler, William, Statistics, Benjamin/Cummings, 1988.

Spatz and Johnson, Basic Statistics, 4th edition, Brooks/Cole, 1988.

Weiss, Elementary Statistics, 4th edition, Addison Wesley, 1999.

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Date