

# Minnesota State University Moorhead

## MATH 232: Applied Statistics

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: \*.\*

Prerequisites:

- MATH 127 - College Algebra; OR
- MDEV 099 - Intermediate Algebra

Corequisites: None

MnTC Goals: Goal 04 - Mathematical/Logical Reasoning

Frequency distributions, introduction to probability, normal distribution, central limit theorem, estimation, tests of hypotheses, non-parametric techniques, design of experiments, one-way and two-way analysis of variance, simple linear regression. May not be taken for credit by those who earned credit in MATH 234 or 336. Students who have completed MATH 262 are encouraged to take MATH 335 rather than MATH 232. Must have successfully completed Intermediate Algebra or the listed prerequisites, or acceptable placement score. MnTC Goal 4.

**B. COURSE EFFECTIVE DATES:** 01/10/2011 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Frequency distributions
2. Introduction to probability.
3. Normal distributions.
4. Central limit theorem.
5. Estimations
6. Tests of hypotheses
7. Non-parametric techniques
8. Design of experiments
9. One-way and two-way analysis of variance.
10. Simple linear regression.

### D. LEARNING OUTCOMES (General)

1. Use a variety of statistical methods to analyze data.
2. Understand the requirements of a statistical test, and know when it is applicable.
3. Understand what statistical analyses can and can not tell the researcher about the data.

### E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

Goal 04 - Mathematical/Logical Reasoning

1. Illustrate historical and contemporary applications of mathematical/logical systems.
2. Clearly express mathematical/logical ideas in writing.
3. Explain what constitutes a valid mathematical/logical argument(proof).
4. Apply higher-order problem-solving and/or modeling strategies.

**F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted