

# North Hennepin Community College

## MATH 1130: Elementary Statistics

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: \*.\*

Lab Hours/Week: \*.\*

OJT Hours/Week: \*.\*

Prerequisites:

This course requires any of these seven prerequisites

A score of 1 on test Exempt from taking Math placement test

A score of 36 on test Accuplacer College Level Math

A score of 22 on test ACT Math

A score of 1148 on test MN Comprehensive Assessment Math

A score of 1 on test Developmental Course Transfer Waiver-Mat

MATH 0970 - Bridge to College Algebra (Minimum grade: 1.67 GPA Equivalent)

MATH 0980 - Pre College Algebra (Minimum grade: 1.67 GPA Equivalent)

Corequisites: None

MnTC Goals: Goal 04 - Mathematical/Logical Reasoning

This is an introductory course in descriptive statistics, probability, random variables, and inferential statistics. Topics include exploratory data analysis, measures of central tendency, measures of dispersion, linear regression, basic probability, binomial and normal distributions, the central limit theorem, confidence intervals and hypothesis tests. Additional topics may include inferential procedures for two populations, analysis of variance and chi-squared tests.

Prerequisites: College math placement level or successful completion of Math 0900 or 0902 or 0980 or 1010 or 1031 or 1140 with grade of "C" or better.

**B. COURSE EFFECTIVE DATES:** 08/26/1997 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. See Course Description and Course Outcomes.

## **D. LEARNING OUTCOMES (General)**

1. Use descriptive statistics to compare or describe data (MnTC Goal 4: b; Goal 2: a, b, c); (NHCC ELO 1, 2)
2. Read and/or create visual summaries of data (e.g., histograms, stem-and-leaf displays, box-and-whisker plots) (G4: b; G2: a); (NHCC ELO 1, 2)
3. Identify, describe, and determine mean and standard deviation of discrete probability distributions with an emphasis on Binomial Distributions (G4: a, b, d); (NHCC ELO 1, 2)
4. Identify and describe continuous probability distributions with an emphasis on Normal Distributions (G4: a, b, d); (NHCC ELO 1, 2)
5. Determine probabilities using Binomial and Normal Distributions (G4: a, b, d); (NHCC ELO 1, 2)
6. Describe the Central Limit Theorem and use it to determine probabilities (G4: a, b, d; G2 a); (NHCC ELO 1, 2)
7. Create and interpret confidence intervals of population means, proportions, and variances (G4: a, b, d; G2: a, b, c, d); (NHCC ELO 1, 2, 4)
8. Create, perform, and interpret hypothesis tests of population means, proportions, and variances (G4: a, b, d; G2: a, b, c, d); (NHCC ELO 1, 2, 4)
9. Use linear regression to investigate correlation of paired data (G4: a, b, d; G2: a, b, c, d); (NHCC ELO 1, 2)

## **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**

1. Knowledge of Human Cultures and the Physical and Natural World--Through study in the sciences, mathematics, social sciences, humanities, histories, languages, the arts, technology and professions.
2. Intellectual and Practical Skills--Including: Inquiry and analysis; Critical and creative thinking; Written and oral communication; Quantitative literacy; Information literacy; Teamwork and problem solving.
4. Integrative and Applied Learning--Including: Synthesis and advanced accomplishment across general education, liberal studies, specialized studies and activities in the broader campus community.