

North Hennepin Community College

PSYC 2000: Statistics for the Behavioral Sciences

A. COURSE DESCRIPTION

Credits: 4

Lecture Hours/Week: *.*

Lab Hours/Week: *.*

OJT Hours/Week: *.*

Prerequisites:

This course requires both of these prerequisite categories

1. One of these two

PSYC 1150 - General Psychology

PSYC 1160 - Introduction to Psychology

And

2. Any one of these 13

Algebra College Level

Placement into MATH 0970/1010/1031/1130/1140

MATH 0900 - Mathematical Literacy (Minimum grade: 1.67 GPA Equivalent)

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

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

MATH 1010 - Survey of Mathematics (Minimum grade: 1.67 GPA Equivalent)

MATH 1031 - Math for Elementary Education I (Minimum grade: 1.67 GPA Equivalent)

MATH 1130 - Elementary Statistics (Minimum grade: 1.67 GPA Equivalent)

MATH 1140 - Finite Mathematics (Minimum grade: 1.67 GPA Equivalent)

MATH 1150 - College Algebra (Minimum grade: 1.67 GPA Equivalent)

MATH 1170 - Pre-Calculus (Minimum grade: 1.67 GPA Equivalent)

MATH 1180 - College Algebra and Pre-Calculus (Minimum grade: 1.67 GPA Equivalent)

MATH 1221 - Calculus I (Minimum grade: 1.67 GPA Equivalent)

Corequisites: None

MnTC Goals: Goal 02 - Critical Thinking, Goal 05 - Hist/Soc/Behav Sci

Students use basic mathematical and computerized procedures to analyze data in the behavioral sciences. Students use statistical software (e.g., SPSS, R, PSPP) to conduct descriptive and inferential data analyses. Students choose and apply statistical procedures to help to answer psychological and behavioral scientific research questions. Students read, interpret, and write APA-style Results sections for behavioral science research.

B. COURSE EFFECTIVE DATES: 01/30/2017 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Central tendency and variability
2. Basics of Inferential statistics: Z scores, the normal curve, sample versus population, and probability
3. Hypothesis testing
4. Making sense of statistical significance: Effect size, confidence intervals, and statistical power
5. Choosing appropriate statistics
6. Using SPSS or another appropriate statistical package, R, or other statistics program
7. Reporting results in APA format
8. The t-test: One and two Samples (between and within)
9. Introduction to analysis of variance
10. Factorial analysis of variance
11. Correlation
12. Regression
13. Chi-square tests

D. LEARNING OUTCOMES (General)

1. Demonstrate an understanding of the mathematics and logic behind selecting and applying statistical procedures appropriate for a given hypothesis, scale of measurement, and experimental design. (NHCC ELO 2, 3, 4; MnTC 5a)
2. Perform and describe the statistical procedures commonly used by social scientists including their respective advantages and disadvantages. These include:
3. a) Creating a visual display of data (e.g., bar chart, histogram) (NHCC ELO 2, 3, 4; MnTC 5a, c)
4. b) Measures of central tendency, variability, and frequency distributions. (NHCC ELO 2, 3, 4; MnTC 5a, c)
5. c) Correlational and regression analyses. . (NHCC ELO 2, 3, 4; MnTC 5a, c)
6. d) Inferential statistical procedures, including t-tests, ANOVAs, multiple comparison tests, confidence intervals, and effect sizes. . (NHCC ELO 2, 3, 4; MnTC 5a, c, d)
7. e) Nonparametric tests (e.g., chi-square). (NHCC ELO 2, 3, 4; MnTC 5a, c)
8. Read, interpret, and summarize basic statistical conclusions from psychological and behavioral science sources accurately and critically evaluate the statistical presentations of others. (NHCC ELO 2, 3, 4; MnTC 5a, c, d)
9. Interpret statistical findings and graphs in the context of their level of statistical significance, confidence intervals, effect sizes, and underlying assumptions, and explain these findings using common language and conventions of the American Psychological Association. (NHCC ELO 2, 3, 4; MnTC 5a, c, d)
10. Use SPSS or another statistical package to build data sets, run univariate analyses, and interpret and display results. (NHCC ELO 2, 3, 4; MnTC 5a)

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

Goal 02 - Critical Thinking

1. No Competencies Indicated

Goal 05 - Hist/Soc/Behav Sci

1. Employ the methods and data that historians and social and behavioral scientists use to investigate the human condition.
2. Use and critique alternative explanatory systems or theories.
3. Develop and communicate alternative explanations or solutions for contemporary social issues.

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

Intellectual and Practical Skills; Including: Inquiry and analysis; Critical and creative thinking; Written and oral communication; Quantitative literacy; Information literacy; Teamwork and problem solving.

Personal and Social Responsibility and Engagement; Including: Civic knowledge and involvement; campus, local and global;

Intercultural knowledge and competence; Ethical reasoning and action; Integrative and Applied Learning; Including: Synthesis and advanced accomplishment across general education, liberal studies, specialized studies and activities in the broader campus community.