

# MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

## COURSE OUTLINE

DEPT. MATH

COURSE NUMBER: 0115

NUMBER OF CREDITS: 2

Lecture: 2 Lab: 0 OJT: 0

### Course Title:

Co-requisite with Intro to Probability and Statistics

### Catalog Description:

Co-requisite with Intro to Probability and Statistics supports students who qualify with additional review, just-in-time learning, deeper conceptual development, repetition over time, and learning skills and habits required to be successful with the corresponding college level Math 1105 Intro to Probability and Statistics course taken concurrently.

### Prerequisites or Necessary Entry Skills/Knowledge:

ACT 15 - 18 or placement by multiple measures.

### FULFILLS MN TRANSFER CURRICULUM AREA(S) (*Leave blank if not applicable*)

- Goal 1: Communication: By meeting the following competencies:
- Goal 2: Critical Thinking: By meeting the following competencies:
- Goal 3: Natural Sciences: By meeting the following competencies:
- Goal 4: Mathematics/Logical Reasoning: By meeting the following competencies:
- Goal 5: History and the Social and Behavioral Sciences: By meeting the following competencies:
- Goal 6: The Humanities and Fine Arts: By meeting the following competencies:
- Goal 7: Human Diversity: By meeting the following competencies:
- Goal 8: Global Perspective: By meeting the following competencies:
- Goal 9: Ethical and Civic Responsibility: By meeting the following competencies:
- Goal 10: People and the Environment: By meeting the following competencies:

### Topics to be Covered

Growth Mindset, Study Skills and Habits

Introduction to Statistics – Descriptive and Inferential

Organizing data – graphs and charts

Numerical descriptive measures – grouped and ungrouped data

Probability concepts

Discrete random variables and their probability distributions

Continuous random variables and normal distributions, sampling distributions and the Central Limit Theorem

Estimating means and proportions
Hypothesis tests about the mean and proportion
Inferences from two samples
Correlation and Regression
Goodness-of-Fit and Contingency Tables
Analysis of Variance

<b>Student Learning Outcomes</b>
<p>1) The student will develop a plan of action on how to successfully complete a college level mathematics course.</p> <ul style="list-style-type: none"> <li>A) Evaluate the time necessary to be successful in a college level mathematics course.</li> <li>B) Develop skills for studying mathematics</li> <li>C) Construct an action plan for success</li> <li>D) Identify steps to problem solving</li> <li>E) Discuss answers mathematically and apply the results to context</li> </ul>
<p>2) The student will recognize, convert, classify, and evaluate variables using standard form and scientific notation.</p> <ul style="list-style-type: none"> <li>A) Recognize variables and classify data type</li> <li>B) Convert units of measurement</li> <li>C) Perform calculations with standard form and scientific notation</li> <li>D) Apply significant digits and round numbers.</li> </ul>
<p>3) The student will perform calculations and recognize the relationship between decimals, fractions and percentages.</p> <ul style="list-style-type: none"> <li>A) Simplify fractions.</li> <li>B) Convert between fractions, decimals and percentages.</li> <li>C) Calculate frequencies.</li> </ul>
<p>4) The student will be able to graph points and use formulas to perform calculations.</p> <ul style="list-style-type: none"> <li>A) Plot points on the Cartesian plane.</li> <li>B) Apply order of operations</li> <li>C) Recognize symbols in formulas and how to apply these symbols including exponents, square roots and summation.</li> <li>D) Apply set notation including unions, intersections and complements.</li> </ul>
<p>5) The student will be able to determine the slope and y-intercept of a line as well as state the equation of a line in slope-intercept form and graph the line.</p> <ul style="list-style-type: none"> <li>A) Calculate slope and discuss its meaning</li> <li>B) Find the slope-intercept equation for a line</li> <li>C) Determine points on a line</li> <li>D) Graph a line using points.</li> </ul>

<b>Is this course part of a transfer pathway: Yes</b> <input type="checkbox"/> <b>No</b> <input checked="" type="checkbox"/>
<i>*If yes, please list the competencies below</i>

Revised Date: 1/27/2022