MATH M915: BRIDGE TO STATISTICS (MATH M15)

Originator
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College
Moorpark College

Attach Support Documentation (as needed)
MATH M915_state approval letter_CCC000612677.pdf

Discipline (CB01A)
MATH - Mathematics

Course Number (CB01B)
M915

Course Title (CB02)
Bridge to Statistics (MATH M15)

Banner/Short Title
Bridge to Stat (Math M15)

Credit Type
Noncredit

Start Term
Fall 2020

Catalog Course Description
Prepares students for successful completion of MATH M15, Introductory Statistics, with a review of prerequisite material from Intermediate Algebra. Reviews numbers and the number line, operations on numbers, sets and set notations, and equations and inequalities. Provides practice on graphing points and lines in two dimensions, reading tables and graphs, and approximating areas.

Additional Catalog Notes
Does NOT apply to an Associates degree.
Students may elect to enroll in either MATH M915, which reviews key Algebra topics for MATH M15 at the beginning of the semester, and/or MATH M915S, which provides instruction in these Algebra topics while concurrently enrolled in MATH M15.

Taxonomy of Programs (TOP) Code (CB03)
1702.00 - Mathematics Skills

Course Credit Status (CB04)
N (Noncredit)

Course Transfer Status (CB05) (select one only)
C (Not transferable);

Course Basic Skills Status (CB08)
B - The Course is a Basic Skills Course

SAM Priority Code (CB09)
E - Non-Occupational

Course Cooperative Work Experience Education Status (CB10)
N - Is Not Part of a Cooperative Work Experience Education Program

Course Classification Status (CB11)
K - Other Noncredit Enhanced Funding

Educational Assistance Class Instruction (Approved Special Class) (CB13)
N - The Course is Not an Approved Special Class

Course Prior to Transfer Level (CB21)
Y - Not Applicable

Course Noncredit Category (CB22)
C - Elementary and Secondary Basic Skills

Funding Agency Category (CB23)
Y - Not Applicable (Funding Not Used)

Course Program Status (CB24)
2 - Not Program Applicable

General Education Status (CB25)
Y - Not Applicable

Support Course Status (CB26)
S - Course is a support course

Special Characteristics Code Descriptor
LA - Learning Assistance (a form of supplemental instruction)

Field trips
Will not be required

Grading method
Pass/No Pass Grading

Does this course require an instructional materials fee?
No

Repeatable for Credit
Yes
Number of times a student may enroll in this course
Unlimited

Maximum units a student may earn in this course
0

Units and Hours

Carnegie Unit Override
Yes

Total in-Class (full semester or term)
Total Minimum Contact/In-Class Hours (for full semester or term; not weekly)
8
Total Maximum Contact/In-Class Hours (for full semester or term; not weekly)
8

Total Student Learning

Total Student Learning
Total Minimum Student Learning Hours
8

Total Maximum Student Learning Hours
8

Prerequisites
None.

Corequisites
None.

Student Learning Outcomes (CSLOs)

	Upon satisfactory completion of the course, students will be able to:
1	graph a line, indicating and labeling its slope and intercepts.
2	determine the union and intersection of two sets, and the complement of a set.
3	compute the value of a numerical expression using proper order of operations.

Course Objectives

	Upon satisfactory completion of the course, students will be able to:
1	plot points and inequalities on a number line.
2	convert between fractions, decimals and percents.
3	perform signed number arithmetic and use summation notation.
4	perform order of operations, including powers and roots.
5	understand Venn Diagrams and set notation.
6	evaluate algebraic expressions and solve linear equations.
7	plot ordered pairs on the rectangular coordinate plane.
8	find the slope of a line and graph the line in the plane.
9	find the vertical distance between a point and a line.
10	approximate the area under a curve or histogram.

Course Content

Lecture/Course Content

(20%) - A. Numbers and the Number Line
1. Plot points, intervals and inequalities on the number line
2. Determine the distance between two points on the number line
3. Convert between fractions, decimals and percents
4. Round decimals to specified number of places

(20%) - B. Operations on Numbers
1. Perform signed number arithmetic
2. Calculate powers and roots using technology
3. Simplify numerical expressions by proper order of operations
4. Evaluate sums using summation notation

(15%) - C. Sets and Set Notation
1. Represent sets using Venn Diagrams and proper set notation
2. Determine the complement of a set
3. Determine the union and the intersection of two sets

(10%) - D. Expressions and Linear Equations
1. Simplify algebraic expressions
2. Solve linear equations in one variable

(25%) - E. Graphing Points and Lines in Two Dimensions
1. Plot an ordered pair (x,y) in a rectangular coordinate system
2. Understand slope as the change in y in relation to the change in x
3. Given the equation of a line, draw the graph of a line
4. Use the equation of a line to find the y-value associated with a given x-value
5. Find the vertical distance between a point and a line

(10%) - F. Reading Data, Tables and Graphs, and Approximating Area
1. Make observations from a table or graphs
2. Approximate the area of a region from a graph or histogram

Methods of Evaluation

Which of these methods will students use to demonstrate proficiency in the subject matter of this course? (Check all that apply):

Problem solving exercises
Skills demonstrations

Methods of Evaluation may include, but are not limited to, the following typical classroom assessment techniques/required assignments (check as many as are deemed appropriate):

Other (specify)
Skills demonstrations

Other

Classroom discussions and student participation.

Instructional Methodology

Specify the methods of instruction that may be employed in this course

Class activities
Class discussions
Group discussions
Instructor-guided interpretation and analysis
Instructor-guided use of technology
Lecture
Small group activities

Describe specific examples of the methods the instructor will use:

- Instruct students to draw Venn Diagrams on board and discuss their results.
- Engage students in group discussion in order to make basic observations about a graph or table.
- Show students how to compute the slope and y-intercept of a line in order to graph it in the coordinate plane.

Representative Course Assignments

Writing Assignments

- Draw graphs of lines within a scatter plot of data points, in order to visually represent residuals.
- Write an interpretation of the solution set of an inequality which may have a particular meaning in physical or monetary units.

Critical Thinking Assignments

- Interpret a scenario involving data and choose a correct formula for its computation.
- Read and interpret a Venn Diagram to determine the intersection or union of two sets and the complement of a set.

Reading Assignments

- Read the definition of an inequality and its corresponding representation on a number line.
- Complete reading assignments about types of histograms, including representations of data that are centrally distributed or skewed.

Skills Demonstrations

- Represent the proper sigma notation of a sum of numbers and evaluating its exact sum.
- Graph lines and other relations on a coordinate plane, labeling all aspects of that relation, including intercepts, slope and key points.
- Simplifying a numerical expression, by proper order of operations, giving answer in the form of a reduced fraction.

Outside Assignments

Representative Outside Assignments

None

Articulation

Equivalent Courses at other CCCs

College	Course ID	Course Title	Units
West Valley College	NCMA 010C	Mathematical Support for Elementary Statistics	
West Hills Coalinga	NC 202	Introduction to Statistics Support	
LA Mission College	ACAD PR 027CE	Statistics Skills and Preparation I	

Textbooks and Lab Manuals

Resource Type
Textbook

Classic Textbook
Yes

Description
Martin-Gay, Elayn. *Intermediate Algebra*. 7th ed. Pearson, 2017.

Resource Type
Textbook

Classic Textbook
Yes

Description
Lial, Margaret, John Hornsby, and Terry McGinnis. *Intermediate Algebra*. 13th ed. Pearson, 2019.

Resource Type
Textbook

Classic Textbook
Yes

Description
Lehmann, Jay. *A Pathway to Introductory Statistics.* Pearson, 2016.

Library Resources

Assignments requiring library resources
Textbooks on reserve.
Calculators on reserve.
Researching data for use in applying real life data to statistical analysis.

Sufficient Library Resources exist
Yes

Example of Assignments Requiring Library Resources
Use library resources to research data, such as data about human populations and census data, in order to analyze examples of real life data in class.

Primary Minimum Qualification
MATHEMATICS

Review and Approval Dates

Department Chair
10/23/2019

Dean
10/29/2019

Technical Review
11/07/2019

Curriculum Committee
11/19/2019

DTRW-I
12/12/2019

Curriculum Committee
MM/DD/YYYY

Board
01/21/2020

CCCCO
01/31/2020

Control Number
CCC00061267

DOE/accreditation approval date
MM/DD/YYYY