MATH M915S: SUPPORT FOR INTRODUCTORY STATISTICS

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College
Moorpark College

Attach Support Documentation (as needed)
MATH M915S_state approval letter_CCC000612678.pdf

Discipline (CB01A)
MATH - Mathematics

Course Number (CB01B)
M915S

Course Title (CB02)
Support for Introductory Statistics

Banner/Short Title
Support for Statistics

Credit Type
Noncredit

Start Term
Fall 2023

Catalog Course Description
Reviews the prerequisite material necessary to be successful in MATH M15. Covers numbers and the number line, operations on numbers, sets and set notations, equations and inequalities. Includes graphing points and lines in two dimensions, reading tables and graphs, and approximating areas.

Additional Catalog Notes
Requires co-enrollment 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
(P) 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

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)
16
Total Maximum Contact/In-Class Hours (for full semester or term; not weekly)
16

Total Student Learning

Total Student Learning
Total Minimum Student Learning Hours
16
Total Maximum Student Learning Hours
16

Corequisites
MATH M15

Requisite Justification
Requisite Type
Corequisite

Requisite
MATH M15

Requisite Description
Other (specify)

Specify Other Requisite Description
The support course is intended to offer review material in support of the topics covered in the Introductory Statistics course.

Level of Scrutiny/Justification
Content review

Student Learning Outcomes (CSLOs)	
	Upon satisfactory completion of the course, students will be able to:
1	construct intervals, given appropriate information, and determine whether a given value lies within it.
2	use and understand the summation ("Sigma") notation and compute a sum.
3	find the vertical distance between a point and a line.
4	approximate the area of a shaded region, given the total area under a relative frequency histogram.

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	comprehend 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	extract information from graphs and tables.
11	identify unusual values in a data set.
12	approximate the area under a curve or histogram.

Course Content

Lecture/Course Content

20% A. Numbers and the Number Line
1. Plot points and intervals on the number line
2. Represent an inequality as an interval on the number line
3. Find the distance between two points on the number line
4. Round decimals
5. Order decimal numbers
6. Convert between fractions, decimals, and percents

20% B. Operations on Numbers
1. Perform signed number arithmetic
2. Calculate powers of a number (using technology)
3. Calculate the square root of a number (using technology)
4. Use summation notation
5. Understand order of operations in expressions and formulas

20% C. Sets and Set Notation
1. Understand Venn Diagrams
2. Use set notation
3. Find the complement of a set
4. Find the union and the intersection of two sets

10% D. Equations and Inequalities
1. Evaluate algebraic expressions
2. Solve a linear equation in one variable

20% 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. Extract information from tables and graphs
2. Given the total area under a curve or histogram, approximate the total area of a region
3. Identifying unusual values in a data set

Methods of Evaluation

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

Written expression
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):

Computational homework
Objective exams
Problem-solving exams
Problem-solving homework
Quizzes
Other (specify)

Other
Since this is a non-graded module, students receive credit for attendance to the full hours of the course.

Instructional Methodology

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

Class activities
Class discussions
Demonstrations
Distance Education
Group discussions
Instructor-guided interpretation and analysis
Instructor-guided use of technology

Lecture
Problem-solving examples
Small group activities
Other (specify)

Specify other method of instruction
All instructors will use best practices to provide an inclusive learning environment that respects all forms of racial, ethnic, age, and gender diversity, and provides for the individual needs of students of all learning styles.

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 identify unusual values in a data set.
  • 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
  1. Draw graphs of lines within a scatter plot of data points, in order to visually represent residuals.
  2. Write an interpretation of the solution set of an inequality.

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

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

Skills Demonstrations
  1. Represent the proper sigma notation of a sum of numbers and evaluating its exact sum.
  2. Graph lines and other relations on a coordinate plane, labeling all aspects of that relation, including intercepts, slope and key points.

Problem-Solving and Other Assignments (if applicable)
1. Solve a linear equation in one variable.
2. Find the slope of a line and use the equation of a line to find the y-value associated with a given x-value.

Outside Assignments

Representative Outside Assignments
none

Articulation

Comparable Courses within the VCCCD
MATH V44J - Just-in-Time Support for Elementary Statistics

Equivalent Courses at other CCCs

College	Course ID	Course Title	Units
College of the Redwoods	MATH 15S	Support for Statistics	1
College of Marin	MATH 115C	Companion Course for Math 115 Probability and Statistics	.5

Textbooks and Lab Manuals

Resource Type

Textbook

Classic Textbook

No

Description

Martin-Gay, Elayn. *Intermediate Algebra*. 8th ed., Pearson, 2023.

Resource Type

Textbook

Classic Textbook

No

Description

Lial, Margaret, John Hornsby, and Terry McGinnis. *Intermediate Algebra*. 13th ed., Pearson, 2020.

Resource Type

Textbook

Classic Textbook

No

Description

Lehmann, Jay. *A Pathway to Introductory Statistics.* 2nd ed., Pearson, 2021.

Resource Type

Textbook

Description

Maracek, Lynn. *Intermediate Algebra.* E-book, Open Stax, 2022, https://openstax.org/details/books/intermediate-algebra. Accessed 19 Oct 2022.

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.

Distance Education Addendum

Definitions

Distance Education Modalities

Hybrid (1%–50% online)
Hybrid (51%–99% online)
100% online

Faculty Certifications

Faculty assigned to teach Hybrid or Fully Online sections of this course will receive training in how to satisfy the Federal and state regulations governing regular effective/substantive contact for distance education. The training will include common elements in the district-supported learning management system (LMS), online teaching methods, regular effective/substantive contact, and best practices.
Yes

Faculty assigned to teach Hybrid or Fully Online sections of this course will meet with the EAC Alternate Media Specialist to ensure that the course content meets the required Federal and state accessibility standards for access by students with disabilities. Common areas for discussion include accessibility of PDF files, images, captioning of videos, Power Point presentations, math and scientific notation, and ensuring the use of style mark-up in Word documents.
Yes

Regular Effective/Substantive Contact

Hybrid (1%–50% online) Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Use of student discussion boards to discuss concepts from the material, solutions to homework problems, general discussion of techniques in solving problems, study skills, or arranging study groups
E-mail	Responding to student queries about material, grade information, course policies and procedures, scheduling and due dates, submitting homework assignments, or making general announcements to the class.
Face to Face (by student request; cannot be required)	Students requesting to speak to instructor in person for personal help on material, grade information, or discussion of policies and procedures.
Other DE (e.g., recorded lectures)	Posting of recorded lectures either by the instructor, recorded lessons available through campus resources, or use of public online resources available on the internet.
Synchronous Dialog (e.g., online chat)	Active live discussion with the instructor on material concepts, techniques for problem solving, feedback on solutions to problems, general chat on study skills, or answers to homework problems, quizzes or tests.

Hybrid (51%–99% online) Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Use of student discussion boards to discuss concepts from the material, solutions to homework problems, general discussion of techniques in solving problems, study skills, or arranging study groups.
E-mail	Responding to student queries about material, grade information, course policies and procedures, scheduling and due dates, submitting homework assignments, or making general announcements to the class.
Face to Face (by student request; cannot be required)	Students requesting to speak to instructor in person for personal help on material, grade information, or discussion of policies and procedures.
Other DE (e.g., recorded lectures)	Posting of recorded lectures either by the instructor, recorded lessons available through campus resources, or use of public online resources available on the internet.
Synchronous Dialog (e.g., online chat)	Active live discussion with the instructor on material concepts, techniques for problem solving, feedback on solutions to problems, general chat on study skills, or answers to homework problems, quizzes or tests.

100% online Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Use of student discussion boards to discuss concepts from the material, solutions to homework problems, general discussion of techniques in solving problems, study skills, or arranging study groups.

E-mail	Responding to student queries about material, grade information, course policies and procedures, scheduling and due dates, submitting homework assignments, or making general announcements to the class.
Other DE (e.g., recorded lectures)	Posting of recorded lectures either by the instructor, recorded lessons available through campus resources, or use of public online resources available on the internet.
Synchronous Dialog (e.g., online chat)	Active live discussion with the instructor on material concepts, techniques for problem solving, feedback on solutions to problems, general chat on study skills, or answers to homework problems, quizzes or tests.

Examinations

Hybrid (1%–50% online) Modality
On campus

Hybrid (51%–99% online) Modality
On campus

Primary Minimum Qualification
MATHEMATICS

Review and Approval Dates

Department Chair
10/12/2022

Dean
10/17/2022

Technical Review
10/20/2022

Curriculum Committee
11/01/2022

DTRW-I
MM/DD/YYYY

Curriculum Committee
MM/DD/YYYY

Board
MM/DD/YYYY

CCCCO
MM/DD/YYYY

Control Number
CCC000612678

DOE/accreditation approval date
MM/DD/YYYY