

MATH M915S: SUPPORT FOR INTRODUCTORY STATISTICS

Originator

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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 2020

Catalog Course Description

Prepares student with the prerequisite material necessary to be successful in MATH M15, Introductory Statistics. 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

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)

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 - Introductory Statistics

Requisite Justification**Requisite Type**

Corequisite

Requisite

MATH M15 - Introductory Statistics

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	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	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):

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
Distance Education
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 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

- 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.

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.

Outside Assignments**Representative Outside Assignments**

none

Articulation**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 to Course Math 115	1

Textbooks and Lab Manuals**Resource Type**

Textbook

Classic Textbook

Yes

DescriptionMartin-Gay, Elayn. *Intermediate Algebra*. 7th ed. Pearson, 2017.**Resource Type**

Textbook

Classic Textbook

Yes

DescriptionLial, Margaret, John Hornsby, and Terry McGinnis. *Intermediate Algebra*. 13th ed. Pearson, 2019.**Resource Type**

Textbook

Classic Textbook

Yes

DescriptionLehmann, 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.

Distance Education Addendum**Definitions****Distance Education Modalities**

Hybrid (51–99% online)

Hybrid (1–50% 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:

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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:	
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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

10/23/2019

Dean

10/28/2019

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

CCC000612678

DOE/accreditation approval date

MM/DD/YYYY