I. CATALOG INFORMATION

A. Discipline: MATHEMATICS

B. Subject Code and Number: MATH M01A

C. Course Title: Elementary Algebra Part A

D. Credit Course units:

Units: 3

Lecture Hours per week: 3

Lab Hours per week : 0

Variable Units : No

E. Student Learning Hours:

Lecture Hours:

Classroom hours: 52.5 - 52.5

Laboratory/Activity Hours:

Laboratory/Activity Hours 0 - 0

Total Combined Hours in a 17.5 week term: 52.5 - 52.5

F. Non-Credit Course hours per week

G. May be taken a total of: [X] 1 [ ] 2 [ ] 3 [ ] 4 time(s) for credit

H. Is the course co-designated (same as) another course: No [X] Yes [ ]
If YES, designate course Subject Code & Number:

I. Course Description:

Briefly reviews arithmetic, including integers, fractions, and decimals. Covers linear equations and inequalities, graphing, and systems of linear equations.

J. Entrance Skills

*Prerequisite: No [ ] Yes [X] Course(s)
MATH M09 or LS M07B or 1 year of high school prealgebra with grade of C or better or placement as determined by college's multiple measures assessment process.

*Corequisite: No [X] Yes [ ] Course(s)

Limitation on Enrollment: No [X] Yes [ ]

Recommended Preparation: No [X] Yes [ ] Course(s)

Other: No [X] Yes [ ]

K. Other Catalog Information:

This course is the first part of a two-semester course sequence: MATH M01A and MATH M01B. Completion of both courses is equivalent to MATH M01. Unit credit may be received for either MATH M01 or (MATH M01A and MATH M01B), but not both.

II. COURSE OBJECTIVES

Upon successful completion of the course, a student will be able to:

		Methods of evaluation will be consistent with, but not limited by, the following types or examples.
1	simplify and evaluate algebraic expressions.	Graded work and exams.
2	identify an equation as either conditional, a contradiction, or an identity.	Graded work and exams.
3	determine whether a number satisfies a given equation in one variable.	Graded work and exams.
4	solve first-degree equations in one variable and check the solution.	Graded work and exams.
5	solve applied problems involving first-degree equations in one variable.	Graded work and exams.
6	solve first-degree inequalities in one variable.	Graded work and exams.
7	solve applied problems involving first-degree inequalities in one variable. (optional*)	Graded work and exams.
8	find the x- and y-intercepts of the graph of a linear equation.	Graded work and exams.
9	find the slope of the line passing through two given points.	Graded work and exams.
10	determine the slope of a line given its graph.	Graded work and exams.
11	graph a linear equation.	Graded work and exams.
12	determine the slope and y-intercept of a line given its equation.	Graded work and exams.
13	write an equation for a line given two points or given one point and the slope.	Graded work and exams.

14	solve systems of linear equations using each of the following methods: graphing method, addition (elimination) method, and the substitution method.	Graded work and exams.
15	solve application problems by solving a system of linear equations in two variables.	Graded work and exams.

III. COURSE CONTENT

Estimated %	Topic	Learning Outcomes
Lecture (must total 100%)		
30.00%	A. Introduction to Algebra 1. Review of arithmetic with emphasis on integers and fractions 2. Review of the properties of numbers 3. Exponents and order of operations 4. Algebraic expressions 5. Evaluating algebraic expressions 6. Simplifying algebraic expressions 7. Translating phrases and sentences algebraically	1
30.00%	B. First-Degree Equations and Inequalities 1. Types of equations 2. Basic properties of equalities 3. Solving first-degree equations in one variable 4. Applications of first-degree equations 5. Types of inequalities 6. Basic properties of inequalities 7. Solving first-degree inequalities in one variable 8. Applications of first-degree inequalities in one variable (*optional)	2, 3, 4, 5, 6, 7
25.00%	C. Graphing Lines 1. The rectangular coordinate system 2. Graphing a linear equation in two variables 3. Intercepts 4. Finding the slope given two points or given the graph of a line 5. Slope-intercept form 6. Point-slope form of an equation of a line 7. Finding an equation of a line given two points or given one point and the slope	8, 9, 10, 11, 12, 13
15.00%	D. Systems of Linear Equations 1. Solving systems of linear equations in two variables by: a. The graphing method b. The substitution method c. The addition (elimination) method 2. Applications of systems of linear equations	14, 15
	*Optional topics should be covered if time allows, but may be omitted without loss of continuity in the mathematics program.	
	Enrichment topics related to the study of MATH M01A may also be presented by the instructor, if time allows.	

IV. TYPICAL ASSIGNMENTS

A. Writing assignments

Writing assignments are required. Possible assignments may include, but are not limited to:	

1	homework problems selected from the elementary algebra textbook where answers require a written explanation of the solution, such as solving an equation and identifying whether it is consistent or inconsistent.
2	graded assignments: in-class and/or homework assignments requiring complete solutions using both written English and symbolic mathematical language, such as identifying the features of a linear equation.
3	short answer problems on exams, such as stating the results for an application problem involving the use of slope and the intercept of a line.

B. Appropriate outside assignments

Appropriate outside assignments are required. Possible assignments may include, but are not limited to:	
1	assigned reading material and homework problems from the elementary algebra textbook, such as reading the theory of graphing lines by several methods, and viewing diagrams of lines on a Cartesian coordinate grid.
2	additional problem sets provided by the instructor, such as practice exercises on graphing linear equations.
3	graded problem solving assignments, such as an assignment of providing the solutions of linear equations of the form ax + by = cx + dy.
4	group or individual projects, such as identifying real-life applications of a linear inequality.

C. Critical thinking assignments

Critical thinking assignments are required. Possible assignments may include, but are not limited to:	
1	apply analytic techniques for solving mathematical and application problems, such as creating the equation of a line, given two points in the Cartesian plane.
2	compare and contrast methods of solution to mathematical problems, such as graphing a line by plotting points, by identifying the x and y intercepts, or by determining the slope and an additional point on the line.
3	describe and apply the algorithmic steps for obtaining the solution to a mathematical problem, such a determining whether a value satisfies a given equation.

V. METHODS OF INSTRUCTION

Methods of instruction may include, but are not limited to:

[X] Distance Education – When any portion of class contact hours is replaced by

[ ] distance education delivery mode (Complete DE Addendum, Section XV)

[X] Lecture/Discussion

[ ] Laboratory/Activity

[X] Other (Specify)
Provide detailed step-by-step examples; use projects and/or group work

[ ] Optional Field Trips

[ ] Required Field Trips

VI. METHODS OF EVALUATION

Methods of evaluation may include, but are not limited to:

[ ] Essay Exam	[X] Classroom Discussion	[ ] Skill Demonstration
[X] Problem Solving Exam	[ ] Reports/Papers/ Journals	[X] Participation
[X] Objective Exams	[X] Projects	[X] Other (specify)

Quizzes and/or graded work will be used to evaluate students for the critical thinking skills needed to solve math problems.

Problems must require students to demonstrate analytic skills and the step-by-step details required for the solution, such as identifying all the proper steps in simplifying an algebraic expression.

VII. REPRESENTATIVE TEXTS AND OTHER COURSE MATERIALS

Blitzer, Robert F. Introductory Algebra for College Students. 7th ed. Pearson, 2016.

Martin-Gay, Elayn. Beginning Algebra. 7th ed. Pearson, 2016.

Kaufmann, Jerome E., and Karen L. Schwitters. Elementary Algebra. 10th ed. Brooks Cole, 2014.

VIII. STUDENT MATERIALS FEES

[X] No [ ] Yes

IX. PARALLEL COURSES

College	*Course Number*	*Course Title*	*Units*
Ventura College	MATH V11A	Elementary Algebra: First Half	3
El Camino College	MATH 33	Extended Elementary Algebra, Part I	3
Los Angeles City College	MATH 113	Elementary Algebra A	3

X. MINIMUM QUALIFICATIONS

Courses Requiring a Masters Degree:

Master's degree in mathematics or applied mathematics OR bachelor's degree in either of the above AND master's degree in statistics, physics, or mathematics education OR the equivalent.

XI. ARTICULATION INFORMATION

A. Title V Course Classification:

1. This course is designed to be taken either:

   ☐ Pass/No Pass only (no letter grade possible); or
   ☒ Letter grade (P/NP possible at student option)

2. Degree status:
   Either ☐ Associate Degree Applicable; or ☒ Non-associate Degree Applicable

B. Moorpark College General Education:

1. Do you recommend this course for inclusion on the Associate Degree General Education list?
   Yes: ☐ No: ☒ If YES, what section(s)?

   ☐ A1 - Natural Sciences - Biological Science
   ☐ A2 - Natural Sciences - Physical Science
   ☐ B1 - Social and Behavioral Sciences - American History/Institutions
   ☐ B2 - Social and Behavioral Sciences - Other Social Behavioral Science
   ☐ C1 - Humanities - Fine or Performing Arts
   ☐ C2 - Humanities - Other Humanities
   ☐ D1 - Language and Rationality - English Composition
   ☐ D2 - Language and Rationality - Communication and Analytical Thinking
   ☐ E1 - Health/Physical Education
   ☐ E2 - PE or Dance
   ☐ F - Ethnic/Gender Studies

C. California State University(CSU) Articulation:

1. Do you recommend this course for transfer credit to CSU? Yes: ☐ No: ☒

2. If YES do you recommend this course for inclusion on the CSU General Education list?
   Yes: ☐ No: ☒ If YES, which area(s)?

   A1 ☐ A2 ☐ A3 ☐ B1 ☐ B2 ☐ B3 ☐ B4 ☐

   C1 ☐ C2 ☐ D1 ☐ D2 ☐ D3 ☐ D4 ☐ D5 ☐

   D6 ☐ D7 ☐ D8 ☐ D9 ☐ D10 ☐ E ☐

D. University of California (UC) Articulation:

1. Do you recommend this course for transfer to the UC? Yes: ☐ No: ☒

2. If YES do you recommend this course for the Intersegmental General

Education Transfer Curriculum (IGETC)? Yes: ☐ No: ☒

IGETC Area 1: English Communication

- ☐ English Composition
- ☐ Critical Thinking-English Composition
- ☐ Oral Communication

IGETC Area 2: Mathematical Concepts and Quantitative Reasoning

- ☐ Mathematical Concepts

IGETC Area 3: Arts and Humanities

- ☐ Arts
- ☐ Humanities

IGETC Area 4: Social and Behavioral Sciences

- ☐ Anthropology and Archaeology
- ☐ Economics
- ☐ Ethnic Studies
- ☐ Gender Studies
- ☐ Geography
- ☐ History
- ☐ Interdisciplinary, Social & Behavioral Sciences
- ☐ Political Science, Government & Legal Institutions
- ☐ Psychology
- ☐ Sociology & Criminology

IGETC Area 5: Physical and Biological Sciences (mark all that apply)

- ☐ Physical Science Lab or Physical Science Lab only (none-sequence)
- ☐ Physical Science Lecture only (non-sequence)
- ☐ Biological Science
- ☐ Physical Science Courses
- ☐ Physical Science Lab or Biological Science Lab Only (non-sequence)
- ☐ Biological Science Courses
- ☐ Biological Science Lab course
- ☐ First Science course in a Special sequence
- ☐ Second Science course in a Special Sequence
- ☐ Laboratory Activity
- ☐ Physical Sciences

IGETC Area 6: Language other than English

- ☐ Languages other than English (UC Requirement Only)
- ☐

☐ U.S. History, Constitution, and American Ideals (CSU Requirement ONLY)

☐ U.S. History, Constitution, and American Ideals (CSU Requirement ONLY)

XII. REVIEW OF LIBRARY RESOURCES

A. What planned assignment(s) will require library resources and use?

The following assignments require library resources:
Use of textbooks on reserve. Use of the Library's print and online resources to research examples of applications in real life, such as applications of lines, slopes, and linear relationships.

B. Are the currently held library resources sufficient to support the course assignment?

YES: [X] NO: [ ]

If NO, please list additional library resources needed to support this course.

XIII. PREREQUISITE AND/OR COREQUISITE JUSTIFICATION

Requisite Justification for MATH M09

[X] A. Sequential course within a discipline.

1. Add, subtract, multiply, and divide whole numbers, including multi-digit numbers when carrying and borrowing may be necessary, using the properties of numbers.

2. Perform several arithmetic operations in the proper order and evaluate whole number exponents.

3. Round whole numbers and estimate the answer to a problem involving calculations with whole numbers. Solve application problems using the basic math operations and check answers.

4. Add, subtract, multiply, or divide two or three signed numbers with the same or different signs. Calculate with signed numbers using more than one operation.

5. Write whole numbers in expanded form, the word name for a number, and the number for a word name.

6. Factor whole numbers into primes and apply the rules of divisibility.

7. Use fractions to represent data from applied situations.

8. Write a number as a product of prime numbers, reduce fractions, and determine if two fractions are equivalent.

9. Change between a mixed number and an improper fraction and reduce. Multiply and divide mixed numbers and fractions that are proper or improper.

10. Find the least common denominator given two or three fractions and convert a fraction to an equivalent fraction with a given

denominator. Add and subtract mixed numbers and fractions with or without a common denominator. Solve applied problems that involve various types of fractions.

11. Change between fractional and decimal notation. Compare decimals, order decimals, and round decimals to a specified decimal place. Add, subtract, multiply, and divide decimals. Solve applied problems using operations with decimals.

12. Use ratios and rates to compare quantities.

13. Write a proportion and solve proportions for the missing number. Solve applied problems using proportions.

14. Change a percent, decimal, or a fraction to equivalent forms. Translate a percentage problem into a proportion or an equation and solve. Solve applied percentage problems including interest, commission, percent change, and discounts.

15. Identify units of measure in the American system and solve related problems.

16. Use prefixes in the metric system and convert metric units of length, mass, and volume. Solve applied problems involving the metric system of measure.

17. Change numbers between standard notation and scientific notation. Add and subtract numbers in scientific notation.

18. Combine like terms containing a variable and apply the distributive property.

19. Solve equations using the addition or multiplication properties of equality or both. Solve equations where the variable is on both sides of the equal sign and the distributive property must be used.

☐ B. Standard Prerequisite or Corequisite required by universities.

☐ C. Corequisite is linked to companion lecture course.

☐ D. Prerequisite or Corequisite is authorized by legal statute or regulation.
Code Section: _____

☐ E. Prerequisite or Corequisite is necessary to protect the students' health and safety.

☐ F. Computation or communication skill is needed.

☐ G. Performance courses: Audition, portfolio, tryouts, etc. needed.

or

Requisite Justification for LS M07B

- [ ] A. Sequential course within a discipline.
- [ ] B. Standard Prerequisite or Corequisite required by universities.
- [ ] C. Corequisite is linked to companion lecture course.
- [ ] D. Prerequisite or Corequisite is authorized by legal statute or regulation.
  Code Section: _____
- [ ] E. Prerequisite or Corequisite is necessary to protect the students' health and safety.
- [X] F. Computation or communication skill is needed.
- [ ] G. Performance courses: Audition, portfolio, tryouts, etc. needed.

or

Requisite Justification for 1 year of high school prealgebra with grade of C or better

- [X] A. Sequential course within a discipline.
- [ ] B. Standard Prerequisite or Corequisite required by universities.
- [ ] C. Corequisite is linked to companion lecture course.
- [ ] D. Prerequisite or Corequisite is authorized by legal statute or regulation.
  Code Section: _____
- [ ] E. Prerequisite or Corequisite is necessary to protect the students' health and safety.
- [ ] F. Computation or communication skill is needed.
- [ ] G. Performance courses: Audition, portfolio, tryouts, etc. needed.

or

Requisite Justification for placement as determined by college's multiple measures assessment process.

☐ A. Sequential course within a discipline.

☐ B. Standard Prerequisite or Corequisite required by universities.

☐ C. Corequisite is linked to companion lecture course.

☐ D. Prerequisite or Corequisite is authorized by legal statute or regulation.
Code Section: _____

☐ E. Prerequisite or Corequisite is necessary to protect the students' health and safety.

☒ F. Computation or communication skill is needed.

☐ G. Performance courses: Audition, portfolio, tryouts, etc. needed.

XIV. WORKPLACE PREPARATION

MATH M01A: Not Applicable

XV. DISTANCE LEARNING COURSE OUTLINE ADDENDUM

1. Mode of Delivery

   ☐ Online (course will be delivered 100% online)

   ☒ Online with onsite examinations (100% of the instruction will occur online, but examinations and an orientation will be scheduled onsite)

   ☒ Online/Hybrid (a percentage of instruction will be held online and the remaining percentage of instruction will be held onsite)
   ☐ Lab activities will be conducted onsite

   ☐ Televideo (Examinations and an orientation will be held onsite)

   ☐ Teleconference

   ☐ Other

2. Need/Justification

   Improve General Student Access.

3. Describe how instructors teaching this course will ensure regular, effective contact with and among students.

   Using the Course Management System (CMS) adopted by VCCCD, instructors may engage students using the following communication activities:

   Students will be required to meet with the Math Faculty member

assigned to the Math Center at least twice.

Provide students with an opportunity to ask questions of fellow students and the instructor using the "discussion forum" tool provided by the CMS.

Contact students via email within the CMS, by campus email, and/or MyVCCCD.

Use the "announcement" tool to remind students of important assignments and due dates.

Provide students with an online schedule of class events using the "calendar" tool in the online CMS.

4. Describe how instructors teaching this course will involve students in active learning.

Instructors may involve students in active learning in the following activities:

Students may view video lessons and/or text-based lessons for each learning objective (created by an instructor or by a publishing company).

Students may complete homework on paper and/or using an interactive math software.

Students may test their knowledge with interactive online quizzes provided by a math software.

Students may interact with the instructor and classmates using an online discussion forum to ask questions.

Students may submit questions to the instructor by email.

Instructor may create student groups or group activities using the CMS.

5. Explain how instructors teaching this course will provide multiple methods of content representation.

The following represent the methods by which content may be provided for learning:

Live tutorials in the Math Center.

Internet-based math software.

Instructional Videos.

Textbook.

Links to online resources that may include video, quizzes, interactive math games, text explanations, and more.

6. Describe how instructors teaching this course will evaluate student performance.

Meeting with Math Faculty member assigned to the Math Center.

Complete practice problems on paper and/or in an online interactive

homework system.

Complete regular online and/or math software quizzes.

Participate in online discussion forums.

XVI. GENERAL EDUCATION COURSE OUTLINE ADDENDUM

MATH M01A: Not Applicable

XVII. STUDENT MATERIALS FEE ADDENDUM

MATH M01A: Not Applicable

XVIII. REPEATABILITY JUSTIFICATION TITLE 5, SECTION 55041

MATH M01A: Not Applicable

XIX. CURRICULUM APPROVAL

Course Information:

Discipline: MATHEMATICS

Discipline Code and Number: MATH M01A

Course Revision Category: Outline Update

Course Proposed By:

Originating Faculty Katrina Topolinski 11/01/2017

Faculty Peer: Rena Petrello 11/01/2017

Curriculum Rep: Daniel Rubinstein 11/03/2017

Department Chair: Phillip Abramoff 11/01/2017

Division Dean: Mary Rees 11/01/2017

Approved By:

Curriculum Chair: Jerry Mansfield 04/23/2018

Executive Vice President: _____

Articulation Officer: Jodi Dickey 04/03/2018

Librarian: Mary LaBarge 04/03/2018

Implementation Term and Year: Fall 2018

Approval Dates:

Approved by Moorpark College Curriculum Committee: 04/17/2018

Approved by Board of Trustees (if applicable): 06/12/2018

Approved by State (if applicable): 06/22/2018