



College of the Redwoods CURRICULUM PROPOSAL

1. Course ID and Number: **MATH-372**

2. Course Title: **Arithmetic for the College Student**

3. Check one of the following:

☐

New Course *(If the course constitutes a new learning experience for CR students, the course is new)*

Required - Justification for Need (Provide a brief description of the background and rationale for the course. This might include a description of a degree or certificate for which the course is required or the relationship of this course to other courses in the same or other disciplines. To see examples of such descriptions, consult pages 10-11 of [The Course Outline of Record: A Curriculum Reference Guide](#).)

☒

Updated/Revised Course

If curriculum has been offered under a different discipline and/or name, identify the former course:

Should another course be inactivated? No ☒ Yes ☐ Inactivation date:

Title of course to be inactivated:

(If yes, attach a completed **Course Inactivation Form** found on the [Curriculum Website](#).)

4. If this is an update/revision of an existing course, provide explanation of and justification for changes to this course. Be sure to explain the reasons for any changes to class size, unit value, and prerequisites/corequisites. **Update learning outcomes**

5. List the faculty with which you consulted in the development and/or revision of this course outline:

Faculty Member Name(s) and Discipline(s): Erin Wall (Math), Steve Jackson (Math), Michael Butler (Math), Kevin Yokoyama (Math)

6. If any of the features listed below have been modified in the new proposal, indicate the “old” (current) information and “new” (proposed) changes. If a feature is not changing, leave both the “old” and “new” fields blank.

FEATURES		OLD	NEW
<input type="checkbox"/>	Course Title		
<input checked="" type="checkbox"/>	TOPS/CIPS Code	TOPS 493041 / CIP 32.0104	TOPS 1701.00 – Mathematics Skills / CIP 27.0101 Mathematics, Other
<input type="checkbox"/>	Catalog Description (Please include complete text of old and new catalog descriptions.)		
<input type="checkbox"/>	Grading Standard	Select	Select
<input type="checkbox"/>	Total Units		
<input type="checkbox"/>	Lecture Units		
<input type="checkbox"/>	Lab Units		
<input type="checkbox"/>	Prerequisites		
<input type="checkbox"/>	Corequisites		
<input type="checkbox"/>	Recommended Preparation		
<input type="checkbox"/>	Maximum Class Size		
<input type="checkbox"/>	Repeatability— Maximum Enrollments	Select	Select
<input checked="" type="checkbox"/>	Other		Course Learning Outcomes, Course Content sections, Assessment Tasks, Textbooks

1. DATE: **10/27/12**
2. DIVISION: **Math, Science, and Engineering**
3. COURSE ID AND NUMBER: **MATH-372**
4. COURSE TITLE: **Arithmetic for the College Student**
(Course title appears in Catalog and schedule of classes.)
5. SHORT TITLE: **College Arithmetic**
(Short title appears on student transcripts and is limited to 30 characters, including spaces.)
6. LOCAL ID (TOPS): **1701.00 – Mathematics Skills** [Taxonomy of Program Codes](#)
7. NATIONAL ID (CIP): **27.0101 Mathematics, Other** [Classification of Instructional Program Codes](#)
8. DISCIPLINE(S): **MATH** [Select from Minimum Qualifications for Faculty](#)
Course may fit more than one discipline; identify all that apply:
9. FIRST TERM NEW OR REVISED COURSE MAY BE OFFERED: **Fall 2013**
10. COURSE UNITS:
TOTAL UNITS: **4** LECTURE UNITS: **4** LAB UNITS: **0**
TOTAL HOURS: **72** LECTURE HOURS: **72** LAB HOURS: **0**
(1 Unit Lecture = 18 Hours; 1 Unit Lab = 54 Hours)
11. MAXIMUM CLASS SIZE: **35**
12. WILL THIS COURSE HAVE AN INSTRUCTIONAL MATERIALS FEE? No ☒ Yes ☐ Fee: \$
If yes, attach a completed **Instructional Materials Fee Request Form** found on the [Curriculum Website](#).

GRADING STANDARD

Letter Grade Only ☒ Pass/No Pass Only ☐ Grade-Pass/No Pass Option ☐

Is this course a repeatable lab course? No ☒ Yes ☐ If yes, how many total enrollments? **Select**

Is this course to be offered as part of the Honors Program? No ☒ Yes ☐

If yes, explain how honors sections of the course are different from standard sections.

CATALOG DESCRIPTION -- *The catalog description should clearly describe for students the scope of the course, its level, and what kinds of student goals the course is designed to fulfill. The catalog description should begin with a sentence fragment.*

A study of addition, subtraction, multiplication, and division of whole numbers, fractions, and decimals, with an emphasis on applications. Includes applications of proportion and percents, unit conversion, and averages. Problem solving, estimation, small group work, exploratory activities, and the communication of mathematical ideas are an integral part of the course. The use of scientific calculators will also be introduced.

Special Notes or Advisories (e.g. Field Trips Required, Prior Admission to Special Program Required, etc.):

PREREQUISITE COURSE(S)

No ☒ Yes ☐ Course(s):

Rationale for Prerequisite:

Describe representative skills without which the student would be highly unlikely to succeed.

COREQUISITE COURSE(S)

No ☒ Yes ☐ Course(s):

Rationale for Corequisite:

RECOMMENDED PREPARATION

No ☒ Yes ☐ Course(s):

COURSE LEARNING OUTCOMES—This section answers the question “what will students be able to do as a result of taking this course?” State some of the objectives in terms of specific, measurable student actions (e.g. discuss, identify, describe, analyze, construct, compare, compose, display, report, select, etc.). For a more complete list of outcome verbs please see Public Folders>Curriculum>Help Folder>SLO Language Chart. **Each outcome should be numbered.**

1. Comprehend arithmetical operations (addition, subtraction, multiplication, addition) and relationships among the operations.
2. Apply mathematical operations to real-life situations.
3. Break down mathematical expressions involving more than one operation using algebraic order of operations, to simplify expressions.
4. Evaluate the reasonableness of an answer using estimation strategies.

COURSE CONTENT—This section describes what the course is “about”-i.e. what it covers and what knowledge students will acquire

Concepts: What terms and ideas will students need to understand and be conversant with as they demonstrate course outcomes? **Each concept should be numbered.**

1. Relationships between different representations of numbers: digits with place value, words, diagrams, number line.
2. Properties of numbers: factors, multiples, divisibility.
3. Properties of operations: commutative, associative.
4. Relationships among operations and hierarchy of operations.

Issues: What primary tensions or problems inherent in the subject matter of the course will students engage? **Each issue should be numbered.**

1. Comprehension of abstract symbolic representations to real-life understanding.
2. The importance and necessity of reading mathematics carefully and literally, one character at a time (unlike reading regular text).
3. Study skills for learning mathematics.

Themes: What motifs, if any, are threaded throughout the course? **Each theme should be numbered.**

1. Importance of learning to recognize and understand patterns.
2. Number sense.

Skills: What abilities must students have in order to demonstrate course outcomes? (E.g. write clearly, use a scientific calculator, read college-level texts, create a field notebook, safely use power tools, etc). **Each skill should be numbered.**

1. Read and write whole numbers, fractions, decimals.
2. Add, subtract, multiply, divide, exponentiate whole numbers, fractions, decimals.
3. Evaluate square roots of perfect square numbers.
4. List factors, multiples, and prime factorizations of whole numbers.
5. Round whole numbers, mixed numbers, decimals.
6. Determine the least common multiple of a set of numbers.
7. Use the Algebraic Order of Operations to simplify a numerical expression.
8. Reduce fractions to lowest terms; rewrite as equivalent fractions in higher terms.
9. Solve basic proportion problems.
10. Convert among fractions, decimals, whole numbers, mixed numbers, and percents.
11. Solve basic percent problems.
12. Convert between English units of measurement.
13. Calculate areas of rectangles, perimeters of polygons.
14. Read graphs: pictographs, pie graphs, bar graphs, line graphs, histograms.
15. Calculate mean, median, mode.

REPRESENTATIVE LEARNING ACTIVITIES—This section provides examples of things students may do to engage the course content (e.g., listening to lectures, participating in discussions and/or group activities, attending a field trip). These activities should relate directly to the Course Learning Outcomes. **Each activity should be numbered.**

1. Listening to lectures.
2. Completing homework assignments.
3. Participating in class assignments, discussions.

4. Participating in group activities, assignments.

ASSESSMENT TASKS –This section describes assessments instructors may use to allow students opportunities to provide evidence of achieving the Course Learning Outcomes. **Each assessment should be numbered.**

Representative Assessment Tasks (These are examples of assessments instructors could use.):

1. Writing assignments.
2. Quizzes.
3. Group projects and/or other in-class activities.
4. Portfolios.
5. Individual projects and/or presentations.

Required Assessments for All Sections (These are assessments that are required of all instructors of all sections at all campuses/sites. Not all courses will have required assessments. Do not list here assessments that are listed as representative assessments above.):

1. Homework assignments.
2. In class examinations/quizzes (two options): (Option 1) At least two one-hour, closed book, in class midterm examinations, plus a comprehensive, closed book, in-class final examination. Or (Option 2) at least one one-hour, closed book, in class midterm examination, plus the equivalent of a one-hour midterm examination in the form of in-class, closed-book quizzes; plus a comprehensive, closed-book, in-class final examination.
3. Participation in department scheduled course learning outcome assessments.

EXAMPLES OF APPROPRIATE TEXTS OR OTHER READINGS –This section lists example texts, not required texts.

Author, Title, and Date Fields are required

Author **Lial, Salzman, Hestwood** Title **Basic College Mathematics 8th ed** Date **2009**

Author **Lial, Salzman, Hestwood** Title **Basic College Mathematics 7th ed** Date **2006**

Author **Ignacio Bello** Title **Basic College Mathematics** Date **2011**

Author _____ Title _____ Date _____

Other Appropriate Readings:

COURSE TYPES

1. Is the course part of a Chancellor's Office approved **CR Associate Degree**? ☒ No ☐ Yes

If yes, specify all program codes that apply. (Codes can be found in Outlook/Public Folders/All Public Folders/ Curriculum/Degree and Certificate Programs/choose appropriate catalog year):

- ☐ Required course for degree(s)
☐ Restricted elective for degree (s)

Restricted electives are courses specifically listed (i.e. by name and number) as optional courses from which students may choose to complete a specific number of units required for an approved degree.

2. Is the course part of a Chancellor's Office approved **CR Certificate of Achievement**? ☒ No ☐ Yes

If yes, specify all program codes that apply. (Codes can be found in Outlook/Public Folders/All Public Folders/ Curriculum/Degree and Certificate Programs/choose appropriate catalog year):

- ☐ Required course for certificate(s)
☐ Restricted elective for certificate(s)

Restricted electives are courses specifically listed (i.e. by name and number) as optional courses from which students may choose to complete a specific number of units required for an approved certificate.

3. Is the course Stand Alone? ☐ No ☒ Yes

(If "No" is checked for BOTH #1 & #2 above, the course is stand alone.)

4. Basic Skills: **B Basic Skills**

5. Work Experience: **NWE Not Coop Work Experience**

6. Course eligible Career Technical Education funding (applies to vocational and tech-prep courses only): No ☒ Yes ☐

7. Course eligible Economic Workforce Development funding : No ☒ Yes ☐

(If TOPS code has an asterisk it is indicative that the course is vocational.)

8. Purpose: **Y Credit Course** [Course Classification Status](#)
9. Accounting Method: **W Weekly Census**
10. Disability Status: **N Not a Special Class**
11. Course SAM Priority Code: **E Not Occupational** [Definitions of SAM Priority Codes](#)

COURSE TRANSFERABILITY

1. Current Transferability Status: **C Not Transferable**
2. Course Prior to Transfer Level: **D Four Levels Below Transfer** [Definitions of Course Prior to Transfer Levels](#)

CURRENT TRANSFERABILITY STATUS (Check at least one box below):

This course is currently transferable to:

- ☒ **Neither CSU nor UC**
- ☐ **CSU as general elective credit**
- ☐ **CSU as a specific course equivalent (see below)**

If the course transfers as a specific course equivalent give course number(s)/ title(s) of one or more currently-active, equivalent lower division courses from CSU.

1. Course _____, Campus _____ 2. Course _____, Campus _____

- ☐ **UC as general elective credit**
- ☐ **UC as specific course equivalent**

If the course transfers as a specific course equivalent give course number(s)/ title(s) of one or more currently-active, equivalent lower division courses from UC.

1. Course _____, Campus _____ 2. Course _____, Campus _____

PROPOSED CSU TRANSFERABILITY (Check at least one of the boxes below):

- ☒ **No Proposal**
- ☐ **Remove as General Education**
- ☐ **Propose as General Elective Credit**
- ☐ **Propose as a Specific Course Equivalent (see below)**

If specific course equivalent credit is proposed, give course number(s)/ title(s) of one or more currently-active, equivalent lower division courses from CSU.

1. Course _____, Campus _____ 2. Course _____, Campus _____

PROPOSED UC TRANSFERABILITY (Check one of the boxes below):

- ☒ **No Proposal**
- ☐ **Remove as General Education**
- ☐ **Propose as General Elective Credit OR Specific Course Equivalent (fill in information below)**

If "General Elective Credit OR Specific Course Equivalent" box above is checked, give course number(s)/ title(s) of one or more currently-active, equivalent lower division courses from UC.

1. Course _____, Campus _____ 2. Course _____, Campus _____

CURRENTLY APPROVED GENERAL EDUCATION Check at least one box below):

- ☒ **Not currently approved**
- CR ☐ CR GE Category:
- CSU ☐ CSU GE Category:

PROPOSED CR GENERAL EDUCATION (Check at least one box below):

- ☒ **No Proposal**
☐ **Remove as General Education**
☐ **Review to maintain CR GE Status**
☐ **New GE Proposal**

____ **Approved as CR GE by Curriculum Committee:** _____
 _____ **Not Approved** (DATE) _____

CR GE Outcomes

GE learning outcomes in Effective Communication, Critical Thinking, and Global Awareness must be addressed in all general education courses.

- **Effective Communications:** *Explain how the proposed GE course fulfills at least one of the CR GE outcomes in this category.*
- **Critical Thinking:** *Explain how the proposed GE course fulfills at least one of the CR GE outcomes in this category.*
- **Global Awareness:** *Explain how the proposed GE course fulfills at least one of the CR GE outcomes in this category.*

GE Criteria for Breadth and Generality

GE courses should be broad and general in scope. Typically such courses are introductory-- not advanced or specialized—and the content encompasses a broad spectrum of knowledge within a given field of study.

Explain how the proposed GE course fulfills GE criteria for breadth and generality.

CR GE Area Designation

Course Learning Outcomes and Course Content should provide evidence of appropriate GE Area Designation.

Additional rationale for GE Area Designation (optional):

- ☐ Natural Science
☐ Social Science
☐ Humanities
☐ Language and Rationality
 ☐ Writing
 ☐ Oral Communications
 ☐ Analytical Thinking

PROPOSED CSU GENERAL EDUCATION BREADTH (CSU GE) (Check at least one box below):

- ☒ **No proposal**
- | | |
|--|--|
| <p>A. Communications and Critical Thinking</p> <p><input type="checkbox"/> A1 – Oral Communication</p> <p><input type="checkbox"/> A2 – Written Communication</p> <p><input type="checkbox"/> A3 – Critical Thinking</p>
<p>C. Arts, Literature, Philosophy, and Foreign Language</p> <p><input type="checkbox"/> C1 – Arts (Art, Dance, Music, Theater)</p> <p><input type="checkbox"/> C2 – Humanities (Literature, Philosophy, Foreign Language)</p>
<p>E. Lifelong Understanding and Self-Development</p> <p><input type="checkbox"/> E1 – Lifelong Understanding</p> <p><input type="checkbox"/> E2 – Self-Development</p> | <p>B. Science and Math</p> <p><input type="checkbox"/> B1 – Physical Science</p> <p><input type="checkbox"/> B2 – Life Science</p> <p><input type="checkbox"/> B3 – Laboratory Activity</p> <p><input type="checkbox"/> B4 – Mathematics/Quantitative Reasoning</p>
<p>D. Social, Political, and Economic Institutions</p> <p><input type="checkbox"/> D0 – Sociology and Criminology</p> <p><input type="checkbox"/> D1 – Anthropology and Archeology</p> <p><input type="checkbox"/> D2 – Economics</p> <p><input type="checkbox"/> D3 – Ethnic Studies</p> <p><input type="checkbox"/> D5 – Geography</p> <p><input type="checkbox"/> D6 – History</p> <p><input type="checkbox"/> D7 – Interdisciplinary Social or Behavioral Science</p> <p><input type="checkbox"/> D8 – Political Science, Government and Legal Institutions</p> <p><input type="checkbox"/> D9 – Psychology</p> |
|--|--|

Rationale for inclusion in this General Education category: Same as above ☐

Proposed Intersegmental General Education Transfer Curriculum (IGETC) (Check at least one box below):

- ☒ **No proposal**
☐ 1A – English Composition
☐ 1B – Critical Thinking-English Composition

- ☐ 1C – Oral Communication (CSU requirement only)
- ☐ 2A – Math
- ☐ 3A – Arts
- ☐ 3B – Humanities
- ☐ 4A – Anthropology and Archaeology
- ☐ 4B – Economics
- ☐ 4E – Geography
- ☐ 4F – History
- ☐ 4G – Interdisciplinary, Social & Behavioral Sciences
- ☐ 4H – Political Science, Government & Legal Institutions
- ☐ 4I – Psychology
- ☐ 4J – Sociology & Criminology
- ☐ 5A – Physical Science
- ☐ 5B – Biological Science
- ☐ 6A – Languages Other Than English

Rationale for inclusion in this General Education category: Same as Above ☐

Submitted By: **Tami Matsumoto**

Tel. Ext. **4543**

Date: **11/15/12**

Division Chair/Director: **Rachel Anderson**

Review Date: **11/15/12**

CURRICULUM COMMITTEE USE ONLY

Approved by Curriculum Committee: No ☐

Yes ☒

Date: **12.14.12**

Academic Senate Approval Date: **12.18.12**

Board of Trustees Approval Date: **01.08.12**