COURSE SYLLABUS*
Structure and Concepts of Elementary Mathematics I (Math 125)
Section 2745, Room H-139, Tuesday, Thursday 5 -- 6:50 PM
Fall 2018, Cuyamaca College

INSTRUCTOR: Dr. Rudolph Perkins **E-MAIL:** rudolph.perkins@gcccd.edu

Office Hours: By appointment and often the hour before class in the STEM Achievement Center.

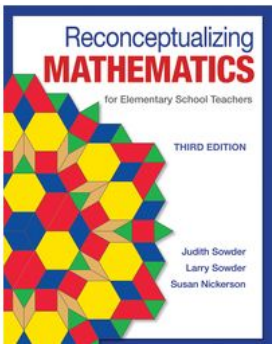
IMPORTANT DATES:

Fall 2018 Academic Calendar

Full-Semester Courses	**August 20 - December 15**
Late Registration and Add Code Required	August 20 - September 3
Last Day to Drop Classes Without a "W" on Your Record	August 31
Last Day to Apply for a Refund	August 31
Holiday (Labor Day)*	**September 3**
Last Day to Apply for P/NP (CR/NCR)	September 21
Last Day to Drop Classes	November 9
Holiday (Veterans Day)*	**November 12**
Holiday (Thanksgiving)*	**November 22 - 24**
Final Examinations	December 10 - 15
Instructor Grade Deadline	December 20

Final Exam: THURSDAY, DECEMBER 13 5 -- 7 p.m.

TEXT: Reconceptualizing Mathematics: Sowder, Sowder, Nickerson 3rd edition



* All items in this syllabus are subject to change at the instructor's discretion. If any significant change occurs, you will be notified in writing by the instructor.

Course Prerequisite: Grades of C or above in the courses Math 103 or equivalent.

Course Description:
In blending the mathematical topics of sets, whole numbers, numeration, number theory, integers, rational and irrational numbers, measurement, relations, functions and logic, the course will investigate the interrelationships of these topics using a problem-solving approach and appropriate use of technology.

Standard Learning Outcomes (SLO):
Upon successful completion of this course, students will be able to:

1. Perform calculations with place value systems;
2. Evaluate the equivalence of numeric algorithms and explain the advantages and disadvantages of equivalent algorithms in different circumstances;
3. Apply algorithms from number theory to determine divisibility in a variety of settings;
4. Analyze least common multiples and greatest common divisors and their role in standard algorithms;
5. Explain the concept of rational numbers, using both ratio and decimal representations; analyze the arithmetic algorithms for these two representations; and justify their equivalence;
6. Analyze the structure and properties of whole, rational, and real number systems; define the concept of rational and irrational numbers, including their decimal representation; and illustrate the use of a number line representation;
7. Develop and reinforce conceptual understanding of mathematical topics through the use of patterns, problem solving, communication, connections, modeling, reasoning, and representation; and
8. Develop math activities implementing curriculum standards.

Class Policies: As dictated by the SLOs above, the purpose of this course is to deepen your knowledge of elementary school level mathematics. I intend for the course to be hands-on and student-centered, based around solving interesting and challenging problems and doing activities as a class with the purpose of building on and expanding your current mathematical knowledge.

Plan now on being in class every day that class meets and spending at least two hours each day outside of class studying. It is my intention to make this class as enjoyable as possible. The math concepts for this class should not be difficult. The goal of this class is not to teach you the math concepts but to explore multiple methods and approaches to finding the correct solution to a problem. If you are having difficulty with the math concepts themselves, please see me as soon as possible.

Classroom Behavior: Class time is valuable. I expect you to be focused on the work of the class during class time. At all times a student's conduct and language is expected to be respectful of others. As students you are encouraged to participate in all class discussions. Part of the understanding process is being able to

communicate your understanding of the content area. It will help you tremendously to ask your questions. There are no "stupid" questions!

Attendance is required at every class meeting. Excessive absences in a 3 unit class is 3 hours -- a student may then be dropped from the course by the instructor.

Exams: There will be three exams and one comprehensive final exam. **Make-up exams WILL NOT be given**. If you know you will miss an exam, let me know in advance and arrangement will be made for you to take it early.

Grading Policy and Percentage of your total grade:
Exams (3 exams) 50 %
Weekly Quizzes 15% (lowest quiz will be dropped)
Homework/Problem of the month/Class-work 10%
Final Exam: 25%

98 – 100 % A+	**88 – 89% B+**	**78 – 79% C +**	**60 – 69 % D**
97 – 92% A	**82 – 87% B**	**70 – 77% C**	**Below 60% F**
91 – 90% A -	**81 – 80% B-**		

If you are absent the day we do class-work or take a quiz you will receive a zero for that particular assignment.

STUDENTS WITH DISABILITIES:
Students needing special accommodations need to inform me within the FIRST WEEK of the class.

TIPS FOR SUCCESS:
Get to class on time
Keep a positive attitude
Listen attentively to the lectures, take careful notes, and ask lots of questions
Do the homework!
Organize your own study groups
Get a free tutor – the STEM Achievement Center is open Monday – Friday, call 619-660-4396 for details

Tutoring
To support your efforts to succeed in this class, it is highly recommended that you utilize the free math tutoring services available in the STEM Center (the Tutoring Center). Students needing additional help to achieve the learning outcomes for this class are encouraged to enroll in Math 198, Supervised Tutoring. The H-building STEM center tutor station will provide students with an add code to enroll in this free non-credit class. Instructors and student tutors are available to answer homework questions, give confidence, and support math students. Students also have access to graphing calculators, textbooks, instructional videos, and computer

tutorial programs. Computers are also available for student use. Hours of the STEM Center: M–Th 9:00 am – 6:00 pm, Friday 9:00 – 2:00 pm. See the following link for up-to-date tutoring information:
http://www.cuyamaca.edu/academics/support/tutoring/default.aspx#stem

ACADEMIC INTEGRITY:
All work that you complete in this class should be your own. Any form of cheating will result in an "F" on the assignment, and a referral to the Dean for further action.

If you are having difficulty with any homework assignment, feel free to send me an email and make use of the STEM Achievement Center. Remember we are here to help you succeed. Use the resources that are available to you.

If you take course CR/NCR, then a credit grade is equivalent to an A, B, or C and a no credit grade is equivalent to a D or F.

The Standards for Mathematical Practice:
MP1 Make sense of problems and persevere in solving them.
MP2 Reason abstractly and quantitatively.
MP3 Construct viable arguments and critique the reasoning of others.
MP4 Model with mathematics.
MP5 Use appropriate tools strategically.
MP6 Attend to precision.
MP7 Look for and make use of structure.
MP8 Look for and express regularity in repeated reasoning.

Here is an example of what the course might look like if we worked through each section of the book, in sequential order, to give you some frame of reference for the course structure. I reserve the right to make any changes necessitated by the SLOs to be covered by the class with the possible inclusion of material from Chapters 10 and 11.

TENTATIVE SEMESTER SCHEDULE					
Week	**Tuesday**	**Sections/Topics**	**Thursday**	**Sections/Topics**	
1	Aug 21	Introduction and 1.1	Aug. 23	1.2 and 1.3	
2	Aug 28	1.4	Aug 30	2.1 and 2.2	**Quiz #1**
3	Sept 4	2.3	Sept 6	2.3 and 2.4	**Quiz #2**
4	Sept 11	2.4	Sept 13	Review	
5	Sept 18	**Exam 1**	Sept 20	3.1 and 3.2	
6	Sept 25	3.3 and 3.4	Sept 27	3.4 and 3.5	**Quiz #3**

* All items in this syllabus are subject to change at the instructor's discretion. If any significant change occurs, you will be notified in writing by the instructor.

7	Oct 2	3.6	Oct 4	4.1	**Quiz #4**
8	Oct 9	4.1 and 5.1	Oct 11	5.2 and 5.3	**Quiz #5**
9	Oct 16	5.3 and 5.4	Oct 18	Review	
10	Oct 23	**Exam 2**	Oct 25	6.1	
11	Oct 30	6.2	Nov 1	6.3	**Quiz #5**
12	Nov 6	6.4	Nov 8	7.1	**Quiz #6**
13	Nov 13	7.1 and 7.2	Nov 15	7.3 and 8.2	**Quiz #7**
14	Nov 20	7.3 and 8.2	Nov 22	**Thanksgiving**	
15	Nov 27	9.1/9.2	Nov 29	Review	
16	Dec 4	**Exam 3**	Dec 6	Review	
	Dec 11	**No class**	Dec 13	**Final 5 -- 7 PM**	

HOMEWORK:
The following problems are suggested for you as good representatives of the topics covered in the corresponding sections; do as many additional problems in each section as you have time for. Homeworks for a given section or sections will be due after those sections have been covered in class and on the day we start a new section in class; so, for example, the homeworks for sections 1.2 and 1.3 will be due at the beginning of class on Tuesday, August 24th (since we start section 1.4 that day).

Homeworks will be graded for completion and potentially graded for correctness and discussed by you and your peers. I encourage you to work together to complete and discuss the homeworks, but all solutions must be written up in your own words, as per the section on academic honesty. I reserve the right to assign a grade of zero to any students who have simply copied each others' work, and upon multiple infractions, such students may be subject to further discipline by the Dean.

Exam 1-Chapter 1 and 2

Chapter 1	
Section/Page	Problems
1.2/10	1, 3, 4, 9
1.3/16	1, 2, 3, 4, 5
1.4/21	1-9
Chapter 2	
2.1/25	4, 5
2.2/28	1, 2, 4, 6, 7
2.3/35	2, 3, 5, 6, 9, 12, 18

* All items in this syllabus are subject to change at the instructor's discretion. If any significant change occurs, you will be notified in writing by the instructor.

2.4/41	1, 2, 4, 5, 7, 8

Exam 2- Chapters 3,4, and 5

Chapter 3	
3.1/49	6, 7, and 8
3.2/55	1-3, 5, 7, 8, 11
3.3/62	2,5,6,7,15
3.4/69	1, 3, 4, 5, 6, 7, 9, 12, 17, 19 SE 4
3.5/	
3.6/78	1-6
Chapter 4	
4.1/88	1,4,5,8,9,13
Chapter 5	
5.1/96	1, 2a,b,e,h, 3a,b,c, 4a, 5, 6
5.2/100	1, 3,4, 6, 7
5.3/103	1, 3, 4
5.4/105	1, 2, 3,4

Exam 3 – Chapters 6, 7, 8, and 9

Chapter 6	
6.1/112	1-6, 8, 9, 10, 13, 14, 15, 22a, b, 23
6.2/120	2 – 6, 11, 12
6.3/125	1, 2a, c, f, k, 3, 4a, 5, 9, 13
6.4/131	2, 4, 5, 6, 7, 8, 10, 16, 17
Chapter 7	
7.1/140	1, 2, 3, 4, 6, 7, 15, 19 SE 6
7.2/145	1, 2, 3, 4, 5, 8, 11, 17
7.3/153	1, 3, 5, 6, 7, 8, 14
7.4/157	1, 3, 6, 7, 8
8.2/167	6,7
Chapter 9	
9.1/174	2
9.2/181	1, 5, 6, 8, 18

* All items in this syllabus are subject to change at the instructor's discretion. If any significant change occurs, you will be notified in writing by the instructor.