

Math 213 Fall 2011

Time and Place: TR 1:30-2:45 p.m. RLC108

Instructor: Maria Zack, Ph.D.

Phone Number: 849-2458

Office Number: S222

Office Hours:

Monday	8:00-9:00 a.m.
Tuesday	9:30-11:00 a.m.
Wednesday	2:00-3:00 p.m.
Thursday	9:30-11:00 a.m.
Friday	1:00-2:00 p.m.

These are the hours that I will definitely be available. You can come by my office any time and if I am free I will help you (you can also call me at home if you call **before 8:45 p.m.** 760-753-7861). I keep a sign-up sheet on my office door and you can sign up for any empty time slot (there are slots other than my office hours) if you want to be sure that the time is reserved for you. If you have a question or just want to hang out, come by my office.

Text: *Mathematics for Elementary Teachers (9th Edition)*
By Musser, Burger and Peterson

Needed Supplies:

Calculator, compass, protractor and ruler.

Content:

MTH213 (and MTH223 in the Spring) includes the college-level mathematics and instructional methods needed to teach elementary school mathematics in ways consistent with the recommendations of the professional publications described above and with the California State Department of Education's *Mathematics Framework*. Material is selected for inclusion because teachers need to know it and understand it in order to teach elementary school mathematics effectively. Also, course activities and assignments are designed to assist you in gaining a deeper understanding of mathematics sufficient for effective teaching.

Philosophy and Approach:

Our approach to mathematics for elementary teachers is based on a specific theory of teaching and learning mathematics called constructivism. Research in learning theory shows that students who learn mathematics effectively must be actively involved in the process, not just passive listeners/observers. In particular, in order to really learn and understand mathematical ideas and processes you must become deeply involved in activities such as exploring, discussing, analyzing, explaining, conjecturing, defending, negotiating, testing, and evaluating. To do this you need good problems to solve, interaction with others on solutions, and opportunities to write your conclusions.

Objectives:

The course is designed to help you:

- acquire knowledge and develop understanding of the conceptual and procedural foundations for teaching elementary school mathematics
- develop the ability to teach mathematics developmentally (i.e., basing procedural knowledge on clear connections with prior conceptual knowledge)

- acquire knowledge and develop ability to create a problem solving environment in the classroom, to set and achieve teaching goals, to stimulate and manage classroom discourse, to use technology effectively, and to make ongoing instructional decisions
- acquire confidence sufficient to teach elementary mathematics positively and enthusiastically

Learning Outcomes

- Students will be able to demonstrate a facility with operations on the integers.
- Students will be able to demonstrate a facility with operations on the rational numbers.
- Students will be able to apply concepts from number theory to solve problems.

Grading:

Your grade for the course is based on:

2 Exams (25% each)	50%
Final Exam	30%
Homework and activities	20%

The grading scale for the course is:

	A	B	C	D
+		(87,90)	(77,80)	(67,70)
	[92,100]	[82,87]	[72,77]	[62,67]
-	[90,92)	[80,82)	[70,72)	[60,62)

Homework:

Homework will be assigned each day at the end of class. All homework assigned in a week will be **due at the start of class** the next Thursday. No late homework will be accepted except by prior arrangement or with a documented emergency. Homework assignments are posted on the bulletin board by my office door. The object of the homework is to learn how to do the problems so I expect to see calculations on your homework using the terminology and methods of the class and not just the answer. A random selection (the same for all people) of the problems will be graded on any homework assignment.

Basic Competency Test: In order to pass MTH213 you must pass this test at the 80% level. It will be given the first week of classes and then retakes can be arranged on a one to one basis with the course professor.

Exams:

There are two in-class exams. If you do not take an exam you will receive a zero for it. Late exams may be taken only by prior arrangement or with a documented emergency. I must participate in the decision for you to miss an exam, this means that you need to phone me before missing an exam.

Final:

The final is cumulative and is given on **TUESDAY DECEMBER 13, 1:00-3:00 p.m.** The final exam date and time is set by the university at the beginning of the semester and may not be changed by the instructor. Only in the case that a student is required to take three exams during the same day of finals week is an instructor authorized to change the exam date and time for that particular student.

Attendance:

Attendance is expected at each class session. In the event of an absence you are responsible for the material covered in class and the assignments given that day.

Regular and punctual attendance at all classes in which a student is registered is considered essential to optimum academic achievement. Therefore, regular attendance and participation in each course are minimal requirements to be met. There are no allowed or excused absences except when absences are necessitated by certain university-sponsored activities and are approved in writing by the Provost. Whenever the number of accumulated absences in a class, for any cause, exceeds ten percent of the total number of class meetings, the faculty member has the option of filing a written report to the Vice Provost for Academic Administration which may result in de-enrollment, pending any resolution of the excessive absences between the faculty member and the student...If the date of de-enrollment is past the last date to withdraw from a class, the student will be assigned a grade of W or WF (no grade). There are no refunds for courses where a de-enrollment was processed.” (see catalog for full text)

Class Enrollment:

It is the student's responsibility to maintain his/her class schedule. Should the need arise to drop this course (personal emergencies, poor performance, etc.), the student has the responsibility to follow through (provided the drop date meets the stated calendar deadline established by the university), not the instructor. Simply ceasing to attend this course or failing to follow through to arrange for a change of registration (drop/add) may easily result in a grade of F on the official transcript.

Academic Accommodations:

While all students are expected to meet the minimum academic standards for completion of this course as established by the instructor, students with disabilities may require academic accommodations. At Point Loma Nazarene University, students requesting academic accommodations must file documentation with the Disability Resource Center (DRC), located in the Bond Academic Center. Once the student files documentation, the Disability Resource Center will contact the student's instructors and provide written recommendations for reasonable and appropriate accommodations to meet the individual needs of the student. This policy assists the university in its commitment to full compliance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities (ADA) Act of 1990, and ADA Amendments Act of 2008, all of which prohibit discrimination against students with disabilities and guarantees all qualified students equal access to and benefits of PLNU programs and activities.

Students with learning disabilities who may need accommodations should discuss options with the instructor during the first two weeks of class.

Academic Honesty:

The Point Loma Nazarene University community holds the highest standards of honesty and integrity in all aspects of university life. Academic honesty and integrity are strong values among faculty and students alike. Any violation of the university's commitment is a serious affront to the very nature of Point Loma's mission and purpose.

Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. Such acts include plagiarism, copying of class assignments, and copying or other fraudulent behavior on examinations. For more details on PLNU's policy go to:

<http://www.pointloma.edu/experience/academics/catalogs/undergraduate-catalog/point-loma-education/academic-policies>

A student who is caught cheating on any item of work will receive a zero on that item and may receive an "F" for the semester. See the PLNU Catalog for a further explanation of the PLNU procedures for academic dishonesty.

E-mail:

I expect that you regularly use e-mail. I will periodically send you information and updates via e-mail. In the first two weeks of class you must activate your PLNU e-mail account if you are not currently using it.

Some Tips About This Class:

- You will have reading every night. Don't get behind! Reading mathematics is a fairly slow process and will require you to read things more than once.
- Read with a pencil in hand. Be sure to fill in details and check the author's computations. I will probably help your studying if you write these calculations in the margins.
- Work lots of problems. Part of becoming good at mathematics is practice.
- Work in groups. You learn a lot if you have to explain your solution to someone else (we will be doing this in class).
- Stay current with your assignments (cramming won't help)
- If you have a question **ASK**.

	Mon	Tuesday	Wed	Thursday	Fri
A u g u s t	22 Lead	23 Lead Week	24 Lead	25 Lead Week	26 NSO
	29	30	31	1 1.1 Introduction and 1.2 Problem Solving	2
S e p t e m b e r	5 Labor Day	6 Basic Skills Test	7	8 2.1 Sets as a Basis for the Whole Numbers	9
	12	13 2.2 Whole Numbers and Numeration	14	15 2.3 The Hindu-Arabic System	16
	19	20 3.1 Addition and Subtraction	21	22 3.2 Multiplication and Division	23
	26	27 3.3 Ordering and Exponents	28	29 4.1 Mental Mathematics and Estimation	30
O c t o b e r	3	4 4.2 Algorithms for Whole Numbers	5	6 4.3 Algorithms in Other Bases and Test Review	7
	10	11 Exam #1	12	13 5.1 Primes, Composites, and Tests for Divisibility	14
	17	18 5.2 Factors, Greatest Common Factor, Least Common Multiple	19	20 TBA	21 Fall Break
	24	25 6.1 Fractions and 6.2 Addition and Subtraction of Fractions	26	27 6.3 Multiplication and Division of Fractions	28
N o v e m b e r	31	1 7.1 Introduction to Decimals and 7.2 Operations with Decimals	2	3 7.2 Operations with Decimals and 7.3 Ratio and Proportion	4
	7	8 7.3 Ratio and Proportion and 7.4 Percent	9	10 8.1 Addition and Subtractions with Integers	11
	14	15 8.2 Multiplication, Division and Order with Integers	16	17 9.1 The Rational Numbers and Test Review	18
	21	22 Exam #2	23 24 Thanksgiving Recess		25
	28	29 9.2 The Real Numbers and 9.3 Quadratic Equations	30	1 TBA	2
D e c e m b e r	5	6 9.3 Quadratic Equations and the Quadratic Formula	7	8 Review for the Final Exam	9
	12	13 MTH213 Final 1:00-3:00 p.m.	14	15	16