Syllabus

To-Do Date: Oct 27 at 11:59pm

19 02 POINT LOMA NAZARENE UNIVERSITY	**Department of Mathematical, Information, and Computer Sciences** **MTH2013: Fundamentals of Elementary Mathematics I** **(3 units)**
Fall 2020 August 17th - December 5th	

Instructor: Dr. Greg Crow, Ph.D.
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Email: gcrow@pointloma.edu
Office hours: By Appointment in Zoom **(See Course and Office Hours Fall 2020.pdf (https://canvas.pointloma.edu/courses/52075/files/3504713/download?wrap=1) (https://canvas.pointloma.edu/courses/52075/files/3504713/download?wrap=1))**

PLNU Mission

To Teach ~ To Shape ~ To Send

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

Department Mission

The Mathematical, Information, and Computer Sciences department at Point Loma Nazarene University is committed to maintaining a curriculum that provides its students with the tools to be productive, the passion to continue learning, and Christian perspectives to provide a basis for making sound value judgments.

COURSE DESCRIPTION

Catalog Description:

MTH2013 (3 Units) Fundamentals of Elementary Mathematics I

A comprehensive approach to the mathematical knowledge necessary for a California multiple subject teaching credential (K-8). Topics covered in this course include whole numbers, numeration systems, fractions, decimals, ratios, proportions and an introduction to number theory. The integers, rational numbers, irrational numbers and real numbers are studied along with algebraic expressions, inequalities, graphs and polynomials. This class is highly interactive and emphasizes group work and cooperative learning. Not applicable toward a major in Mathematics. Passing an 8th grade mathematics proficiency test is a requirement for the completion of this course.

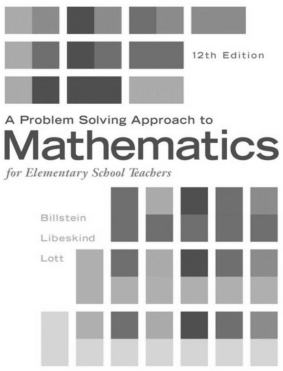
Prerequisite: MTH 1013 or equivalent.

COURSE LEARNING OUTCOMES

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

REQUIRED TEXTS AND RECOMMENDED STUDY RESOURCES

Billstein, Libeskind, and Lott, *A Problem Solving Approach to Mathematics for Elementary School Teachers,* 12th Edition



COURSE CREDIT HOUR INFORMATION

In the interest of providing sufficient time to accomplish the stated Course Learning Outcomes, this class meets the PLNU credit hour policy for a 3 unit class delivered over fifteen weeks. Specific

details about how the class meets the credit hour requirement can be provided upon request. (Based on 37.5 hours of student engagement per credit hour.)

Distribution of Student Learning Hours

Category	Time Expectation in Hours
Online Participation (Zoom)	18.75
Reading Assignments	24
Written Assignments	30
Online Homework	18
Videos and Notes	15
Review Sessions	2.5
Chapter Reviews	1.75
Exam	1.25
Final Exam	2.5
Total Hours	113.75

ASSESSMENT AND GRADING

Basic Competency Test:

In order to pass MTH2013 you must pass this test at the 80% level. It will be given the second week of classes and then retakes can be arranged on a one to one basis with the course professor. No more than a total of three attempts are allowed on this test.

Graded Components

- **Video Notes** - Each section will have videos to watch and you should take notes. Your notes will be submitted in Canvas to provide evidence you are keeping up. Up to a maximum of one set of video notes will be accepted up to 3 days late provided that consent is received from the professor before it is due. Video notes that are submitted late without prior consent will be recorded with a score of zero. If you submit plausible notes for 90% or more of the assignments, you will receive full credit. If you submit plausible notes for 80% to 90%, you will receive half credit. If more than 20% of your video notes are either not present or not plausible, then you will receive no credit for video notes. Your video notes are due at 11:59 pm on Monday evening.
- **Online Homework** – You will have two attempts to work each problem set. **You must have access to the online homework in Canvas for this material.** Your online homework will be graded by the computer. Up to a maximum of one week of online homework will be accepted up to 3 days late provided that consent is received from the professor before it is due. Online

homework that is submitted late without prior consent will be recorded with a score of zero. The second (last) attempt will be due at 11:59 pm on Saturday evening.

- **Weekly Zooms (Participation)** - Each week there is a scheduled Zoom to do activities and work on problems. It is understand that in some cases you will not be able to attend, in such cases, please request permission to attend the other zoom session that week. Where that is not possible, please watch the recorded video of the session and submit at least one problem discussed during the Zoom in the Canvas discussion to have your attendance counted. If you participate in 90% or more of the Zoom meetings, you will receive full credit. If you participate in 80% to 90% of the Zoom meetings, you will receive half credit. If do not participate in more than 20% of the Zoom meetings, then you will receive no participation credit.
- **Written Homework** – Please work with someone else from the class on your homework up to a maximum of three people besides yourself. Each individual will in the end write up their own work, scan or photograph the pages, and upload the file to Canvas as a .pdf, .png, or .docx (but **not Google Docs**). If you use Google Docs, please export to a .pdf and upload that file. In your written homework I expect to see calculations using the terminology and methods of the class and not just the answers. In addition, you need to include a description of how you worked with your homework group by giving a synopsis of your approach as well as an example of a problem or two on which you worked. A random selection (the same for all students in the class) of the problems will be graded on any homework assignment as well as the synopsis and examples of your homework group experience. Up to a maximum of one homework assignment will be accepted up to 3 days late provided that consent is received from the professor before it is due. Homework assignments that are submitted late without prior consent will be recorded with a score of zero. Your written homework is due at 11:59 pm on Monday evening.
- **Chapter Review Exercises for Exams (Quizzes)** – these will be due at 11:59 pm on the Saturday night prior to the exam day. In order to earn the maximum credit for each chapter, a minimum score equivalent to five correct questions must be earned. Earning a score above five correct questions will not raise the credit for that chapter. The percent correct out of five will be averaged for all of the chapters for that exam and then multiplied by half of the Exam Review Exercise points for the semester. Chapter Reviews that are submitted late without prior consent will be recorded with a score of zero.
- **Mid-Semester Examination and the Final Examination:** There will be one Mid-Semester Examination and a comprehensive Final Examination. The Mid-Semester Examination and the Final Examination will include problems and questions over material assigned in the text, readings and handouts, as well as material presented in class. The examination schedule is included in the daily schedule. No examination shall be missed without prior consent or a well-documented emergency beyond your control. In such cases, all make-up exams will occur at 8:30 am on the Saturday between classes and the Final Exam week. A score of zero will be assigned for an examination that is missed without prior consent or a well-documented emergency beyond your control.

- **Late work will not be accepted** without prior consent or a well-documented emergency. Homework assignments that are submitted late without prior consent will be recorded with a score of zero. If more than half of the homework assignments (written or online) are submitted on time, then the lowest homework score will be dropped from the calculations of the homework grade (written or online).
- **The examination schedule** is included in the daily schedule. This instructor does not intend to accept excuses such as poor communication with parents, benefactors, surf team sponsors and/or travel agents.

Grading Distribution	**Percent**
Mid-Semester Examination	25
Final Exam	35
Chapter Review Exercises for Exams	5
Videos and Notes	2.5
Zoom Participation	2.5
Online Homework	15
Written Homework	15
Total	100

Grading Scale

Grades are based on the number of points accumulated throughout the course with the following exception. A student must pass at least one of the Mid-Semester Examination or the Final Examination in order to pass the class. That is, a score of 60% must be achieved on one of the Examinations, or else the final grade will be an F regardless of all other point totals. Approximate minimal percentages required to obtain a given grade are:

Standard Grade Scale Based on Percentages					
	A	**B**	**C**	**D**	**F**

Standard Grade Scale Based on Percentages					
	A	**B**	**C**	**D**	**F**
+		87.5- 90	77.5-80	67.5-70	
	92.5 -100	82.5-87.5	72.5-77.5	62.5 -67.5	0-60
_	90-92.5	80-82.5	70-72.5	60-62.5	

STATE AUTHORIZATION

State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the student's responsibility to notify the institution of any change in his or her physical location. Refer to the map on **State Authorization (https://www.pointloma.edu/offices/office-institutional-effectiveness-research/disclosures)** to view which states allow online (distance education) outside of California.

INCOMPLETES AND LATE ASSIGNMENTS

All assignments are to be submitted/turned in by the beginning of the class session when they are due—including assignments posted in Canvas. Incompletes will only be assigned in extremely unusual circumstances.

PLNU COPYRIGHT POLICY

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

PLNU ACADEMIC HONESTY POLICY

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. 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. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the

university Catalog. See **Academic Policies (http://catalog.pointloma.edu/content.php?catoid=18&navoid=1278)** for definitions of kinds of academic dishonesty and for further policy information.

PLNU ACADEMIC ACCOMMODATIONS POLICY

While all students are expected to meet the minimum standards for completion of this course as established by the instructor, students with disabilities may require academic adjustments, modifications or auxiliary aids/services. At Point Loma Nazarene University (PLNU), these students are requested to register with the Disability Resource Center (DRC), located in the Bond Academic Center. (**DRC@pointloma.edu (mailto:DRC@pointloma.edu)** or 619-849-2486). The DRC's policies and procedures for assisting such students in the development of an appropriate academic adjustment plan (AP) allows PLNU to comply with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. Section 504 (a) prohibits discrimination against students with special needs and guarantees all qualified students equal access to and benefits of PLNU programs and activities. After the student files the required documentation, the DRC, in conjunction with the student, will develop an AP to meet that student's specific learning needs. The DRC will thereafter email the student's AP to all faculty who teach courses in which the student is enrolled each semester. The AP must be implemented in all such courses.

If students do not wish to avail themselves of some or all of the elements of their AP in a particular course, it is the responsibility of those students to notify their professor in that course. PLNU highly recommends that DRC students speak with their professors during the first two weeks of each semester about the applicability of their AP in that particular course and/or if they do not desire to take advantage of some or all of the elements of their AP in that course.

PLNU ATTENDANCE AND PARTICIPATION POLICY

Students taking online courses are expected to attend each week of the course. Attendance is defined as participating in an academic activity within the online classroom which includes posting in a graded activity in the course. (Note: Logging into the course does not qualify as participation and will not be counted as meeting the attendance requirement.)

Students who do not attend at least once in any 3 consecutive days will be issued an attendance warning. Students who do not attend at least once in any 7 consecutive days will be dropped from the course retroactive to the last date of recorded attendance.

SPIRITUAL CARE

Please be aware PLNU strives to be a place where you grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith. If students have questions, a desire to meet with the chaplain or have prayer requests you can contact the **Office of Spiritual Development (https://www.pointloma.edu/offices/spiritual-development)**

Fall 2020 — MTH2013 Calendar

	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
August	16	17	18 *on Zoom* Introduction Overview of Hybrid Course Buy Online Text (including resources)	19	20 *on Zoom* Review for **Basic Competency Test**	21	22 Basic Skills Review Sheet 2020.pdf (practice and review)
	23	24 **HW Due** V-Notes Skills Test	25 **Basic Competency Test**	26	27 **Basic Competency Test**	28	29 Reading & Videos 2.2: Describing Sets 2.3: Other Set Operations & Their Properties Homework: Online HW 2.2 and 2.3 (1st Try)
	30	31 **HW Due** V 2.2,.2.3	1 *on Zoom* Examples & Activities 2.2: Describing Sets 2.3: Other Set Operations & Their Properties HW Assigned 2.2 and 2.3 (Written)	2	3 *on Zoom* Examples & Activities 2.2: Describing Sets 2.3: Other Set Operations & Their Properties HW Assigned 2.2 and 2.3 (Written)	4	5 Reading & Videos 3.2: Add and Subtract - Whole Numbers 3.3: Mult. and Division - Whole Numbers Homework: Online HW 3.2 and 3.3 (1st Try) **Due:** Online HW 2.2 and 2.3 (2nd Try)
September	6	7 **HW Due** V 3.2, 3.3 W 2.2, 2.3	8 *on Zoom* Examples & Activities 3.2: Add and Subtract-Whole Numbers 3.3: Mult. and Division -Whole Numbers HW Assigned 3.2 and 3.3 (Written)	9	10 *on Zoom* Examples & Activities 3.2: Add and Subtract-Whole Numbers 3.3: Mult. and Division -Whole Numbers HW Assigned 3.2 and 3.3 (Written)	11	12 Reading & Videos 3.4: + & – Algorithms, Mental, Estimation 3.5: × & ÷ Algorithms, Mental, Estimation Homework: Online HW 3.4 and 3.5 (1st Try) **Due:** Online HW 3.2 and 3.3 (2nd Try)
	13	14 **HW Due** V 3.4, 3.5 W 3.2, 3.3	15 *on Zoom* Examples & Activities 3.4: + & – Algorithms, Mental, Estimation 3.5: × & ÷ Algorithms, Mental, Estimation HW Assigned 3.4 and 3.5 (Written)	16	17 *on Zoom* Examples & Activities 3.4: + & – Algorithms, Mental, Estimation 3.5: × & ÷ Algorithms, Mental, Estimation HW Assigned 3.4 and 3.5 (Written)	18	19 Reading & Videos 4.1: Divisibility 4.2: Prime and Composite Numbers 4.3: GCD and LCM Homework: Online HW 4.1, 4.2 and 4.3 (1st Try) **Due:** Online HW 3.4 and 3.5 (2nd Try)
	20	21 **Due** V 4.1, 4.2 & 4.3 W 3.4, 3.5	22 *on Zoom* Examples & Activities 4.1: Divisibility 4.2: Prime and Composite Numbers 4.3: GCD and LCM HW Assigned 4.1, 4.2 and 4.3 (Written)	23	24 *on Zoom* Examples & Activities 4.1: Divisibility 4.2: Prime and Composite Numbers 4.3: GCD and LCM HW Assigned 4.1, 4.2 and 4.3 (Written)	25	26 Reading & Videos 5.1: Add and Subtract - Integers 5.2: Mult. and Division - Integers Homework: Online HW 5.1 and 5.2 (1st Try) **Due:** Online HW 4.1, 4.2 and 4.3 (2nd Try)
	27	28 **HW Due** V 5.1, 5.2 W 4.1, 4.2 & 4.3	29 *on Zoom* Examples & Activities 5.1: Add and Subtract - Integers 5.2: Mult. and Division – Integers **Review for Exam** HW Assigned 5.1 and 5.2 (Written)	30	1 *on Zoom* Examples & Activities 5.1: Add and Subtract - Integers 5.2: Mult. and Division - Integers **Review for Exam** HW Assigned 5.1 and 5.2 (Written)	2	3 **Due:** Online HW 5.1 and 5.2 (2nd Try) Online Chapter Reviews: 2, 3, 4, and 5
October	4	5 **HW Due** W 5.1, 5.2	6 **Mid-Term Exam**	7	8 **Mid-Term Exam**	9	10 Reading & Videos 6.1: The Set of Rational Numbers 6.2: + & –, Estimation - Rational Numbers Homework: Online HW 6.1 and 6.2 (1st Try)
	11	12 **HW Due** V 6.1, 6.2	13 *on Zoom* Examples & Activities 6.1: The Set of Rational Numbers 6.2: + & –, Estimation - Rational Numbers **Exams Returned** HW Assigned 6.1 and 6.2 (Written) **Spiritual**	14	15 *on Zoom* Examples & Activities 6.1: The Set of Rational Numbers 6.2: + & –, Estimation - Rational Numbers **Exams Returned** HW Assigned 6.1 and 6.2 (Written) **Renewal**	16 **Week**	17 Reading & Videos 6.3: × & ÷, Estimation - Rational Numbers 6.4: Proportional Reasoning Homework: Online HW 6.3 and 6.4 (1st Try) **Due:** Online HW 6.1 and 6.2 (2nd Try)

Fall 2020 MTH2013 Calendar

	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
October	18	19 **HW Due** V 6.3, 6.4 W 6.1, 6.2	20 *on Zoom* Examples & Activities 6.3: × & ÷, Estimation - Rational Numbers 6.4: Proportional Reasoning HW Assigned 6.3 and 6.4 (Written)	21	22 *on Zoom* Examples & Activities 6.3: × & ÷, Estimation - Rational Numbers 6.4: Proportional Reasoning HW Assigned 6.3 and 6.4 (Written)	23	24 Reading & Videos 7.1: Introduction to Finite Decimals 7.2: Operations on Decimals Homework: Online HW 7.1 and 7.2 (1st Try) **Due:** Online HW 6.3 and 6.4 (2nd Try)
	25	26 **HW Due** V 7.1, 7.2 W 6.3, 6.4	27 *on Zoom* Examples & Activities 7.1: Introduction to Finite Decimals 7.2: Operations on Decimals HW Assigned 7.1 and 7.2 (Written)	28	29 *on Zoom* Examples & Activities 7.1: Introduction to Finite Decimals 7.2: Operations on Decimals HW Assigned 7.1 and 7.2 (Written)	30	31 Reading & Videos 7.3: Repeating Decimals 7.4: Percents and Interest Homework: Online HW 7.3 and 7.4 (1st Try) **Due:** Online HW 7.1 and 7.2 (2nd Try)
November	1	2 **HW Due** V 7.3, 7.4 W 7.1, 7.2	3 *on Zoom* Examples & Activities 7.3: Repeating Decimals 7.4: Percents and Interest HW Assigned 7.3 and 7.4 (Written)	4	5 *on Zoom* Examples & Activities 7.3: Repeating Decimals 7.4: Percents and Interest HW Assigned 7.3 and 7.4 (Written)	6	7 Reading & Videos 8.1: Real Numbers 8.2: Variables 8.3: Equations Homework: Online HW 8.1, 8.2 and 8.3 (1st Try) **Due:** Online HW 7.3 and 7.4 (2nd Try)
	8	9 **HW Due** V 8.1, 8.2 & 8.3 W 7.3, 7.4	10 *on Zoom* Examples & Activities 8.1: Real Numbers 8.2: Variables 8.3: Equations HW Assigned 8.1, 8.2 and 8.3 (Written)	11	12 *on Zoom* Examples & Activities 8.1: Real Numbers 8.2: Variables 8.3: Equations HW Assigned 8.1, 8.2 and 8.3 (Written)	13	14 Reading & Videos 8.4: Functions 8.5: Eqns in a Cartesian Coordinate System Homework: Online HW 8.4 and 8.5 (1st Try) **Due:** Online HW 8.1, 8.2 and 8.3 (2nd Try)
	15	16 **HW Due** V 8.4, 8.5 W 8.1, 8.2 & 8.3	17 *on Zoom* Examples & Activities 8.4: Real Numbers 8.5: Eqns in a Cartesian Coordinate System HW Assigned 8.4 and 8.5 (Written)	18	19 *on Zoom* Examples & Activities 8.4: Real Numbers 8.5: Eqns in a Cartesian Coordinate System HW Assigned 8.4 and 8.5 (Written)	20	21 **Due:** Online HW 8.4 and 8.5 (2nd Try)
	22	23 **HW Due** W 8.4, 8.5	24 *on Zoom* **Final Exam Review** Entire Class in One Session (Tues + Thurs)	25	26 Thanksgiving Recess	27	28 **Due:** Online Chapter Reviews: 6, 7 and 8
	29	30	1 **Final Exam** 4:30-7:00 p.m.	2	3	4	5