

# Math 352 History of Mathematics Spring 2015

<b>Time and Place:</b>	WF 8:30-9:20 a.m. RS014
<b>Instructor:</b>	Maria Zack, Ph.D.
<b>Phone Number:</b>	849-2458
<b>E-mail:</b>	mzack@pointloma.edu
<b>Office Number:</b>	S222
<b>Office Hours:</b>	
	Monday 2:00-3:00 p.m.
	Tuesday 6:00-7:00 p.m. by appointment
	Wednesday 7:00-8:30 a.m.
	Thursday By appointment
	Friday 7:00-8:30 a.m. and 12:00-1:00 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:** *Journey through Genius* by William Dunham

## **Content:**

This course is designed to give an overview of the history of mathematics. The focus of the course will be the time from the earliest development of mathematics up through the development of calculus (early 18<sup>th</sup> century). Some attention will be given to modern mathematics and the non-traditional mathematics of underrepresented peoples.

## **Catalog Description:**

Development of mathematics from pre-Greek to recent times. Perspectives and contributions of persons from diverse cultural, ethnic, and gender groups. Impact of culture on mathematical progress.

## **Learning Outcomes:**

- Students will be able to write proofs.
- Students will be able to demonstrate facility with analytical concepts.
- Students will be able to demonstrate facility with algebraic structures.
- Students will be able to speak about their work with precision, clarity and organization.
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- Students will collaborate effectively in teams.
- Students will have an understanding of the historical development, contemporary progress and societal role of mathematics.

The best way to **learn** mathematics is by **doing** mathematics. We will be discussing the history of mathematics but we will also be doing problems using methods from the past.

**Grading:**

Grades are based on the total number of points accumulated throughout the course. The points for each activity are:

Homework	300
Mid-term Project	200
Timeline	200
Final Project	300
<b>Total Points</b>	<b>1000</b>

Approximate minimal points required to obtain a given grade are:

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
+		(875, 900)	(775, 800)	(675, 700)
	[925, 1000]	[825, 875]	[725, 775]	[625, 675]
-	[900, 925)	[800, 825)	[700, 725)	[600, 625)

Note that scores of 599 or lower will result in an F.

**Homework:**

Homework will be assigned each day at the end of class. All homework assigned in a week will be **due in class** the next Thursday. No late homework will be accepted except by prior arrangement or with a documented emergency. Homework assignments are posted in Canvas. 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.

**Mid-term Group Project:**

This project will focus on the period of 200-1400 AD. You will be asked to choose a particular mathematical topic to research and present. This project will be done in groups and your presentations will be approximately 5 minutes and will be given in class on the day listed in the schedule.

**Timeline:**

Students will be required to create a “mathematical” timeline based on reading in the text and the mid-term presentations. Each mathematical event/person should be recorded with a date and a one to two sentence summary of the event (e.g. “The Elements was published”). This timeline should also include at least five major events from general history for each century. If you stay on top of this and do it weekly, it should be no problem. The timeline will be due the last day of class.

**Final Project:**

You will be given a list of books of mathematical biographies and popular writing on mathematics. You will need to select one book, read it, write a paper on it and give a 5 minute presentation during the time of the final. **The final is WEDNESDAY MAY 5, 7:30-10:00 A.M.**

**Final Exam: Date and Time**

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 as approved in writing by the Provost for specific students participating in certain university-sanctioned activities. Excused absences still count toward the 10%-20% limits, but allow students to make up work, quizzes, or tests missed as a result of a university-sanctioned activity. Activities of a unique nature, such as labs or other activities identified clearly on the syllabus, cannot be made up except in rare instances when instructors have given advanced, written approval for doing so. Whenever the number of accumulated absences in a class, for any cause, exceeds ten (10) percent of the total number of class meetings, the faculty member should send an e-mail to the student and the Vice Provost for Academic Administration (VPAA) warning of attendance jeopardy. If more than twenty (20) percent of the total number of class meetings is reported as missed, the faculty member or VPAA may initiate the student's de-enrollment from the course without further advanced notice to 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 consistent with university policy in the Grading section of the catalog. There are no refunds for courses where a de-enrollment was processed. For more details see the PLNU catalog:

[http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Class\\_Attendance](http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Class_Attendance)

### **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 their courses as established by the instructors, students with special needs 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 contacts the student's instructors and provides 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 special needs and guarantees all qualified students equal access to the benefits of PLNU programs and activities. For more details see the PLNU catalog:

[http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Academic\\_Accommodations](http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Academic_Accommodations)

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. Any violation of the university's commitment is a serious affront to the very nature of Point Loma's mission and purpose. Violations of academic honesty include cheating, plagiarism, falsification, aiding academic dishonesty, and malicious interference. The details of PLNU's meaning of each of these words can be found in the PLNU catalog at:

[http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Academic\\_Honesty](http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Academic_Honesty)

A student remains responsible for the academic honesty of work submitted in PLNU courses and the consequences of academic dishonesty beyond receipt of the final grade in the class and beyond the awarding of the diploma. Ignorance of these catalog policies will not be considered a valid excuse or defense. Students may not withdraw from a course as a response to a consequence.

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

([http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Academic\\_Honesty](http://catalog.pointloma.edu/content.php?catoid=14&navoid=1089#Academic_Honesty)).

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**Copyright Protected Materials**

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.

## Some Tips About This Class:

This class moves very rapidly and covers a lot of material. For the best success in this class come to class regularly, stay current with your assignments (cramming won't help) and if you have a question **ASK**.

Monday	Tuesday	Wednesday	Thursday	Friday
12	13	14 Introduction	15	16 Story of Maths DVD
19 MLK HOLIDAY	20	21 Babylonian Numbers	22	23 Chapter 1
26	27	28 Chapter 1 and Chapter 2	29	30 Chapter 2 Midterm Project Described
2	3	4 Teams work on Midterm project	5	6 Chapter 3 Midterm proposals due
9	10	11 Chapters 3 and 4	12	13 Chapter 4
16	17	18 Chapter 5	19	20 Chapter 5
23	24	25 Chapter 6	26	27 Chapter 6
2	3	4 Chapter 7	5	6 Chapter 7
9 SPRING BREAK	10 SPRING BREAK	11 SPRING BREAK	12 SPRING BREAK	13 SPRING BREAK
16	17	18 Mid-Term Presentations	19	20 Mid-Term Presentations
23	24	25 Chapter 8	26	27 Story of Maths (non-Western)
30	31	1 NO CLASS	2 EASTER	3 EASTER
6 EASTER	7	8 Chapter 9	9	10 Chapter 10
13	14	15 Chapter 10	16	17 NO CLASS
20	21	22 Chapter 11	23	24 Chapter 11
27	29	29 Chapter 12	30	1 Chapter 12
4	5	6 FINAL EXAM 7:30-10:00 A.M.	7	8

