Point Loma Nazarene University
Math 352 History of Mathematics (2 credits)
Spring 2017

Time and Place: WF 8:30-9:20 a.m. RS014

Instructor: Maria Zack, Ph.D.

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Office Number: S222

Office Hours:

Monday	8:00-9:00 a.m. and 3:00-4:00 p.m.
Tuesday	10:30-11:30 a.m.
Wednesday	7:30-8:30 a.m. and 10:45-11:45 a.m.
Thursday	By appointment
Friday	11:00 a.m. – 12:00 p.m. and 3:30-4:30 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. If you need a quick response or want to reserve a time just for you, you can send me email (I check it very regularly). If you have a question or just want to hang out, come by my office.

Text: *Journey through Genius* by William Dunham

Content:
This is a 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 18th 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 be able to identify, locate, evaluate, and effectively and responsibly use and cite information for the task at hand.
- Students will be able to gather relevant information, examine information and form a conclusion based on that information.

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

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
Total Points	1000

Approximate minimal points required to obtain a given grade are:

	A	B	C	D
+		(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 7-10 minute presentation during the time of the final. **The final is MONDAY MAY 1, 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. This schedule can be found on the university website and in th course calendar. No requests for early examinations will be approved. 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 consider changing the exam date and time for that particular student.

University Mission:
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.

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 is considered essential to optimum academic achievement. If the student is absent from more than 10 percent of class meetings, the faculty member can file a written report which may result in de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university drop date or, after that date, receive the appropriate grade for their work and participation. See http://catalog.pointloma.edu/content.php?catoid=24&navoid=1581#Class_Attendance in the Undergraduate Academic Catalog.

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:
If you have a diagnosed disability, please contact PLNU's Disability Resource Center (DRC) within the first two weeks of class to demonstrate need and to register for accommodation by phone at 619-849-2486 or by e-mail at DRC@pointloma.edu. See Disability Resource Center for additional information. For more details see the PLNU catalog:
http://catalog.pointloma.edu/content.php?catoid=24&navoid=1581#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:
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 http://catalog.pointloma.edu/content.php?catoid=24&navoid=1581#Academic_Honesty for definitions of kinds of academic dishonesty and for further policy information.

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.

Credit Hour:
In the interest of providing sufficient time to accomplish the stated course learning outcomes, this class meets the PLNU credit hour policy for a 2 unit class delivered over 15 weeks. Specific details about how the class meets the credit hour requirements can be provided upon request.

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