Math 242 Spring 2012

Time and Place:	TR 8:30-9:20 a.m. RS015	
Instructor:	Maria Zack, Ph.D.	
Phone Number:	849-2458	
E-mail:	mzack@pointloma.edu	
Office Number:	S222	
Office Hours:	Monday	8:30-9:30 a.m.
	Tuesday	9:30-10:30 a.m. and 2-3 p.m.
	Wednesday	8:00-9:00 a.m.
	Thursday	4:00-5:00 p.m.
	Friday	9:00-9:45 a.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: *Elementary Number Theory* by Gareth Jones and J. Mary Jones

Content:
This course is an introduction to proofs using the study of the theory of numbers. Topics that will be studied include natural numbers and integers, prime numbers, divisibility, congruences and multiplicative functions. The basic proof techniques examined include inductive proofs, deductive proofs and proofs by contradiction.

Learning Outcomes:

- Students will be able to write and understand proofs.
- Students will be able to demonstrate facility with algebraic structures.
- Students will communicate effectively orally and in writing.
- Students will have an understanding of the historical development, contemporary progress and societal role of mathematics.

A word about proofs:
The best way to learn to write proofs is to practice writing them. There will be a great deal of time in class devoted to the appropriate structure for a mathematical proof. You will be most successful in this course if you participate in all of the in-class proof writing activities, if you stay current with your homework and if you re-write proofs that have been returned to you containing errors (either on homework or exams).

Grading:
The components of the grades:

Homework	260
Projects and Activities (2-3)	120
"Proof of the Week"	120
Exam	200
Final	300
Total Points	1000

A rough grading scale for this course (it may be curved) is:

900-1000	A
800-899	B
700-799	C
600-699	D
0-599	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 Wednesday. No late homework will be accepted except by prior arrangement or with a documented emergency. Homework assignments are posted on 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.

Projects and Activities:
During the semester you will be assigned 2-3 activities or projects that will require group work outside of class.

Proof of the Week:
There will be six of these proofs assigned throughout the quad. The due dates for the proofs are on the class schedule.

Exams:
There is one in-class exam. 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 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. The final for MTH242 is cumulative and is given at the assigned final time on **TUESDAY, MAY 1 FROM 8:00-10:00 A.M.**

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.

I do encourage working in groups on homework assignments, but each individual is expected to turn in his or her own write-up of the assignment.

Monday	Tuesday	Wednesday	Thursday	Friday
9-Jan **NO CLASSES**	10-Jan Four Colors and discussion	11-Jan	12-Jan Intro Theorems	13-Jan
16-Jan **MLK DAY**	17-Jan Intro Theorems	18-Jan	19-Jan Intro Theorems Proof of the Week #1	20-Jan
23-Jan	24-Jan Intro Theorems	25-Jan	26-Jan Intro Theorems Group Proofs	27-Jan
30-Jan	31-Jan Eucliean Algorithm Project	1-Feb	2-Feb Euclidean Algorithm Discussion	3-Feb
6-Feb	7-Feb Jones Chapter 1	8-Feb	9-Feb Jones Chapter 1 Proof of the Week #2	10-Feb
13-Feb	14-Feb Jones Chapter 1	15-Feb	16-Feb Jones Chapter 2 Proof of the Week #3	17-Feb
20-Feb	21-Feb Jones Chapter 2	22-Feb	23-Feb **EXAM**	24-Feb
27-Feb	28-Feb Jones Chapter 2 Go over exam	29-Feb	1-Mar Jones Chapter 2 Proof of the Week #4	2-Mar
5-Mar **SPRING**	6-Mar **BREAK**	7-Mar **SPRING**	8-Mar **BREAK**	9-Mar **SPRING**
12-Mar	13-Mar Induction	14-Mar	15-Mar Jones Chapter 3	16-Mar
19-Mar	20-Mar Jones Chapter 3	21-Mar	22-Mar Jones Chapter 3 Proof of the Week #5	23-Mar
26-Mar	27-Mar **TBD**	28-Mar	29-Mar **TBD**	30-Mar
2-Apr	3-Apr Jones Chapter 4	4-Apr	5-Apr **EASTER**	6-Apr **EASTER**
9-Apr **EASTER**	10-Apr Jones Chapter 4	11-Apr	12-Apr Jones Chapter 4 Proof of the Week #6	13-Apr
16-Apr	17-Apr **TBD**	18-Apr	19-Apr Jones Chapter 5	20-Apr
23-Apr	24-Apr Jones Chapter 5	25-Apr	26-Apr Jones Chapter 5 Final Exam Preparation	27-Apr
30-Apr	1-May **8-10 AM Final**	2-May	3-May	4-May