

MATH 406 Summer 2005

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Office Hours: M-F 12:30-1:00PM

Course Web Page: <http://www.math.umd.edu/~rendke/math406/>

Classroom and Time: MTH 0303, 11:00-12:20 (M-F)

Text: Elementary Number Theory, Fifth Edition, by Kenneth H. Rosen

Math 406 is an introduction to number theory. Number Theory is one of the most beautiful and elegant areas of mathematics. It also happens to be useful.

Through this course I hope to convey a little bit of both the elegance and the usefulness of number theory as well as introduce you to basic proof techniques. You will be expected to read, understand, and do proofs in this course. If you are not yet comfortable with proofs you will be by the end of the semester.

To really learn mathematics you need to do mathematics, so you will be expected to work on problem sets. You should also read the material from the text before each class.

Grading:

Two 1 hour Exams (100 pts each)	200 pts
Homework	75 pts
Quizzes	125 pts
Final (Cumulative)	150 pts
Total	550 pts

I expect to give grades based on cutoffs of 90%, 80%, 70%, and 60%. There will be no curving during the semester. **IF** any curving is done it will be only for the course totals and the final grades.

Make-up exam and quiz policy: Exam/Quiz makeups will only be given for University Excused Absences. Any student with a valid reason to be excused from an exam must contact me prior to the exam, either by email or by phone (leave a message at 301.405.5047), and present documentation at the next class session attended. If you need to be excused for a religious observance, you should let me know as soon as possible, but in any case no later than the end of the schedule adjustment period.

There will be 10 homework sets spaced out over the semester with four before each exam and two before the final. In each homework set there will be problems that you are required to turn in and other suggested problems. Quiz and exam questions will be similar if not identical to homework questions (including the suggested problems). I reserve the right to give unannounced quizzes and make changes in the syllabus that I feel are necessary. These

changes will be announce in class and posted to the website. It is advisable to keep up with class work and attend class regularly, especially because the pace of a summer course is so accelerated. Extra help is available during my office hours and in the tutoring room from 12:30-2:30 M-F (Math 0403).

Chapters and sections to be covered (tentative):

Exam 1:	
Chapter 1 - all	3.5 days
Chapter 3 - Sections 1-5	3 days
Chapter 4 - Sections 1-3 , 5 , 6	3 days
Exam 2:	
Chapter 5 - Sections 1-2	1 day
Chapter 6 - all	3 days
Chapter 7 - Sections 1-2	2 days
Chapter 8 - parts	1 day
Chapter 9 - Sections 1-3	2-3 days
Final (Cumulative):	
Chapter 11 - Sections 1-3	3 days
Chapter 13 - Sections 1-2	1-2 days
Chapter 14 - Sections 1-2	1-2 days

Tentative set of homeworks:

Assignment 1: (due 7/14/05)

1.1 - 4, 28

1.2 - 2(a,b), 4(b), 18

1.3 - 4, 24

1.4 - 4, 24

1.5 - 6, 28,36

Other suggested problems

1.1 - 2, 7, 11, 21, 34

1.2 - 8, 15, 19

1.3 - 1, 7, 13, 30

1.4 - 13, 17, 39

1.5 - 5, 8, 13, 33

Assignment 2: (due 7/18/05)

3.1 - 8, 20

3.2 - 12, 20(a)

3.3 - 4, 8, 14

3.4 - 2(a,b), 4(a,b), 14

Other suggested problems

3.1 - 3, 6, 13, 15(b)

3.2 - 3, 10(c,d)

3.3 - 3, 23, 31, 30(b-assume a)

3.4 - 5(b), 7(b)