

MATH 356-01

Syllabus Spring, 2010

Instructor:	Dr. Colin Starr	Office Hours:	MWF 10:15-11:15
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Required Text: *Elements of Number Theory*, by John Stillwell.

Goals: You are already familiar with the basic ideas of Number Theory. In this course, we formalize those ideas and examine some of the deeper principles involved. We will also see some of the powerful modern applications of what has always been considered the purest of pure mathematics. I hope that you will see Number Theory as I do: one of the most beautiful subjects in any discipline, and yet (or perhaps because) readily accessible to anyone who can count.

The other major goal for this course is independence: I want you to increase your level of self-reliance in mathematics in this course. This means that I will not answer very many questions completely. Instead, I will offer hints or indicate a plausible method of proof. If I think a solution is within your reach, I may send you back without even that (though not very often at the beginning of the term!). This process can be frustrating, but your resulting independence is worth it. Many of you are seniors and/or already have a high level of independence; I will count on you to be models for students who are newer to upper-level mathematics.

Assessment: Your grade will be computed as follows:

Homework:	200 points
Midterm Exams:	2@ 100 points each
Final Exam:	200 points

Grades in the range 62% to 68% will be a D, 72% to 78% a C, 82% to 88% a B, and above 92% an A. Plus and minus grades will be at my discretion based on your overall performance. However, if you focus on learning what we study, the grades will take care of themselves. They should be among the least of your worries; we have much more interesting things to think about!

Notice that homework is worth a third of your grade. It behooves you to be as thorough and careful as possible. Homework will be due each Friday. Some will take a while to think through, and there will be only enough class time to look at a very few. Solutions to submitted problems will be \LaTeX ed. Some of the problems will come from your book, and some will come from handouts. Keep alert!

I will not take attendance for a grade, but I will expect you to be here every day. If you must miss, you should let me know in advance.

There are two midterm exams; please note that the dates below **are subject to change** if necessary.

Exam I	Thursday, February 18
Exam II	Thursday, April 1

Each midterm will have in in-class portion and a take-home portion. The take-home part will be a “distributed” exam: each homework assignment will include one or two well marked problems that are designated as exam problems. You may work together on **homework** problems, but **NOT** on the exam problems. They will be due one week from when they are assigned. (Note that this will often be different from the date you receive the homework assignment.) The in-class parts will be short and primarily computational. (We will not take the whole class period on them.)

The final will be on Saturday, May 8 from 8 to 11 AM. You may not make up any missed exam. If an emergency arises, **contact me prior to the exam.**

Please note: Written responses to all questions must be in complete sentences. I expect correct usage of grammar, spelling, and punctuation at all times; your grade will reflect this! I also expect your work to be neatly written.

If you have special needs (e.g., for a documented disability), it is your responsibility to approach me at least a day in advance of the need for accommodation. To receive accommodation, you must be registered

with Disability Services; this office is located in Bishop Health Center in Baxter Hall. (Phone: (503) 370-6471.)

Cheating absolutely will not be tolerated. The minimum penalty for cheating is a 0 on the assignment and a formal notification to the dean. I encourage you to work together on your homework, but your final write-up **must** be your own. (I do not expect this to be a problem.)

My door is usually open. The office hours above are the times I will definitely be in my office (or nearby), but you are welcome to come by at other times as well. Make sure you come see me whenever you have a question.