

Math 220 – Finite Mathematics

Instructor	Brad Henry, Cupples I rm 108c Scott Cook, Cupples I rm 203	Class Time	MTWThF 1:00-2:45
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Office Hours	MTWThF 3:00-4:00	Office Location	Cupples I room 207

Text

Discrete Mathematics Elementary and Beyond by Lovasz, Pelikan, Vesztergombi, copyright Springer, 2003

Description

Introduction to number theory, combinatorics, graph theory, and their applications. Methods of proof and practical applications: scheduling, communications, encryption, etc.

Goals

- Learn some new mathematics
- Develop the skills to communicate mathematical ideas and arguments
- Learn how to solve difficult problems
 - Understand and apply creative problem solving techniques
 - Reformulate a problem so that it is similar to something you already know
 - Use graphical representations to simplify difficult problems
 - Translate real world problems into our mathematical language
 - Work collaboratively

Course Management

We'll use the Telesis system for course management: <https://Telesis.wustl.edu>. We'll post grades, course files, and anything else that may be useful, including this syllabus.

Calculators

You'll want at least a basic four function calculator since the combinatorial computations can get a little big. One that does factorials (the ! symbol) will be helpful.

Evaluation

Problems will be assigned daily for your benefit. Doing the assigned problems is essential to mastering the material and achieving the goals of this course. Much as professional athletes and renowned musicians hone their skills through disciplined practice, so must a math student practice his or her trade. The responsibility for doing the homework and understanding the material ultimately falls upon the individual student. You may collaborate with each other on the problem sets, but you should *write up your solutions independently*. You may ask us questions on any of the homework problems during office hours, but you should bring your scratch work with you and be prepared to articulate what you have tried and where you are stuck.

Approximately 3-4 homework problems will be assigned each day. Homework sets will be collected each Monday and Wednesday. Monday's set will include problems assigned on the previous Wednesday, Thursday and Friday. Wednesday's set will include problems assigned on Monday and Tuesday.

We have no exams. Instead we'll be taking quizzes each Tuesday and Thursday, except the first Tuesday.

The last 45 minutes of every Friday will be devoted to group work. We will give each group a set of exercises to work on collaboratively. At the end of class, we'll assign one exercise to each group member who will write a complete solution. This means more than just an answer; you must also describe the ideas and methods used to get this answer. This should be turned in on the following Monday or Tuesday.

You can drop a total of 2 quizzes, homework sets, or Friday exercises, except for the final homework and quiz. Because of this allowance, **no late assignments will be accepted and no makeup quizzes will be given. No exceptions!**

Component	Weight
Quizzes	60%
Friday exercises	12%
Homework	28%

Percent	Grade
90 - 100%	A
80 - 90%	B
70 - 80%	C
60 - 70%	D
0 - 60%	F

Other Comments

Always show your work; don't just write the answer down. We will give partial credit. Even if you get stuck on a problem, write some sentences describing what you are trying to do. If you show us that you have a good idea, we can forgive some arithmetic errors.