

## PRINCIPLES OF FINITE MATHEMATICS (MATH107)

Instructor: Steve Walk, 310 CCMB

Office Hours: Thursday, 1 P.M. to 3 P.M.

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Text: *For All Practical Purposes*, 4th ed., Garfunkel

We will cover chapters 5–8, 11–12, 14, and, if time permits, 9. As the text's title suggests, the focus of the course is practical applications of mathematics. Our topics will be the following:

- Probability;
- Statistics (both “descriptive” and “predictive” statistics);
- Social Choice (voting and apportionment); and
- Coding of information.

### 0.1 Supplies

Please bring the these items to class each day:

- Pen(cil) and paper, of course;
- Some 3x5 index cards;

If you have one, a calculator. (This is optional, but some examples we work in class will be clearer and quicker if a lot of students have calculators. A cheap one that can add, subtract, multiply, and divide is enough.)

It's probably better if you *don't* bring your textbook. I won't ask you to look at it in class, so there's no point in lugging it here. I'll always bring one, so if you have a specific question about the book, we can refer to my copy.

### 0.2 Grading

Your course grade will be determined from the following:

- Tests—three, each 20% of the grade;
- Homework (including mid-term project and papers)—10% of the grade;
- Final Exam (comprehensive)—30% of the grade.

### 0.3 Attendance

Four or more unexcused absences may result in failure of the course. This includes the Tuesday session (9:30 A.M. in room 326), which is set aside for group work and discussion of homework.

If you are absent from the class, whether excusedly or not, you are responsible for getting the notes and assignments you missed.

### 0.4 Exams

The first three exams are scheduled for February 11, March 4, and April 3.

Do not miss an exam. Family vacations and headcolds are not excuses. Neither is oversleeping (especially for a 1:55 class).

The final is on *Friday, May 8*, from 8 A.M. to 10 A.M. Do not ask to take the final early. Do not plan to travel home before or during the exam (you have plenty of time to make other plans). And do not oversleep.

## 0.5 Homework

Hand the homework in on time. Homework handed in late will be docked points and will not be accepted after one week.

Do all of the assigned homework problems. Your homework can help you (or not) in two ways. First, *directly*: it counts as a tenth of your grade. Second, *indirectly*: it is by doing the homework that you prepare yourself to do well on the tests.

Cooperating on homework is not only allowed, it's encouraged. Just put a note at the beginning of your assignment to tell me with whom you worked (preferably someone in this class).

## 0.6 Index Card Quizzes

During almost every class period, I'll give you a *very* brief, *very*-short-answer quiz over material covered the previous day or earlier in the semester—from the lecture or the readings. I might say, for example, “Define *quartile*” or “Give the formula for standard deviation.” You will simply write your name, the question I asked, and your answer(s) on an index card and hand it in.

Each perfectly-answered quiz earns you extra credit toward your homework grade. In fact, getting perfect answers on *all* quizzes is equivalent to handing in about two and a half perfect homework assignments.

## 0.7 Finally . . . remember what mathematics is.

Simply: It's a puzzle. Everyone who has ever become fascinated by mathematics, and everyone who has ever made a great advancement in the field, saw it as a riddle waiting to be answered or a mystery begging to be solved. Every exercise you're confronted with is a puzzle too, no less so than a crossword or the Jumble in the Sunday paper. The difference, of course, is that you aren't graded on your solving of crosswords.

Thinking of mathematics this way will help you immeasurably. At the very least, the material will become a little more fun. In the words of Archimedes: Mathematics reveals its secrets only to those who approach it with pure love, for its own beauty. And in the words of Bill Cosby: If you're not careful, you might *learn* something before we're done.

So let's get going, okay? Hey, hey, hey.