

MATH 210, "Discrete Mathematics", Fall 2009
E. Lee May, Jr., Ph. D., Professor

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Office-Times

9:00 - 10:00 a.m. on Monday, Wednesday, and Friday

10:00 - 11:00 a.m. on Tuesday

3:30 - 4:30 p.m. on Thursday

(I am available at other times by request.)

OVERVIEW AND POLICIES OF THE COURSE

The Subject

Discrete mathematics is the study of *discrete sets* and the activities and phenomena that they **model**. (The set $\{0,1,2,3,\dots\}$ of all nonnegative integers is an example of a **discrete set**. It is a **mathematical model** of the activity of counting the number of emissions in an hour from a radioactive particle. A finite set, such as $\{-1,0,1,2,e,\pi\}$, is also a discrete set. By contrast, the interval $[0,1]$ is an example of a non-discrete set (and a model of the passage of time), and *calculus* is the study of non-discrete phenomena. (For more information about the objectives and content of the course, see the syllabus.)

We shall learn the material of the course in a manner similar to that employed by mathematicians and computer scientists in their work. Beginning today, I will hand out notes containing definitions, problems, claims, and theorems. Between classes, you will attempt, preferably on your own, to solve the problems, resolve the claims, and prove the theorems. Each class period will be devoted almost entirely to students' presentations of their solutions to problems, proofs of theorems, and questions of any sort about the material of the course. **NOTE: If you think that you need a more traditional, lecture-oriented format to succeed in your learning, you should probably drop this section of the course, or at least speak to me about your concern.**

Administrative Matters

Evaluation of Your Work. Your performance in the course falls into two categories: presentations in class at the board or document-camera and from your seat, and the two examinations. I will handle the former by observing your work in class. The total of all of this work will count as $x\%$ of your final average, where x is a number chosen by you so as to satisfy the conditions to be presented below.

The two examinations, should you choose to take either of them, will contribute to your final grade as follows. The midterm will count as $y\%$ of your final average, where y , like x , satisfies the conditions to be presented below. The comprehensive – that is to say, cumulative – final examination will count as $z\%$ of your final average. The numbers x , y , and z must satisfy the following conditions:

each of x , y , and z is an integer;

x is in $[30,100]$, y is in $[0,35]$, and z is in $[0,35]$;

and

$$x + y + z = 100.$$

Let me know your choices for x , y , and z not later than the end of the second week of the term. You may change your choices once, but this change must be effected no later than the ninth week of the term.

The grading scale for the course is as follows:

90 - 100, A;

80 - 89, B;
70 - 79, C;
60 - 69, D;
< 60, F.

The Integrity of Your Work. I expect you to conduct yourself with honor, integrity, and concern for the other members of the class as well as for yourself. By presenting or turning in a piece of work, you will be pledging that you have neither given nor received any unauthorized help on the work. My response to discovering a violation of this pledge might include, but will not necessarily be limited to, the following:

- (1) assigning a score of 0 on any offending work;
- (2) assigning a grade of F for the course;
- (3) reporting each cheater to an appropriate authority, such as the Provost.

Attendance. Regular attendance of class is an important part of this course. Nevertheless, because I believe that university students should make their own decisions, I hereby declare that attendance of the class meetings of this course is optional, subject to the conditions below.

- (1) The student and not the professor is responsible for the consequences of an absence. This means, for example, that I will not be obligated to repeat to an absentee material that has already been covered.
- (2) A test from which a student will be or was absent may be made up only when the absentee can convince me, preferably in advance, of the necessity and worthiness of the absence.
- (3) Assigned homework that is late will not be accepted.

Regarding Learning Styles and Difficulties. There are many styles of learning. Some people learn better with their eyes, some with their ears. There are many effective ways to acquire knowledge. If you have a learning style that does not seem to accommodate well to my method of teaching (but see the note on Page 1!) – in particular, if you have a learning disability – please let me know. If, for example, taking notes in class is difficult for you or hampers your learning, arrangements can almost certainly be made to help you solve this problem.

Some Thoughts at the Beginning of a Semester

I want to help you learn. I will help you with any legitimate need. I will not help you with anything that you need to do for yourself. I want this course to be an enjoyable experience for all of us, and I will do all I can to make it so.

I am making certain assumptions about you. You are here because you want to be, if only to satisfy a requirement. You want to learn the material of this course, at least to the point of earning an acceptable grade. You already believe – or you are willing to entertain the possibility – that learning in general, and mathematics or computer science in particular, is fun. *You will, throughout the semester, invest at least two hours of time outside class per hour spent in class in playing and working with the ideas of this course.* (If you do not possess all of these characteristics and you are unable or unwilling to develop them, then you should probably drop this class.)

If at any time you would like to discuss this course, this university, or any other aspect of your life, I would be happy to do so with you.

E. Lee May, Jr., Ph. D.
Professor of Mathematics