

Syllabus for Mathematics 174, Discrete Mathematics for Computer Science, Section 001, Fall 2015

TIME AND PLACE: 2:20 pm - 3:10 pm MWF Callcot Soc Sci Ctr 201

INSTRUCTOR: Ralph Howard

OFFICE: LC 304

PHONE: 777-7471

OFFICE HOURS: TTh 2:30pm – 3:30pm and by appointment

E-MAIL: howard@math.sc.edu

TEXT: *Discrete Mathematics: Introduction to Mathematical Reasoning 1st Edition*
by Susanna S. Epp

CALCULATORS: You will need a calculator that has the basic combinatorial and probability functions and should bring it to class each day. You will not be allowed to use a calculator app on your smart phone and can not share calculators on quizzes or tests.

CLASS WEB PAGE: <http://www.math.sc.edu/~howard/Classes/174/>

The solutions to all the quizzes and tests will be posted here.

Tests: There will be three midterms and a final. The midterms count for 100 points each and the final is 150 points. The dates of the tests are

Test 1 Friday, September 18

Test 2 Wednesday, October 21

Test 3 Monday, November 23

Final Wednesday, December 9 - 9:00 am

Homework and quizzes: Homework will be assigned, but not graded. There will be daily quizzes based on the homework which will count for 100 points. **Important note:** The quiz total counts as much as a test so it is important that you show up and take the quizzes.

Grading: There is a total of 550 points possible for the term broken down as follows:

Three midterms @ 100 points each	300 points
Total for Quizzes	100 points
Final	150 points
Total	550 points

Your grade will be based on the total out of 550. The last day to drop without a grade of WF is Monday, October 12 and you should have a good idea of where you stand by then.

Prerequisites: Either a C or better in Math 111 or a higher numbered course, or a grade of 14 on the Algebra placement test, or a grade of 19 or better on the Calculus placement test. You can find the placement tests here. <https://assess.math.sc.edu/> If you have not met these prerequisites you should not be here.

There will not be make up exams or quizzes: If you miss a test, then your score on that exam is 80% of the average of your other test scores including the final. If a second exam is missed the score on it is zero. Exams will be taken in class on the days listed above. So don't ask to take an exam early or late because you have to be "out of town" or some other reason. Likewise there will not be make up quizzes. If you miss a quiz then you lose the points. As a reward anyone who takes all the quizzes will get 10 extra points. Missing only one quiz is worth 5 extra

points. On the other hand if someone leaves class early without permission then I reserve the right to give them a zero on quiz for the day.

About using smart phones, tablets, and computers in class: I know that some students only have digital versions of the text and I will give some assignments in electronic form. So there is reason use phones, tablets and computers in class. But if someone looks like they are are texting or web browsing I will make a point of asking them a question to see if they are paying attention.

About partial credit and bad algebra: Some arithmetic errors do not bother me much. If your get in a hurry and get $7 \times 8 = 48$ it is not going to cost you much, provided you are doing everything else correctly. However, there are certain mistakes (all involving misuse of high school in such a way that always gives wrong answers), that will not be tolerated. If you make these mistakes I will mark the entire problem wrong. Here are some examples of zero point errors:

$$\sqrt{x+y} = \sqrt{x} + \sqrt{y}, \quad (x+y)^2 = x^2 + y^2$$

$$\frac{\log(2x)}{2} = \frac{\log(\cancel{2}x)}{\cancel{2}} = \log(x), \quad \frac{2x+3y}{3z} = \frac{2x+\cancel{3}y}{\cancel{3}z} = \frac{2x+y}{z}$$

This is not meant to scare you, but just to let you know where things stand.

Learning Outcomes: Upon successful completion of this course, students should be able to:

- Use induction and recursion to solve counting and related problems.
- Understand the basics of combinations and permutations and how to use them in enumeration problems.
- Use graphs and trees to understand sorting and searching procedures.

Getting help: Besides my office hours you can get help in the Math Tutoring Center. This is a free tutoring service supplied by the mathematics department. It is in LeConte room 105 and the schedule can be found at <http://www.math.sc.edu/mathlab.html>

Also there is the Peer Tutoring Program at the Student Success Center provides free peer-facilitated study sessions for 100-Level Math courses led by qualified and trained undergraduate tutors who have excelled in Math. Sessions are open to all students who want to improve their understanding of the material, as well as their grades. Tutoring for 100-Level Math is offered Monday through Thursday 7:00-9:00pm in the ACE centers in Bates Hall and Columbia Hall and Monday through Thursday 6:00-9:00pm in Sims Hall. No appointment is needed. You may contact the Student Success Center at 803-777-0684 and tutoring@sc.edu with additional questions.