

Math 214, Spring 2016

Dr. Sarah Raynor

Textbook: Vector Calculus, Linear Algebra, and Differential Forms: A Unified Approach, 5th edition, John H. Hubbard and Barbara Burke Hubbard, ISBN: 978-0971576681.

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Course: In this course we will study the geometry of \mathbb{R}^n and the calculus on \mathbb{R}^n in more generality than in Math 113. This course will depend on your knowledge of both Math 113, which we will be generalizing, and linear algebra, whose tools we will be using extensively. Specific topics include the geometry of \mathbb{R}^n , limits and continuity, differentiation, the mean value theorem, a review of linear algebra, the inverse and implicit function theorems, the contraction mapping theorem, Taylor polynomials for multivariate functions, critical points of multivariate functions, the geometry of curves and surfaces, integration, Fubini's Theorem, change of variables, and vector calculus including Green's and Stokes' Theorems. In the text, this represents some or all of Chapters 0, 1, 2, 3, 4, and 6.

Homework:

Homework will be assigned for each section as we complete it and will be due one week from the date of assignment.

Evaluation: There are 4 components of your final grade.

1. There will be two midterm examinations which will be worth 20% of your grade each. Each will have both a take-home and in-class component. I have tentatively scheduled these exams for **February 11** and **March 24**. You must let me know if you will be unable to make these dates by January 21. Otherwise, you can miss the exam only in the case of serious illness or emergency.
2. There will be a cumulative final examination which will have both in-class and take-home portions, and will be worth 40% of your grade. The final is scheduled for 2:00pm on **Friday, April 29**.

3. The written weekly homework is worth 15% of your grade.
4. Positive participation in class is worth 5% of your grade.

Make-up assignments will not be given, and late work will not be accepted. If you have to miss an assignment due to a legitimate excuse, that assignment will be excused and other assignments of the same type will be weighted more heavily to replace it.

The Honor Code: At Wake Forest, we expect you to behave as honorable citizens of the class, the university, and the world as a whole. When you complete an assignment with your name on it, you are representing that everything you are turning in is your own work. That means that you do not copy from other students, textbooks, or websites. You do not obtain the main ideas of a proof from someone else unless I have explicitly permitted you to do so.

The honor code is a token of our respect for you as members of the academic community. When one person cheats, it diminishes the experiences of everyone else in the program, both faculty members and students. Please, respect yourselves, each other, and me, and turn in only your own personal work. If at any time I become aware of cheating or plagiarism in this course, I will submit the information to the honor council. The format of any future assignments may also be affected, for the entire class.