

Welcome to Math 220: Multivariable Calculus

Fall 2010

Instructor: David Browder, S211, ex 2687, dbrowder@simmons.edu

Class meeting: MWF 1:30 – 2:20, C120

Topics:

Analytic Geometry and Vectors in \mathbf{R}^3 : dot product, cross product, lines, curves, planes and their equations; spheres and graphs of other quadratic functions.

Functions of Several Variables and Partial Derivatives: continuity, limits, partial derivatives, plane tangent to a surface, vector normal to a surface, tangent plane approximation, directional derivatives, gradients, chain rule and applications.

Integration and Applications: Double integrals, Triple integrals, volume, surface area, arc length, coordinate transformations and change of variable.

Vector Calculus: integrals over curves, line integrals, exact differentials, applications to differential equations.

Notes:

1. There will be three quizzes and a final exam. Each of the quizzes has a 30 minute in-class section followed by a take-home section due the following Monday. The final exam is a take-home set of problems. The quiz dates are:
 - Friday, September 24
 - Friday, October 22
 - Friday, November 12Final exam is take-home and will be distributed on Monday, December 6. It is due one week later.
2. Textbook is James Stewart, *Calculus*, 6th. Edition (Brooks/Cole, 2008). We intend to cover most of Chapters 13 – 16 and part of Chapter 17.
3. Homework will be assigned at the end of each class meeting and collected at the following meeting. Assignments may be found at:
<http://www.simmons.edu/~browder/assignments/math220.htm>
4. Class attendance is extremely important for your understanding of the course material.
5. Please come see me whenever you have questions or problems.
6. Anyone who has a learning disability documented by the Office of Disability Services, please see me about appropriate accommodations for this course.

Note: This syllabus is not a contract. We reserve the right to alter the course requirements and/or assignments based on new materials, class discussions, or other legitimate pedagogical objectives.