
Multivariable Calculus

Math 212 Fall 2005

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Fowler 307 MWF 9:30pm - 10:25am

<http://faculty.oxy.edu/ron/math/212/05/>

Week 9

Monday October 21 *Class 19:*

Inverse Function Theorem and Implicit Differentiation. We'll learn how to take implicit derivatives of multivariable functions and be introduced to a very important theorem we'll use more later.

Reading:

Williamson & Trotter, (Section 6.2 and 6.3)

Homework #8:

Williamson & Trotter, page 274: 2, 3; page 281: 2, 3, 4, 5, 7, 12, 15

Quiz #6 DUE

Wednesday October 26 *Class 20:*

Extrema of Multivariable Functions, part 1. We'll learn how to do optimization on multivariable functions. This involves recalling the definition of critical points and the equivalent of the "First Derivative Test" on maxima/minima. Introduction of the Lagrange multiplier method for constrained multivariable optimization.

Reading:

Williamson & Trotter, (Section 6.4)

Homework #8:

Williamson & Trotter, page 292: 2, 3, 7, 9, 12, 20, 21, 26 **Extra Credit page 293: 29, 32, 36**

Friday October 28 *Class 21:*

Extrema of Multivariable Functions, part 2. We'll continue our study of multivariable optimization by learning about the analogue to the "Second Derivative Test" on maxima/minima.

Reading:

Williamson & Trotter, (Section 6.4)

Homework #9:

Williamson & Trotter, page 298: 7, 8, 12, 13 **Extra Credit page 298: 15**

Quiz #7