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