Week 8

Monday March 20 : *Class 18*:

The Chain Rule. How to compute derivatives of functions of multiple variables which also depend on multiple variables.

Reading:

Williamson & Trotter, (Section 6.2)

Homework #17:

Williamson & Trotter, page 269: **2, 3**, 4, 5, 7, **11, 12, 13 Extra Credit page 271: 26**

Quiz # 6 DUE

Wednesday March 22 *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 #18:

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

Friday March 24 *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 #19:

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

Quiz #7