## **Quantitative Methods I**

Stelios Kotsios - George Athanasiou

## **Course Description**:

The course considers the following subjects in  $\mathbb{R}^n$ : maps, the Cartesian product, functions, slopes and derivatives, directional derivatives, differentials, definiteness of matrices (Silvester's criterion, eigenvalues criterion) unconstrained optimization, constrained optimization (equality, inequality, mixed constraints), envelope theorem, homogeneous and homothetic functions, convex sets, convex and concave functions.

## **Class Requirements:**

Grades will be based on:

- homework assignments (+10% of grade only if pass)
- a final exam (100% of the grade)

Office Hours: Fridays 17:00 to 18:00

## **Readings:**

- *Mathematics for Economists*, Carl P. Simon & Lawrence E. Blume, W. W. Norton & Company, 1994.
- Fundamental Methods of Mathematical Economics, Alpha C. Chiang, New York, NY: McGraw-Hill, 1984.