

GEORGE MASON UNIVERSITY

## Econ 831: Mathematical Economics II

Fall 2019

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### A. Objective and description

This course develops the foundations of choice, price, and general equilibrium, as needed through out doctoral studies in economics, with some mathematical rigor. Topics include choice, preference and utility; consumer demand; competitive firms; externalities; and general equilibrium. The course emphasizes price taking behavior; a follow up course in the spring will emphasize strategic behavior.

### B. References

The main references for the lectures are the textbooks *Lecture Notes in Microeconomic Theory. The Economic Agent*, 2nd edition, by Ariel Rubinstein [AR], Princeton University Press, 2012, *Microeconomic Foundations I. Choice and Competitive Markets*, by David Kreps [DK], Princeton University Press, 2013, and *Fundamentals of Public Economics* by Jean-Jacques Laffont [JL], MIT Press 1989.

### C. Syllabus

#### INDIVIDUAL CHOICE

1. Choice, preference and utility
2. Demand
3. Production
4. Competitive markets

*midterm* October 16, at class time

#### MARKETS

5. General equilibrium: examples
6. General equilibrium: main results
7. General equilibrium: foundations of price-taking behavior
8. Externalities and public goods

*final exam* Tuesday December 17, at class time

#### **D. Grading**

Problems sets will be assigned every other week to be turned the week after. Students can skip turning one problem set without any further justification. Grading will come from the problem sets (20%), the midterm (35%) and the final exam (45%). If the grade in the final exam exceeds that in the midterm, the grade in the final exam will substitute for the midterm as well.

#### **E. Office hours**

I am available most Wednesdays and Thursdays from 10:30 am to 12 pm in my office in Arlington; by appointment any day of the week.