

# Market & Behavior

## ECON 510, Section 1

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Department of Economics  
University of North Carolina

Spring, 2015



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL

# Outline

- 1 Syllabus
  - Goals and Practice
  - Coverage
  - Contact Information
  - Grading Policy
  - First Week
  - Class Discussion
  - Problem Sets
  - Workshops
  - Pre-requisites
- 2 On Math
- 3 FAQ



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# Course Objectives

The course main goal is to provide tools to enable you to:

- 1 construct models of market behavior,
- 2 identify their (built-in) limitations and
- 3 think about how to apply them to real-life problems.



## On Exactitude in Science

Jorge Luis Borges, *Collected Fictions*, translated by Andrew Hurley.

“In that Empire, the Art of Cartography attained such Perfection that the map of a single Province occupied the entirety of a City, and the map of the Empire, the entirety of a Province. In time, those Unconscionable Maps no longer satisfied, and the Cartographers Guilds struck a Map of the Empire whose size was that of the Empire, and which coincided point for point with it. The following Generations, who were not so fond of the Study of Cartography as their Forebears had been, saw that that vast Map was Useless, and not without some Pitilessness was it, that they delivered it up to the Inclemencies of Sun and Winters. In the Deserts of the West, still today, there are Tattered Ruins of that Map, inhabited by Animals and Beggars; in all the Land there is no other Relic of the Disciplines of Geography.

Suarez Miranda, *Viajes de varones prudentes*, Libro IV, Cap. XLV, Lerida, 1658.”



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# Reaching Our Goals

To achieve our goals, we rely on:

- 1 Class discussion.
- 2 Problem Solving.
- 3 Workshops.



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## Recommended Textbooks

Allen & Gale, Martin J. (2009)

*Understanding Financial Crises*, Oxford University Press.

Your ECON410 textbook (or lecture notes) are more important than this book. In this course we will rely primarily on my lecture notes.



# Coverage

We shall study (not necessarily in the order given):

- 1 Consumer Choice
- 2 Inter-temporal Choice
- 3 Expected Utility
- 4 Search Models
- 5 General Equilibrium
- 6 Nash Equilibrium
- 7 Financial Markets
- 8 Bank Runs
- 9 Behavioral Economics



## Contact Information and Office Hours Procedures

- 1 Email: [sergiop@unc.edu](mailto:sergiop@unc.edu).
- 2 Do not sent e-mail thru Sakai.
- 3 PLEASE: use only E510 as the subject line in any email.
- 4 Office hours are by Google Calendar appointment only:  
Monday 11AM-1PM  
Wednesday 3-5PM  
Friday 12AM-2PM
- 5 To schedule an OH meeting use [Google calendar](#).
- 6 Login name: [sergiop@email.unc.edu](mailto:sergiop@email.unc.edu)
- 7 Password: given in class
- 8 Create an event with: your name, start and finish times.
- 9 The calendar name is OFFICE HOURS





## Evaluation

- **February 26th** — 1st Midterm
- **April 2nd** — 2nd Midterm
- **April 28th** at **noon** (time differs from class time) — Final Examination
- Midterm grades account for 30% of the final grade.
- Final examination grade is worth 35% of the final grade.
- Ten or more problem sets and writing assignments: 20%.
- Final Essay: 10%.
- Participation and initiative: 5%
- There are no make-ups.
- The weight of any missing midterm (with justification) is transferred towards the final exam.



# Computing Grades

- Grades are not “curved”.
- Scale:  $\text{Score} = \text{Exam Grade} + 100 - \text{Max Exam Grade}$ .
- Course grades are computed accordingly to the table:

letter grade	min. score
A+	100
A	95
A-	90
B+	87
B	83
B-	80
C+	77
C	73
C-	70
D+	67
D	63
D-	60



## To do list for the first week

- 1 If you are eligible for taking exams with Accessibility Resources, please schedule with them within the first week of classes and notify me.
- 2 If a) you have more than 3 final exams in more than 24 hours; b) ECON510 is one of these exams; and c) you wish to re-schedule one of your exams; then you **MUST** first contact the professors of the other courses. If they are unable to accommodate your request, please forward your e-mail communication with them to me in the *first two weeks of classes*. If you do not follow these procedures your request will not be accommodated.
- 3 Place an order for the software *Mathematica* throughout [software.sites.unc.edu/software/mathematica/](http://software.sites.unc.edu/software/mathematica/). The *student license is free*. However, you must place an order.

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## Class Discussion

During this course, we shall employ additional material from TV, movies, or literature to discuss micro-economics related issues.

Sometimes, you may find the political or religious views; or the profanity contained in the additional material offensive or objectionable and you may feel uncomfortable.

I **do not** endorse any particular views ex but ...

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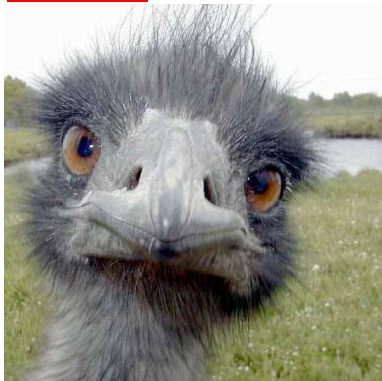
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## Class Discussion

I believe that as part of your **university** education, it is important you



engage in **critical thinking**, and also respect different opinions expressed by your classmates.

## Real-life Applications

To discuss real-life applications, it is recommended that read at least one newspaper regularly, follow major current events and also pay attention to socio-economic or political events that have strategic content. Moreover, if you are heading to graduation and job-market I suggest you subscribe to one of these newspapers:

- 1 NY Times
- 2 Wall Street Journal

Another good source of news is the NPR podcast [Planet Money](#).

## Problem Sets (PS)

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- 2 PS are posted every Wed. and are due next Tue. in class.
- 3 Past due date PS are not accepted.
- 4 Please be prepared to present and discuss the PS.
- 5 You are **strongly** encouraged to work in groups of at most four. In this case, please submit only one copy.
- 6 The grading criteria for the PS are:

grade	solutions	work	presentation
4.0	correct	explained	reasonable
3.5	comput. err.	explained	reasonable
3.0	concept. err.	explained	reasonable
2.0	–	omitted	reasonable
1.0	–	–	poor
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## Workshops

Workshops are conducted **outside** class time. Attendance is voluntary. Students from Advanced Micro. E510, may also attend.

Workshop are collaborative sessions where we will:

- 1 Review mathematics we need.
- 2 Practice solving additional problems.
- 3 Watch movies/TV episodes with microeconomic theory content.
- 4 Learn how to use Mathematica (computer algebra software).
- 5 Learn how to use L<sup>A</sup>T<sub>E</sub>X(typesetting software).

## Some words about math.

We use bits of optimization, set theory and proof reasoning but I assume you have knowledge equivalent to topics 1 to 2.3 in [Martin Osborne's tutorial](#). Topics you may wish to review are:

- Language of Set Theory
- Basic Calculus (derivation and integration).
- Probability (expectation of random variables and Baye's rule)
- Reading Proofs.
- Finding Maxima and Minima.

# Mathematics is a tool (language)



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If  $f : [a, b] \rightarrow \mathbb{R}$  satisfies  $[\forall x \in [a, b]$  and  $\forall \varepsilon > 0, \exists \delta > 0$ ; such that  
 $|x - y| < \delta \Rightarrow |f(x) - f(y)| < \varepsilon]$   
 $\Rightarrow \exists z \in [a, b]; \forall x \in [a, b] f(z) \geq f(x)$ .

If a real-function defined on a closed interval on the real line is continuous then it attains a maximum on the interval.

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## Questions & Answers

*I am about to graduate. I need an upper level requirement course. This course is the only one that fits my schedule. Should I take this class?*

It depends on your degree of risk-aversion. The variance of grades sometimes is high. Many students receive *A* grades. But this is a challenging course, so lower grades are not unheard of.

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## Is this course useful? for an Econ PhD

*I want to go to grad school in Economics. Advanced Micro. is very important for Economics, should I take this course?*

No. In grad school, you will have several opportunities to take Micro classes. If you want to increase your chances of being accepted by a top PhD program you should take more classes at the Mathematics Department.



## Is this course useful?

### Econ and other fields

*Would you recommend this course to any Econ, CS or Poli Sci major or PPE minor?*

Of course: if you want to learn more about economics, this is a good course for you. If you plan to go to Law School, grad school in Public Policy, Political Science, etc ... or if you just want to learn for the sake of learning, this is a terrific course for you.

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Probably you will not write down an economic model of a concrete real-life situation, solve for its equilibrium and make accurate predictions based on it. But that does not mean that models are useless. [Noah Smith's article](#) has several interesting examples.

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## Which courses will help in getting an ECON related job?

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Statistics & econometrics. Often econometrics courses provide a stronger background for quantitative analysis than courses statics departments offer. With the raise of “big data”, the demand for economists who can analyze empirical data has surged. Also traditional industries, such as consulting, banking, electricity, etc... always seek economists who can analyze data.

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