

# Advanced Micro II

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## *Overview of the Class*

This class builds on some of the concepts you've learned in Micro I and II to study at a deeper level a variety of topics relevant to students of public policy. We will build foundations for understanding risk, uncertainty, market failures, public goods, and discrimination. These foundations will be a necessary precursor to interesting applications. One example will be the study of health insurance markets. News coverage often warns of health insurance "death spirals." What is a death spiral? How can subsidized exchanges and mandates stop death spirals? Why didn't agents have insurance in the private market without intervention? How may reducing the ability of insurance companies to discriminate based on health status exacerbate the problem of missing insurance markets, rather than alleviate the problem? You will be able to answer these questions by the end of the course, but to do that we will first spend time modeling utility over risky outcomes.

Throughout the course, we will have a few discussions of "policy-in-depth"—examples of recent evidence-based policy which deals with the theoretical issues we've been discussing in class. Anywhere other than a Public Policy school, this course would be completely theoretical, but since you are future policy makers, theory and evidence should always go hand in hand.

## *Text*

The text is Nicholson and Snyder *Microeconomic Theory: Basic Principles and Extensions* 11th edition. However, your primary resource for studying/understanding the material should be my notes, which I will post online. To be completely clear: I will specify which parts of NS to read (in bold on the syllabus) but I do not think this is necessary and if the book is not helping you, stop reading it. I will only test you on material which I discuss in the lecture. The text will explain the same concepts slightly differently, which is helpful to some and harmful to others.

## *Logistics*

Section I of this class meets on Mondays and Wednesdays from 10:30-11:50AM in room 289B. Section 2 of this class meets on Mondays and Wednesdays from 1:30-2:50AM in room 289B. There will be a TA section on Fridays from 4:30-6PM in room 140C. I will hold office hours on Fridays from 3-4PM in in room 161. TA's OH are TBD. A Canvas website for the class has been set up. I will post readings and handouts there, make announcements, etc.

## *Formal Requirements*

Formal requirements for this class are 6 problem sets, a midterm, a final exam, and class participation. The problem sets will be given out at least a week in advance and will be due at the beginning of class. You may discuss and work with others, but must turn in your own work and problem set. The preliminary date for the midterm is February 6th in class. The Final will be for both sections 1 and 2 on **Wednesday, March 14, 2018, 1:30 - 3:30pm in the Lecture Hall**. Your final grade will be given by the following weights:

- Homeworks 20%
- 35% midterm
- 40% final
- 5%: participation

*Tentative Outline*

- Wednesday 1/3: Introduction + Risk and uncertainty
  - formalize the concept of risk, define expected values, lotteries. Define axioms of expected utility theory and vN-M expected utility functions. Begin discussing risk aversion.
- Monday 1/8: Risk and uncertainty
  - Discuss various equivalent definitions of risk aversion, certainty equivalents, risk premia, CARA, DRRA, etc.
  - What is the alternative to insurance and why does insurance/income smoothing increase welfare?
  - **NS pp. 209-222**; notes closely follow **MWG ch. 6 (pp. 167-194)** which is posted on blackboard
- Wednesday 1/10: Self insurance and precautionary savings
  - Homework 1 due
  - How do we think about lifetime income risk and what can agents do to mitigate this risk with savings? Review inter-temporal model of lifetime income, define expected utility maximization in this setting, prove that savings increase with uncertainty when marginal utility is convex (aka precautionary savings depend on prudence of the utility function).
- Monday 1/15: Martin Luther King Day (no class)
- Wednesday 1/17: An introduction to insurance
  - Define insurance and show that a risk averse person chooses perfect insurance under “fair” prices. Formalize the notion of insurance: who can offer it, to whom, and at what price?
  - **NS pp. 233-238**
- Monday 1/22: Adverse selection and moral hazard
  - Why are insurance markets in real life so incomplete (deductibles, caps in coverage, tons of rules, denial of coverage)? Discuss practical barriers which arise when one agent’s behavior/characteristics aren’t perfectly observable to another: adverse selection and moral hazard. Define first-best vs. second-best equilibrium.
  - **NS pp. 641-653, 670-674**
- Wednesday 1/24: Adverse selection and insurance markets
  - Homework 2 due
  - \*\* Rothschild, M. and Stiglitz, J. (1976). Equilibrium in competitive insurance markets: An essay on the economics of imperfect information. *The Quarterly Journal Economics*, 90(4):629–649
  - Model the *market* for insurance. In the presence of adverse selection, which insurance contracts exist in equilibrium? Show that there may be no insurance in equilibrium, and that welfare losses from adverse selection can be very large. Show that pooling equilibria are unstable/non-existent. Discuss this in relation to menu of contracts agents are offered in real life. Show that even separating equilibria may not exist—case study: there is no market for private unemployment insurance.
  - **NS pp. 663-670**
  - **Policy in depth:** the ACA under fire
- Monday 1/29: Income shocks, self-insurance, and spousal insurance

- Blundell, Richard, L. P. and Saporta-Eksten, I. (2016). Consumption inequality and family labor supply. *American Economic Review*, 106(2):287–435
- Briefly model spousal insurance/added worker effect. Discuss empirical evidence on the importance of precautionary savings, insurance, and spousal insurance for Americans vs. Norwegians.
- Wednesday 1/31: Review and catch up
  - Homework 3 due
- Monday 2/5: Midterm
- Wednesday 2/7: Partial equilibrium and taxation in a competitive market
  - Discuss deadweight loss of taxation, incidence of taxation, price floors, etc.
  - **NS pp. 439-447**
- Monday 2/12: Monopoly pricing
  - Review optimal price setting in the face of downward sloping demand curves, discuss inefficiency and deadweight loss. Introduce concept of dynamic efficiency, applications to pharmaceuticals, briefly discuss oligopoly
  - **NS pp. 501-522**
- Wednesday 2/14: Externalities, Coase theorem, Pigouvian taxes
  - Define externalities, discuss market failure, when can taxation restore efficiency? Property rights and externalities.
  - **NS pp. 685-694**
  - Homework 4 due
- Monday 2/19: General Equilibrium
  - Define an Edgeworth box, discuss partial vs. general equilibrium (examples of when it matters—education), discuss welfare theorems.
  - **NS pp. 457-489**
  - Homework 4 due
- Wednesday 2/21: Public Goods
  - Define Lindhal equilibrium: how to define equilibrium when everyone is paying different prices but consuming the same good at the same time, but each might want different quantities of the good.
  - **NS pp. 694-702**
  - Homework 5 due (general equilibrium, welfare, externalities)
- Monday 2/26: Public Goods
  - Discuss the problem of true preference elicitation, mechanisms to support true preference elicitation
  - **NS pp. 708-709**
- Wednesday 2/28: Economics of discrimination
  - What do economists have to say about discrimination? We will define two theories of discrimination: statistical discrimination (in which individuals are assigned the average attributes of their group when being evaluated) and taste-based discrimination (in which employers/customers/coworkers dislike interactions with members of minority groups). How does statistical discrimination affect wages and employment of minority workers? How might statistical discrimination affect firm tenure, lifecycle wages, and promotion?

- **Policy in depth:** ban the box and the unintended consequences of policy intervention
- Monday 3/5: Economics of discrimination
  - We will discuss taste-based discrimination and how discrimination can survive in competitive markets. We will discuss empirical evidence to support various models of discrimination.
  - \*\*Charles, K. K. and Guryan, J. (2008). Prejudice and wages: An empirical assessment of becker's the economics of discrimination. *Journal of Political Economy*, 116(5):773–809
- Wednesday 3/7: Economics of Immigration, final review
  - Homework 6 due
- Wednesday, 3/14: Final, 1:30 - 3:30pm in the Lecture Hall