

Course Outline for Econ 201(3)  
**MICROECONOMIC THEORY 2:  
BEHAVIOR, INTERACTIONS, AND ECONOMIC POLICY**

Department of Economics  
University of Waterloo  
Winter 2012

**Instructor:** Mikko Packalen

Office Hours: Tuesdays 4.30-8pm, room HH205

and by appointment: please send the instructor an email from a .uwaterloo  
email address with subject line "Econ 201(3)"

Class Hours: Tuesdays and Thursdays 2.30-3.50pm, room AL 211.

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**Course Description:** This course is an **introduction to formal microeconomic analysis** of human and firm **behavior, interactions, and economic policy.**

**Main Learning Objective:** The main learning objective is to gain the **ability to understand and show formally when self-interest alone can lead to good allocations and when economic policy can improve upon allocations determined by self-interest alone.** Reaching this objective gives student the skill to identify external effects on others as the main economic justification for policy interventions.

**Course Materials:** 8 problem sets, 3 Midterm exams, Final exam, Notes, Slides, Textbook.

**Expectations:** The class meetings are only an introduction to each topic covered in this course. For this reason class attendance should represent less than 30% of the student's weekly effort in studying for this class. The course progresses fast and the material is cumulative. Success in the course thus generally requires a weekly effort from the student outside of class. Without that weekly effort outside of class a student should not expect to either learn the material or receive a passing grade for the course.

**Homeworks and Incentives:** Homeworks are distributed **weekly** via learn.uwaterloo.ca. To provide incentives to study, student evaluation is effort-based in that exams follow these problem sets closely. While students have a realistic chance at achieving the perfect grade, students should keep in mind that success in this course typically requires weekly effort throughout the semester, due to the challenging nature of the material covered in the final exam. Questions include algebraic proof and implications of the First Welfare Theorem and derivation of a Nash Equilibrium in a model with externalities and continuous choice.

**Exams, Knowledge Retrieval, and Learning from Mistakes:** To emphasize knowledge retrieval in learning, there are 4 exams. Students should pick up and discuss each of the three midterm exams from the instructor in person to address gaps in learning early.

**Prerequisites:** Familiarity with the following economic concepts: Opportunity Cost, Budget Constraint, Preferences, Demand Curve, Market Demand, Profit Maximization, Average Cost, Marginal Cost, Fixed Cost, Variable Cost, Firm and Industry Supply Curves, Perfect Competition, Consumer Surplus, Market Equilibrium, Monopoly, Substitutes, Complements.

**Recommended Textbook:**

- Varian, H. R., 2006, *Intermediate Microeconomics: A Modern Approach*, 8<sup>th</sup> Ed. (most editions of this textbook are fine as substitutes).

**Course Website:** LEARN Course Environment [[learn.uwaterloo.ca](http://learn.uwaterloo.ca)].

**Class Topics** (The numbers in parentheses refer to sections in the 8th edition of the textbook. Previous editions have similar sections but may be labeled/numbered slightly differently. A careful studying of these sections is recommended):

**BEHAVIOR**

1. The Optimization Principle (1.1-1.2)
2. Marginal Analysis as a Solution to Optimization Problems (1.3, 24.1-24.2, 25.5)
3. Marginal Rate of Substitution (2, 3)
4. The MRS Condition (5.1-5.3, 5.5)
5. Effect of Price and Income Changes on Demand (6.1-6.5)
6. Direct and Indirect Revealed Preference (7.1-7.3)
7. The Law of Demand (8.1-8.4, 8.6)
16. Utility Function (4.1-4.2, 4.4-4.5)

**INTERACTIONS**

9. Pareto Efficiency (1.9-1.10, 16.9, 24.4)
10. Competitive Equilibrium and The First Welfare Theorem (31.1, 31.5-31.6)
11. Algebraic Proof of the First Welfare Theorem (31.9-31.10)
12. The Payoff Matrix and Best-Response (28.1, 29.1)
13. Nash Equilibrium (28.2)
14. Subgame-Perfect Nash Equilibrium (28.7-28.8)

15. Reaction Curves (6.8, 27.5-27.6)

## **ECONOMIC POLICY**

8. Optimal Taxation and Deadweight Loss of Taxation (5.6, 16.6-16.8)

17. Externalities (34.1, 34.3, 34.6)

18. Complementary Monopolists (6.7, 35.2)

19. Patents (24.5)

20. Public Goods (36.1-36.3)

### **Exams:**

- Midterm Exam 1: **Tuesday January 17th** (in Class)
- Midterm Exam 2: **Tuesday February 7th** (in Class)
- Midterm Exam 3: **Tuesday March 6th** (in Class)
- Final Exam: **TBA**

Each exam covers topics discussed in all previous classes and in the associated homeworks as well as in the associated sections of the textbook (see above) and the prerequisite classes.

Missed Exams: Only a properly and timely documented illness or death of an immediate family member is a valid reason for missing an exam. The weight of a missed Midterm Exam is shifted on the Final Exam if the student submits proper documentation in a timely manner. Student who misses an exam and does not submit proper documentation in a timely manner receives the grade 0 for the exam. A student who misses the Final Exam for a valid and properly documented reason can attend the Joint Make-Up Final Exam Session arranged by the economics department simultaneously for all economics classes for the Winter 2012 term. **There are no other Make-Up Final Exams and there are no Make-Up Midterm Exams.**

**Final Grade:** The final grade is calculated as a weighted average of exam grades. The weights are:

- 20% for Midterm Exam 1
- 20% for Midterm Exam 2
- 20% for Midterm Exam 3
- 40% for Final Exam

## **Institutional Required Statements.**

Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo are expected to promote honesty, trust, fairness, respect and responsibility.

Discipline: A student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about rules for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 Student Discipline. For information on categories of offenses and types of penalties, students should refer to Policy 71 - Student Discipline, <http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm>

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70 - Student Petitions and Grievances, Section 4, <http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm>

Appeals: A student may appeal the finding and/or penalty in a decision made under Policy 70 - Student Petitions and Grievances (other than regarding a petition) or Policy 71 - Student Discipline if a ground for an appeal can be established. Read Policy 72 - Student Appeals, <http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm>

Academic Integrity website (Arts): [http://arts.uwaterloo.ca/arts/ugrad/academic\\_responsibility.html](http://arts.uwaterloo.ca/arts/ugrad/academic_responsibility.html)

Academic Integrity Office (University): <http://uwaterloo.ca/academicintegrity/>

Note for students with disabilities: The Office for Persons with Disabilities (OPD), located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the OPD at the beginning of each academic term.