INTRODUCTION TO MICRO ECONOMICS
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OBJECTIVES
On this course you will learn the economic principles first participating in experiments and then studying the related economic theory and its applications. While participating in economic experiments you will see the economic principles in action. After each experiment, after having gathered and worked on its data, we will present the economic theories designed to explain the principles you’ve discovered in the laboratory and its applications. This process enables you to assess the capacity of the simplifications of economic theory to explain the economic world in which we live.

BIBLIOGRAPHY
The main textbook is *Experiments with Economic Principles* (2nd Edition) by Theodore C. Bergstrom and John H. Miller [WB]. This textbook is designed to teach economic principles through experiments. A second book, *Principles of Economics* (3rd Edition) by Gregory Mankiw [M], provides for specific topics and as extra material. This course requires the extensive reading of both books, and work on the exercises presented in the books.

SCHEDULE

Part I: Competitive Markets

**Tema 1. Introduction to Microeconomics**

[M] Chap. 1:3-10 and Cap. 2.

**Tema 2. Supply and Demand**

2.1 A model of competitive markets  
2.2 The supply curve  
2.3 The demand curve  
2.4 The price-quantity equilibrium  
2.5 Who trades in equilibrium?  
2.6 Reserve price, profit of seller and consumer surplus  
2.7 The efficiency of competitive equilibrium  
2.8 Model of competitive markets with supply and demand curves

[M] Chap. 4, Ch. 7.

**Tema 3. Shifts in Supply and Demand**

3.1 Review of the model of competitive markets: input and output.  
3.2 The supply curve with variable costs and fixed costs  
3.3 Comparative statics: supply shift  
3.3.1 What happens to the quantity in equilibrium?  
3.3.2 What happens to the equilibrium price?  
3.3.3 What about the equilibrium profits?  
3.4 Comparative Statics with smooth demand and supply curves.  
3.4.1 What happens to the quantity in equilibrium?  
3.4.2 What happens to the equilibrium price?  
3.4.3 What about the equilibrium profits?

[M] Chap. 4.
Tema 4.  Slope and Elasticity of Demand and Supply Curves
4.1. Sensitivity of quantity demanded / supplied to a change in the price.
4.2. Slope: definition and calculation.
4.3. Elasticity: definition and calculation.
4.4. The relationship between the slope and elasticity.
4.5. Comparative statics: Elasticity and total revenue


Part Two: Intervention in the market and economic policy
Tema 5.  A Sales Tax
5.1 Tax on sale for sellers.
5.1.1 How does the supply curve change?
5.1.2 The price and equilibrium quantity.
5.2 Sales Tax for buyers.
5.2.1 How does the demand curve change?
5.2.2 The price and equilibrium quantity.
5.3 Comparison of results: tax for the seller and buyer.
5.4 Who bears the tax? It depends on the elasticity.


Tema 6.  Taxes and Welfare
6.1. First Welfare Theorem: efficiency of competitive markets
6.2. Government intervention through taxation:
   6.2.1. Analysis of welfare with and without taxes
   6.2.2. Efficiency loss (excess burden) and cost of taxes
6.3. Why do taxes exist? Efficiency and justice


Tema 7.  The labor market and minimum wage
7.1. Introduction.
7.2. The demand for labor.
7.2.1. Rule of the value of marginal product.
7.2.2. Marginal product and average product.
7.2.3. Labor demand curve of a company.
7.2.4. Labor demand curve of the market.
7.3. Labor supply.
7.4. Competitive equilibrium in the labor market.
7.5. Effects of a minimum wage.
7.6. Minimum prices and maximum prices.

Bibliography:  [BM] Chap. 5.  [M] Chap. 6:114-123; Cap. 18:401-408.

Tema 8.  From individual markets to aggregated markets
8.1. Microeconomics and Macroeconomics
8.2. Gross Domestic Product (GDP)
8.3. Consumer Price Index (CPI) and inflation
8.4. Employment-Unemployment.

Bibliography:  [M] Chap. 23-24

Part Four: Imperfect Markets and technology
Tema 9.  Externalities
9.1. Introduction.
9.2. Competitive markets and externalities.
9.3. Taxes on pollution.
9.4. Transferable permits.
9.5. Positive externalities and subsidies.

Bibliography:  [BM] Chap. 6   [M] Chap. 10
**Tema 10. Monopolies and cartels**

8.1 Monopoly and Competitive Markets.
8.2 Behavior of a Monopoly.
   8.2.1 Total Revenue and Total Cost.
   8.2.2 Marginal Revenue and Marginal Cost.
   8.2.3 Quantity and Price of Monopoly.
8.3 Comparison of Monopoly and Competitive Markets.
8.4 Monopoly with Smooth Curves.
8.5 Cartels.

*Bibliography:* [BM] Chap. 7 (except pages 203-208).
   [M] Chap. 15: 314-328

**Tema 11. Network externalities**

11.1. What are the network externalities?
11.2. Network externalities and the demand curve.
11.3. The equilibrium with network externalities.
11.4. Stable equilibria, unstable equilibria and critical mass.

*Bibliography:* [BM] Chap. 9
EVALUATION CRITERIA

- 50%: **Final exam.** During the examination period (9-22 December). It is necessary to pass the final exam.
- 20%: **Midterm Exam** (2-3 November, during the lab).
- 20%: **Weekly assignment.** The completeness of each assignment will be evaluated and it will be corrected based on one or two points chosen at random.
- 10%: **Experiments.** 5% depends on attendance. Not participating in an experiment adjudicates 0 profits in said experiment. The remaining 5% will be proportional to your average profits obtained (after excluding the maximum and minimum) with respect to profits earned by the rest of the class.

**Important:**
- The grade of your profits depends on all of your experiments and results for all students in the class, not only for students in your group.
- During a seminar there will be several sessions and rounds of the same experiment. Not all rounds / sessions will be counted for the profits, the profits will be chosen randomly from among rounds and sessions in each experiment. The session and / or round which is chosen for profits will be announced once the profits of this experiment are published.
- The more profits you get, the higher your score. To obtain high profits you have to get the best possible price. The formula we use will be:

\[
[0.5 \text{presence}] + \left[ 0.5 \frac{\text{Mean Profit}_{\text{without Profit}_{\text{max}} \text{ and Profit}_{\text{min}}}}{\text{Benef}_{\text{max class}} - \text{Benef}_{\text{min class}}} \right]
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CALENDAR

- 22-Sep: Topic 0: Introduction: Contents and Organization
- 29-Sep: Topic 1: Introduction to Economics
- 5 Oct: **Seminar 1**: Supply and Demand
- 6-Oct: Topic 2: Supply and Demand

**NOTE different date for seminar: 11. Oct 16:45-18:00 and 18:00-19:15:**
- 14-Oct: Topic 4: Slope and Elasticity of Demand and Supply
- 19 - Oct: **Seminar 3**: Sales Tax
  
Submission of Task 2 (Topics 3 and 4)
- 20-Oct: Topic 5: Sales Tax
- 21-Oct: Topic 6: Tax and Welfare
- 26 - Oct: **Seminar 4**: A Minimum Wage
  
Submission of Task 3 (Topics 5 and 6)
- 2 - Nov: **Seminar 5**: Externalities
  
Submission of Task 4 (Topics 7)
- 3-Nov: Topic 8: Externalities
- 9-Nov: **Seminar 6**: Midterm Exam (Topics 1-7)
- 10-Nov: Topic 9: From Individual Markets to Aggregated Markets
- 16 - Nov: **Seminar 7**: The Monopolies and Cartels
  
Submission of Task 5 (Topic 8-9)
- 17-Nov: Topic 10: The Monopolies and Cartels
- 23 - Nov: **Seminar 8**: Network Externalities
  
Submission of Task 6 (Topic 10)
- 24-Nov: Topic 11: Network Externalities
  
Submission of Task 7 (Topic 11) 29th of November
INSTRUCTIONS FOR EXPERIMENTS / SEMINARS

• The grade of the experiments depends on attendance and profits accumulated.
• To participate in an experiment you must be punctual and have an identification number (the NIA).
  We do not admit entrance to anyone not belonging to the subgroup of the meeting or once the experiment has begun.
• **Before** the seminar in which the experiment is performed you must have read the **introduction** to the topic in the textbook and have done the **warm up exercises**. These tasks not only ensure the smooth running of the seminars, but also enhance the potential for greater profits.
• At the beginning of the experiment you will receive a sheet with information about your role in the experiment. At the end of each experiment you must return this sheet with the data of your participation.
• The **Lab Notes** derived from the experiments and necessary in order to do the tasks will be published in the “aula Moodle” of the subject.
• As in any society, unethical behavior or a breach of the rules can be penalized with loss of profits.