



National University of Engineering (UNI)

School of Computer Science
Syllabus 2024-II

1. COURSE

EC101FCCS. General Economy (Mandatory)

2. GENERAL INFORMATION

2.1 Course	: EC101FCCS. General Economy
2.2 Semester	: 3 rd Semester.
2.3 Credits	: 3
2.4 Horas	: 2 HT; 2 HP;
2.5 Duration of the period	: 16 weeks
2.6 Type of course	: Mandatory
2.7 Learning modality	: Face to face
2.8 Prerequisites	: None

3. PROFESSORS

Meetings after coordination with the professor

4. INTRODUCTION TO THE COURSE

Economics is the study of how societies allocate scarce resources. For computer science students, understanding economic principles is valuable for decision-making in business contexts, evaluating technology projects, and understanding the economic impact of innovations. This course provides an introduction to microeconomic and macroeconomic principles.

5. GOALS

- Understand the fundamental principles of microeconomics and macroeconomics.
- Analyze supply, demand, and price formation in markets.
- Evaluate economic policies and their impact on society.

6. COMPETENCES

- 1) Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions. (Assessment)
 - 4) Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles. (Usage)
 - 6) Apply computer science theory and software development fundamentals to produce computing-based solutions. (Familiarity)
- AG-C07)** Computing Knowledge: Applies appropriate knowledge of mathematics, science, and computing. (Assessment)
- AG-C09)** Solution Design and Development: Designs, implements, and evaluates solutions for complex computing problems. (Usage)
- AG-C12)** Applies computer science theory and software development fundamentals to produce computer-based solutions. (Familiarity)

7. TOPICS

Unit 1: Introduction to Economics (6 hours)	
Competences Expected: 1,AG-C07	
Topics	Learning Outcomes
<ul style="list-style-type: none"> • What is economics? • Basic principles of economics. • Microeconomics vs. Macroeconomics. • Economic thinking. 	<ul style="list-style-type: none"> • Define the basic concepts of economics. [Familiarizarse] • Differentiate between microeconomics and macroeconomics. [Usar] • Apply economic thinking to analyze everyday situations. [Evaluar]
Readings : [Man18], [SN10]	

Unit 2: Microeconomics: Supply and Demand (8 hours)	
Competences Expected: 1,AG-C07	
Topics	Learning Outcomes
<ul style="list-style-type: none"> • The demand curve. • The supply curve. • Market equilibrium. • Elasticity. 	<ul style="list-style-type: none"> • Explain the law of demand and supply. [Familiarizarse] • Determine market equilibrium. [Usar] • Calculate and interpret the price elasticity of demand. [Evaluar]
Readings : [Man18], [SN10]	

Unit 3: Microeconomics: Firms and Markets (10 hours)	
Competences Expected: 1,AG-C07,AG-C09	
Topics	Learning Outcomes
<ul style="list-style-type: none"> • Production costs. • Perfect competition. • Monopoly. • Oligopoly. 	<ul style="list-style-type: none"> • Analyze the production costs of a firm. [Familiarizarse] • Describe the characteristics of different market types. [Usar] • Compare and contrast perfect competition with monopoly and oligopoly. [Evaluar]
Readings : [Man18], [SN10]	

Unit 4: Macroeconomics: Measuring Economic Activity (8 hours)	
Competences Expected: 1,AG-C07	
Topics	Learning Outcomes
<ul style="list-style-type: none"> • Gross Domestic Product (GDP). • Inflation and unemployment. 	<ul style="list-style-type: none"> • Define and calculate GDP. [Familiarizarse] • Explain how inflation and unemployment are measured. [Usar] • Analyze the relationship between GDP, inflation, and unemployment. [Evaluar]
Readings : [Man18], [SN10]	

Unit 5: Macroeconomics: Monetary and Fiscal Policy (8 hours)	
Competences Expected: 1,AG-C07,AG-C09	
Topics	Learning Outcomes
<ul style="list-style-type: none"> • Monetary policy. • Fiscal policy. 	<ul style="list-style-type: none"> • Explain how monetary policy works. [Familiarizarse] • Describe the instruments of fiscal policy. [Usar] • Analyze the impact of monetary and fiscal policies on the economy. [Evaluar]
Readings : [Man18], [SN10]	

Unit 6: Economics of Innovation and Technology (8 hours)	
Competences Expected: 1,AG-C07,AG-C12	
Topics	Learning Outcomes
<ul style="list-style-type: none"> • The role of innovation in economic growth. • Economic impact of new technologies. • Digital markets. 	<ul style="list-style-type: none"> • Explain how innovation drives economic growth. [Familiarizarse] • Analyze the economic impact of new technologies. [Usar] • Understand the characteristics of digital markets. [Evaluar]
Readings : [SN10]	

8. WORKPLAN

8.1 Methodology

Individual and team participation is encouraged to present their ideas, motivating them with additional points in the different stages of the course evaluation.

8.2 Theory Sessions

The theory sessions are held in master classes with activities including active learning and roleplay to allow students to internalize the concepts.

8.3 Practical Sessions

The practical sessions are held in class where a series of exercises and/or practical concepts are developed through problem solving, problem solving, specific exercises and/or in application contexts.

9. EVALUATION SYSTEM

***** EVALUATION MISSING *****

10. BASIC BIBLIOGRAPHY

[SN10] Paul A. Samuelson and William D. Nordhaus. *Economics*. McGraw-Hill Education, 2010.

[Man18] N. Gregory Mankiw. *Principles of Economics*. Cengage Learning, 2018.