National University of Engineering (UNI)
School of Computer Science
Syllabus 2027-I

1. COURSE

EC101. General Economy (Mandatory)

2. GENERAL INFORMATION

2.1 Course	:	EC101. General Economy
2.2 Cycle	:	6^{th} Cycle.
2.3 Credits	:	2
2.4 Hours	:	2 HT;
2.5 Duration of the period	:	16 weeks
2.6 Type of course	:	Mandatory
2.7 Learning modality	:	Face to face
2.8 Prerrequisites	:	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

AG-C01) The Professional and the World: Analyzes and evaluates the impact of solutions to complex computing problems on the sustainable development of society. (Familiarity)

AG-C06) Life-long Learning: Recognizes the importance of continuous learning and adaptation to new technologies. (Familiarity)

7. TOPICS

Unit 1: Introduction to Economics (6 hours)	
Competences Expected: AG-C01,AG-C06	
Topics	**Learning Outcomes**
• What is economics? • Basic principles of economics. • Microeconomics vs. Macroeconomics. • Economic thinking.	• 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: AG-C01,AG-C06	
Topics	**Learning Outcomes**
• The demand curve. • The supply curve. • Market equilibrium. • Elasticity.	• 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: AG-C01,AG-C06	
Topics	**Learning Outcomes**
• Production costs. • Perfect competition. • Monopoly. • Oligopoly.	• 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: AG-C01,AG-C06	
Topics	**Learning Outcomes**
• Gross Domestic Product (GDP). • Inflation and unemployment.	• 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: AG-C01,AG-C06	
Topics	**Learning Outcomes**
• Monetary policy. • Fiscal policy.	• 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: AG-C01,AG-C06	
Topics	**Learning Outcomes**
• The role of innovation in economic growth. • Economic impact of new technologies. • Digital markets.	• 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

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

Lab Sessions:
In order to verify their competences, several activities including active learning and roleplay will be developed during lab sessions.

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

Reading:
Throughout the course different readings are provided, which are evaluated. The average of the notes in the readings is considered as the mark of a qualified practice. The use of our virtual campus allows each student to access the course information, and interact outside the classroom with the teacher and with the other students.

The final grade NF depends on the following grades:

- PE: Partial Exam.
- FE: Final Exam.
- P: Permanent Evaluation (Average of practical work and graded assignments).

The final grade NF is calculated as follows:

$$NF = \frac{PE + FE + P}{3}$$

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.