

27449 - Innovation, Growth and Sustainability

Syllabus Information

Academic year: 2023/24

Subject: 27449 - Innovation, Growth and Sustainability

Faculty / School: 109 - Facultad de Economía y Empresa

Degree: 417 - Degree in Economics

ECTS: 5.0

Year: 4

Semester: Second semester

Subject type: Optional

Module:

1. General information

With the contents provided, students will have a broad perspective on the mechanisms behind economic growth, the role of innovation in the economy and the relevance of sustainability as an economic concern. This knowledge will qualify them to advise, research or perform management work in these three fields. In any case, they will have acquired skills in relation to the dynamics of economic progress that are of great importance today, especially in relation to technological evolution, ecological transition and climate change.

These approaches and goals are aligned with the Sustainable Development Goals (SDGs) of the 2030 Agenda of the United Nations (<https://www.un.org/sustainabledevelopment/es/>), specifically, the activities planned in the subject will contribute to the achievement of the goals:

- Goal 3: Health and wellness
- Goal 4: Quality Education.
- Goal 7: Affordable and non-polluting energy
- Goal 8: Decent Work and Economic Growth
- Goal 9: Industry, Innovation and Infrastructure
- Goal 13: Climate Action
- Goal 15: Life of Terrestrial Ecosystems.

2. Learning results

In order to pass this subject, the student must demonstrate sufficient knowledge of the role played by innovation in economic growth, as well as the conditions that such growth must meet in order to qualify as sustainable from the point of view of the availability of natural resources and the environmental situation.

Upon completion of the subject, the student will be able to:

- 1) Differentiate the different types of technical change that can occur, understanding as such the modifications of the productive processes capable of providing a higher level of production for a given combination of inputs.
- 2) Understand the relevance of the possible limits that the availability of natural resources or the environment may pose to economic growth
- 3) Describe the role of innovation in growth mechanisms that require technical change.
- 4) Distinguish the different types of innovation and the different roles they play in the economy according to the economic growth they cause.
- 5) Identify the mechanisms by which certain limits imposed by natural resources or the environment on growth force changes in resource allocations to ensure the sustainability of that growth.
- 6) Design innovation policies appropriate to growth and sustainability aimed at achieving optimal resource allocations.

To sum up, the student will learn the mechanisms by which innovation is fundamental to economic progress, how the challenges of sustainability can be overcome, and the economic policies that help to improve what both concepts represent for economic progress.

3. Syllabus

Unit 1. Introduction: Interactions between innovation, growth and sustainability

Unit 2. Economic growth models of an accumulation sector

Unit 3. Economic growth models with two sectors of accumulation

Unit 4. Growth models with limits to sustainability. The concept of natural capital and the circular economy Unit 5. Research and development and innovation policies

4. Academic activities

The learning process designed for this subject is based on:

1. Participative lectures. In them, the teacher will explain the fundamental contents of the subject. The student should complement the explanations with the recommended bibliography. Hours: 25
2. Practical classes. In them, both the teacher and the students will solve practical exercises. Hours: 25
2. Personal study. Hours: 70.
4. Assessment tests. Hours: 5 (outside class hours)

5. Assessment system

The subject will be evaluated in a double way in the first call and by means of a global evaluation in the second call

The double way of the first call will be by continuous evaluation or by means of a global exam.

The continuous evaluation will consist of voluntary tests throughout the term plus a continuous evaluation test . This test will represent a minimum of 80% and the voluntary ones a maximum of 20%.

The global exam in both the first and second calls represents 100% of the grade.

The tests, both of continuous and global evaluation, contain theoretical-practical questions.