

30174 - Management of Innovation and Technology Policy

Syllabus Information

Academic Year: 2020/21

Subject: 30174 - Management of Innovation and Technology Policy

Faculty / School: 179 - Centro Universitario de la Defensa - Zaragoza

Degree: 563 - Bachelor's Degree in Industrial Organisational Engineering

ECTS: 4.5

Year: 3

Semester: Second semester

Subject Type: Compulsory

Module: ---

1. General information

1.1. Aims of the course

- to identify types and strategies of innovation and technological development in organizations.
- to design, implement, and know systems of technological surveillance and foresight, especially in the field of defence.
- to choose the appropriate intellectual property right to benefit the most from innovation results.
- to plan R&D and innovation projects in accordance with technological and corporate strategies.
- to set out and decide the cancellation of the development of innovations.
- to know the structure of public incentives aimed at promoting innovations, especially in the field of defence.
- to value R&D cooperative agreements with other firms and research centers.
- to write project proposals to apply for publicly-granted R&D funds, especially in the field of defence.

1.2. Context and importance of this course in the degree

This course, which is placed in the second half of the degree, allows students to apply the knowledge gained in previous courses.

It is expected that students will be able to identify technologies and knowledge about which they can get informed autonomously, and which will allow them to organize solutions to complex problems from a strategic management perspective in the form of a project.

1.3. Recommendations to take this course

This course does not make use of any skills beyond those taught in the scientific stream of high school. However, familiarity with the basics of economic management, as taught in the 1st-year course Fundamentals of Administration, is welcome.

2. Learning goals

2.1. Competences

1. Knowledge and capacities to direct technological changes in organisations, especially within the framework of public innovation systems and in the field of defence.
2. Ability to plan, budget, organise, manage and monitor tasks, people and resources.
3. Ability to combine both general and specialised engineering knowledge to produce innovative and competitive proposals within the scope of professional practice.
4. Ability to solve problems and take decisions with initiative, creativity and critical reasoning.
5. Ability to apply Information and Communication Technologies (ICTs) within the field of engineering.
6. Ability to communicate knowledge and skills in Spanish.

7. Ability to work in a multidisciplinary group and in a multilingual setting.
8. Ability to continue learning and develop self-learning strategies.

2.2.Learning goals

1. To design and implement strategies of innovation and technological development in organizations.
2. To design and implement systems of technological surveillance to defend against competitors and to take advantage of business opportunities in the market. To use the patent system as a means of protecting innovations and identifying competitive opportunities.
3. To know efficient systems of technological transfer or cooperation to improve the competitiveness of the organization.
4. To evaluate and select the most appropriate R&D and innovation proposals according to the firm's technological innovation strategy.
5. To manage the development of innovations (new products and productive processes) identifying the appropriate course of action for their proper planning and management.
6. To set out and decide the cancellation of the development of innovations.
7. To know the principles of training and management of multidisciplinary teams for the development of innovations.
8. To know the structure of public incentives aimed at promoting innovations.
9. To reach and manage R&D cooperative agreements with other firms and research centers.
10. To identify and know how to use external funding sources available in public innovation systems for carrying out innovation activities.
11. To write project proposals to apply for publicly-granted national and international R&D funds.

2.3.Importance of learning goals

This course will make students more proficient to:

1. Manage their own experience and knowledge, as well as those of other members of their organization, to achieve operational improvements, ideas proposals and innovative alternatives which improve products, productive processes and logistics, and organizational systems.
2. Plan changes that improve global systems based on scientific-technical knowledge and management.

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

1. Assignments (40%). The solutions implemented will be assessed according to the quality of the procedures and strategies utilized. It also will be assessed the ability to identify knowledge and apply it to the proposed strategy, as well as solutions' overall planning and systematization. Critical capacity for selecting alternatives and methods will be valued. Assignments will be carried out individually and/or in small groups. Some of the assignments could involve giving an oral presentation.
2. Midterm exam (10%) with questions of kind and level of complexity similar to that practised during the course.
3. Final exam (50%) with questions of kind and level of complexity similar to that practised during the course. Students will have to secure a minimum score in this task to get pass.

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

(If this teaching could not be done in person for health reasons, it would be done telematically.)

The methodology followed in this course is oriented towards the achievement of the learning objectives.

Students are expected to participate actively in the class throughout the semester.

Classroom materials will be available via Moodle. These include a repository of the lecture notes used in class, the course syllabus, as well as other course-specific learning materials.

Teaching activities: Lectures (75%), tutorials on problem-solving and case study analysis (25%).

4.2.Learning tasks

The course includes the following learning tasks:

1. Practical assignments in reduced groups or individually

2. Individual examinations

4.3.Syllabus

The course will address the following topics:

1. Innovation management
2. Technology audits, Technological Surveillance systems and Technology Foresight
3. IPR: *Intellectual property rights*
4. Selection and management of innovative developments
5. Technology Transfer and Cooperation
6. Innovation Systems

4.4.Course planning and calendar

Further information concerning the timetable, classroom, and other details regarding this course will be provided by the Moodle and web site: <http://tud.unizar.es>

4.5.Bibliography and recommended resources

Bibliography:

http://biblos.unizar.es/br/br_citas.php?codigo=30174&year=2020