

Academic Year/course: 2022/23

## 63291 - Innovation and Classroom Research in Industrial and Building Processes

### Syllabus Information

**Academic Year:** 2022/23

**Subject:** 63291 - Innovation and Classroom Research in Industrial and Building Processes

**Faculty / School:** 107 - Facultad de Educación

**Degree:** 584 -  
601 -

**ECTS:** 4.0

**Year:** 1

**Semester:** Second semester

**Subject Type:** Optional

**Module:**

## 1. General information

## 2. Learning goals

### 2.2. Learning goals

1. Recognize, describe and value innovative teaching proposals in the field of the corresponding specialty.
2. Explain the most important approaches and methodologies for evaluating educational activity.
3. Differentiate the different educational research paradigms in the corresponding specialty.
4. Know and effectively use bibliographic and documentary resources related to educational innovation.

## 3. Assessment (1st and 2nd call)

## 4. Methodology, learning tasks, syllabus and resources

### 4.1. Methodological overview

The methodology followed in this course is oriented towards achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as theory sessions, laboratory sessions, assignments, and tutorials.

The learning process designed for this subject is based on the following premises:

The proposed methodology tries to encourage the student's continuous work and focuses on the most practical aspects of the subject, since the subject has an eminently practical nature.

In the sessions with the full group, the most theoretical aspects are covered in theory sessions (master classes) complemented with application examples. These sessions will provide the student with the knowledge and skills to carry out different practical cases. The professor, after explaining the necessary theoretical concepts, will supervise and guide the case studies or assignments that the students are developing. These case studies have been designed so that each student will apply different techniques and tools for educational research and innovation projects in the area of industrial processes throughout the course. The assessment is focused on practical aspects. It is intended to promote both continuous work and individual effort and a plan has been made so that the dedication hours are balanced each week.

Relevant information concerning the timetable, classroom, office hours, assessment dates, deliverables to be made by the students to pass the subject and other details regarding this course will be provided during the first week of teaching or in the Moodle platform

In addition, professional conferences or visits to institutions in relation with the contents of the subject will be held to expand the students' knowledge on specific areas of interest.

## 4.2. Learning tasks

The methodology followed in this course is oriented towards the achievement of the learning objectives. Following activities are defined:

- Theory sessions, where the theoretical background will be explained.
- Laboratory sessions and practice sessions will be carried out in class with the professor's supervision after the explanation of the corresponding theoretical concepts in the theory sessions. The students will develop guided assignments individually or in small groups. In addition, they will have to make oral presentations of the guided assignments.

The professor will guide and follow up the students' assignments will provide tutorial support

## 4.3. Syllabus

The course will address the following topics:

### Section 0. ? Background

- Introduction
- Industrial processes and systems
- New industrial processes trends
- Processes' innovation examples

### Section 1. ? Educational research

- The educational research
- The research methodologies: qualitative and quantitative methodologies
- Design and development in educational research
- Data identification strategies
- Reports generation

### Section 2. ? Educational innovation

- Educational innovation projects definition and design process
- Project management tools
- The role of innovation as improvement process

### Section 3. ? Assessment

- Assessment standards
- Evaluation of the teaching-learning process
- Educational innovation projects evaluation
- Assessment techniques and tools

## 4.4. Course planning and calendar

Relevant information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or in the Moodle platform

The course includes 4 ECTS (100 hours) organized according to:

- Theory sessions: 16 hours
- Guided assignments: 20 hours
- Laboratory sessions: 14 hours
- Autonomous work: 47 hours
- Assessment: 3 hours

#### **4.5. Bibliography and recommended resources**

The updated bibliography can be found in the BR of the BUZ.

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=63291>