

## 26228 - Industrial Design and Environmental Management

### Información del Plan Docente

<b>Academic Year</b>	2016/17
<b>Academic center</b>	105 - Facultad de Veterinaria
<b>Degree</b>	294 - Degree in Food Science and Technology
<b>ECTS</b>	6.0
<b>Course</b>	3
<b>Period</b>	Second semester
<b>Subject Type</b>	Compulsory
<b>Module</b>	---

### **1.Basic info**

#### **1.1.Recommendations to take this course**

#### **1.2.Activities and key dates for the course**

### **2.Initiation**

#### **2.1.Learning outcomes that define the subject**

#### **2.2.Introduction**

### **3.Context and competences**

#### **3.1.Goals**

#### **3.2.Context and meaning of the subject in the degree**

#### **3.3.Competences**

#### **3.4.Importance of learning outcomes**

### **4.Evaluation**

### **5.Activities and resources**

#### **5.1.General methodological presentation**

A teaching program of 30 hours of lectures, 6 hours of problems, 22 hours of laboratory practice and 2 hours dedicated to seminars, as well as the development of a series of works of interest (39 hours). These jobs are sometimes collectively made in groups of 3 or 4 students and in other cases, individually.

In sessions with the whole group the more theoretical aspects are addressed in the form of master class and are completed with immediate applications: trouble-type. It is intended to provide students with sufficient advance the

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documentation for each subject, in order that the student knows the contents on the subject to be treated, which favor a more participatory class.

The practice sessions are done in 2 hours. Each group is scheduled to perform practices Monday through Friday. As in the theoretical teaching, students have in advance the script of practices.

Both classroom sessions and lab will equip the student knowledge and skills to perform different case studies. These cases have been raised so that each group of students will apply throughout the course different techniques working on a company that will be given at the beginning of the course. This company will keep throughout all sessions. On it different situations for the application of knowledge indicated in the established modules that reflect real situations, in which the student must apply the appropriate technique and take appropriate decisions to the situation in question will arise.

The evaluation is focused on the more practical aspects. It aims to promote both teamwork and individual effort and has made planning for the hours of dedication are balanced each week.

### 5.2.Learning activities

This subject consists of 6 ECTS : 150 hours / student. At this time the following learning activities are proposed:

- 30 hours of classroom lectures .
- 6 hours of classroom problems .
- 22 hours of laboratory practices in small groups.
- 2-hour seminar.
- 48 hours of theoretical study .
- 39 hours of practical work.
- 3 h examination.

### 5.3.Program

#### 1 The production plant

Lesson 1: Concepts and elements of production plant

Lesson 2: General design and sizing of production plant: layout

#### 2 Production planning and maintenance

Lesson 3: Production Planning

Lesson 4: Production Scheduling

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Lesson 5: Industrial Maintenance

Lesson 6: Warehouse Management

Lesson 7: Merchandise Transport

### **3 Control and automation**

Lesson 8: Control and automation of production

Lesson 9: Systems capture and transmission of information

### **4 Environmental Management**

Lesson 10: Concepts of environmental management

### **5 Water pollution**

Lesson 11: Water quality and pollution

Lesson 12: Water treatment

### **6 Waste Management**

Lesson 13: Concepts of waste management.

Lesson 14: Waste treatment

### **5.4.Planning and scheduling**

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The dates and key milestones of the subject are described in detail , along with the other subjects in the third course in the Grade of CTA , on the website of the Faculty of Veterinary Medicine (link : <http://veterinaria.unizar.es / gradocta /> ) . This link will be updated at the beginning of each academic year .

### **5.5.Bibliography and recommended resources**

Typically, the literature of the academic year is kept updated and is consulted by the Library website ( search [biblioteca.unizar.es](http://biblioteca.unizar.es) recommended bibliography)