

## 69304 - Computer aided prosthesis and implant design

### Información del Plan Docente

|                         |  |
|-------------------------|--|
| <b>Academic Year</b>    | 2018/19  |
| <b>Subject</b>          | 69304 - Computer aided prosthesis and implant design |
| <b>Faculty / School</b> | 110 - Escuela de Ingeniería y Arquitectura           |
| <b>Degree</b>           | 547 - Master's in Biomedical Engineering             |
| <b>ECTS</b>             | 3.0  |
| <b>Year</b>             | 1  |
| <b>Semester</b>         | Second semester                                      |
| <b>Subject Type</b>     | Optional   |
| <b>Module</b>           | ---  |

### **1.General information**

#### **1.1.Aims of the course**

#### **1.2.Context and importance of this course in the degree**

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

### **2.Learning goals**

#### **2.1.Competences**

#### **2.2.Learning goals**

#### **2.3.Importance of learning goals**

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

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

### **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 lectures where the main contents are presented and discussed; lab sessions, practical tasks based on real application, and specific research activities.

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

#### **4.2.Learning tasks**

There will be the following activities:

## 69304 - Computer aided prosthesis and implant design

- **A01 Lectures**(18 hours). The main course contents are presented and student participation is encouraged.
- **A03 Computer lab sessions** (10 hours). Notes for each computer/lab session where the different activities are planned will be available before the session. In the following days after the computer/lab session, the student should submit a report of the corresponding lab session.
- **A05 Assignments**. Different activities/tasks are proposed related to the main contents of the course.
- **A06 Tutorials**. Students may ask any questions they might have about unclear contents of the course.
- **A08 Assessment**. The student will take an exam and prepare several reports derived from the computer lab sessions and the practical tasks.
- **Autonomous work**.

Assignments A05, Assessment A08 and Autonomous work will account for 45 hours.

### 4.3.Syllabus

The course will address the following topics:

1. Introduction
2. Design factors
3. Hip implants
4. Knee implants
5. Dental implants
6. Foot implants
7. Spine prosthesis
8. Cardiovascular prosthesis
9. Prostheses/Implant regulations

### 4.4.Course planning and calendar

Further 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 please refer to the EINA website and the Moodle website.

### 4.5.Bibliography and recommended resources