

Academic Year/course: 2022/23

69704 - Computer aided prosthesis and implant design

Syllabus Information

Academic Year: 2022/23

Subject: 69704 - Computer aided prosthesis and implant design

Faculty / School: 110 - Escuela de Ingeniería y Arquitectura

Degree: 633 - Master's Degree in Biomedical Engineering

ECTS: 3.0

Year:

Semester: Second semester

Subject Type: Optional

Module:

1. General information

2. Learning goals

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 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:

- 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

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=69704>