

AEROSPACE ENGINEERING (LM52)

(Brindisi - Università degli Studi)

Teaching COMPUTING AND MECHANICAL DESIGN

GenCod A003314

Owner professor Anna MORABITO

Teaching in italian COMPUTING AND MECHANICAL DESIGN

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SSD code ING-IND/15

Reference course AEROSPACE ENGINEERING

Course type Laurea Magistrale

Credits 9.0

Teaching hours Ore-Attività-frontale: 81.0

For enrolled in 2016/2017

Taught in 2016/2017

Course year 1

Language INGLESE

Curriculum PERCORSO COMUNE

Location Brindisi

Semester Secondo-Semestre

Exam type Orale

Assessment Voto-Finale

Course timetable
<https://easyroom.unisalento.it/Orario>

REQUIREMENTS

Sufficiency in geometry and linear algebra.

COURSE AIMS

Overview

Computer aided design aims at developing engineering design skills with a particular focus on the proficient use of modern CAD-integrated analysis tools.

Learning Outcomes

After the course the student should be able to

- * acquire detailed knowledge and understanding of the most recent advances in 3D computer aided design.
- * know the fundamental building blocks for creating parametric geometry.

ASSESSMENT TYPE

The exam consists of two cascaded parts (maximum overall duration: three hours).

The first part is closed book (duration: one hour); the student is asked to illustrate some theoretical topics.

The second part, that starts when the student has completed the first part (duration: two hours), consists in modelling, using CATIA, a given mechanical/aeronautical component and outputting the detail drawing.

FULL SYLLABUS

Introduction: CAD/CAM/CAE systems in the industrial product development cycle.
Geometric modeling methods and techniques.
The representation schemes of solid geometry: CSG, B-rep, finite elements, schemes by enumeration of occupied spaces .
2D and 3D geometric transformations.
CATIA V5: Introduction
CATIA V5: The sketching
CATIA V5: Part Design
CATIA V5: Assembly Design
CATIA V5: Generative Shape Design
CATIA V5: Drawing

REFERENCE TEXT BOOKS

Lee Kunwoo, "Principles of CAD/CAM/CAE Systems", Addison Wesley Longman
▪Mortenson M.E., "GeometricModelling", John Wiley and Sons, 1997.
▪Ibrahim Zeid, "Mastering CAD/CAM", McGrawHill
▪Michel Michaud, CATIA-Core Tools, McGrawHill
▪Lucidi delle lezioni