29722 - Deformable Solids Theory

Información del Plan Docente

Academic Year	2016/17
Academic center	110 - Escuela de Ingeniería y Arquitectura
Degree	434 - Bachelor's Degree in Mechanical Engineering
ECTS	6.0
Course	3
Period	First semester
Subject Type	Compulsory
Module	---

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

5.2.Learning activities

5.3.Program

Part I: Continuum Mechanics

1. Introduction to Linear Continuum Mechanics

2. Strain
3. Stress
4. Principal strains and stresses.
5. Constitutive equations.
6. Differential formulation of the elasticity problem
7. Limits of the elastic behavior.

Part II: Finite Element Method (FEM) in Continuum Mechanics

8. Introduction to FEM

9. FEM formulation in one dimension

10. FEM formulation in two dimensional elasticity (plane strain and plane strain)

11. Formulation FEM formulation in three dimensions

12. User recommendations in MEF

5.4.Planning and scheduling

5.5.Bibliography and recomended resources