Biostructures

Academic Year: (2020 / 2021) **Review date: 10-04-2019**

Department assigned to the subject: Continuum Mechanics and Structural Analysis Department

Coordinating teacher: GARCIA GONZALEZ, DANIEL

Type: Electives ECTS Credits : 6.0

Year : 4 Semester :

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Linear Algebra
Calculus I, Calculus II, Calculus III
Mechanics of Structures
Elasticity and Strength of Materials

OBJECTIVES

Tensorial calculus

Solid mechanics formulation for finite (large) deformations

Development of constitutive equations to describe the mechanical behaviour of biological tissues

Application of solid mechanics theories to real problems in bioengineering

DESCRIPTION OF CONTENTS: PROGRAMME

Fundamentals of tensorial algebra

Kinematics of deformable solid: finite (large) deformations

Stress measurements

Balance equations: Lagrangian and Eulerian descriptions

Constitutive equations for biological solids

Applications to engineering problems: biostructures