Universidad Carlos III de Madrid
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DENOMINACIÓN ASIGNATURA: Biomechanics of continuum media I		
GRADO: Biomedical Engineering	CURSO: 2º	CUATRIMESTRE: 1º

La asignatura tiene 29 sesiones que se distribuyen a lo largo de 14 semanas. Los laboratorios pueden situarse en cualquiera de ellas.
Semanalmente el alumnos tendrá dos sesiones, excepto en un caso que serán tres.

			PLANIFICACIÓN SEMANAL DE LA ASIGNATURA						
SEMANA	**SESIÓN**	**DESCRIPCIÓN DEL CONTENIDO DE LA SESIÓN**	**GRUPO (marcar X)**		**Indicar espacio distinto de aula (aula informática, audiovisual, etc.)**	**Indicar SI/NO es una sesión con 2 profesores**	**TRABAJO SEMANAL DEL ALUMNO**		
			GRANDE	PEQUEÑO			DESCRIPCIÓN	HORAS PRESENCIALES	HORAS TRABAJO (Max. 7h semana)
1	1	Presentation Introduction to continuum mechanics applied to living and inert solids		X			Study basic assumption of Continuum Mechancis	1,66	
1	2	Stress, strain and compatibility conditions I	X				Study the concept of stress	1,66	7 h
2	3	Exercises: Stress, strain and compatibility conditions I		X			Exercises on the concept of stress	1,66	
2	4	Exercises: Stress, strain and compatibility conditions I	X				Exercises on the concept of stress	1,66	7 h
3	5	Stress, strain and compatibility conditions II		X			Study the concept of strain	1,66	
3	6	Exercises: Stress, strain and compatibility conditions II	X				Exercises on the concept of strain	1,66	7 h

4	7	Exercises: Stress, strain and compatibility conditions II		X			Exercises on the concept of strain	1,66	
4	8	Derivation of the field equations and boundary conditions	X				Study the field equations and the boundary condition of continuum mechanics	1,66	7 h
5	9	Properties of most common (bio)solids		X			Study the properties of most common (bio)solids	1,66	
5	10	Constitutive equations of continuum mechanics_Elasticity I	X				Study the constitutive equations of the linear elastic isotropic solid	1,66	7 h
6	11	Constitutive equations of continuum mechanics_Elasticity I		X			Study the constitutive equations of the linear elastic isotropic solid	1,66	
6	12	Exercises: Constitutive equations of continuum mechanics_Elasticity I	X				Exercises on the constitutive equations of the linear elastic isotropic solid: The Hooke's law	1,66	7 h
7	13	Exercises: Constitutive equations of continuum mechanics_Elasticity I		X			Exercises on the constitutive equations of the linear elastic isotropic solid: The Hooke's law	1,66	
7	14	Constitutive equations of continuum mechanics_Elasticity II	X				Study the constitutive equations of the linear elastic isotropic solid: The closed form of the elastic problem	1,66	7 h
8	15	Exercises: Constitutive equations of continuum mechanics_Elasticity II		X			Exercises on the constitutive equations of the linear elastic isotropic solid: The closed form of the elastic problem	1,66	
8	16	Laboratory session			X	X	Develop the report of the Lab session	1,66	7 h
9	17	Constitutive equations of continuum mechanics_Elasticity III		X			Study the constitutive equations of the linear elastic isotropic solid: 2D problems	1,66	
9	18	Constitutive equations of continuum mechanics_Elasticity III	X				Study the constitutive equations of the linear elastic isotropic solid: 2D problems	1,66	7 h
10	19	Exercises: Constitutive equations of continuum mechanics_Elasticity III		X			Exercises on the constitutive equations of the linear elastic isotropic solid: 2D problems	1,66	
10	20	Exercises: Constitutive equations of continuum mechanics_Elasticity III	X				Exercises on the constitutive equations of the linear elastic isotropic solid: 2D problems	1,66	7 h
11	21	Laboratory session			X	X	Develop the report of the Lab session	1,66	
11	22	Constitutive equations of continuum mechanics_Elasticity IV	X				Study the constitutive equations of the linear elastic isotropic solid: problems in polar coordinates	1,66	7 h

12	23	Constitutive equations of continuum mechanics_Elasticity IV		X				Study the constitutive equations of the linear elastic isotropic solid: problems in polar coordinates	1,66	7 h
12	24	Exercises: Constitutive equations of continuum mechanics_Elasticity IV	X					Exercises on the constitutive equations of the linear elastic isotropic solid: problems in polar coordinates	1,66	7 h
13	25	Exercises: Constitutive equations of continuum mechanics_Elasticity IV		X				Exercises on the constitutive equations of the linear elastic isotropic solid: problems in polar coordinates	1,66	7 h
13	26	Constitutive equations of continuum mechanics_Viscoelasticty	X					Study the constitutive equations of the linear viscoelastic isotropic solid	1,66	7 h
14	27	Constitutive equations of continuum mechanics_Viscoelasticty		X				Study the constitutive equations of the linear viscoelastic isotropic solid	1,66	7 h
14	28	Exercises: Constitutive equations of continuum mechanics_Viscoelasticty	X					Exercises on the constitutive equations of the linear viscoelastic isotropic solid	1,66	7 h
	29	Exercises: Constitutive equations of continuum mechanics_Viscoelasticty		X				Exercises on the constitutive equations of the linear viscoelastic isotropic solid	1,66	7 h
								Subtotal 1	**48,33**	7 h
		Total 1 *(Horas presenciales y de trabajo del alumno entre las semanas 1-14)*								
15		Recuperaciones, tutorías, entrega de trabajos, etc								
16										
17		Preparación de evaluación y evaluación							3	
18										
								Subtotal 2	**3**	
		Total 2 *(Horas presenciales y de trabajo del alumno entre las semanas 15-18)*								
TOTAL *(Total 1 + Total 2. Máximo 180 horas)*										