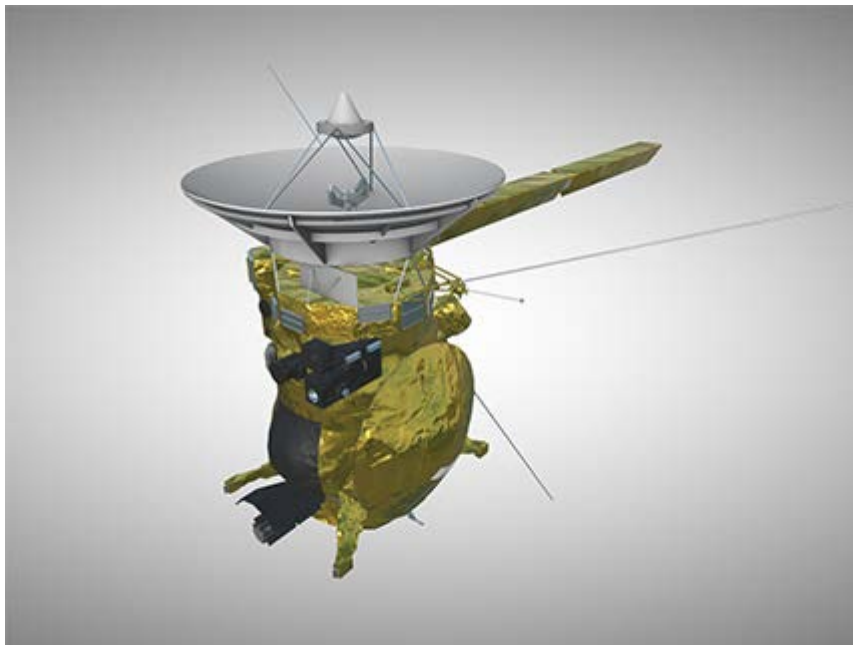




Universidad
Politécnica
de Cartagena

Campus
de Excelencia
Internacional

DIGITAL MANUFACTURE: INTRODUCTION TO 3D MODELING AND PRINTING



**Transversal Activitiy of Doctorate
Universidad Politécnica de Cartagena
Curso 2020/21**

1. Información general de la actividad /General course information					
Nombre/ Name	Digital manufacture: introduction to 3D modeling and printing				
Nivel /Level	Doctorate				
Modalidad de impartición / Teaching mode	On line				
Lengua impartición/ Language	English				
ECTS	1	hours / ECTS	30	Total hours	30

2.Datos del profesorado / Lecture data		
Profesor /Lecturer in charge	Francisco Cavas Martínez	
Departamento o Servicio/ Department/Service	Department of Structures, Construction and Graphical Expression	
Area de conocimiento /Knowledge area	Graphic Expression in Engineering	
Despacho /Office location	Building of Industrial Engineering, 3º floor	
Teléfono /Telephone	968 338856	email Francisco.cavas@upct.es
URL / WEB	https://personas.upct.es/perfil/francisco.cavas	
Horario de Atención /Office hours	Tuesday 9.00H – 12.00H am	

3. Fechas por edición / Dates

Edition	Academic year 2020-2021
Fecha/Date	Open all academic year. On line
Horario/Hours	30

4. Objetivos del curso/Course objectives

Digital manufacturing, based on modeling and 3D printing, is presented as an unstoppable reality and capable of solving many of the problems that arise in today's society. The creation of three-dimensional models and physical manufacturing focused on additive manufacturing technologies can speed up and reduce the production of objects that must be made to measure. The course basically aims to: understand the operation of the technology currently available, enter the design of the three dimensions and the syntax of the spatial language focused on the creation of models for 3D printing.

5. Contenidos teóricos / Theory programme

1. Digital manufacturing. Theoretical introduction to modeling and 3D printing.
2. Main tools and operating instructions of the 123D Design program.
3. Sketches or two-dimensional elements. Types and possibilities.
4. Advanced tools. Importing and exporting files.

6. Contenidos prácticos / Practical programme

We will apply the theoretical concepts in the following case studies:

1. 3D modeling practice.
2. 3D printing practice

7. Sistema de evaluación/ Sistem of evaluation

The final evaluation will be based on a practical final work related to the doctoral student's research.

8. Distribución horaria de los contenidos, incluyendo las tareas de los Alumnos / Hours distribution

Activity	Location	Student work Hours	Hours
Theory programme	Virtual	Attend Virtual class	7
		Homework: study of the theory contents	7

Practice	Virtual	Attend Virtual Practice	3
		Homework: practical problems resolution	10
Tutoring	Virtual	Virtual ...	3
			30
