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TITLE

PROGRAMING IN MATLAB. DEVELOPMENT OF GRAPHICAL INTERFACES.

TÍTULO

PROGRAMACIÓN EN MATLAB. DESARROLLO DE INTERFACES GRÁFICAS.

Transversal Activities of Doctorate

Universidad Politécnica de Cartagena

1. General course information

Name	Juan Carlos Trillo Moya
Level	Doctorate
Code	300001012
University	Universidad Politécnica de Cartagena
Language	Spanish or English under request.

ECTS	1	**hours / ECTS**	10	**Total hours**	30

2. Lecture data

Lecturer in charge	Juan Carlos Trillo Moya
Department	Applied Mathematics and Statistics
Knowledge area	Applied Mathematics
Office location	Building of Naval Engineering, 2º floor, office 2.02
Telephone	968325584 **Fax** 968325694
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Office hours	Tuesday 10:00-12:00 Tuesday 16:30-18:30 Wednesday 16:30-18:30

3. Course objectives

The goal of this course is to get acquainted with the programming in Matlab and the development of graphical interfaces in order to help the potential user, who does not necessarily knows Matlab, running the programs. At the same time a better way of presenting our programs and making them more attractive is provided.

4. Theory programme

1. Basics on Matlab programming.

2. Design of graphical interfaces. The guide command.

3. Special optional components in an interface: push button, toggle button, radio button, check box, edit tex, static text, slider, list box, pop-up menu, panel, button group, menu item, table, axes.

4. Connection between the graphical interface and the main program.

5. Some examples and applications.

5. Practical programme

We are going to apply the theoretical concepts to implement some graphical interfaces with a clear and particular application in mind. Basically we are going to follow the steps:

1. Implementation of the main program, which in fact addresses the real problem we want to solve.
2. Design of the graphical interface at an almost purely artistic level, but always keeping in mind its later usability.
3. Connection of each component of the graphical interface with its corresponding matlab code and particular desired functionality.
4. Running the implemented graphical interface.

6. Evaluation method

This course is planned to be a face-to-face activity, although if you already have some Matlab programming skills there exists the possibility to do it online. Some material and manuals will be at your disposal to give you the required knowledge to be able to prepare a User's Interface of your own about a subject of your interest. This work will be evaluated in order to pass the course.

There are then two ways of passing the course:
1. Attending four out of five face-to-face sessions. In this case, it is not needed to prepare any assignment.
2. Preparing any User's Interface of your own integrating different programming objects such as pushbuttons, radiobuttons, edit text, etcetera.

Albeit the assignment is not compulsory in the face-to-face course, it is strongly recommended since a final compendium of interfaces will be done and it will be written in the form of a manual.

6. Hours distribution

Activity	Location	Student work	Hours
Theory programme	Informatic rooms	Attend class	**4**
		Homework: study of the theory contents	**5**
Practice	Informatic rooms	Attend class	**6**
		Homework:	**14**
Tutoring	Virtual	Virtual ….	
			30