



Universidad
Politécnica
de Cartagena | Campus
de Excelencia
Internacional

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, 2 ^o floor, office 2.02 | | |
| Telephone | 968325584 | Fax | 968325694 |
| email | jc.trillo@upct.es | | |
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| Office hours | Tuesday 10:00-12:00 Tuesday 16:30-18:00 Wednesday 16:30-19:00 | | |

| 3. Course objectives |
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| <p>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.</p> |

| 4. Theory programme |
|---|
| <ol style="list-style-type: none"> 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. 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 |