

# Moodle workshop for Informatic Tools

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# Representation of Curves and Surfaces

Working with Octave

## **Objectives:**

- To Learn Octave commands for Plot
- To experiment team working
- To evaluate work made for other students
- To relate different subjects.
- To write teaching an “technical” documents

# Phases of the workshop

- a) Study of the Commands
- b) Proposal of two exercises
- c) Task related with the subject: Fundamentos de Mecánica
- d) Peer evaluation
- e) Experience survey

# Study of the commands

- The group must understand the commands for plotting curves and surfaces.
- To construct a document that guides, step by step, the learning of the commands, with examples, illustrations, some elementary exercises,...
- No more than four pages

# Proposal of the exercises... And solutions

## Exercise 1

To represent two functions in 2D, with at least 1000 points, using only one divided window. Different representation of points in each function, different colours. Include titles, legend. Save the figure in a .png file.

## Exercise 2

To represent a Surface (not a plane). Include format constraints: colour, axes labels. Save the figure in a .eps file.

# Task related with the subject: Fundamentos de Mecánica

- To extract some data from files
- To represent the data as a graphic
- To put legend, axis labels, different colours for points

# Peer Evaluation

## Evaluation Rubric

### 1.- Explanation of Commands.

- Plot command: **Yes =1 No=0**
- Format commands: Types of lines, Colour, representations of points, size of points: **None=0; Some: X All: 4**
- Make a title: **Yes=1 No=0**
- Axis labels **None=0; Some: X All: 3**
- Legends **Yes=1 No=0**
- Box Legend **Yes=1 No=0**
- Save figure in a format file **Yes=1 No=0**

# Peer Evaluation

- subplot command **Yes=1** **No=0**
- figure command **Yes=1** **No=0**
- mesh command **Yes=1** **No=0**
- meshgrid command **Yes=1** **No=0**
- Other commands: plot3, fplot, hold, bar, stairs, axis, text, box, grid, etc..  
**Yes=1** **No=0**

- Other aspects:

Document clear, well organized and easy to follow = 2

Document well done, but needs a better organization =1

Length not more than 4 pages **Yes=1** **No=0**

**Result:** **< 10** **[10,18]** **> 18**



# Peer Evaluation

- **Rubric exercise 1 (Curves)**

- Complexity of curves: all trivial=0 one trivial=1 none trivial=2

- Function Specifications: Not clear=0 needs improve=2 Clear=3

- Ask to draw in only one window Yes=1 No=0

- Format specifications: Not complete <6 Complete=6

- Legend and label specifications: Not complete <6 Complete=6

- Savin document specification Yes=1 No=0

- Some not explained command is necessary: Yes=0 No=1

Result: < 9 < 19 >= 19

# Evaluation

## Elements considered

- Teacher Private Rubric (TPR)
- Student Campus Rubric (SCR)
- Teacher Campus Rubric (TCR)
- Individual Calification (IC)
- Mean Individual calification Group (MG)

$$\mathbf{GC} = (0,30 * \text{TPR} + 0,30 * (\text{SCR} + \text{TCR} / 2) + 0.4 * \text{MG})$$

$$\mathbf{\text{Final Calification}} = 0,4 * \text{GC} + 0,6 * \text{IC}$$