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|----------------|---|
| Academic year  | 2016-17   |
| Subject        | 11007 - Scientific Presentation and Visualitation |
| Group          | Group 1, 1S                                       |
| Teaching guide | A   |
| Language       | English   |

## Subject identification

|                          |  |
|--------------------------|--|
| <b>Subject</b>           | 11007 - Scientific Presentation and Visualitation  |
| <b>Credits</b>           | 0.75 de presencials (18.75 hours) 2.25 de no presencials (56.25 hours) 3 de totals (75 hours). |
| <b>Group</b>             | Group 1, 1S (Campus Extens)  |
| <b>Teaching period</b>   | First semester   |
| <b>Teaching language</b> | English  |

## Professors

| Lecturers   | Horari d'atenció als alumnes |                |        |            |             |                        |
|---|------------------------------|----------------|--------|------------|-------------|------------------------|
|   | Starting time                | Finishing time | Day    | Start date | Finish date | Office                 |
| José Javier Ramasco Sukia<br><a href="mailto:jramasco@ifisc.uib-csic.es">jramasco@ifisc.uib-csic.es</a> | 09:30                        | 10:30          | Monday | 01/10/2016 | 28/02/2017  | 104 Cientifico tecnico |

## Contextualisation

This class offers an introduction to data visualization and results presentation with a special focus on the applicability of this knowledge to the environment of work related to scientific research.

## Requirements

### Recommendable

A basic knowledge of scientific programming is highly recommended to obtain the maximum benefit from this course.

## Skills

### Specific

- \* E3: Capacity for analysis and visualization of numerical data and knowledge of interactive interfaces..

### Generic

- \* TG1: To be able to describe, both mathematically and physically, complex systems in different situations..
- \* TG3: To write and describe rigorously the research process and present the conclusions to an expert audience..
- \* TG4: To acquire the ability to ask questions, read and listen critically and participate actively in seminars and discussions..





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- \* TG5: To knowing to disseminate and present the concepts acquired at a non-expert..
- \* TG6: To acquire high power computation skills and advanced numerical methods capabilities in applications to problems in the context of complex systems..

### Basic

- \* You may consult the basic competencies students will have to achieve by the end of the Master's degree at the following address: [http://estudis.uib.cat/master/comp\\_basiques/](http://estudis.uib.cat/master/comp_basiques/)

## Content

### Theme content

1. Introduction to data visualization
  - 1.2. Data attributes and data types
  - 1.3. Interaction Principles
  - 1.4. Item reduction, aggregation of data
  - 1.5. Visualization tools
2. Result presentation
  - 2.1. Structure
  - 2.2. Characteristics of each section

## Teaching methodology

### In-class work activities

| Modality          | Name | Typ. Grp.       | Description  | Hours |
|-------------------|------|-----------------|--|-------|
| Theory classes    |      | Large group (G) | To understand the basic principles of data visualization and result presentation | 9     |
| Practical classes |      | Large group (G) | To gain practice with visualization tools and to present the results             | 9.75  |

At the beginning of the semester a schedule of the subject will be made available to students through the UIBdigital platform. The schedule shall at least include the dates when the continuing assessment tests will be conducted and the hand-in dates for the assignments. In addition, the lecturer shall inform students as to whether the subject work plan will be carried out through the schedule or through another way included in the Campus Extens platform.

### Distance education work activities



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| Modality              | Name | Description               | Hours |
|-----------------------|------|---------------------------|-------|
| Individual self-study |      | To prepare a presentation | 56.25 |

### Specific risks and protective measures

The learning activities of this course do not entail specific health or safety risks for the students and therefore no special protective measures are needed.

### Student learning assessment

#### Theory classes

|                     |  |
|---------------------|--|
| Modality            | Theory classes   |
| Technique           | Papers and projects ( <b>non-retrievable</b> )                                   |
| Description         | To understand the basic principles of data visualization and result presentation |
| Assessment criteria | Participation in class and quality of the work developed                         |

Final grade percentage: 20%

#### Practical classes

|                     |  |
|---------------------|--|
| Modality            | Practical classes  |
| Technique           | Papers and projects ( <b>non-retrievable</b> )                       |
| Description         | To gain practice with visualization tools and to present the results |
| Assessment criteria | Participation in class and quality of the work developed             |

Final grade percentage: 30%

#### Individual self-study

|                     |  |
|---------------------|--|
| Modality            | Individual self-study                          |
| Technique           | Papers and projects ( <b>non-retrievable</b> ) |
| Description         | To prepare a presentation                      |
| Assessment criteria | Quality of the presented work                  |

Final grade percentage: 50%

### Resources, bibliography and additional documentation

#### Basic bibliography

- Information Visualization: Principles, Methods, and Practice, Tamara Munzner, to be published by AK Peters, with a draft available at <http://www.cs.ubc.ca/~tmm/courses/533-11/book/>





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**Complementary bibliography**

- The Visual Display of Quantitative Information, Edward R. Tufte, Graphics Pr; 2nd edition (May 2001)

