

Información del Plan Docente

Academic Year	2016/17
Academic center	100 - Facultad de Ciencias
Degree	447 - Degree in Physics
ECTS	6.0
Course	1
Period	First semester
Subject Type	Basic Education
Module	---

1.Basic info**1.1.Recommendations to take this course****1.2.Activities and key dates for the course****2.Initiation****2.1.Learning outcomes that define the subject****2.2.Introduction****3.Context and competences****3.1.Goals****3.2.Context and meaning of the subject in the degree****3.3.Competences****3.4.Importance of learning outcomes****4.Evaluation****5.Activities and resources****5.1.General methodological presentation**

The learning process intended in this course is based upon the following principles:

Knowledge will be conveyed by means of theoretical classes.

The acquisition of the skills and competences intended will be realised by means of practice sessions with a computer, and the resolution of a series of proposed tasks.

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5.2.Learning activities

The programme offered to help the student achieve the defined goals comprises the following activities:

1. Theoretical classes, oriented to the conveying of knowledge regarding software design and implementation.
2. Analysis and implementation of solutions to proposed exercises and problems. Such activities will be carried out both on the blackboard (analysis, design and discussion of alternative solutions) and on the computer (in guided practices).
3. Resolution of problems in teams. Students will apply the acquired knowledge to the resolution of mathematical and physical problems, some of which requiring data treatment and graphical representation of the results.

5.3.Program

The course syllabus includes:

- a. Basic concepts
- b. Elementary sentences
- c. Structured sentences: block, conditional and loop.
- d. Subalgorithms.
- e. Data structures: arrays, structs, pointers and files.
- f. Basic notions on Algorithms.
- g. Basic notions on data analysis and graphical representations. Use of specialised packages.

5.4.Planning and scheduling

Schedule for presential sessions and deliverable deadlines

The course has 6 ECTS (150 student working hours), which can be broken down in the following way:

Activity AF1: Knowledge Conveying (1.5 ECTS).

Activity AF2: Implementation and resolution of exercises and problems (3 ECTS):

- Discussion of examples and problems on the blackboard (1.5 ECTS)
- Practice sessions on computer (1.5 ECTS)

Activity AF3: Problem solving (1.5 ECTS)

Scheduled sessions:

• Theoretical classes:

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• Morning group: Monday, from 11:00 to 12:00, Wednesday and Friday, from 12:00 to 13:00

• Evening group: Monday, from 18:00 to 19:00, Wednesday and Thursday from 19:00 to 20:00

• Practice sessions on computer: 7 practices will be held. The dates will be communicated in advance.

• Deliverable deadlines: in dates determined and communicated by the teacher.

5.5. Bibliography and recommended resources

Can be consulted on the Library web (search recommended bibliography in biblioteca.unizar.es)