

Academic Year: (2023 / 2024)

Review date: 04-06-2023

Department assigned to the subject: Computer Science and Engineering Department

Coordinating teacher: MEDINA DOMINGUEZ, FUENSANTA

Type: Compulsory ECTS Credits : 6.0

Year : 1 Semester : 2

DESCRIPTION OF CONTENTS: PROGRAMME

- 1.Data Structures: Vector, Factor, Matrix, Array, List, DataFrame
2. Programming Structures
 - 2.1 Conditional structure: if
 - 2.2 Loops: for, while, repeat
3. Complex Programming Structures
4. Functions
 - 4.1 Definitions
 - 4.2 Variables and parameters
 - 4.3 Infix
 - 4.4 Calls
5. Recursive function
6. Input, output and data storage (keyboard, files)
7. Graphics

LEARNING ACTIVITIES AND METHODOLOGY

This course will consist of regular lectures, exercises and lab classes. Regular lectures will provide the students with the theoretical background required to acquire the outlined competences through exercises. Lab classes will give the student the chance to develop practical skills on program analysis, design, testing and documentation.

ASSESSMENT SYSTEM

It will be 100% continuous assessment where students will have evaluable practices.

Ordinary call: if the continuous evaluation has not been passed or followed, an exam will be carried out, it will be evaluated with 60%.

Extraordinary call: an exam will be carried out, it will be evaluated with 100%.

% end-of-term-examination:	0
% of continuous assessment (assignments, laboratory, practicals...):	100

BASIC BIBLIOGRAPHY

- Golemund, G., Wickham, H R for Data Science: Import, Tidy, Transform, Visualize, and Model Data. , O'Reilly, 2016
- Lander, J R for Everyone: Advanced Analytics and Graphics. , Addison Wesley Data & Analytics Series, 2017
- Meys, J., Vries, A R for dummies, John Wiley & Sons, 2012
- Murdoch Braun A first course in statistical programming with R, Cambridge University Press. , 2007
- Rizzo, Maria Statistical computing with R , Chapman & Hall/CRC, 2007
- Vries, A., Meys, J R for Dummies, 2015.

BASIC ELECTRONIC RESOURCES

- Fuensanta Medina Domínguez . Programación II: Lenguaje R: <http://ocw.uc3m.es/course/view.php?id=299>
- Fuensanta Medina Domínguez . R que R: <http://ocw.uc3m.es/course/view.php?id=299>