

Academic Year: (2020 / 2021)

Review date: 13-07-2020

Department assigned to the subject: Department of Library Science and Documentation

Coordinating teacher: OLMEDA GOMEZ, CARLOS

Type: Compulsory ECTS Credits : 3.0

Year : 1 Semester : 0

STUDENTS ARE EXPECTED TO HAVE COMPLETED

There are no specific course prerequisites for this course

COMPETENCES AND SKILLS THAT WILL BE ACQUIRED AND LEARNING RESULTS.**BASIC SKILLS**

CB9 That students know how to communicate their conclusions and the latest knowledge and reasons that support them to specialized and non-specialized audiences in a clear and unambiguous way

GENERAL COMPETENCES

CG 5 Recognize the growing importance of teamwork in the workplace and demonstrate adaptability and integration in different work environments, maintaining fluid relationships and communications.

CG 9 Integrate knowledge, formulate judgments and communicate their conclusions, as well as the latest knowledge and reasons that support them, to specialized and non-specialized audiences in a clear and unambiguous way.

CG 11 Ability to interpret, apply and innovate in context methodologies, technologies and new methods of analysis, treatment and information retrieval.

SPECIFIC COMPETENCES

CE 7 Data visualization, using temporal, geospatial, thematic and network analysis techniques.

CE 9 Acquire the necessary knowledge to prepare the Master's Final Project, academic papers, reports or similar documents, in an appropriate way, both from the formal point of view and from the content perspective.

LEARNING OUTCOMES

1. Construction of data visualizations; selection of problems and data sets; preparation of workflows.
2. Ability to select parameters for analysis.
3. Ability and skill to read, interpret visually represented data and to extract information from data visualizations.

DESCRIPTION OF CONTENTS: PROGRAMME

In the 2020-21 academic year, classes indicated in the course calendar are taught in tele-teaching sessions, using the tool selected by the uc3m.

1. Infovis overview
2. Data and perception
3. Basic visualizations, temporal
4. Topic visualization
5. Trees and graphs, hierarchical data
6. Geospatial data, maps
7. Information visualization

LEARNING ACTIVITIES AND METHODOLOGY**TRAINING ACTIVITIES OF THE CURRICULUM RELATED TO SUBJECTS**

AF1 Individual work for the study of theoretical and practical materials developed and contributed by the teacher

AF2 Individual work for problem solving and case studies

AF3 Theoretical-practical classes

AF4 Tutorials

AF5 Active participation in forums in the educational platform

Code Activity	Total hours	Onsite Hours	% Onsite
AF1	125(45)	0	0
AF2	80(32)	0	0
AF3	12(3)	12(3)	100
AF4	10(2)	0	0
AF5	124(0)	0	0
AF6	5(2)	0	0
AF7	4(1)	0	0
TOTAL SUBJ.(COURSE)	360(90)	12(3)	3,3

- LA 1. Individual work for the study of theoretical and practical materials developed and contributed by the teacher
- LA 2. Individual work for problem solving and case studies
- LA 3. Video-tutorials
- LA 4. Active participation in forums enabled by the teacher in the virtual educational platform
- LA 5. Conducting self-evaluation tests to review content

TEACHING METHODOLOGIES

- M 1. Explanations of the teacher with support of computer and audiovisual media, in which the main concepts of the subjects are developed
- M 2. Critical reading of texts recommended by the professor of the subject
- M 3. Resolution of practical cases and problems raised by the teacher in an individual way
- M 4. Reading of theoretical and practical teaching materials

TUTORIALS

The schedules of the tutorials, adjusted to the provisions of the University, It will be able to be consulted in the own space of the subject in the platform of teaching and learning (Aula Global). It will include two modes: One to attend face-to-face and the other for online handle. Furthermore students can request and arrange with the teacher tutorials online or offline outside of these schedules.

ASSESSMENT SYSTEM

- SE1 Participation in class and forums in virtual educational platform
- SE2 Individual or group work done during the course
- SE3 Carrying out evaluable and scoring questionnaires
- SE4 Exam* and Final Work
- SE5 Presentation, content and public defense of TFM

Ordinary call:

Continuous evaluation (50% of the final grade).

- SE3 a) Questionnaires about the compulsory readings of the course. Maximum score 15% of the final grade.
- SE1 b) Practical exercises making personalized diagrams and graphics. Maximum score 30% of the final grade.
- SE1 c) Participation in class, with activities of the virtual platform. Maximum score 5% of the final grade.

In-person test (50% of the final grade). The face-to-face test will be carried out in person, at Carlos III University.

SE3 d) Exam. Questionnaire about contents of the topics and attached materials. Maximum score 10% of the final grade for the course.

SE4 e) Completion and delivery of the course work (data, charts and essay), written and individual. Upload through Aula Global in the same day of exam. Maximum score 40% of the final grade for the course.

Extraordinary call

In an extraordinary call, in the absence of specific regulations for postgraduate studies, and unless the University establishes otherwise, the student has the right to carry out activities that allow them to obtain at least 75% of the maximum grade for the course. These activities may or may not be the same scheduled in the continuous evaluation. These activities will necessarily include a final, face-to-face and compulsory passing exam, which must be taken by those who have not passed the ordinary exam.

% end-of-term-examination: 50

% of continuous assessment (assignments, laboratory, practicals...): 50

BASIC BIBLIOGRAPHY

- Cairo, A El arte funcional, Alamut, 2011

- Costa. J La esquemática: visualizar la información., Barcelona: Paidós, 1998

ADDITIONAL BIBLIOGRAPHY

- Börner, K., Chen, C., & Boyack, K.W. (2003) Visualizing knowledge domains., Annual Review of Information Science and Technology, 37(1), 179-255.
- Chen, Ch. (2017) Science mapping. A systematic review of the literature. , Journal of Data and Information Science, Vol. 2 No. 2, 2017 pp 1-40.
- Kim, M.Ch., Zhu, Y., Chen, Ch (2016) How are they different? A quantitative domain comparison of information visualization and data visualization (2000-2014), Scientometrics (2016) 107, pp. 123-165.
- Nardi P, Di Matteo G, Palahi M, Scarascia Mugnozza G.(2016) Structure and Evolution of Mediterranean Forest Research: A Science Mapping Approach., PLoS ONE 11(5): e0155016..
- Olmeda-Gómez, C., Ovalle-Perandones, M^aA., Perianes-Rodríguez, A. (2017) Co-word analysis and thematic landscapes in Spanish information science literature, 1985-2014, Scientometrics 113 (1), 195-217.

- Olmeda-Gómez, C., Romá-Mateo, R., Ovalle-Perandones, M^a A. (2019) Overview of trends in global epigenetic research (2009-2017), Scientometrics, 119 (3), 1545-1574.
- Vargas-Quesada; B; Chinchilla-Rodríguez, Z. & Rodríguez, N. (2017) Identification and Visualization of the Intellectual Structure in Graphene Research, Frontiers in Research Metrics and Analytics. Vol 2. , pp. 1-22..

- White, H.D., & McCain, K.W. (1997). Visualization of literatures, Annual Review of Information Science and Technology, 32, 99-168..
- van Eck, N.J., Waltman, L (2014) Visualizing bibliometric networks. , En Measuring scholarly impact (285-320), Heidelberg: Springer