

SUBJECT TEACHING GUIDE

251 - SOCIAL SCIENCES

University Master's Degree in Data Science

Academic year 2024-2025

| 1. IDENTIFYING DATA | | | | | |
|----------------------------------|--|------------------|--------------------|------------------|------------------|
| Degree | University Master's Degree in Data Science | | | Type and Year | Optional. Year 1 |
| Faculty | Faculty of Sciences | | | | |
| Discipline | DATA LABORATORIES | | | | |
| Course unit title and code | 251 - SOCIAL SCIENCES | | | | |
| Number of ECTS credits allocated | 3 | Term | Semester based (2) | | |
| Web | | | | | |
| Language of instruction | Spanish | English Friendly | Yes | Mode of delivery | Face-to-face |

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|------------------|---|--|--|--|--|
| Department | DPTO. INGENIERÍA INFORMÁTICA Y ELECTRÓNICA | | | | |
| Name of lecturer | DIEGO GARCIA SAIZ | | | | |
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| Office | Facultad de Ciencias. Planta: + 1. DESPACHO INVESTIGADOR (1068) | | | | |
| Other lecturers | FRANCISCO MATORRAS WEINIG OLGA DE COS GUERRA | | | | |

3.1 LEARNING OUTCOMES

- To know the more relevant sites, data bases, repositories, softwares and tools to approach a use case in the knowledge area.

4. OBJECTIVES

- Management of Geographic Information Systems for the treatment of data from Social Science field.
- Social Network Analysis

| 6. SUBJECT PROGRAM | |
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| CONTENTS | |
| 1 | Geographic Information Systems: 1.1. Introduction to data from Social Sciences 1.2. Introduction to Web Mapping 1.3. Geographic data management with GIS 1.4. Application of ML techniques to geographic data |
| 2 | Social Network Analysis: 2.1. Introduction. 2.2. Graph algorithms and other techniques 2.3. Practical cases of SNA with data from well-known Social Networks. |

| 7. ASSESSMENT METHODS AND CRITERIA | | | | |
|--|-----------------------|-------------|-----------|---------------|
| Description | Type | Final Eval. | Reassessn | % |
| Geographic Information Systems laboratory | Laboratory evaluation | No | No | 10,00 |
| Geographic Information Systems exercise | Work | No | Yes | 40,00 |
| Social Network Analysis Laboratory | Laboratory evaluation | No | No | 10,00 |
| Social Network Analysis exercise | Work | No | Yes | 40,00 |
| TOTAL | | | | 100,00 |
| Observations | | | | |
| All non-passed exercises can be recuperated in a final exam. | | | | |
| Observations for part-time students | | | | |
| As far as possible laboratories can be adapted for partial-time students | | | | |

| 8. BIBLIOGRAPHY AND TEACHING MATERIALS |
|---|
| BASIC |
| OLAYA, V. (2014): Sistemas de Información Geográfica. Disponible en formato Pdf en https://volaya.github.io/libro-sig |
| Social network analysis with applications McCulloh, Ian ISBN: 9781118169476 Wiley & Sons, Inc., 2013 |
| The SAGE Handbook of Social Network Analysis Scott, John ISBN: 9781847873958 SAGE Publications, Limited, 2011 SAGE Knowledge Complete Books and Reference Collection 2019 |