Course guides
230816 - BDR - Big Data and R Programming

Unit in charge: Barcelona School of Telecommunications Engineering
Teaching unit: 749 - MAT - Department of Mathematics.

Degree:
BACHELOR’S DEGREE IN TELECOMMUNICATIONS SCIENCE AND TECHNOLOGY (Syllabus 2010). (Optional subject).
BACHELOR’S DEGREE IN AUDIOVISUAL SYSTEMS ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR’S DEGREE IN ELECTRONIC SYSTEMS ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR’S DEGREE IN TELECOMMUNICATIONS SYSTEMS ENGINEERING (Syllabus 2010). (Optional subject).
BACHELOR’S DEGREE IN NETWORK ENGINEERING (Syllabus 2010). (Optional subject).
BACHELOR’S DEGREE IN TELECOMMUNICATIONS TECHNOLOGIES AND SERVICES ENGINEERING (Syllabus 2015). (Optional subject).

Academic year: 2020  ECTS Credits: 6.0  Languages: English

LECTURER
Coordinating lecturer: Josep M. Aroca Farrerons
Others: Josep M. Aroca Farrerons

PRIOR SKILLS
Probability and Statistics

TEACHING METHODOLOGY
Lectures
Application classes
Laboratory classes

LEARNING OBJECTIVES OF THE SUBJECT
Programming in R. Data modeling. Big Data methods and examples.

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Hours small group</td>
<td>52.0</td>
<td>34.67</td>
</tr>
<tr>
<td>Self study</td>
<td>98.0</td>
<td>65.33</td>
</tr>
</tbody>
</table>

Total learning time: 150 h
# CONTENTS

## Introduction to R

**Description:**

**Full-or-part-time:** 8h  
Laboratory classes: 8h

## Data modeling

**Description:**

**Full-or-part-time:** 12h  
Laboratory classes: 12h

## Big Data overview

**Description:**
A general description of the Big Data paradigm/problems/methods.

**Full-or-part-time:** 8h  
Laboratory classes: 8h

## Big Data methods

**Description:**
Predictive analytics, machine learning, data mining.

**Full-or-part-time:** 10h  
Theory classes: 10h

## Examples

**Description:**
Case example problems

**Full-or-part-time:** 14h  
Theory classes: 14h

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# GRADING SYSTEM

Laboratory assessments: 100%
BIBLIOGRAPHY

Basic: