

230816 - BDR - Big Data and R Programming

Coordinating unit:	230 - ETSETB - Barcelona School of Telecommunications Engineering		
Teaching unit:	749 - MAT - Department of Mathematics		
Academic year:	2019		
Degree:	BACHELOR'S DEGREE IN TELECOMMUNICATIONS TECHNOLOGIES AND SERVICES ENGINEERING (Syllabus 2015). (Teaching unit Optional) BACHELOR'S DEGREE IN NETWORK ENGINEERING (Syllabus 2010). (Teaching unit Optional) BACHELOR'S DEGREE IN TELECOMMUNICATIONS SYSTEMS ENGINEERING (Syllabus 2010). (Teaching unit Optional) BACHELOR'S DEGREE IN ELECTRONIC SYSTEMS ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN AUDIOVISUAL SYSTEMS ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN TELECOMMUNICATIONS SCIENCE AND TECHNOLOGY (Syllabus 2010). (Teaching unit Optional)		
ECTS credits:	6	Teaching languages:	English

Teaching staff

Coordinator:	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

Total learning time: 150h	Hours small group:	52h	34.67%
	Self study:	98h	65.33%

230816 - BDR - Big Data and R Programming

Content

Introduction to R	Learning time: 8h Laboratory classes: 8h
Description: The R project. Basic operations. Reading data. Graphics.	
Data modeling	Learning time: 12h Laboratory classes: 12h
Description: Statistics in R. Linear models, regression. Using factors. Visualizing data.	
Big Data overview	Learning time: 8h Laboratory classes: 8h
Description: A general description of the Big Data paradigm/problems/methods.	
Big Data methods	Learning time: 10h Theory classes: 10h
Description: Predictive analytics, machine learning, data mining.	
Examples	Learning time: 14h Theory classes: 14h
Description: Case example problems	

Qualification system

Laboratory assessments: 100%

230816 - BDR - Big Data and R Programming

Bibliography

Basic:

Torgo, Luis. Data Mining with R: Learning with case studies [on line]. 2nd. ed. Chapman and Hall/CRC, 2017 [Consultation: 14/07/2017]. Available on: <<http://site.ebrary.com/lib/upcatalunya/detail.action?docID=11307350>>. ISBN 9781315399096.

Teetor, P. R cookbook [on line]. Sebastopol, CA: O'Reilly Media, 2011 [Consultation: 19/02/2019]. Available on: <<https://ebookcentral.proquest.com/lib/upcatalunya-ebooks/detail.action?docID=680900>>. ISBN 9781449307264.