

## SUBJECT TEACHING GUIDE

M1520 - Data Mining

Master's Degree in Mathematics and Computing

Academic year 2019-2020

1. IDENTIFYING DATA					
Degree	Master's Degree in Mathematics and Computing		Type and Year	Optional. Year 1	
Faculty	Faculty of Sciences				
Discipline					
Course unit title and code	M1520 - Data Mining				
Number of ECTS credits allocated	3	Term	Semester based (2)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. MATEMATICAS, ESTADISTICA Y COMPUTACION			
Name of lecturer	CRISTINA TIRNAUCA			
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Other lecturers	DIEGO GARCIA SAIZ			

3.1 LEARNING OUTCOMES
- Learning the main techniques of data mining.
- Learning Bayesian techniques and their applications.
- Select and use the appropriated data mining technique and/or algorithm to solve problems.
- Capability to interpret the models and results obtained from the data.
- Developing skill in the management of analysis tools and packages, and statistical modelling of data.

#### 4. OBJECTIVES

Learning the current statistical techniques of automatic modelling and data analysis.
To know the different types of data mining problems like classification, prediction, etc.
Capability to choose and apply appropriated techniques to solve specific problems of data mining.
Capability to use data modelling tools (software and packages).

#### 6. COURSE ORGANIZATION

CONTENTS	
1	Introduction to Data Mining
2	Association and Segmentation analysis.
3	Regression and Classification Models

#### 7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Resolution of theoretic-practice problems.	Activity evaluation with Virtual Media	Yes	Yes	100,00
<b>TOTAL</b>				<b>100,00</b>
<b>Observations</b>				
The final qualification corresponds to the weighted mean of the qualifications obtained in all the task done during the course. If the final qualification is lower than 5 (over 10), the recuperation consists in the realization and evaluation of all the tasks with a qualification lower than 5.				
The minimum qualification for each task is 3 and all the task should obtain at least this qualification to obtain the final qualification as the weighted mean.				
The evaluation procedure of each recoverable activity is equivalent to the original activity.				
<b>Observations for part-time students</b>				

#### 8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC
T. Hastie, R. Tibshirani, J. Friedman, The Elements of Statistical Learning: Data Mining, Inference, and Prediction, Springer-Verlag, 2001.
Christopher M. Bishop. Pattern Recognition and Machine Learning, Springer, 2006
Castillo, E., Gutiérrez, J.M. and Hadi, A.S. Sistemas Expertos y Modelos de Redes Probabilísticas. Springer, 1997.