

DEPARTMENT OF BUSINESS AND ECONOMICS
COURSE SYLLABUS

Course Details				
Code		Academic Year		Semester
BE047		2021-2022		
Title		T	A	L
Data Mining		3	1	0
ECTS		10		
Language	English			
Level	Master		Doctorate	X
Department / Program	PhD in Business and Economics			
Forms of Teaching and Learning	Face-to-Face			
Course Type	Compulsory		Elective	X
Objectives	After successfully completing this course, participants will have a solid understanding of how data mining functions. Participants will be able to prepare data, create and validate predictive models, and will be ready to extend their knowledge to advanced topics in data mining.			
Content	Data Preparation, Predictive Models, Model Evaluation, Deployment			
Prerequisites				
Coordinator				
Lecturer(s)				
Assistant(s)				
Work Placement				
Recommended or Required Reading				
Books / Lecture Notes	Data Mining: Concepts and Techniques (Third Edition). Jiawei Han, Micheline Kamber, Jian Pei. Morgan Kaufmann, 2012			
Other Sources				
Additional Course Material				
Documents	Lecture Notes and Books			
Assignments	Assignments			
Exams	Midterm and Final			
Course Composition				
Social Sciences				%100
Educational Sciences				%
Natural Sciences				%
Health Sciences				%

DEPARTMENT OF BUSINESS AND ECONOMICS
COURSE SYLLABUS

Expert Knowledge			%
Assessment			
Activity	Count		Percentage (%)
Midterm Exam			30
Quiz			
Assignments			30
Attendance			
Recitations			
Projects			
Final Exam			40
Total			100
ECTS Points and Work Load			
Activity	Count	Duration	Work Load (Hours)
Lectures	14	3	42
Self-Study	14	2	28
Assignments	12	5	60
Presentation / Seminar Preparation			
Midterm Exam	1	60	60
Recitations			
Laboratory			
Projects			
Final Exam	1	90	90
Total Work Load			280
ECTS Points (Total Work Load / 28)			10
Course Learning Outcomes			
1	Perform all common data preparations		
2	Build sophisticated analytical predictive models		
3	Evaluate model quality with respect to different criteria		
4	Deploy analytical predictive models		
5			
Weekly Content			
1	Business Case Changes		
2	Understanding New Attributes		
3	Schema Relationships		

DEPARTMENT OF BUSINESS AND ECONOMICS
COURSE SYLLABUS

4	Aggregation
5	Pivot
6	Set Theory
7	Balancing Data
8	Outlier Detection
9	Midterm
10	Advanced Performance Criteria
11	Comparison between Models
12	Validation of Preprocessing and Preprocessing Models
13	Logging Results
14	Logging Results
15	Overview

Contribution of Learning Outcomes to Program Objectives (1-5)

CLO	P1	P2	P3
1	5	1	5
2	5	1	5
3	5	1	5
4	4	3	5
5			

Contribution Level 1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High

Compiled by:

Date of Compilation: 04/05/2021