



**INTERNATIONAL UNIVERSITY OF SARAJEVO**  
**FACULTY OF ENGINEERING AND NATURAL SCIENCES**  
**EE418 - Introduction to Machine Learning**  
**AY 2019-2020**

Course Code	Course Title	Weekly Hours*			ECTS	Weekly Class Schedule	
		T	A	L			
EE418	Introduction to Machine Learning	3	0	2	6	TUE: 15:00-15:50 THU: 12:00-13:50	
<b>Prerequisite</b>	<b>It is a prerequisite to</b>						
<b>Lecturer</b>	Assist. Prof. Dr. Emine Yaman		<b>Office Hours Schedule</b>		Mo:11:00-13:00, Tue: 11:00-13:00, Wed:13:00-15:00		
<b>E-mail</b>	<a href="mailto:eyaman@ius.edu.ba">eyaman@ius.edu.ba</a>						
<b>Phone</b>	205		<b>Office / Room No</b>		BF2.7C		
<b>Assistant</b>							
<b>E-mail</b>							
<b>Course Objectives</b>	The aims of this course are to presents to students well-known data mining techniques and their application areas. Specifically, the course demonstrates basic concepts, principals and methods of data mining. It also demonstrates the process of KDD(knowledge discovery in databases) and presents a review of available tools.						
<b>Textbook</b>	Introduction to Data Mining, Pang Ning Tan, Michael Steinbach, Vipin Kumar, Pearson, 2005.						
<b>Learning Outcomes</b>	<b>After successful completion of the course, the student will be able to:</b>						
	1	deal with data issues that will be need for successful application of data mining					
	2	demonstrate knowledge of statistical logic of data mining algorithms					
	3	apply knowledge in database technologies which is necessary in data mining apps					
	4	apply pre-processing, transformation and interpretation methods for given data					
5	apply clustering, association rules and classification algorithms						
<b>Teaching Methods</b>	Class discussions with examples. Active tutorial sessions for engaged learning and continuous feedback on progress. Home assignments. Lab session with different softwares. Projects that involve a data mining application from real life.						
<b>WEEK</b>	<b>TOPIC</b>					<b>REFERENCE</b>	
Week 1	Introduction to Course					Chapter 1	
Week 2	Introduction to Data Mining					Chapter 1	
Week 3	Data					Chapter 2	
Week 4	Exploring Data					Chapter 3	
Week 5	Classification: Basic Concepts					Chapter 4	
Week 6	Classification: Specific Algorithms					Chapter 5	
Week 7	Review						
Week 8	MIDTERM EXAM						
Week 9	Association Analysis: Basic Concepts					Chapter 6	
Week 10	Association Analysis: Specific Algorithms					Chapter 7	
Week 11	Cluster Analysis: Basic Concepts					Chapter 8	
Week 12	Cluster Analysis: Specific Algorithms					Chapter 9	
Week 13	Anomaly Detection					Chapter 10	
Week 14	Presentation of Projects						
Week 15	Presentation of Projects						
<b>Assessment Methods and Criteria</b>	<b>Evaluation Tool</b>		<b>Quantity</b>	<b>Weight</b>	<b>Alignment with LOs</b>		
	Final Exam		1	30	1,2,3,4,5,6,7,8,9,10		
	<b>Semester Evaluation Components</b>			<b>70</b>			
	Midterm Exam		1	25	1,2,3,4,5		
	Quizzes		3	15	1,2,3,4,5,6,7,8		
	Homeworks		5	15	1,2,3,4,5,6,7,8,9,10		
Term project/presentation		1	15	1,2,3,4,5,6,7,8,9,10			
*** ECTS Credit Calculation ***							
<b>Activity</b>	<b>Hours</b>	<b>Weeks</b>	<b>Student Workload Hours</b>	<b>Activity</b>	<b>Hours</b>	<b>Weeks</b>	<b>Student Workload Hours</b>
Lecture Hours	3	15	45	Midterm exam study	15	1	15
Homeworks	3	5	15	Final Exam study	20	1	20
Active Tutorials	2	8	16	Term project/presentation	15	1	15
Quizzes study	3	3	9	<b>Total Workload Hours =</b>			150
Home Study	1	15	15	<b>ECTS Credit =</b>			6