

**INTERNATIONAL UNIVERSITY OF SARAJEVO**

**SYLLABUS**

**CS 404 - Artificial Intelligence**

**2018 Spring Semester**

Course Code	Course Name	Course Type	Weekly			Credits	ECTS	Weekly Class Schedule
			T	A	L			
<b>CS 404</b>	Artificial Intelligence	Required	3	0	2	3	6	MO(12:30-13:45) WED(12:30-13:45)
<b>Prerequisite</b>	MATH204 Discrete Mathematics							
<b>Lecturer</b>	Assist. Prof. Dr. Emine Yaman				<b>Office Hours Schedule</b>	MO(9:00-11:00) TU(9:00-11:00)		
<b>E-mail</b>	<a href="mailto:eyaman@ius.edu.ba">eyaman@ius.edu.ba</a>				<b>Office / Room No</b>	F1.7		
<b>Phone</b>	205							
<b>Assistant</b>	Rialda Spahic							
<b>E-mail</b>	<a href="mailto:rialda.spahic@gmail.com">rialda.spahic@gmail.com</a>							
<b>Course Objectives</b>	The aims of this course are to present an overview of artificial intelligence (AI) principles and approaches. Develop a basic understanding of the building blocks of AI as presented in terms of intelligent agents: Search, Knowledge representation, inference, logic, and learning. Students will implement a small AI system in a team environment.							
<b>Textbook</b>	S. Russell and P. Norvig Artificial Intelligence: A Modern Approach Prentice Hall							
<b>Learning Outcomes</b>	After successful completion of the course, the student will be able to:							
	1	understand background of Artificial Intelligence Problems						
	2	write codes with a mathematical notation language (like a lisp variant, Dr.Racket)						
	3	create a real world application with an AI module (like a game)						
	4	Introducing sub-AI topics like neural computing, uncertainty and bayesian networks, concept of learning (supervised / unsupervised) etc.						
<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 an artificial intelligence application from real life.							
<b>WEEK</b>	<b>TOPIC</b>						<b>REFERENCE</b>	
<b>Week 1</b>	Introduction						Chapter 1	
<b>Week 2</b>	Intelligent Agents						Chapter 2	
<b>Week 3</b>	Solving Problems by Searching						Chapter 3	
<b>Week 4</b>	Informed Search and Exploration						Chapter 4	
<b>Week 5</b>	Constrained Satisfaction Problems						Chapter 12	
<b>Week 6</b>	Adversarial Search						Chapter 5	
<b>Week 7</b>	Logical Agents						Chapter 6	
<b>Week 8</b>	MIDTERM EXAM							
<b>Week 9</b>	First Order Logic						Chapter 7	
<b>Week 10</b>	Uncertainty						Chapter 14	
<b>Week 11</b>	Genetic Algorithms						Chapter 20	
<b>Week 12</b>	Artificial Neural Networks						Chapter 16,17	
<b>Week 13</b>	Natural Language Processing and Mining						Chapter 23	
<b>Week 14</b>	Presentations							
<b>Assessment Methods and Criteria</b>	<b>Evaluation Tool</b>			<b>Quantity</b>		<b>Weight</b>		
	Final Exam			1		30		
	Semester Evaluation					70		
	Midterm			1		25		
	Quizzes			3		15		
	Term project and Lab assignments			1		15		
			5		15			
*** ECTS Credit Calculation ***						Language of Instruction: English		
<b>Activity</b>	<b>Hours</b>	<b>Weeks</b>	<b>Student Workload</b>	<b>Activity</b>	<b>Hours</b>	<b>Weeks</b>	<b>Student Workload</b>	
Lecture hours	3	14	42.0	In-term exam study	15	1	15.0	
Assignments	3	5	15.0	Final exam study	24	1	24.0	
Active labs	2	10	20.0	Term project/presentation	20	1	20.0	
Home study	1	14	14.0	<b>Total Workload Hours =</b>			150.0	
							<b>ECTS Credit =</b>	6