

Program	Level		Second cycle				
	Name of the program		Theoretical Computer Science				
<b>COURSE</b>							
Course title	<b>Artificial Intelligence</b>						
Course code	Semester	Course status	ECTS	Contact hours (L+AE+LE)			
CS 475	II	Mandatory course	7	2+2+1			
Lecturer							
Course Goals	<p>The objectives of the module are for students to define the basic terms of artificial intelligence, to differentiate symbolic and connectivist approaches to artificial intelligence, to implement algorithms for state space searches and nature-inspired optimization and apply them to simpler problems, apply logic programming to solve simpler ones</p> <p>logical problems, implement simpler automatic inference procedures and apply them to simpler logical problems and compare different approaches to rendering of vague knowledge to evaluate the applicability of certain approaches of artificial intelligence on the given problem to summarize the possibilities, limitations and philosophical aspects of artificial intelligence</p>						
Learning Outcomes	<p>Through the mentioned module, students will master through independent work on laboratory exercises</p> <p>and implement state space search and nature-inspired optimization algorithms and apply them to simpler problems, apply logic programming to solve them</p> <p>simpler logical problems, implement simpler automatic procedures</p> <p>conclusions</p>						
<b>COURSE CONTENT</b>							
<ul style="list-style-type: none"> <li>-An introduction to artificial intelligence</li> <li>- Philosophical aspects</li> <li>- State space search, Directed search and gaming</li> <li>- Displaying knowledge</li> <li>- Reasoning with propositional logic</li> <li>- Reasoning with predicate logic</li> <li>- Logic programming in Prolog</li> <li>- Rule-based systems</li> <li>- Fuzzy logic and reasoning</li> <li>- Nature-inspired algorithms</li> <li>- Connectivist approaches</li> <li>- Introduction to neural networks</li> <li>- Algorithms in neural networks</li> </ul>							
<b>LITERATURE</b>							
<p>[1] Lecture notes.</p> <p>[2] Stuart Russel, Peter Norvig: Artificial Intelligence A Modern Approach, Prentice Hall, 2009 (1995).</p> <p>[3] Elaine Rich, Kevin Night: Artificial Intelligence, McGraw-Hill, 1990.</p> <p>[4] Rolf Pfeifer and Christian Scheier: Understanding Intelligence, MIT Press, 1999.</p> <p>[5] George F. Luger: Artificial Intelligence: Structures and Strategies for Complex Problem Solving. Addison-Wesley, 2008.</p> <p>[6] Blay Whitby: Artificial Intelligence, Oneworld Publications, 2003</p>							
<b>STUDENT WORKLOAD (hours in a semester)</b>							
Lectures	30	Exercises	45	Individual work	100	Total	175
<b>GRADING</b>				<b>REMARKS</b>			
Criterion	Maximum points	Minimum points					
Midterm exam	5	3					
Homeworks	5	3					
Projects	40	21					
Seminar paper	5	3					
Final exam	45	3					
Total	100	55					