INSTITUTION	NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS						
SCHOOL	SCHOOL OF SCIENCE						
DEPARTMENT	INFORMATICS AND TELECOMMUNICATIONS						
COURSE LEVEL	UNDERGRADUATE						
COURSE TITLE	**Artificial Intelligence**						
COURSE CODE	**ΥΣ02**		**Semester**	5	**ECTS**	6	
TEACHING HOURS per week	**THEORY**	3	**SEMINAR.**	1	**LABORATORY**		
COURSE TYPE	**Select one of the following and delete the rest** Electives (ΠΜ) **K** | **E1** | **E2** | **E3** | **E4** | **E5** | **E6** A | E | B | B | | | *Fill the table as in the curriculum:* Track (A-Computer Science, B- Computer Engineering) / Specialization Compulsory (Y) / Core Specialization (B)/ Elective Specialization (E)						
URL	http://cgi.di.uoa.gr/~ys02						
EXPECTED PRIOR KNOWLEDGE/ PREREQUISITES AND PREPARATION:	Data Structures (K08)						
TEACHING AND EXAMINATIONS LANGUAGE:	GREEK						
THE COURSE IS OFFERED TO ERASMUS STUDENTS	YES						

COURSE CONTENT
Artificial Intelligence. Intelligent Agents. Solving problems with search agents. Search strategies: breadth-first search, uniform-cost search, depth-first search, depth-limited search, iterative deepening depth-first

search, bi-directional search. Heuristic search strategies: greedy best-first search, A*-search. Local search. Constraint satisfaction problems and algorithms.

Knowledge-based Agents. Propositional logic and first-order logic. Using propositional logic and first-order logic to represent knowledge. Knowledge bases and ontologies. Examples from applications. Inference. Modus ponens, unification, forward and backward chairing, resolution. Introduction to logic programming and the language Prolog.

STUDENT LEARNING OBJECTIVES
Upon successful completion of the course the student will be able to: ● model and solve real-world problems using heuristic search ● model and solve real-world problems using constraint satisfaction algorithms ● model and solve real-world problems using local search ● represent knowledge in propositional and first order logic ● compute inferences using inference rules such as modus ponens or resolution

TEACHING AND LEARNING METHODS - ASSESSMENT	
TEACHING METHOD	In Class (Face to Face)
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Email communication Live transmission of lectures Ability to track recorded lectures Utilization of educational platform https://piazza.com for answering student questions and announcements
TEACHING ORGANIZATION *Describe in detail the way and methods of teaching:* *Enhanced Lectures,* *Online Lectures,* *Seminars,* *Tutorial,* *Laboratory,* *Laboratory Exercise,* *Study & analysis of literature,* *Practice (Positioning),* *Interactive teaching,* *Developing a project,*	

Activity	***Student Workload*** *(hours)*
Lectures	39
Tutorial	13
Preparation for next lecture	13
Individual exercises	55
Preparation for final exams	30
Total Course	***150***

Individual / group work *Telework (reference to tools) etc.* *Details of the student's study hours for each learning activity and hours of non-guided study are shown to ensure that the total workload at the semester corresponds to the ECTS*	***(25 hours of workload per unit of credit)***
ASSESSMENT OF STUDENTS *Description of the assessment process* *Assessment Methods, Formative or Concluding, Multiple Choice Test, Quick Response Questions, Test Development Questions, Problem Solving, Written Work, Report / Report, Oral Examination, Public Presentation, Laboratory Work, Other / Other* *Fully defined evaluation criteria are mentioned and if and where they are accessible to students.*	Describe explicitly methods, evaluation tools and provided feedback. The table below is supplemented accordingly.

Assessment methods	***Number***	***Percentage***
Written examination	1	20%
Exercises	4	80%

LITERATURE AND STUDY MATERIALS / READING LIST

- Stuart Russel and Peter Norvig. Artificial Intelligence: A Modern Approach, Prentice Hall, 2nd edition (2003). http://aima.cs.berkeley.edu/.
- I. Vlahavas et. al Artificial Intelligence http://aibook.csd.auth.gr
- Slides from lectures based on the Russel and Norvig book.
- Relevant material from the Web page of the course