Module Layout
COS613 / Cognitive Agents and Reasoning

Faculty	*ΣΘΕΕ*	*Faculty of Pure and Applied Science*		
Programme of Study	*COS*	*M.Sc. in Cognitive Systems*		
Module	*COS613*	*Cognitive Agents and Reasoning*		
Level of Study	**Undergraduate**	**Graduate**		
		Master	**Doctoral**	
		x		
Language of Instruction	English			
Mode of Delivery	Distance			
Module Type	**Required**	**Electives**		
		x		
Number of Group Consulting Meetings	***Total***	***Physical Presence***	***Online***	
	12 + 1 revision	-	12 + 1 revision	
Number of Assignments	1 Assignment / Project and 12 Interactive Activities			
Final Grade Calculation	**Interactive Activities**	**Assignment / Project**	**Final Exam**	
	24 **%**	*26* **%**	*50* **%**	
Number of European Credit Transfer System (ECTS)	*10*			

Module Description

This course studies the development of cognitive agents with computational models of argumentation as the underlying foundation for cognitive human reasoning. It brings together elements from argumentation theory in AI with cognitive psychology of reasoning to study a new form of symbolic representation and reasoning that reflects cognitive reasoning processes in humans, which leads to a new style of cognitive programming for cognitive systems. Specific elements that are covered include: The logical nature of human reasoning — argumentative decision making. Argumentation theory and Argumentation Logic in CS. Conditional human logic and argumentation logic. Cognitive reasoning about actions and change. Cognitive Knowledge Representation of common sense world knowledge and Cognitive Programming. Explanation, justification and persuasion through human-system argumentative dialogues. Argumentation-based agent architectures for adaptive agents. Application of cognitive agents to personalized and adaptive recommender systems and to elements of story comprehension.

Pre-requisite Modules

Co-requisite Modules

Grading Scheme

Assessment Method	***Percentage on Final Grade***	***Workload***	
		Hours	***ECTS***
Interactive Activities	*24* **%**	*25-30*	*1*
Assignment / Project	*26* **%**	*50-50*	*2*
Final/Repeat Examination	*50* **%**	*3*	-
Total	**100%**	***Total***	***Total***

Grading Rules and Assessment methods

- Passing rate
  - 50% of the Interactive Activities
  - 50% of the Assignment / Project
  - Students are allowed to participate in the final exam of a Module if they have overall earned the minimum grade (≥ 50 %) in both their Assignment / Project and Interactive Activities
  - 50% of the Final Exam

If a student earns a grade with decimal points, then it is rounded to the nearest half unit.