

Distance Learning Masters

# Cognitive Systems

Human-Computer Symbiosis

Program starts in  
September 2016

## Join the Era of Cognitive Systems!

Since the inception of the computing paradigm, the prevalent metaphor for a computer has been that of a multi-purpose *tool*, as exemplified by the use of “command lines” and “desktops” at the interface between humans and computers. The unparalleled prevalence of computing-enabled devices in our everyday lives, and the widespread access to information over the Web, suggests a more apt metaphor for a modern computer, that of an *assistant*. Humans no longer use, but rather collaborate with their devices to solve a cognitive task, with each party learning and adapting to the capabilities of the other. Communication and decision-making happens at a level that is transparent to, and cognitively-compatible with, human abilities and limitations. One no longer speaks of human-computer interaction, but of human-computer symbiosis.

To teach the new paradigm of cognitive computing, the *M.Sc. Program in Cognitive Systems* brings together two main scientific areas. Aiming, on the one hand, for the prospective students to *understand* the basis for human cognition, the Program is strongly influenced by Cognitive Psychology and includes learning modules that explore the fundamentals of perception, learning, mental representation, and reasoning in humans. Aiming, on the other hand, for the prospective students to be able to *design* cognitive systems, the Program places its emphasis on the investigation of computational methods, tools, and principles from Computer Science, and includes learning modules from Connectionist and Symbolic Artificial Intelligence, learning modules from Machine Learning, and learning modules on recent developments in Cognitive Computing.

### BLENDED DISTANCE LEARNING METHODOLOGY

courses taught online with live tutoring sessions  
in-class exams in student's country of residence  
summer tutorial camps in Cyprus (optional)

### Courses Offered

Theme	Cognitive Psychology	Computer Science
<b>Foundations</b>	CP.F1 Introduction to Cognitive Psychology	CS.F1 Introduction to Artificial Intelligence CS.F2 Computational Intelligent Systems
<b>Perception</b>	CP.P1 Human Perception and Attention	CS.P1 Natural Language Processing
<b>Learning</b>	CP.L1 Learning and Memory in Humans	CS.L1 Computational Learning Theory
<b>Reasoning</b>	CP.R1 Mental Representations and Reasoning CP.R2 Cognitive Modelling	CS.R1 Cognitive Agents CS.R2 Adaptive and Interactive Systems
<b>Systems</b>	CP.S1 Experimental Psychology CP.S2 Cognitive Neuroscience	CS.S1 Cognitive System Design CS.S2 IBM's Watson Machine

### Admission Requirements

Geared towards students with a first degree in the STEM fields (Science, Technology, Engineering, Mathematics), Cognitive Science, or Psychology. Basic knowledge assumed in mathematics (discrete mathematics, formal logic, statistics, calculus), and computing (algorithms, basic programming).

For additional information, or  
expression of interest contact:



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