

Course Unit	Cognitive Psychology		Field of study	Psychology	
Master in	Information and Communication Technologies- Education and Training		School	School of Education	
Academic Year	2023/2024	Year of study	1	Level	2-1
Type	Semestral	Semester	1	ECTS credits	6.0
Code	1083-622-1102-00-23				
Workload (hours)	162	Contact hours	T -	TP 30	PL -
			TC -	S 6	E 18
			OT -	O -	

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) António Francisco Ribeiro Alves

### Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. Understand the relevance of cognitive psychology to the creation of learning and training scenarios supported by emerging digital technologies;
2. Understand some cognitive processes relevant to a general understanding of human learning;
3. Apply the knowledge studied in decisions related to the research and use of digital technologies in learning and training.

### Prerequisites

Before the course unit the learner is expected to be able to:

It has no mandatory prerequisites. However, it is recommended to know how to read in English.

### Course contents

1. From the Associationist era to the Cognitive era;
2. Aspects of cognitive functioning.
3. Approach to some cognitive models related to Learning
4. Practical implications of the studied knowledge.

### Course contents (extended version)

1. About Thought and Artificial Intelligence.  
From the Associationist era to the Cognitive era;  
- The Associationist era: general characterization of behaviorism and its limits.  
- Some critical historical landmarks of behaviorism and precursors of cognitive approaches.  
- Definition of Cognitive Psychology.
2. Aspects of cognitive functioning.  
- Initial reflections: perception vs cognition; bottom-up & top-down process; information vs meaning.  
- Perceptual organization according to Gestalt concepts and laws.  
- Introduction to Pattern Analysis and Recognition and Object Recognition.  
- Attention. The "cocktail party" problem. Three models. The problem of divided attention.  
- Memory: limits, structures and processes.  
- Reasoning and problem solving models  
- Connectionism as a possible overview of cognitive functioning.  
- On Human Thought and Artificial Intelligence realized with ChatGPT and Bard.
3. Approach to some models of self-regulation of cognitions  
- Albert Bandura's Theory of Self-Efficacy  
- Weiner's causal attribution theory  
- The theory of Cognitive Flexibility.  
- Models of cognitive styles.
4. The practical implications of the studied knowledge.  
- Student essays on thought knowledge and its relationship to aspects of real life.

### Recommended reading

1. Bermúdez, José Luis (2022). Cognitive Science. An introduction to the science of the Mind. 4th Ed. Cambridge University Press.
2. Eysenck, M. W. , & Keane, M. T. (2020). Cognitive psychology. A student's handbook. 8th ed. Psychology Press.
3. Gardner, Howard (2002). A nova ciência da mente. Uma história da revolução cognitiva. Relógio D' Água Editores. (Original de 1985)
4. McBride, D. M. & Cutting, J. C. (2019). Cognitive psychology: theory, process and methodology. Sage Publications.
5. Tiberghien, Guy (2007) (Dir). Dicionário de ciências cognitivas. Edições 70.

### Teaching and learning methods

Presentation of program materials. Critical reading of texts or articles. Discussion forums on the applicability of knowledge in solving real-life problems.

### Assessment methods

1. Continuous assessment - (Regular, Student Worker) (Final)  
- Presentations - 10% (Participation in online reflections and discussion forums.)  
- Reports and Guides - 70% (Essay or Reaction papers.)  
- Work Discussion - 20% (Each student will present their work for discussion with their colleagues and the teacher.)
2. Final Exam - (Regular, Student Worker) (Supplementary, Special)  
- Final Written Exam - 100%

### Language of instruction

1. Portuguese
2. Portuguese, with additional English support for foreign students.

### Electronic validation

António Francisco Ribeiro Alves	Pedro Augusto Oliveira Salgueiro	Manuel Florindo Alves Meirinhos	Carlos Manuel Costa Teixeira
27-11-2023	04-12-2023	04-12-2023	08-02-2024