

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