UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Matematica e Informatica
ACADEMIC YEAR	2023/2024
BACHELOR'S DEGREE (BSC)	ARTIFICIAL INTELLIGENCE
SUBJECT	COGNIIVE PSYCHOLOGY AND ERGONOMICS
TYPE OF EDUCATIONAL ACTIVITY	C
AMBIT	10701-Attività formative affini o integrative
CODE	22972
SCIENTIFIC SECTOR(S)	M-PSI/01
HEAD PROFESSOR(S)	CACI BARBARA Professore Associato Univ. di PALERMO
OTHER PROFESSOR(S)	
CREDITS	6
INDIVIDUAL STUDY (Hrs)	102
COURSE ACTIVITY (Hrs)	48
PROPAEDEUTICAL SUBJECTS	
MUTUALIZATION	GENERAL PSYCHOLOGY - Corso: PHYSICAL EDUCATION AND SPORT SCIENCES
	GENERAL PSYCHOLOGY - Corso: SCIENZE DELLE ATTIVITÀ MOTORIE E SPORTIVE
YEAR	1
TERM (SEMESTER)	1° semester
ATTENDANCE	Not mandatory
EVALUATION	Out of 30
TEACHER OFFICE HOURS	**CACI BARBARA** Wednesday 10:00 13:00 Viale delle Scienze, Edificio 15, Stanza P014 - Terzo Piano. Per gli studenti che ne facciano richiesta all'atto della prenotazione, il ricevimento potra essere effettuato anche a distanza mediante la piattaforma MS Teams.

DOCENTE: Prof.ssa BARBARA CACI

PREREQUISITES	Knowledge of the basis of the scientific method is required for studying the contents proposed during the lectures.
LEARNING OUTCOMES	Knowledge and understanding Knowledge and understanding of complex topics concerning psychology and cognitive ergonomics, design and evaluation of AI user-centered systems. Ability to apply knowledge and understanding Ability to implement and apply knowledge and methods to design and implement AI user-centered systems. Judgment autonomy Ability to work individually and in groups following a critical approach aimed at selecting tools and investigation methods typical of cognitive ergonomics. Communication skills Acquisition and use of communication skills and vocabulary in the field of human-computer interaction and human-robot interaction in the academic, professional, and social fields. Learning ability Achieve expertise in the individual study, selection, and use of methods for the development of AI user-centered systems and bibliographic research.
ASSESSMENT METHODS	The examination aims to verify the knowledge and understanding of theoretical topics, interpretative competence, and critical and judicial autonomy. For all students, the evaluation will consist of two tasks. A written intermediate exam aiming at evaluating the knowledge acquired during the first part of the Course that will be made during the week of suspended lessons. It consists of 30 multiple-choice questions with 4 alternatives (only 1 is correct). One point for each correct answer will be assigned and zero points for wrong or omitted answers. The evaluation will be expressed out of thirty A final oral exam will consist of a discussion aimed to evaluate the fully developed pieces of knowledge and disciplinary skills provided by the Course. The student will answer at least two/three oral questions about the course syllabus referring to the suggested bibliography. To pass the exam the student need to prove to reach the learning outcomes, demonstrating the full acquisition and comprehension of the different themes and also being able to apply the developed skills. From a communications perspective, the student will be able to comprehend and apply the fundamental disciplinary lexicon. The evaluation of the oral exam will be expressed out of thirty and will be divided as follows: - grade equal to 28-30-30 cum laude, in the case of well-organized answers, entirely focused with broad and detailed knowledge of the subject and a very advanced ability to apply them and clear and brilliant presentation of the arguments; - grade 26-28 in the case of well-organized and well-focused answers with good knowledge of the subject and the ability to apply them and an exhaustive and concise presentation, with some minor inaccuracies; - score equal to 25-26 in the case of answers that demonstrate adequate, but not complete knowledge of the subject with a clear presentation, although in the presence of areas of confusion, small minor errors, or only one significant error; - vote equal to 22-25 in the case of answers that denote an incomplete and poorly focused knowledge of the subject, but a fair ability to apply it and limited clarity of presentation; - Grade equal to 18-21 in the case of answers that denote a minimum acceptable level of knowledge even though there are numerous errors and inaccuracies. <18. Unacceptable. A response to the assessment task reflecting a failure to address the question resulting and unacceptable standards of presentation. The final evaluation will be calculated as a weighted average of the marks reported in the two tests (with weights given: 30% mid-term test and 70% end-of-course oral exam). Students who have not taken the mid-term test (or have not passed) will be evaluated by a task consisting of an oral examination inherent in the entire program of the Course
EDUCATIONAL OBJECTIVES	The course aims to provide the student with both the fundamental concepts of cognitive ergonomics and psychological principles of Human-Computer-Interaction and Human-Robot Interaction as well as the methodological aspects that link the design of AI user-centered systems to cognitive ergonomics. Particular attention will be paid to user-centered design, in the double meaning of usability and aesthetic pleasantness, and to User Experience evaluation methods.
TEACHING METHODS	Lectures and classroom exercises. Ongoing self-assessment of the learning/ teaching process.
SUGGESTED BIBLIOGRAPHY	Rizzo A. Ergonomia cognitiva. Dalle origini al design thinking. Il Mulino, 2020; Isbn edizione digitale: 9788815363299; Isbn edizione a stampa: 9788815287939 (capitoli da 1 a 5). Feldman R.S., Amoretti G., Ciceri M.R. Psicologia Generale, McGraw-Hill, 2021-ISBN: 9788838699306 (capitoli: tutti tranne cap. 11 e 13).

Saranno altresì forniti dal docente articoli scientifici di approfondimento.

SYLLABUS

Hrs	Frontal teaching
6	The mind and the basic cognitive processes: attention, perception and consciousness
12	The higher cognitive functions: memory, thinking and language
4	The learning models: classical and reinforcement conditioning; cognitive and social learning
6	The cognitive-affective mental processes: motivation and emotion
4	The decision-making process: normative and descriptive theories; heuristics and algorithms
2	Origin and evolution of cognitive ergonomics
4	Design thinking and human-centered design
4	Designing the human-computer and human-robot interaction
6	Cognitive ergonomics design research and techniques.