### **SYLLABUS**

#### Introduction to cognitive sciences

#### University year 2025-2026

# 1. Information regarding the programme

1.1. Higher education institution	Babeş-Bolyai University
1.2. Faculty	Faculty of Psychology and Educational Sciences
1.3. Department	Department of Clinical Psychology and Psychotherapy
1.4. Field of study	Psychology - Cognitive Sciences
1.5. Study cycle	Bachelor level
1.6. Study programme/Qualification	Psychologist
1.7. Form of education	Full time

# 2. Information regarding the discipline

2.1. Name of the dise	cipliı	ne <b>Introduct</b>	Introduction to cognitive sciences				Discipline code	PLE1102
2.2. Course coordinator				Assistant Professor Radu Şoflău				
2.3. Seminar coordinator				Assist	ant	Professor Radu Şoflău		
2.4. Year of study	1	2.5. Semester	Semester 1 2.6. Type of evaluati				2.7. Discipline regime	DD

# 3. Total estimated time (hours/semester of didactic activities)

3.1. Hours per week	4	of which: 3.2 course	2	3.3 seminar/laboratory	2	
3.4. Total hours in the curriculum	56	of which: 3.5 course	28	3.6 seminar/laborator	28	
Time allotment for individual study (ID) and self-study activities (SA)						
Learning using manual, course support,	bibliograp	hy, course notes (SA)			20	
Additional documentation (in libraries,	on electroi	nic platforms, field docu	mentatio	n)	19	
Preparation for seminars/labs, homework, papers, portfolios and essays						
Tutorship						
Evaluations					2	
Other activities:						
3.7. Total individual study hours69						
3.8. Total hours per semester125						
3.9. Number of ECTS credits 5						

### 4. Prerequisites (if necessary)

4.1. curriculum	-
4.2. competencies	-

#### 5. Conditions (if necessary)

5.1. for the course	• Classroom with at least 80 seats, computer and video a projector / Online course conducted through the MS Teams platform.			
5.2. for the seminar /lab activities	• Room with at least 50 seats, computer and video projector / Online seminar conducted through the MS Teams platform.			

6.1. Specific competencies acquired <sup>1</sup>

<sup>&</sup>lt;sup>1</sup> One can choose either competences or learning outcomes, or both. If only one option is chosen, the row related to the other option will be deleted, and the kept one will be numbered 6.

	Knowledge and understanding						
	<ul> <li>Understanding the place and role of cognitive sciences in the current</li> </ul>						
	• science world.						
	<ul> <li>Knowledge of fundamental aspects and the role of cognitive sciences in human mind.</li> </ul>						
=	<ul> <li>Characterization of the main study paradigms of cognitive sciences.</li> </ul>						
Itia	<ul> <li>Understanding the role of cognitive sciences on various classical aspects of human mind.</li> </ul>						
sen	• Familiarization with the principles of fundamental research in cognitive sciences.						
ess	Explanation and interpretation						
ll/t	• Arguing the importance of the cognitive sciences in approaching human mind.						
pet	<ul> <li>Interpretation of human mind from a cognitive sciences perspective.</li> </ul>						
bin Sic	<ul> <li>Carrying out comparative analyses of the main study paradigms of cognitive sciences.</li> </ul>						
fes	• Explaining and arguing the experimental approach of human mind.						
ro	Instrumental - applicative						
Ч	• Learning the main techniques for investigating human mind processes in the cognitive sciences.						
	• Develops skills to conduct a research project.						
	Attitude						
	• Manifestation of a positive and responsible attitude towards the scientific field.						
	Cultivating a responsible attitude towards the research						
al es	Written and oral communication skills.						
rsa	Relationship and teamwork skills.						
sve	<ul> <li>Competences regarding the management of material and time resources.</li> </ul>						
ans	<ul> <li>Competences in using scientific terminology in the field of cognitive sciences.</li> </ul>						
Tra	<ul> <li>Competences for interdisciplinary use of knowledge and terminology in the fields of psychology and cognitive sciences.</li> </ul>						

#### 6.2. Learning outcomes

	6
Knowledge	<ul> <li>The student knows:</li> <li>The fundamental concepts, principles, and interdisciplinary nature of cognitive sciences.</li> <li>The main representational theories and their relevance to human cognition.</li> <li>The structure and function of classical and neuroconnectionist cognitive architectures.</li> <li>How cognitive science addresses classical psychological domains such as emotion, memory, decision-making, and consciousness.</li> <li>Key models and empirical findings related to learning, language, and psychopathology from a cognitive science perspective.</li> </ul>
Skills	<ul> <li>Analyze and compare different cognitive theories and architectures.</li> <li>Apply representational and computational models to simulate cognitive processes.</li> <li>Design and conduct simple cognitive experiments and simulations using appropriate tools.</li> <li>Collaborate in group settings to explore cognitive problems through guided discovery and practical activities.</li> <li>Interpret and communicate cognitive science concepts clearly, both in writing and in oral presentations.</li> </ul>
Responsibility and autonomy:	<ul> <li>The student has the ability to work independently to obtain:</li> <li>A critical and integrative understanding of complex cognitive systems and their components.</li> <li>Deeper insights into how cognitive models relate to human behavior, emotion, and mental health.</li> <li>Practical experience with cognitive science methods applied to real-world and theoretical problems.</li> <li>The ability to reflect on and evaluate their own learning process and to pursue further knowledge in an autonomous manner.</li> </ul>

# 7. Objectives of the discipline (outcome of the acquired competencies)

7.1 General objective of the discipline	• Familiarizing students with cognitive sciences.	
-----------------------------------------	---------------------------------------------------	--

1

7.2 Specific objective of the discipline	•	Presentation of the cognitive sciences and their impact on studying human mind. Analysis of the place and role of cognitive sciences in the current science system.
	•	Discussion of the main research paradigms of cognitive sciences. Cognitive sciences approach to the human mind.

#### 8. Content

8.1 Course	Teaching methods	Remarks
	Lecture, demonstrative	
1. History of Cognitive Sciences	example, synthesis of	
	knowledge, guided discovery	
	Lecture, demonstrative	
2. Fundamentals of Cognitive Sciences	example, synthesis of	
	knowledge, guided discovery	
	Lecture, demonstrative	
3. Fundamentals of representational theories	example, synthesis of	
	knowledge, guided discovery	
	Lecture, demonstrative	
4. Fundamentals of Cognitive Architectures	example, synthesis of	
	knowledge, guided discovery	
	Lecture, demonstrative	
5. Classical Cognitive Architectures	example, synthesis of	
	knowledge, guided discovery	
6 Nouroconnovionistic Cognitivo	Lecture, demonstrative	
Depresentation and Architecture	example, synthesis of	
Representation and Architecture - 1	knowledge, guided discovery	
7 Neuroconnevionistic Cognitive	Lecture, demonstrative	
Poprosontation and Architecture II	example, synthesis of	
Representation and Architecture - II	knowledge, guided discovery	
9 Cognitive Sciences and Classical Problems in	Lecture, demonstrative	
Psychology: Concents and Meaning	example, synthesis of	
i sychology. Concepts and Meaning	knowledge, guided discovery	
	Lecture, demonstrative	
9. Learning and memory	example, synthesis of	
	knowledge, guided discovery	
	Lecture, demonstrative	
10. Decision making & problem solving	example, synthesis of	
	knowledge, guided discovery	
11 Cognitive Sciences and Classical Problems	Lecture, demonstrative	
in Psychology: Emotions	example, synthesis of	
	knowledge, guided discovery	
12 Cognitive Sciences and Classical Problems	Lecture, demonstrative	
in Psychology: Psychonathology	example, synthesis of	
	knowledge, guided discovery	
13 Cognitive Sciences and Classical Problems	Lecture, demonstrative	
in Psychology: Consciousness	example, synthesis of	
	knowledge, guided discovery	
	Lecture, demonstrative	
14. Learning and language	example, synthesis of	
	knowledge, guided discovery	
Bibliography		

Mandatory references\*:

Chipman, S. E. F. (ed.). (2017). The Oxford handbook of cognitive science. Oxford University Press.

Keith Frankish and William Ramsey (eds.), (2012). The Cambridge Handbook of Cognitive Science, Cambridge University Press.

\*Note: from the works mentioned above, only the chapters related to the topics taught in the course and seminar are mandatory. Specific (new/classical) articles/chapters might be suggested in advanced for each topic. **Optional references:** Keating, D. P. (2011) (Ed.) Nature and Nurture in Early Child Development. New York, NY: Cambridge University Press. Johnson, M. H., & de Haan, M. (2015). Developmental Cognitive Neuroscience: An Introduction. (4th ed.). West Sussex, UK: Wiley Blackwell. Posner, M. I., & Rothbart, M. K. (2007). Educating the Human Brain. Washington, DC: American Psychological Association. Wilson, R.A., & Frank, C., K (eds.) (1999). Mit Encyclopedia of the Cognitive Sciences (Mitecs). MIT Press. Wittgenstein. "Philosophical Investigations." Chap. 6 in Concepts: Core Readings (edited by E. Margulis & S. Laurence. Cambridge, 1999, MA: MIT Press, 1999. (Excerpt)). 8.2 Seminar / laboratory Teaching methods Remarks 1. Introduction and Organizational Remarks Exposure, conversation 2. Exploring the Foundations of Cognitive Presentation, Conceptual Science: key methods and paradigms Clarification, Guided Discovery Presentation, Conceptual 3. Representational Theories in Practice Clarification, Group Activities Presentation, Conceptual 4. Fundamentals of Cognitive Architectures Clarification, Guided Discovery 5. Classical Cognitive Architectures: Presentation, Practical Activities, Implementation and Analysis Knowledge Synthesis Presentation, Guided Discovery, 6. Neural Network Models of Cognition - Part I **Practical Activities** Guided Discovery, Practical 7. Neural Network Models of Cognition – Part II Activities, Group Activities Presentation. Conceptual 8. Cognitive Models of Concept Formation and Clarification, Knowledge Meaning Synthesis, Group Activities Guided Discovery, Practical 9. Simulating Learning and Memory Processes Activities, Group Activities Presentation, Group Activities, 10. Modeling Decision-Making and Problem Guided Discovery, Practical Solving Activities 11. Modeling Emotional Processing in Cognitive Presentation, Group Activities, Systems Knowledge Synthesis 12. Simulating Psychopathology in Cognitive Presentation, Group Activities, Knowledge Synthesis Models 13. Consciousness and Computational Presentation. Knowledge Simulations Synthesis, Guided Discovery Guided Discovery, Practical 14. Language Learning and Cognitive Models Activities, Group Activities

Bibliography

Mandatory references\*:

Chipman, S. E. F. (ed.). (2017). The Oxford handbook of cognitive science. Oxford University Press.

Keith Frankish and William Ramsey (eds.), (2012). The Cambridge Handbook of Cognitive Science, Cambridge University Press.

\*Note: from the works mentioned above, only the chapters related to the topics taught in the course and seminar are mandatory. Specific (new/classical) articles/chapters might be suggested in advanced for each topic.

Optional references: Keating, D. P. (2011) (Ed.) Nature and Nurture in Early Child Development. New York, NY: Cambridge University Press. Johnson, M. H., & de Haan, M. (2015). Developmental Cognitive Neuroscience: An Introduction. (4th ed.). West Sussex, UK: Wiley Blackwell. Posner, M. I., & Rothbart, M. K. (2007). Educating the Human Brain. Washington, DC: American Psychological Association. Wilson, R.A., & Frank, C., K (eds.) (1999). Mit Encyclopedia of the Cognitive Sciences (Mitecs). MIT Press. Wittgenstein. "Philosophical Investigations." Chap. 6 in Concepts: Core Readings (edited by E. Margulis & S. Laurence. Cambridge, 1999, MA: MIT Press, 1999. (Excerpt)).

# 9. Corroborating the content of the discipline with the expectations of the epistemic community, professional associations and representative employers within the field of the program

• The proposed course and seminar topics are central topics in fundamental and applied research in the fields of cognitive sciences and their approach is based on the most recent results from the literature and consistent with other internationally relevant academic programs and key handbooks in the field. The course also offers state of the art research skills that are transferable to any scientific and applied field of knowledge.

#### 10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade			
10.4.Course		Written exam	50%			
10.4 Course						
10 5 Cominer /Johanstown		Written exam	50%			
10.5 Seminar/laboratory						
10.6 Minimum standard of	performance					
<ul> <li>A minimum score of 5 out of 10 points (50%) is required on the written examination to meet the passing standard.</li> </ul>						

#### 11. Labels ODD (Sustainable Development Goals)<sup>2</sup>

General label for Sustainable Development							
		4 QUALITY EDUCATION					

<sup>&</sup>lt;sup>2</sup> Keep only the labels that, according to the *Procedure for applying ODD labels in the academic process*, suit the discipline and delete the others, including the general one for *Sustainable Development* – if not applicable. If no label describes the discipline, delete them all and write *"Not applicable."*.

Date: 05.03.2025 Signature of course coordinator

.....

Signature of seminar coordinator

.....

Date of approval:

...

Signature of the head of department

.....