

SYLLABUS

Conscious and unconscious cognition

University year 2025-2026

1. Information about the study program

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

2. Information about the course

2.1 Title of the course			Conscious and unconscious cognition			Course code		PLE1638			
2.2 Teacher in charge of the lecture				Prof. Univ. Dr. Adrian Opre							
2.3 Teacher in charge of the seminar				Lector. Dr. Răzvan Jurchiș, Asistent Dr. Andrei Costea							
2.4 Study year		3	2.5 Semester		6	2.6. Examination type		E	2.7 Course type		DS

3. Estimated total time (number of hours of teaching activities per semester)

3.1 Number of hours per week		4	Out of which: 2		3.3
seminar /	2				
3.2 course	laboratory				
3.4 Total hours in the curriculum	56	Out of which: 3.5 course	28	3.6 seminar / laboratory	28
Distribution of the allocated amount of time:					hours
Individual study (textbook, course support, bibliography, and notes)					21
Supplementary documentation at the library, on specialized electronic platforms and in the field					10
Preparing for seminars / laboratories, topics, papers, portfolios, and essays					20
Tutoring					4

Evaluations	2
Other activities: research activities	1
3.7 Total number of hours of individual study	48
3.8 Total number of hours per semester	125
3.9 Number of credits (ECTS)	5

4. Prerequisites (if applicable)

4.1 Curriculum	<ul style="list-style-type: none"> • Introduction to psychology • Experimental psychology • Cognitive psychology
4.2 Competencies	-

5. Requirements (if applicable)

5.1 For the lecture	<ul style="list-style-type: none"> • Classroom with at least 60 seats, computer and video a projector / Online course conducted through the MS Teams platform/
5.2 For the seminar / laboratory	<ul style="list-style-type: none"> • Room with at least 30 seats, computers and video projector / Online seminar conducted through the MS Teams platform.

6. Specific skills acquired

Professional skills	Knowledge and understanding <ul style="list-style-type: none">• Understanding the place and role of unconscious processes in the human cognitive system.• Knowledge of the main study paradigms of unconscious processes.• Understanding the cognitive perspective on various unconscious mental processes and phenomena.• Familiarization with the methods of fundamental research of unconscious processes.• Understanding concrete ways of using specific digital technologies in learning and evaluation, such as online platforms, digital applications that measure human cognition. Explanation and interpretation <ul style="list-style-type: none">• Arguing the importance of the cognitive approach on unconscious processes• Cognitive interpretation of various unconscious mental processes• Explaining the experimental approach on specific unconscious information processes Instrumental - applicative <ul style="list-style-type: none">• Learning the main techniques for investigating unconscious processes in the cognitive paradigm• Developing skills to conduct a research project on the topic of unconscious processes• Developing skills to program on-line/digital experimental paradigms using knowledge acquired in Introduction to programming discipline Attitude <ul style="list-style-type: none">• Manifestation of a positive and responsible attitude towards the scientific field• Promoting technology in self-learning and research activities• Cultivating a responsible attitude towards the research activity in the field • Interest in personal development in the field
7.1 General objective	Familiarization of students with the main phenomena and methods in the cognitive approach of unconscious mental processes.

7.2 Specific objectives	<p>Presentation of the cognitive approach to unconscious processes and its impact in psychology</p> <p>Analysis of the place and role the unconscious processes in the human cognitive system</p> <p>Discussion and application of the main paradigms for the study of unconscious processes</p> <p>Providing an analysis of the functioning of core unconscious information processes (implicit perception, implicit memory, implicit learning, language acquisition, unconscious conditioning, unconscious decision making, implicit social cognition, sense of agency).</p>
Transversal skills	<ul style="list-style-type: none"> • Written and oral communication skills • Relationship and teamwork skills • Competences for interdisciplinary use of knowledge and terminology in the fields of psychology and cognitive sciences • Competences of using digital instruments all academic activities

7. The objectives of the course (based on the grid of acquired competencies)

8. Contents

8.1 Course	Teaching methods	Remarks
Introduction into the cognitive unconscious: historical and philosophical underpinnings Keywords: The cognitive unconscious; The new look movements; meanings of the ‘unconscious’	lecture, demonstrative example, synthesis of knowledge, guided discovery	
Cognitive Theories of Consciousness Keywords: Higher-Order Theories; Global Workspace Theory; Integrated Information Theory; Predictive Processing	lecture, demonstrative example, synthesis of knowledge, guided discovery	

Measurements of consciousness Keywords: subjective measurements, objective measurements, structural knowledge, judgement knowledge, Shanks criteria, immediacy criterion, relevance criterion	lecture, demonstrative example, synthesis of knowledge, guided discovery	
Implicit perception I – Theoretical foundations and methods Keywords: Subliminal stimulation, masking	lecture, demonstrative example, synthesis of knowledge, guided discovery	
Implicit perception II – state-of-the-art methods to influence behavior Keywords: Continuous flash suppression, gaze contingent crowding; sub-millisecond exposure	lecture, demonstrative example, synthesis of knowledge, guided discovery	
Implicit memory - fundamental theory and research Keywords: priming, amnesia	lecture, demonstrative example, synthesis of knowledge, guided discovery	
Implicit memory – Extensions and Applications Keywords: illusion of truth effect, fake news, false memories, familiarity without recollection	lecture, demonstrative example, synthesis of knowledge, guided discovery	
Implicit learning I: Foundational theory and methods Keywords: artificial grammar learning, serial reaction time task	lecture, demonstrative example, synthesis of knowledge, guided discovery	
Implicit learning II: Computational models Keywords: Artificial neuronal networks; Minerva 2	lecture, demonstrative example, synthesis of knowledge, guided discovery	
Expert Talks: Implicit Learning and Unconscious Cognition Keywords: Invited expert talks	lecture	

Unconscious conditioning Keywords: fear conditioning, evaluative conditioning, instrumental conditioning	lecture, demonstrative example, synthesis of knowledge, guided discovery	
Sense of agency Keywords: sense of ownership; initiation; control	lecture, demonstrative example, synthesis of knowledge, guided discovery	
Mandatory references: Course 2: <ul style="list-style-type: none"> The mandatory bibliography includes all of Lecture 2's content (everything we discussed). Course 3: <ul style="list-style-type: none"> Timmermans, B., & Cleeremans, A. (2015). How can we measure awareness? An overview of current methods. <i>Behavioural methods in consciousness research</i>, 21, 2146. Course 4: <ul style="list-style-type: none"> Naccache, L. (2015). Visual consciousness explained by its impairments. <i>Current opinion in neurology</i>, 28(1), 45-50. The "Conscious versus Unconscious Perception" subsection from Dienes, Z., & Seth, A. (2018). <i>Consciousness: conscious versus unconscious processes</i>. Course 5: <ul style="list-style-type: none"> Block, N. (2014). Rich conscious perception outside focal attention. <i>Trends in cognitive sciences</i>, 18(9), 445-447. The "Conscious versus Unconscious Perception" subsection from Dienes, Z., & Seth, A. (2018). <i>Consciousness: conscious versus unconscious processes</i>. Course 6: <ul style="list-style-type: none"> The "Conscious versus Unconscious Memory" subsection from Dienes, Z., & Seth, A. (2018). <i>Consciousness: conscious versus unconscious processes</i>. Course 7: <ul style="list-style-type: none"> Cleary, A. M. (2014). The sense of recognition during retrieval failure: Implications for the nature of memory traces. In <i>Psychology of learning and motivation</i> (Vol. 60, pp. 77-112). Academic Press. Course 8: <ul style="list-style-type: none"> Cleeremans, A., Destrebecqz, A., & Boyer, M. (1998). Implicit learning: News from the front. <i>Trends in cognitive sciences</i>, 2(10), 406-416. The "Conscious versus Unconscious Learning" subsection from Dienes, Z., & Seth, A. (2018). <i>Consciousness: conscious versus unconscious processes</i>. Course 9: <ul style="list-style-type: none"> Kinder, A., & Shanks, D. R. (2003). Neuropsychological dissociations between priming and recognition: a single-system connectionist account. <i>Psychological Review</i>, 110(4), 728. 		

- Jamieson, R. K., Holmes, S., & Mewhort, D. J. K. (2010). Global similarity predicts dissociation of classification and recognition: Evidence questioning the implicit– explicit learning distinction in amnesia. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 36(6), 1529. **Course 11:**
- pages 1-13 from Jurchis, Costea, & Opre (2022) Implicit Learning of Emotional Structures: Implications for Cognitive-Behavior Therapies, In A Reber, Allen R, The Cognitive Unconscious: he First Half Century. Oxford University Press
- Skora, L. I., Scott, R. B., & Jocham, G. (2024). Stimulus awareness is necessary for both instrumental learning and instrumental responding to previously learned stimuli. *Cognition*, 244, 105716. **Course**

12:

- Mudrik, L., Arie, I. G., Amir, Y., Shir, Y., Hieronymi, P., Maoz, U., ... & Roskies, A. (2022). Free will without consciousness?. *Trends in Cognitive Sciences*, 26(7), 555566.

Optional references:

1. **Course 1:** Seth, A. K., & Bayne, T. (2022). Theories of consciousness. *Nature reviews neuroscience*, 23(7), 439-452.
2. **Course 2:** Mudrik, L., Boly, M., Dehaene, S., Fleming, S. M., Lamme, V., Seth, A., & Melloni, L. (2025). Unpacking the Complexities of Consciousness: Theories and Reflections. *Neuroscience & Biobehavioral Reviews*, 106053.

8.2 Seminar / laboratory	Teaching methods	Remarks
Pitfalls in measuring awareness Keywords: Shanks criteria, immediacy criterion, relevance criterion	presentation, knowledge synthesis, conceptual clarification, practical activities	
Experimental Tasks for Establishing the Subjective and Objective Thresholds in Unconscious Perception Keywords: subliminal exposure, unconscious priming, subjective threshold, objective threshold	presentation, knowledge synthesis, conceptual clarification, practical activities	
Designing a Masking Experiment Keywords: unconscious perception, parafoveal perception, crowding, visual field	presentation, knowledge synthesis, conceptual clarification, group activities, guided discovery, practical activities	
Study Design and Methodological Requirements for Establishing Unconscious Memory Effects: PsychoPy Implementation	presentation, group activities, guided discovery, practical activities	

Keywords: priming, retrieval, recollection, familiarity		
Bayesian Methods for Establishing Unconscious Processing I Keywords: Bayesian Statistics, Bayes Factor, JASP	presentation, knowledge synthesis, conceptual clarification, group activities, guided discovery, practical activities	
Bayesian Methods for Establishing Unconscious Processing II Keywords: Bayesian Statistics, Bayes Factor, JASP	presentation, knowledge synthesis, conceptual clarification, group activities, guided discovery, practical activities	
Designing an Artificial Grammar Learning Study Keywords: artificial grammars; counterbalancing, chunks, global repetition proportion	presentation, knowledge synthesis, conceptual clarification, group activities, guided discovery, practical activities	
Scientific writing and reporting exemplified on implicit memory research Keywords: Article sections; participant characterization; methods descriptions, standard for reporting results.	presentation, knowledge synthesis, conceptual clarification, group activities, guided discovery, practical activities	
Summary seminar – putting it all together Keywords: synthesis, integration, homogeneity-heterogeneity in unconscious processing	knowledge synthesis, conceptual clarification, conversation	

Mandatory references:

1. Seminar 3:

- Supplementary C from Jurchiş, R., Costea, A., Dienes, Z., Miclea, M., & Opre, A. (2020). Evaluative conditioning of artificial grammars: Evidence that subjectively unconscious structures bias affective evaluations of novel stimuli. *Journal of Experimental Psychology: General*, 149(9), 1800.

1. Seminar 7:

- Dienes, Z. (2015). How Bayesian statistics are needed to determine whether mental states are unconscious. *Behavioral methods in consciousness research*, 199-220.

2. Seminar 8:

- Dienes, Z. (2019). How do I know what my theory predicts?. *Advances in Methods and Practices in Psychological Science*, 2(4), 364-377.

9. Correlations between the content of the course and the expectations of the representatives of the epistemic community, professional associations and representative employers in the field related to the program

The proposed lecture and seminar offer central topics in fundamental and applied research in the fields of cognitive sciences, and their approach is based on the most recent results found in the literature. 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 Weight in the final grade
10.4 Course		Written exam (multiple-choice format)	70%
10.5 Seminar / laboratory		Research project	30%
10.6 Minimum performance standard			
<p>The final evaluation will be based on a written exam conducted in the exam session at the end of the semester and of a research project.</p> <p>The final grade consists of:</p> <ul style="list-style-type: none">a. score obtained in the written exam in proportion of 70% (maximum 7 points)b. research project 30% (up 3 points). <p>The simultaneous conditions for passing the exam are:</p> <ul style="list-style-type: none">a. a minimum of 3.5 points for the written exam out of the 7 maximum possible pointsb. a minimum 5 points from the final grade (combined score: project and exam)			

11. ODD tags (Sustainable Development Goals)



Date

27.01.2025

Teacher in charge of the
lecture/course

Lect.dr Renata Heilman

Teacher in charge of the
seminar

Asist.dr. Andrei Costea

Date of approval in the
Department

Signature of the Head of
Department