

SYLLABUS

1. Program details

1.1 Higher education institution	West University of Timișoara
1.2 Faculty / Department	Psychology and Educational Sciences
1.3 Department	Psychology
1.4 Field of study	Psychology
1.5 Cycle of studies	Bachelor's Degree
1.6 Study program / Qualification	Psychology – Cognitive Science

2. Discipline details

2.1 Discipline name	Education and cognition						
2.2 Tenured teacher - course activities	Velibor MLADENOVICI, Phd						
2.3 Tenured teacher – seminar / laboratory activities	Velibor MLADENOVICI, Phd						
2.4 Study year	2	2.5 Semester	1	2.6 Type of assessment	E	2.7 Discipline regime	DOP
2.5 Google Classroom code	klz4g4c						

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

3.1 Number of hours per week	3	Of which: 3.2 course	2	3.3 seminar/laboratory	1
3.4 Total hours from the curriculum	42	Of which: 3.5 course	28	3.6 seminar/laboratory	14
Time fund distribution:					hours
Study based on the textbook, course material, bibliography, and notes					6.5
Additional documentation in the library, on specialist electronic platforms / in the field					6.5
Preparing seminars/labs, homework, papers, portfolios, and essays					13
Tutoring					2
Examinations					5
Other activities					-
3.7 Total hours of individual study	33				
3.8 Total hours per semester	75				
3.9 Number of credits (ECTS)	3				

4. Prerequisites (where necessary)

4.1 for curriculum	• No prerequisites necessary
4.2 for competencies	• No prerequisites necessary

5. Conditions (where necessary)

5.1 for conducting the course	<ul style="list-style-type: none"> Online platform: Google Classroom
5.2 for conducting the seminar/laboratory	<ul style="list-style-type: none"> Online platform: Google Classroom

6. Discipline objectives - expected learning outcomes to which the discipline's study and promotion contributes

Knowledge	<p>The ability to understand and describe the main concepts, paradigms and methodologies used in psychological research and practice.</p> <p>The ability to adapt terminology and communication strategies according to the targeted socio-professional categories.</p>
Skills	<p>The ability to analyze and interpret empirical data, to critically and constructively evaluate one's own research approach.</p> <p>The ability to apply the acquired knowledge to situations with a medium degree of complexity and to formulate well-argued specialist conclusions.</p> <p>Ability to identify key issues for psychological research and practice.</p> <p>The ability to develop a psychological research project of medium complexity, based on the main psychological paradigms and theories acquired.</p>
Responsibility and autonomy	<p>Ability to work independently (possibly with minimal guidance) to obtain information. They learned the strategies of rigorous, efficient and responsible work, punctuality and personal responsibility for the result, based on the principles, norms and values of the code of professional ethics.</p> <p>The development of permanent and conscious self-control skills regarding the motivations for learning, by referring to one's own professional and personal development goals.</p>

7. Contents

7.1 Course	Teaching methods	Observations
1. Introduction. The role of cognitive psychology in education	Lecture, conversation	<p>Introduction and explanation of course's objectives and contents. Getting to know each other. Curiosities, motivations, learning contracts.</p> <p><i>What is a Neuromyth? Why do Neuromyths persist in schools and colleges?</i></p> <p><i>To read:</i> Howard-Jones, P. A. (2014). Neuroscience and education: Myths and messages. <i>Nature Reviews Neuroscience</i>, 15, 817-824. Ruiz-Martin, H., Portero-Tresserra, M., Martínez-Molina, A., & Ferrero, M. (2022). Tenacious educational neuromyths: prevalence among teachers and an intervention. <i>Trends in Neuroscience and Education</i>, 29, 100192. https://doi.org/10.1016/j.tine.2022.100192</p>

2. Cognitive and social constructivism I	Lecture, conversation, debate, exercises	<i>To read:</i> Kalina, C., & Powell, K. C. (2009). Cognitive and social constructivism: Developing tools for an effective classroom. <i>Education</i> , 130(2), 241-250
3. Cognitive and social constructivism II	Lecture, conversation, debate, exercises	<i>To read:</i> Tabak, I., & Reiser, B. J. (2022). Scaffolding. In R. K. Sawyer (Ed.), <i>The Cambridge handbook of the learning sciences</i> (pp. 53–71). Cambridge University Press.
4. Memory	Lecture, conversation, exercises	<i>To read:</i> Cowan, N. (2012). “Working memory: the seat of learning and comprehension”, in Sergio Della Sala, and Mike Anderson (eds), <i>Neuroscience in Education: The good, the bad, and the ugly</i> . Oxford: Oxford Academic.
5. Cognitive load	Lecture, conversation, exercises	<i>To read:</i> Sweller, J., van Merriënboer, J. J., & Paas, F. (2019). Cognitive architecture and instructional design: 20 years later. <i>Educational Psychology Review</i> , 31(2), 261–292.
6. Metacognition	Lecture, conversation, exercises	<i>To read:</i> Winne, P. H., & Azevedo, R. (2022). Metacognition and self-regulated learning. In R. K. Sawyer (Ed.), <i>The Cambridge handbook of the learning sciences</i> (pp. 93–113). Cambridge University Press.
7. Self-efficacy and self-regulated learning	Lecture, conversation, exercises	<i>To read:</i> Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), <i>Encyclopedia of human behavior</i> (Vol. 4, pp. 71–81). New York: Academic Press. Greene, J.A., Bernacki, M. L., Hadwon, A.F. (2023). Self-regulation. In P.A. Schutz & K.R. Muis (Eds.), <i>Handbook of Educational Psychology</i> (4th ed.). Routledge.
8. Motivation I	Lecture, conversation, exercises	<i>To read:</i> Graham, S. & Weiner, B. (2012). Motivation: Past, present and future. In K. R. Harris, S. Graham, & T. Urdan (Eds.), <i>APA Educational psychology handbook. Vol. 1: Theories, constructs, and critical issues</i> . American Psychological Association.
9. Motivation II	Lecture, conversation, exercises	<i>To read:</i> Miele, D.B., Rosenzweig, E.Q., Browman, A.S. (2023). Motivation. In P.A. Schutz & K.R. Muis (Eds.), <i>Handbook of Educational Psychology</i> (4th ed.). Routledge.
10. Language, culture and cognition I	Lecture, conversation, exercises	<i>To read:</i> Nasir, N. S., Rosebery, A. S., Warren, B., & Lee, C. D. (2022). Learning as a cultural process: Achieving equity through diversity. In R. K. Sawyer (Ed.), <i>The Cambridge Handbook of the learning sciences</i> (pp. 581–601). Cambridge University Press.
11. Language, culture and cognition II	Lecture, conversation, exercises	<i>To read:</i> Luk, G., & Kroll, J. F. (2019). Bilingualism and education: Bridging cognitive science research to language learning. In J. Dunlosky & K. A. Rawson (Eds.), <i>The Cambridge handbook of cognition and education</i> (pp. 292–319). Cambridge University Press.
12. Learning in the digital era I	Lecture, conversation, exercises	<i>To read:</i> Ravizza, S. M., Uitvlugt, M. G., & Fenn, K. M. (2017). Logged in and zoned out: How laptop internet use relates to classroom learning. <i>Psychological science</i> , 28(2), 171-180. Mueller, P. A., & Oppenheimer, D. M. (2014). The Pen Is Mightier Than the Keyboard: Advantages of Longhand Over Laptop Note Taking. <i>Psychological Science</i> , 25(6), 1159–1168.

13. Learning in the digital era II	Lecture, conversation, exercises	<i>To read:</i> Sawyer, R. K. (2022). The learning sciences in the 2020s: Implications for schools and beyond. In R. K. Sawyer (Ed.), <i>The Cambridge handbook of the learning sciences</i> (pp. 658–686). Cambridge University Press.
14. Summary	Lecture, conversation, exercises	Recapitulation, reflections, Q&A regarding the final assessment. Students will be encouraged to complete questionnaires evaluating the work of teaching staff at UVT. Teaching staff will request feedback in order to improve the content and teaching-learning-assessment experiences within the discipline.
References: Baddeley, A. D. (2007). <i>Working memory, thought, and action</i> . New York: Oxford University Press. Blakemore, Sarah-Jayne and Uta Frith (2005). <i>The Learning Brain: Lessons for Education</i> . Malden: Blackwell. Dunlosky, J., & Rawson, K. A. (Eds.). (2019). <i>The Cambridge Handbook of Cognition and Education</i> . Cambridge: Cambridge University Press. Gluck, M. A., Mercado, E., & Myers, C. E. (2014). <i>Learning and memory: From brain to behavior</i> (2 nd ed.). New York: Worth. Paul, R., & Elder, L. (2014). <i>Critical thinking: Concepts and tools</i> (7th ed.). Dillon Beach: Foundation for Critical Thinking. Perry, T., Lea, R., Jørgensen, C. R., Cordingley, P., Shapiro, K., Youdell, D., ... & Pomareda, C. (2021). <i>Cognitive science in the classroom</i> . London: Education Endowment Foundation (EEF). Sawyer, R. K. (Ed.). (2022). <i>The Cambridge Handbook of the Learning Sciences</i> (3rd ed.). Cambridge: Cambridge University Press. Schutz, P.A., & Muis, K.R. (Eds.). (2023). <i>Handbook of Educational Psychology</i> (4th ed.). Routledge. https://doi.org/10.4324/9780429433726 Sigman, M., Peña, M., Goldin, A. P., & Ribeiro, S. (2014). Neuroscience and education: Prime time to build the bridge. <i>Nature Neuroscience</i> , 17, 497-502. doi:10.1038/nn.3672 Sweller, J., Tindall-Ford, S. & Agostinho, S. (2019) <i>Advances in Cognitive Load Theory (Local/Global Issues in Education)</i> . Oxford: Routledge. Tokuhamma-Espinosa, T. (2014). <i>Making classrooms better: 50 practical applications of mind, brain, and education science</i> . New York: W.W. Norton. Tokuhamma-Espinosa, Tracey (2011). <i>Mind, Brain, and Education Science: A Comprehensive Guide to the New Brain-Based Teaching</i> . New York: W. W. Norton.		
7.2 Seminar / laboratory	Teaching methods	Observations
1. Introduction Kickoff + Jigsaw classroom	Presentation, group activity, debate	Introduction and explanation of group project. Brief review of how to conduct a literature review and how to organize and prepare for a presentation. <i>To read:</i> Nolan, J. M., Hanley, B. G., DiVietri, T. P., & Harvey, N. A. (2018). She who teaches learns: Performance benefits of a jigsaw activity in a college classroom. <i>Scholarship of Teaching and Learning in Psychology</i> , 4(2), 93-104. DOI: 10.1037/stl0000110
2. Neuromyths vs Evidence: A Critical AI-Assisted Audit	Presentation, group activity, debate	Diagnose errors/biases in AI outputs; verify claims; convert myths to evidence-based advice. AI to EXPLORE, AI for PLAN, AI for COLLABORATION

		Torrijos-Muelas, M., González-Villora, S., & Bodoque-Osma, A. R. (2021). The persistence of neuromyths in the educational settings: A systematic review. <i>Frontiers in Psychology</i> , 11, 591923. https://doi.org/10.3389/fpsyg.2020.591923
3. General learning strategies I: a. Working with schemas b. Distributed practice	Presentation, group activity, debate	<i>To read:</i> Perry, T., Lea, R., Jørgensen, C. R., Cordingley, P., Shapiro, K., & Youdell, D. (2021). <i>Cognitive Science in the Classroom</i> . London: Education Endowment Foundation. pp 33-52; 135-156. Renkl, A. & Eitel, A., (2019). Self-explaining. Learning about principles and their application. In J. Dunlosky & K. A. Rawson (Eds.), <i>The Cambridge handbook of cognition and education</i> (pp. 411-436). Cambridge University Press Wiseheart, M., Küpper-Tetzel, C.E., Weston, T., Kim, A.S.N., Kapler, I., & Foot-Seymour V. (2019). Enhancing the quality of student learning using distributed practice. In J. Dunlosky & K. A. Rawson (Eds.), <i>The Cambridge handbook of cognition and education</i> (pp. 411-436). Cambridge University Press
4. General learning strategies II: c. interleaving d. multimedia learning	Presentation, group activity, debate	<i>To read:</i> Perry, T., Lea, R., Jørgensen, C. R., Cordingley, P., Shapiro, K., & Youdell, D. (2021). <i>Cognitive Science in the Classroom</i> . London: Education Endowment Foundation. pp 33-52; 53-67. Carvalho, P., & Goldstone, R. (2019). When does interleaving practice improve learning? In J. Dunlosky & K. A. Rawson (Eds.), <i>The Cambridge handbook of cognition and education</i> (pp. 411-436). Cambridge University Press Mayer, R. (2019). How multimedia can improve learning and instruction. In J. Dunlosky & K. A. Rawson (Eds.), <i>The Cambridge handbook of cognition and education</i> (pp. 411-436). Cambridge University Press
5. General learning strategies III: e. Collaborative learning f. testing	Presentation, group activity, debate	<i>To read:</i> Perry, T., Lea, R., Jørgensen, C. R., Cordingley, P., Shapiro, K., & Youdell, D. (2021). <i>Cognitive Science in the Classroom</i> . London: Education Endowment Foundation. pp 111-119. Nokes-Malach, T.J., Zepeda, C., Richey, J. Elizabeth, & Gadgil, S. (2019). Collaborative learning. In J. Dunlosky & K. A. Rawson (Eds.), <i>The Cambridge handbook of cognition and education</i> (pp. 411-436). Cambridge University Press McDaniel, M.A., & Little, J.L. (2019). Multiple-choice and short-answer quizzing on equal footing in the classroom. In J. Dunlosky & K. A. Rawson (Eds.), <i>The Cambridge handbook of cognition and education</i> (pp. 411-436). Cambridge University Press
6. Learning Approaches in Higher Education: Evidence-to-Practice Analysis + My Learning Profile 2.0	Presentation, group activity, debate	Short input, individual profiling, individual self-assessment, team analysis, pair/share, contract writing ILS processing strategies (deep, stepwise, concrete) and regulation strategies (self- vs. external regulation), plus learning patterns (meaning-, reproduction-, application-, undirected)

		Donche, V., & Van Petegem, P. (2008). The validity and reliability of the Short Inventory of Learning Patterns. In E. Cools (Ed.), <i>Style and cultural differences: How can organisations, regions and countries take advantage of style differences</i> (pp. 49-59). Gent, Belgium: Vlerick Leuven Gent Management School. https://hdl.handle.net/10067/690930151162165141 Vermunt, J. D. (1998). The regulation of constructive learning processes. <i>British Journal of Educational Psychology</i> , 68(2), 149-171. https://doi.org/10.1111/j.2044-8279.1998.tb01281.x
7. Summary and comparison of educational techniques and approaches	Conversation, debate	<i>To read:</i> Perry, T., Lea, R., Jørgensen, C. R., Cordingley, P., Shapiro, K., & Youdell, D. (2021). <i>Cognitive Science in the Classroom</i> . London: Education Endowment Foundation. pp 246-270.
<p>References:</p> <p>Donche, V., & Van Petegem, P. (2008). The validity and reliability of the Short Inventory of Learning Patterns. In E. Cools (Ed.), <i>Style and cultural differences: How can organisations, regions and countries take advantage of style differences</i> (pp. 49-59). Gent, Belgium: Vlerick Leuven Gent Management School. https://hdl.handle.net/10067/690930151162165141</p> <p>Dunlosky, J., & Rawson, K. A. (Eds.). (2019). <i>The Cambridge Handbook of Cognition and Education</i>. Cambridge: Cambridge University Press.</p> <p>Perry, T., Lea, R., Jørgensen, C. R., Cordingley, P., Shapiro, K., & Youdell, D. (2021). <i>Cognitive Science in the Classroom</i>. London: Education Endowment Foundation</p> <p>Roediger, H. L., Finn, B., & Weinstein, Y. (2012). Applications of cognitive science to education. In S. Della Salla & M. Anderson (Eds.), <i>Neuroscience in education: The good, the bad and the ugly</i>. (pp. 128–151). New York, NY: Oxford University Press.</p> <p>Vermunt, J. D. (1998). The regulation of constructive learning processes. <i>British Journal of Educational Psychology</i>, 68(2), 149-171. https://doi.org/10.1111/j.2044-8279.1998.tb01281.x</p>		

8. Correlation of discipline contents with the expectations of the representatives of the epistemic community, professional associations and representative employers in the field related to the program

The discipline develops professional skills relevant both to the profession of psychologist and to other occupations that involve educational aspects. Also, the discipline fosters understanding of psychological concepts and the development and practice of learning methods and techniques with multiple uses for formal and informal education at all ages.

9. Assessment

Activity type	9.1 Assessment criteria	9.2 Assessment methods	9.3 Weight of final mark
9.4 Course	Understanding Correct use of terminology Connections between theories and between theory and practice	EXAM The examen will contain multiple choice questions.	50%

	Ability to recall and apply definitions and principles. Capacity for critical analysis.		
9.5 Seminar / laboratory	Quality of literature review & synthesis (expert knowledge) Critical analysis & theoretical linkage (validity, limitations, connection to cognitive mechanisms) Practical recommendations & design feasibility (how to apply strategies; assessment suggestions) Written report quality (structure, clarity, APA7 citations, transparency of methods) Oral presentation & defence (clarity, timing, answering questions) Teamwork & individual contribution (peer evaluation + AI-use log)	GROUP PROJECT Students will collaborate in groups to review the research literature on general learning strategies and educational approaches. Based on their findings, they will prepare a report, which will be presented orally. The assignment follows the jigsaw technique and consists of two phases: in the first phase, students will work in "expert" groups to research a specific learning strategy, and in the second phase, they will join new groups, where each member shares their expertise to analyze and discuss various educational approaches.	40%
	Active involvement and participation Completion of work assignments Monitoring students' learning progress Active contribution (i.e., verbal/oral contributions, quality of questions, idea building in whole-class and small-group activities) Task completion & preparation Professional behavior & attitudes (e.g., attendance, punctuality, proactivity, etc.)	ACTIVE INVOLVEMENT IN SEMINARS/LABORATORIES Active involvement in seminars and laboratories will be assessed continuously: each seminar teacher will keep attendance lists and a brief participation log recording individual contributions (e.g., questions, answers, leadership in group tasks, role fulfilment), completion of in-class tasks and pre-class preparations, and any required AI-use logs. These records, together with peer-evaluation data and submitted artefacts, will be aggregated at semester end into the student's participation score, with opportunities for make-up tasks for legitimate absences.	10%
9.6 Minimum performance standard:			
9.6.1. Passing requirements Each assessment activity (i.e., the exam and the group project) must be passed with a minimum grade of 5 (five). The final grade must be at least 5 (five) to pass this course.			
9.6.2. Attendance requirements Students must attend at least 70% of seminars and 50% of lectures. Students who are working or enrolled in an additional study program may request an exception (minimum 50% for seminars) only with formal prior approval from the Dean's Office.			
9.6.3. Consequences of insufficient attendance.			

Failure to meet the attendance requirements for lectures or seminars will result in the student being required to recontract (re-enroll in) the discipline in a future term.

9.6.4. Eligibility for outstanding (resit) assessment

Students may retake any assessment activities they failed only if they meet the course attendance minimums and the minimal performance standard for participation. The resit assessment will follow the structure below:

- Exam (multiple-choice) - 50% of the resit grade
- Individual analytical report (analysis of a learning approach using general learning strategies) - 40% of the resit grade
- Active involvement & participation (seminar component) - 10% of the resit grade (this component is retained from continuous assessment and is counted only if attendance/participation standards were met)

Note: Students taking a resit to improve their mark will forfeit the original grade for that activity; the resit result becomes the final grade for the activity.

9.6.5. Compensatory assignments for missed sessions

In exceptional and documented cases, and only with prior instructor approval, students may recover **at most two missed lecture sessions and one missed seminar/laboratory** via a compensatory assignment. Conditions:

- The compensatory assignment must be submitted by the deadline specified by the instructor (normally no later than the last week of teaching).
- The compensatory task is a substantial, evidence-based Guide to Best Practices for Effective Learning synthesizing at least 10 recent, state-of-the-art, peer-reviewed sources, using APA7 citation format. The guide must include (a) a short critical appraisal of the literature, (b) concrete implementation recommendations, (c) feasibility considerations, and (d) an AI-use log if any AI tools were used.
- Compensatory assignments are graded with the same rigor as seminar deliverables; approval of submitting a compensatory assignment is not automatic and is intended only for legitimate, documented absences.

9.6.6. Retention of continuous assessment.

Grades obtained for continuous assessment (seminar work, bonus points where applicable) are retained for resit sessions in accordance with course policy, provided the student met the minimum attendance and participation standards.

9.6.7. Academic Integrity and Minimum Performance Standards

Completing all course and seminar assignments in accordance with grammatical rules, ethical principles regarding intellectual originality (i.e., avoiding plagiarism and the production of materials using artificial intelligence), and avoiding the stigmatization of marginalized groups or individuals in writing is a minimum standard of performance.

9.7.8. The Use of AI policy

Students may use AI for various purposes (e.g., refining writing, improving clarity and grammatical style, generating ideas, or searching for information) as long as this contributes to an active learning process and does not replace creativity, critical thinking, and personal effort in understanding the presented concepts.

Any use of AI must be explicitly mentioned in the final document submitted by the student! This can be done either through footnotes or in a special section after the bibliography, where the student clearly specifies the type of tool used and the role it played in completing the activity/exercise. Where applicable, a link or a screenshot of the conversation with the AI tool used should be included.

Consequences of improper AI use

If, after verification, it is found that the activity was mostly (>60%) completed with the help of AI tools or by copying, the student will be required to attend a one-on-one evaluation meeting with the instructor and defend their work to demonstrate personal contribution and understanding of the material. If the student does not attend or is unable to answer questions regarding the paper, the work will be canceled, and the student will be allowed to participate in the evaluation again only in the next exam session.

Date of completion,
14.09.2025

Tenure teacher,
Velibor Mladenovici, Ph.D.
Research Assistant

Date of approval

Head of Department
Delia Vîrgă, Ph.D.
Professor