

Syllabus for the course

«Cognitive Developmental Assessments»

1. Course Description

a. Title of a Course

«Cognitive Developmental Assessments»

b. Pre-requisites

The present program establishes minimum demands of students' knowledge and skills, and determines content of the course.

The present syllabus is aimed at the department offering the course, teaching assistants, and students of the Bachelor of Science program 37.03.01 «Psychology».

c. Course Type (compulsory, elective, optional)

Compulsory

d. Abstract

This course introduces fundamental of developmental cognitive assessment theories and methods. It explores historical and modern neurocognitive approaches in evaluating cognitive abilities in children and discusses applications in research, clinical practice and education.

The course is essential as a training component in areas of cognitive science and lifespan development.

The author of the course Marie Arsalidou has an extensive background in developmental assessments and cognitive neuroscience.

2. Learning Objectives

Learning objectives of the course «Cognitive Developmental Assessments» are to introduce students to:

- History of Intelligence testing
- Theories of Cognitive Development
- Methods of Intelligence testing
- Intelligence testing across development
- Mental attentional capacity
- Cognitively gifted children
- Brain and Cognitive Development

- The future of Developmental Cognitive Assessments

3. Learning Outcomes

After completing the study of the discipline « Cognitive Developmental Assessments » the student should:

- Know the history, theories and methods of intelligence testing across development
- Be able to critically analyze research on developmental cognitive assessments.
- Be able to design basic experiments to assess cognitive functions in children.
- Be able to compose and present scientific content related to studies of cognitive development.

After completing the study of the discipline «Developmental Cognitive Assessment» the student should have the following competences:

| Indicators of achievement of the result | Educative forms and methods aimed at generation and development of the competence |
|--|--|
| The student is able to reflect developed methods of activity based on main Cognitive Developmental Assessments approaches. | Tutorials, group discussions, presentations. |
| The student is able to independently become acquainted with methods of Cognitive Developmental Assessments. | Tutorials, presentations. |
| The student is able to analyze, verify and assess the completeness of information in studies of Cognitive Development. | Group discussions, tutorials, discussion and analysis of the results of the home task and individual work. |
| The student is able to organize independent scientific, research, consulting and applied activity on the basis of standards and duties of developmental cognitive assessments. | Presentations, individual work |
| The student is able to discuss problems of developmental cognitive | Group discussions, presentations, discussion and analysis of the results of the |

4. Course Plan

The following topics will be covered.

1. Introduction to Developmental Cognitive Assessment. This will include definitions, and how these assessments used for clinical purposes, for research and in industry.
2. Theories of Cognitive Development.
3. Intelligence testing across development
4. Mental attentional capacity
5. Brain and Cognitive Development
6. The future of Developmental Cognitive Assessments

Research Seminar Plan

| № | Activity | Total hours | Contact hours | Independent students' work |
|---------------|---|-------------|---------------|----------------------------|
| | | | Practice | |
| 1 | History of Intelligence testing | 7 | 2 | 5 |
| 2 | Theories of Cognitive Development | 14 | 4 | 10 |
| 3 | Methods of Intelligence and cognitive testing | 14 | 4 | 10 |
| 4 | Mental attentional capacity | 19 | 4 | 15 |
| 5 | Brain and cognitive development | 15 | 4 | 11 |
| 6 | Future of Developmental Cognitive Assessments | 7 | 2 | 5 |
| Total: | | 76 | 20 | 56 |

5. Reading List

a. Required

1. Arsalidou, M., & Pascual-Leone, J. (2016). Constructivist developmental theory is needed in developmental neuroscience. *npj-Science of Learning* 1, 16016, 1-9.
2. Godin, B. (2007). From eugenics to scientometrics: Galton, Cattell, and men of science. *Social Studies of Science*, 37(5), 691–728.
3. Walker, A. J, Batchelor, J., & Shores, A. (2009). Effects of education and cultural background on performance on WAIS-III, WMS-III, WAIS-R and WMS-R measures: Systematic review. *Australian Psychologist*, 44(4), 216–223.
4. Arsalidou, M., Pascual-Leone, J., & Johnson, J. (2010). Misleading cues improve developmental assessment of working memory capacity: the color matching tasks. *Cognitive Development*, 25(3), 262–277.

5. Arsalidou, M., Pascual-Leone, J., Johnson, J., Morris, D., & Taylor, M. J. (2013). A balancing act of the brain: Activations and deactivations driven by cognitive load. *Brain and Behavior*, 3(3), 273–285.

b. Optional

1. Kolb, B., & Whishaw, I. Q.. *Fundamentals of human neuropsychology*

6. Grading System

| Type of grading | Type of work | Module | | | | Characteristics |
|-----------------|--------------|--------|---|---|---|--------------------------------------|
| | | 1 | 2 | 3 | 4 | |
| Continuous | Class work | | | X | | In-class assignments (4 assignments) |
| | Presentation | | | X | | Oral presentation |
| Final | Exam | | | X | | In class exam |

Cumulative grade (G^c) for the student’s work during consists of 3 out of 4 assignments (G_a), an oral presentation (G_p), and final exam (G_e).

$$G^c = 3 \cdot 0.1 \cdot G_a + 0.3 \cdot G_p + 0.4 \cdot G_e$$

7. Guidelines for Knowledge Assessment

Continuous assessment: students have to demonstrate their acquaintance with the readings and material. It is expected that they can critically comment and discuss relevant literature with a focus on experimental design and methodology. Assignments will be given in class and will mainly include written exercises. Three out of the four assignments will be used to calculate the final grade. An oral presentation will evaluate the student’s ability to present a selected scientific paper from the cognitive developmental assessment literature.

Final assessment: students must demonstrate their ability to discuss problems suggested in the cognitive developmental assessment literature, create scientific hypotheses and present the results of their own work orally in written form.

8. Methods of Instruction

The following educational technologies are used in the study process:

- Multimedia presentations
- Group discussions
- Self-study of recommended literature

9. Special Equipment and Software Support (if required)

The course requires a laptop, projector, and acoustic systems for presentations.