Summary of Degree Programme 'Cognitive Sciences and Technologies: From Neuron to Cognition'

Field of Studies

37.04.01 Psychology

Approved by

Directive issued 15.08.2014 №6.18.1-01/1508-10

HSE University Educational Standard

HSE University Educational Standard: Master's Degree (from 2022)(signature) (PDF, 1006 Kb)

Last Update

Protocol issued 25.08.2023 № 2

Network Programme

No

Length of Studies, Mode of Studies, Credit Load

2 года

Full-time, 120 credits

Language of instruction

ENG

Instruction in English

Qualification upon graduation

Master

Double-degree Programme

No

Use of online learning

With online tools

Tracks

2025/2026 ACADEMIC YEAR

Cognitive sciences and technologies: from neuron to cognition

Type: Research

Track Supervisor: Zinchenko, Oksana

Language of instruction: English

Use of online learning: With online tools

Key learning outcomes:

KLO-1 Carries out a reasonable choice of methods and, if necessary, software tools for collecting and processing professional information, testing research hypotheses and the reliability of the data obtained.
KLO-2 Formulates tasks and hypotheses for performing research tasks in the formulation of applied and fundamental research based on theories and concepts of cognitive psychology and cognitive sciences.
KLO -3 Applies modern communication technologies in English for academic and professional interaction, takes into account the diversity of cultures in the process of intercultural interaction.
KLO-4 Able to form, structure, perform calculations, analyze arrays of information about the behavior and work of the brain to solve practical and research problems.
KLO-5 Processes data using application packages for testing statistical hypotheses and meaningfully interprets the results of the study.

Description of the professional field:

PC-1 Able to apply modern methodology of scientific psychological research, formulate problems, hypotheses, goals and objectives of the study.
PC-2 Able to develop a program, plan and implement scientific psychological research, apply evidence-based methods for evaluating practices, interventions and other research and applied programs.
PC-3 Able to develop and select adequate, reliable and valid methods of peer review for solving scientific and applied problems.
PC-4 Able to take into account the stages of human development and the range of individual differences when drawing up a conclusion.
PC-5 Capable of applying evidence-based approaches to collect data and make diagnostic decisions.
PC-6 Able to provide feedback on the results of research and evaluation (diagnostics).
PC-7 Able to develop and implement conceptual models and comprehensive programs for the provision of psychological services in the field of psychological counseling and psychological support in accordance with the needs and goals of the client or various groups of clients.
PC-8 Able to practice methods of delegation of responsibility and control, providing feedback and evaluation of performance, on-the-job training, individual and group decision-making.
PC-9 Able to present complex scientific information in a popular way to a variety of audiences.

Description of educational modules:

1. The Key Seminars module helps students to design their personal learning outcomes.

2. The Practical module forms the student's competencies, allowing to solve practical professional problems.
3. The Major module forms students' professional competencies necessary to achieve personal educational results.
4. The MagoLego module gives the students an opportunity to gain additional competencies that students are interested in.

2024/2025 ACADEMIC YEAR

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Competitive Advantages

‘Cognitive Science and Technologies: From Neuron to Cognition’ is the only English-language Master’s program in

cognitive sciences in Russia. All the lecturers are active world-class scientists including the highly cited researchers in the fields of cognitive psychology, cognitive neuroscience, neuroeconomics, neurolinguistics and other interdisciplinary areas. Thanks to the international partners' laboratories students have an access to the whole range of neuroimaging techniques which provide unique opportunity for the development of young researchers.

The program 'Cognitive Science and Technologies: From Neuron to Cognition' offers courses in cognitive psychology, cognitive neuroscience and neuro-modelling. Taken together these disciplines study how memories, emotions, cognition or consciousness actually work. Students attend lectures in English and practice in leading laboratories of Moscow and of our international partners. Leading scientists supervise students' practical training and writing of Master's thesis during the second year. The program is carried out in close cooperation with the École Normale Supérieure and Aarhus University.

Professional Activities and Competencies of Programme Graduates

After graduating from our program, our alumni will be able to design experimental paradigms, analyze and interpret complex data on the advanced level and conduct state-of-the-art behavioral and psychophysiological experiments by means of modern neuroimaging techniques.

Master's program "Cognitive sciences and technologies: from neuron to cognition" gives proficiency in signal processing, statistical data analysis and in interpretation of neuronal mechanisms that underlie various cognitive processes. Students also gain skills of modeling behavior of complex systems such as ion channels, neuronal networks, etc. Acquired knowledge may be applied in different areas, from fundamental research to biomedicine, biotechnologies and production management systems. Alumni of Master's program "Cognitive sciences and technologies: from neuron to cognition" can continue their career in science or biomedical industry (i.e. in the project developing brain-computer interface), or in education. Professional skills gained during education on our program allows bright career in Russian academic institutions and abroad.

Programme Modules

The Master's program covers a wide range of cognitive psychology and cognitive neuroscience disciplines. Education starts with introductory courses of psychology, mathematics and neuroscience. Cognitive psychology track includes such disciplines as "Visual Perception and Attention", "Emotion and Cognition", and "Memory, Learning and Cognitive Development". Students are also offered to study cognitive neuroscience disciplines such as "Introduction to Neuroimaging Techniques", "Behavioral Genetics and Neurogenetics", "Computational Neuroscience", and "Molecular Mechanisms of the Brain".

Options for Students with Disabilities

This degree programme of HSE University is adapted for students with special educational needs (SEN) and disabilities. Special assistive technology and teaching aids are used for collective and individual learning of students with SEN and disabilities. The specific adaptive features of the programme are listed in each subject's full syllabus and are available to students through the online Learning Management System.

Programme Documentation

All documents of the degree programme are stored electronically on this website. Curricula, calendar plans, and syllabi are developed and approved electronically in corporate information systems. Their current versions are automatically published on the website of the degree programme. Up-to-date teaching and learning guides, assessment tools, and other relevant documents are stored on the website of the degree programme in accordance with the local regulatory acts of HSE University.

I hereby confirm that the degree programme documents posted on this website are fully up-to-date.

Vice Rector Sergey Yu. Roshchin

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