

INTERNATIONAL DOCTORAL PROGRAM IN COGNITIVE NEUROSCIENCE
in the domain of psychology, philosophy, biological sciences, medical sciences and health sciences
applicable from academic year 2019/2020

Doctoral school	Doctoral School in the Social Sciences (DSSS) at the Jagiellonian University in Krakow
Domain of science and scientific discipline in which DSSS educates	1) Domain of social sciences: psychology; 2) Domain of humanities: philosophy; 3) Domain of exact and natural sciences: biological sciences; 4) Domain of medical sciences and health sciences: medical sciences, health sciences.
Length of instruction at DSSS	4 years, 8 semesters
Specification of the language in which courses are held	English
Terms and conditions for realizing curriculum	In order to complete the program in the chosen discipline the following are required: 28) acknowledgement of achieving detailed learning outcomes intended for Individual Study Program; 29) collecting in the course of realizing the Doctoral Program (DP) at least 40 ECTS, including 30 ECTS related to PhD student's preparation for carrying out research and publishing its results; 30) submitting doctoral thesis.
Terms and conditions for granting ECTS points	1 ECTS = 30 hours PhD student's work as part of classes and outside out them

1. There are four following Program Modules as part of which PhD students complete courses:
 - a. Module 1: Specialist training - selected areas of scientific achievements,
 - b. Module 2: Methodological training – methodology of scientific research,
 - c. Module 3: Academic competencies,
 - d. Module 4: Professional competencies and soft skills.
2. Participation in doctoral seminar or individual consultations with supervisor as well as completing teaching practice are obligatory. All other courses in the doctoral program are optional.
3. PhD student may complete courses dedicated to the carried out doctoral program, doctoral school and others organized by the Jagiellonian University and other, in country and foreign, institutions.
4. ECTS points are granted for completing courses and for other forms of verification of achieving learning outcomes (further on LO) on Level 8 of Polish Qualifications Framework.
5. Form of credit, duration and number of ECTS points granted for completing a course at the Jagiellonian University are specified in course syllabus.
6. Number of ECTS points granted for completing a course or training outside the Jagiellonian University is agreed by the Head of the Program on the basis of PhD student's declaration concerning work involved, i.e. Number of contact hours, remote work and own work required for passing the course or training. Thirty didactic hours equal 1 ECTS point.
7. In case of acquiring competence not listed in Table 2, Head of the Program, in consultation with supervisor and Doctoral Committee, decides about the number of ECTS points.
8. A given activity (e.g. writing a scientific paper) may be a proof of acquiring several LO, however for this form of verification ECTS points can be granted only once. In case of completing this form of LO verification more than once (e.g. writing several scientific papers) ECTS points can be granted for each of the forms.

TABLE 1. Listing of course modules

<i>Course/block of courses</i>	<i>Number of hours</i>	<i>ECTS points</i>	<i>Year</i>	<i>Semester</i>	<i>Form of classes</i>	<i>Learning outcomes</i>
<p align="center">Module 1 Specialist training - selected areas of scientific achievements</p>						
Doctoral seminar (consultations with supervisor)	40 h (10 h/year)	8 pts (2 pts/year)	I-IV	I-VIII	seminar or individual consultations	W1, W2, W3, U1, U2, K1, K2
Additional consultations related to preparing doctoral thesis	45 h (15 h/year)	1 pts (3 pts/year)	II-IV	III-VIII	individual consultations	W1, W2, W3, U1, U2, K1, K2
Block focused on biological foundations of cognitive processes	15-30 h/course	1-3 pts/course	I-III	I-VI	depending on the lecturer	W1, W2, U1, U3, U5, K1, K2
Block focused on specialist areas of research in cognitive neuroscience	15-30 h/course	1-3 pts/course	I-III	I-VI	depending on the lecturer	W1, W2, U1, U3, U5, K1, K2
<p align="center">Module 2 Methodological training – methodology of scientific research</p>						
Methodology of social studies	30 h	min. 2 pts	I-III	I-V	discussion session/ workshop	W2, W4, U2, U3, U4, K2, K3
Scientific research methods	30 h	min. 2 pts	I-II	I-IV	discussion session/ workshop	W2, W3, W4, U2, U3, U4, K2, K3

Block focused on advanced methodology and data analysis in the area of cognitive neuroscience	15-30 h/course	min. 1 pts/course	I-III	I-VI	depending on the lecturer	W3, U1, U2, U3, U5, K1
<p style="text-align: center;">Module 3 Academic competencies (scientific communication; conditions for scientific career)</p>						
Raising funds for research and managing research projects	15-30 h	1-3 pts	I-III	I-VI	workshop/ discussion session	W6, W7, U5, K5
Intellectual property protection and ethics in conducting scientific research	15 h	1 pts	I-IV	I-VIII	discussion session	W6, K3
Dissemination and popularization of research findings	15-30 h	1-3 pts	I-IV	I-VIII	workshop	W5, U6, U7, U8, K4,
Scientific cooperation and research projects management	30-45 h	min. 2 pts	I-III	I-VI	depending on the lecturer	W6, U9, K3
Scientific career management and self-development planning	30-45 h	min. 2 pts	I-III	I-VI	depending on the lecturer	W7, U4, U5, U10
Academic writing – editing scientific texts	30-60 h	2-4 pts	I-III	I-VI	workshop/language course	W5, U6, U8, U9
Publishing research papers	10-30 h	1-3 pts	I-III	I-VI	depending on the lecturer	W5, U6, U8, U9
Impression management and public speaking	30 h	2 pts	I-III	I-VI	workshop	W5, U5, U8

Training in Occupational Safety and Health	-	-	-	-	-	-
<p style="text-align: center;">Module 4 Professional competencies and soft skills (academic teaching; preparation for teaching)</p>						
Academic tutoring	15 h	1 pts	I-IV	I-VIII	workshop	W5, W7, U7, U10, U11, K2, K4
Voice emission with elements of rhetoric	15 h	1 pts	I-IV	I-VIII	workshop	W5, W7, U7, U10, U11, K2, K4
Interpersonal communication	15 h	1 pts	I-IV	I-VIII	workshop	U7, U10, U11
Fundamentals of academic teaching	30 h	3 pts	I-II	I-IV	discussion session	W5, W7, U7, U10, U11, K2, K4
Modern information and communication technologies in academic teaching	30 h	1-3 pts	I-IV	I-VIII	depending on the lecturer	W5, W7, U7, U10, U11, K2, K4
Teaching practice specified by Practice Regulations	40 h	4 pts	I-IV	I-VIII	professional practice	W5, W7, U7, U10, U11, K2, K4

TABLE 2. Learning outcomes for doctoral program and potential forms of their verification

	Learning outcomes description	Forms of verification of learning outcomes
W1 U1 K1 K2	<p>W1: knows and understands – to a degree which enables revision of existing paradigms – world accomplishment embracing theoretical foundations and general issues as well as selected issues from disciplines in which the doctoral thesis is being prepared.</p> <p>U1: is able to utilize knowledge from different domains of science, including above all from the domain encompassing disciplines in which the doctoral thesis is being prepared, to creatively identify, formulate and innovatively solve complex issues or to carry out tasks of research character.</p> <p>K1: is ready to critically evaluate achievements in disciplines in which the doctoral thesis is being prepared and own contribution to their development.</p> <p>K2: is ready to recognize importance of the knowledge in solving theoretical and practical problems.</p>	<ul style="list-style-type: none"> – Designing own research in the area of doctoral thesis, confirmed by e.g. receiving research funds from external sources (e.g. NCN (National Science Centre), NCBiR (National Centre for Research and Development)). – Carrying out own research in the area of doctoral thesis confirmed by publication in a journal listed in JCR¹. – Writing a scientific paper in the area of doctoral thesis confirmed by publication in a journal listed in JCR. – Participation in the works of interdisciplinary research team validated by a certificate issued by the project manager specifying PhD student's scope of responsibilities. – Receiving funds for financing own research or application project from external sources (e.g. NCN, NCBiR). – Submitting a formally correct request for financing a research or application project from external sources (e.g. NCN, NCBiR). – Running courses and other forms of instruction, also outside of the Jagiellonian University (e.g. trainings, workshops, summer school), in the area adequate for the learning outcomes – Completing courses or participating in various forms of instruction, also outside of the Jagiellonian University (e.g. trainings, workshops, summer school) in the areas adequate for the learning outcomes.

¹ *Journal Citation Reports*, listing of journals with indicators of their importance, among others *Impact Factor*.

W2 U3 K1	<p>W2: knows and understands major development trends of the disciplines in which the doctoral thesis is being prepared.</p> <p>U3: is able to, applying owned knowledge, carry out critical analysis and evaluation of research findings, expert activities and other works of creative nature and their contribution to development of knowledge in disciplines in which the doctoral thesis is being prepared.</p> <p>K1: is ready to critically evaluate achievements in disciplines in which the doctoral thesis is being prepared and own contribution to their development.</p>	<ul style="list-style-type: none"> – Writing a scientific paper in the area of the doctoral thesis validated by publication in a JCR-listed journal. – Preparing an expertise commissioned by an external in the area of the doctoral thesis. – Presenting results of own research in the area of the doctoral thesis at an international scientific conference. – Reviewing a scientific article for a journal listed in JCR in the area of the prepared doctoral thesis – Participating in the works of scientific committee of an international conference in the area of the doctoral thesis. – Running courses and other forms of instruction, also outside of the Jagiellonian University (e.g. trainings, workshops, summer school), with respect to issues adequate for the learning outcomes. – Completing courses or participating in various forms of instruction, also outside of the Jagiellonian University (e.g. trainings, workshops, summer school) in the areas adequate for the learning outcomes.
W3 U2	<p>W3: knows and understands methodology of disciplines adequate for the prepared doctoral thesis.</p> <p>U2: is able to use methodological knowledge in research work, especially to define objective and subject of research, formulate research hypothesis, develop research methods, techniques and tools and use the creatively, and to draw conclusions based on research findings.</p>	<ul style="list-style-type: none"> – Designing own research in the area of doctoral thesis, confirmed by e.g. receiving research funds from external sources (e.g. NCN, NCBiR). – Carrying out own research in the area of doctoral thesis confirmed by publication in a journal listed in JCR. – Carrying out independent analysis of data obtained in experiment in the area of doctoral thesis validated by e.g. publication in a journal listed in JCR. – Presenting results of research in cognitive neuroscience at an international conference. – Writing a scientific paper in the area of cognitive neuroscience [which the prepared doctoral thesis concerns] validated by publication in a JCR-listed journal.

		<ul style="list-style-type: none"> – Completing courses or participating in various forms of instruction, also outside of the Jagiellonian University (e.g. trainings, workshops, summer school) in the areas adequate for the learning outcomes.
W4 U5 U6 U7 U8	<p>W4: knows and understands the principles of disseminating results of scientific activity, also in the open access mode.</p> <p>U5: can communicate on specialist subjects to a degree enabling active participation in international scientific community.</p> <p>U6: can disseminate research findings, also in popular forms.</p> <p>U7: can initiate a debate and participate in a scientific discourse.</p> <p>U8: can use a foreign language to a degree enabling participation in international scientific and professional community.</p>	<ul style="list-style-type: none"> – Writing a scientific paper in the area of cognitive neuroscience [which the prepared doctoral thesis concerns] validated by publication in a JCR-listed journal – Presenting results of own research in cognitive neuroscience at an international conference. – Pre-registration of own research. – Making own research data/findings available for international scientific community. – Reviewing an article in a journal listed in JCR in disciplines of the prepared doctoral thesis – Undertaking activities popularizing science, among others in the form of: <ul style="list-style-type: none"> ○ publishing a popular science article, ○ giving a lecture or running workshops at popular science events (e.g. Brain Awareness Week, Copernicus Festival), ○ participating in a radio or TV program aimed at popularizing science, ○ participating in organization of popular science events (e.g. Brain Awareness Week, Copernicus Festival). – Providing an international body with various forms of instruction, also outside the Jagiellonian University (e.g. summer/winter school, training, workshop) dealing with issues from the disciplines in which the doctoral thesis is prepared. – Completing courses or participating in various forms of instruction, also outside of the Jagiellonian University (e.g. trainings, workshops, summer school) concerning use of English in scientific work.

W5 K2	<p>W5: knows and understands fundaments dilemmas of modern civilisation.</p> <p>K2: is ready to recognize the importance of knowledge in solving theoretical and practical problems.</p>	<ul style="list-style-type: none"> - Submitting a patent application for a solution based on the knowledge acquired in the course of own research. - Establishing a start-up as a spin-off of the home institution based on knowledge acquired by own research. - Receiving funds for financing own application project from external sources (e.g. NCBIr). - Participating in advisory and/or expert bodies on national, local government or corporate levels. - Undertaking activities popularizing science, among others in the form of: <ul style="list-style-type: none"> o publishing a popular science article, o giving a lecture or running workshops at popular science events (e.g. Brain Awareness Week, Copernicus Festival), o participating in a radio or TV program aimed at popularizing science, o participating in organization of popular science events (e.g. Brain Awareness Week, Copernicus Festival). - Completing courses or participating in various forms of instruction, also outside of the Jagiellonian University (e.g. trainings, workshops, summer school) concerning fundamental dilemmas of contemporary civilisation.
W6 U9 K4 K5	<p>W6: knows and understands economic, legal, ethical and other critical conditions for scientific activity.</p> <p>U9: can plan and realize individual and team research undertaking, also in an international environment.</p> <p>K4: is ready to think and act in an entrepreneurial manner.</p> <p>K5: is ready to maintain and develop ethos of research environments, including carrying out research independently, respecting the principle of public ownership of research findings taking into account intellectual property protection principles.</p>	<ul style="list-style-type: none"> - Receiving funds for financing own application project from external sources (e.g. NCBIr). - Submitting a formally correct request for financing a research or application project from external sources (e.g. NCN, NCBIr) - Obtaining a favourable opinion of ethics committee adequate for the opinionated project. - Establishing a start-up as a spin-off of the home institution based on knowledge acquired by own research. - Submitting a patent application for a solution based on the knowledge acquired in the course of own research.

		<ul style="list-style-type: none"> – Completing courses or participating in various forms of instruction, also outside of the Jagiellonian University (e.g. trainings, workshops, summer school) in the areas adequate for the learning outcomes.
W7 U4 K2 K3	<p>W7: knows and understands fundamental principles of knowledge transfer to economic and social spheres and of commercialization of results of scientific activity and know-how resulting from these results.</p> <p>U4: can analyse possibilities of transferring research findings to economic and social spheres.</p> <p>K2: is ready to recognize the importance of knowledge in solving theoretical and practical problems.</p> <p>K3: is ready to meet researchers' obligations and to initiate activities to the benefit of public interest.</p>	<ul style="list-style-type: none"> – Receiving funds for financing own application project from external sources (e.g. National Centre for Research and Development, NCBiR). – Submitting a formally correct request for financing a research or application project from external sources (e.g. NCBiR). – Participating in realization of application project. – Establishing a start-up as a spin-off of the home institution based on knowledge acquired by own research. – Submitting a patent application for a solution based on the knowledge acquired in the course of own research. – Completing courses or participating in various forms of instruction, also outside of the Jagiellonian University (e.g. trainings, workshops, summer school) in the areas adequate for the learning outcomes.
U10	Can independently act to the benefit of self development as well as inspire and organize development of other people.	<ul style="list-style-type: none"> – Receiving funds for financing own application project from external sources (e.g. National Science Centre, NCN, or National Centre for Research and Development, NCBiR). – Submitting a formally correct request for financing a research or application project from external sources (e.g. NCN, NCBiR). – Scientific supervision in the form of tutoring. – Supervision over a scientific circle, its section or other body associating students. – Running courses and other forms of instruction, also outside of the Jagiellonian University (e.g. trainings, workshops, summer school), with respect to issues adequate for the learning outcomes.

		<ul style="list-style-type: none"> - Completing courses or participating in various forms of instruction, also outside of the Jagiellonian University (e.g. trainings, workshops, summer school) in the areas adequate for the learning outcomes.
U11	Can plan classes or groups of classes and realize them with the use of modern methods and tools.	<ul style="list-style-type: none"> - Completing teaching practice in the form of: <ul style="list-style-type: none"> o teaching or co-teaching classes, o preparing materials for classes, o participating in classes held by an experienced academic staff, o independently supervise a student through teaching the practice of research, data analysis, etc. - Completing courses or participating in various forms of instruction, also outside of the Jagiellonian University (e.g. trainings, workshops, summer school) in the areas adequate for the learning outcomes.
K5	is ready to maintain and develop ethos of research environments, including carrying out research independently, respecting the principle of public ownership of research findings taking into account intellectual property protection principles.	<ul style="list-style-type: none"> - Participating in statutory bodies of the university and/or scientific societies. - Completing courses or participating in various forms of instruction, also outside of the Jagiellonian University (e.g. trainings, workshops, summer school) in the areas adequate for the learning outcomes.