S t u d y   p r o g r a m m e

Part A) of the study programme *

L e a r n i n g   o u t c o m e s

Faculty offering the field of study:	**Faculty of Philosophy and Social Sciences**
Field of study:	**Cognitive Science**
Level of study:	**second cycle**
Level of the Polish Qualifications Framework:	**level 7**
Degree profile:	**general academic**
Professional degree awarded to the graduate:	**magister**
Allocation of the field of study within academic or artistic discipline(s), to which learning outcomes for a given field of study refer:	**Discipline:** - **Social Communication and Media Sciences (57%)** - **Psychology (10%)** - **Informatics (10%)** - **Mathematics (10%)** - **Life Sciences (10%)** - **Philosophy (3%)** **Major discipline: Social Communication and Media Sciences**

Symbol	Upon completion the graduate achieves the learning outcomes specified below:
	KNOWLEDGE (the graduate knows and understands)
K_W01	Student knows in-depth level the terminology of Cognitive Science in English
K_W02	Student has an advanced knowledge about the syntax of presented programming languages
K_W03	Student understands the most important algorithms and methods used in given subject
K_W04	Student has advanced and extensive knowledge of Python features
K_W05	Student knows in-depth level the research methods and argumentative strategies appropriate for one of the major subdisciplines of cognitive sciences
K_W06	Student knows different approaches to computational modeling
K_W07	Student has systematized and detailed knowledge of computational tools
K_W08	Student is familiar with theorems and laws of selected fields
K_W09	Student has systematized and detailed knowledge about research practices, used logic and making conclusions
K_W10	Student is familiar with the notions used in given subjects
K_W11	Student understands the physiology of neural system
	SKILLS (the graduate is capable of)
K_U01	Student is capable of verify hypotheses
K_U02	Student is able to use advanced Python features to solve real-world problems and research tasks
K_U03	Student is capable of write clean Python code
K_U04	Student is able to study and critically evaluate research papers in English
K_U05	Student is able to communicate acquired knowledge of functional brain development in English
K_U06	Student is capable of selecting the computational method to carry out computations and answer scientific questions
K_U07	Student is able to works with matrices
K_U08	Student selects argumentative strategies, formulates responses to criticism
K_U09	Student has advanced skills in constructing proofs and testing hypotheses

K_U10	Student is able to organize his own work and can work in a team
K_U11	The student is able to use English language in the field of science and scientific disciplines relevant to the studied field of study, in accordance with the requirements specified for the B2 +level of the European System for the Description of Languages
SOCIAL COMPETENCES (the graduate is willing to)	
K_K01	Student understands the significance of the scientific method in problem solving
K_K02	Student participates in discussion and is open to share his/her knowledge with other students
K_K03	Student understands the need for continuous training and professional development
K_K04	Student on the basis of creative analysis of new situations and problems independently student formulates proposals for their solution
K_K05	Student is open to new ideas and willing to change opinion in the light of available data
K_K06	Student finds solutions to problems on forums and discussion groups and can provideinformation on how to solve standard difficulties that arise during work

Part *B) of the study programme*

<p align="center">D e s c r i p t i o n o f t h e p r o c e s s r e s u l t i n g i n t h e a c h i e v e m e n t o f l e a r n i n g o u t c o m e s</p>

Faculty offering the field of study:	Faculty of Philosophy and Social Sciences
Field of study:	Cognitive Science
Level of study:	second cycle
Level of the Polish Qualifications Framework:	Level 7
Degree profile:	general academic
Allocation of the field of study within academic or artistic discipline(s), to which learning outcomes for a given field of study refer:	Discipline: - Social Communication and Media Sciences 57% - Psychology 10% - Informatics 10% - Mathematics 10% - Life Sciences 10% - Philosophy 3% **Major discipline:** Social Communication and Media Sciences
Mode of study:	full-time programme
Number of semesters:	4
Number of ECTS required for the award of qualifications corresponding to the level:	120
Total number of teaching hours:	960
Professional degree awarded to the graduate:	Master

The relationship between the study programme and NCU mission and strategy:	The field of study is created in connection with the commitment in the application for Excellence Initiative – Research University to create at least 3 new English-language fields of study around priority research areas. It also fits in with the internationalization strategy. The program of studies and staff consisting of academic teachers and outstanding researchers representing various scientific fields aims, among other things, to create appropriate conditions for undertaking joint research projects, which is in line with the NCU strategy for 2021-2026, (especially the second operational goal of the Nicolaus Copernicus University, mentioned in point II.2 - promoting interdisciplinary education and research; II.5 – ensuring high-quality teaching; II. 4 – increasing international position and attractiveness of study programs offered at NCU and creating opportunities for students' mobility).

Courses/course modules along with expected learning outcomes *				
Course module	**Course**	**Expected learning outcomes**	**Forms and methods of teaching ensuring the achievement of learning outcomes**	**Methods of verifying and assessing expected learning outcomes achieved by the student**
Course module I Obligatory General Module	Advanced statistics Linear algebra - an introduction to data analysis Cognitive Psychology	K_W01 Student knows in-depth level the terminology of Cognitive Science in English K_W02 Student has an advanced knowledge about the syntax of presented programming languages K_W03 Student understands the most important algorithms	Expository teaching methods: - informative lecture - problem-based lecture - discussion Exploratory teaching methods: - laboratory - experimental - classic problem-solving	graded credit -test -presentation of a paper Examination -written examination

	R Course	and methods used in given subject	
	Developmental Neuropsychology	K_W04 Student has advanced and extensive knowledge of Python features	
	Network Neuroscience	K_W05 Student knows in-depth level the research methods and argumentative strategies appropriate for one of the major subdisciplines of cognitive sciences	
	Theory of computation	K_W06 Student knows different approaches to computational modeling	
	Basic introduction to programming with Matlab and Octave	K_W07 Student has systematized and detailed knowledge of computational tools	
	Artificial Neural Networks	K_W08 Student is familiar with theorems and laws of selected fields	
	Advanced Programming	K_W09 Student has systematized and detailed knowledge about research practices, used logic and making conclusions	
	Machine learning	K_W10 Student is familiar with the notions used in given subjects	
	Eye tracking in Cognitive Science	K_W11 Student understands the physiology of neural system	
		K_U01 Student is capable of verify hypotheses	
		K_U02 Student is able to use advanced Python features to	

		solve real-world problems and research tasks K_U03 Student is capable of write clean Python code K_U04 Student is able to study and critically evaluate research papers in English K_U05 Student is able to communicate acquired knowledge of functional brain development in English K_U06 Student is capable of selecting the computational method to carry out computations and answer scientific questions K_U07 Student is able to works with matrices K_U08 Student selects argumentative strategies, formulates responses to criticism K_U09 Student has advanced skills in constructing proofs and testing hypotheses K_U10 Student is able to organize his own work and can work in a team K_K01 Student understands the significance of the scientific method in problem solving K_K02 Student participates in discussion and is open to share his/her knowledge with other students		

		K_K03 Student understands the need for continuous training and professional development K_K04 Student on the basis of creative analysis of new situations and problems independently student formulates proposals for their solution K_K05 Student is open to new ideas and willing to change opinion in the light of available data K_K06 Student finds solutions to problems on forums and discussion groups and can provide information on how to solve standard difficulties that arise during work		
Course module II Project Module	Excellence Initiative – Research University Project A	K_W09 Student has systematized and detailed knowledge about research practices, used logic and making conclusions K_U01 Student is capable of verify hypotheses	project work	graded credit presentation of the project outcomes
	Excellence Initiative – Research University Project B			
Course module III Optional Subjects Module **The module contains subjects that are within the thematic area that enables the student to achieve the expected learning outcomes specified in the table. However, the list of optional subjects can be modified in each academic year.**	Optional Subjects	K_W01 Student knows in-depth level the terminology of Cognitive Science in English K_W02 Student has an advanced knowledge about the syntax of presented programming languages K_W03 Student understands the most important algorithms and methods used in given	Classical lecture practical experimental laboratory classic problem-solving observation panel field measurement presentation of a paper case study	graded credit -test -presentation of a paper -scientific essay Quiz

(**Student chooses 9 from the optional courses, e.g.** Running a reproducible research project, Bioethics, Development of Social Knowledge, Digital Humanism, Interpersonal skilltraining, Philosophy of CS, Reasoning on knowledge, normsand actions, Computational neuroscience, Cognitive logic, Advances in logic for cognitive science, Deep Science and Humanities, Social Media andText Analytics, Formal models ofmind and action, (Biological) signal processing, Gender, Brain, Cognition. CriticalAnalysis of Neuroscience, Social Media andText Analytics, Computer assisted qualitative data).		subject K_W04 Student has advanced and extensive knowledge of Python features K_W05 Student knows in-depth level the research methods and argumentative strategies appropriate for one of the major subdisciplines of cognitive sciences K_W06 Student knows different approaches to computational modeling K_W07 Student has systematized and detailed knowledge of computational tools K_W08 Student is familiar with theorems and laws of selected fields K_W09 Student has systematized and detailed knowledge about research practices, used logic and making conclusions K_W10 Student is familiar with the notions used in given subjects K_W11 Student understands the physiology of neural system K_U01 Student is capable of verify hypotheses K_U02 Student is able to use advanced Python features to solve real-world problems and		

		research tasks		
		K_U03 Student is capable of write clean Python code		
		K_U04 Student is able to study and critically evaluate research papers in English		
		K_U05 Student is able to communicate acquired knowledge of functional brain development in English		
		K_U06 Student is capable of selecting the computational method to carry out computations and answer scientific questions		
		K_U07 Student is able to works with matrices		
		K_U08 Student selects argumentative strategies, formulates responses to criticism		
		K_U09 Student has advanced skills in constructing proofs and testing hypotheses		
		K_U10 Student is able to organize his own work and can work in a team		
		K_K01 Student understands the significance of the scientific method in problem solving		
		K_K02 Student participates in discussion and is open to share his/her knowledge with other students		
		K_K03 Student understands		

		the need for continuous training and professional development K_K04 Student on the basis of creative analysis of new situations and problems independently student formulates proposals for their solution K_K05 Student is open to new ideas and willing to change opinion in the light of available data K_K06 Student finds solutions to problems on forums and discussion groups and can provide information on how to solve standard difficulties that arise during work		
Elective course module, e.g., university-wide courses or courses included in another field of study that are unrelated to a specific field of study	university-wide course	K_K05 Student is open to new ideas and willing to change opinion in the light of available data	Classical lecture Tutorial Laboratory	graded credit
Foreign language classes	English B2+	K_U11 The student is able to use English language in the field of science and scientific disciplines relevant to the studied field of study, in accordance with the requirements specified for the B2 + level of the European System for the Description of Languages	drama staging display practical	Detailed methods and assessment criteria applicable to individual teachers will be presented at the beginning of a given stage of learning. Exam - U01, U03 Oral exam - U02 Colloquium - U01, U03

Diploma project and/ or diploma examination ***	Master Seminar	K_W05 Student knows in-depth level the research methods and argumentative strategies appropriate for one of the major subdisciplines of cognitive sciences K_U08 Student selects argumentative strategies, formulates responses to criticism K_K01 Student understands the significance of the scientific method in problem solving	seminar	graded credit -presentation of a paper Exam Master thesis

Internships**				
Duration of internships	**Not applicable**			
Form of internships				
Rules of internships				

Detailed allocation of ECTS credits			

Academic or artistic disciplines, to which learning outcomes refer:

	Artistic or academic discipline	**ECTS credits**	
		number	**%**
1.	Social Communication and Media Sciences	68	57 %
2.	Psychology	12	10%
3.	Informatics	12	10%
4.	Mathematics	12	10%
5.	Nauki biologiczne	12	10%
6.	Filozofia	4	3%

Course modules	Course	No of ECTS credits	No of ECTS credits in the discipline: *(enter names of disciplines)*****						No of ECTS credits for elective courses	No of ECTS credits obtained by the student in classes conducted with direct contact with the teacher or tutor	No of ECTS credits obtained by the student as a result of: courses related to academic activity within a discipline or disciplines, to which the field of study is assigned *****/ courses focused on training practical skills ******
			Social Communication and Media Sciences	Psychology	Informatics	Mathematics	Life Sciences	Philosophy			
Course module I Obligatory General Module	Advanced statistics	**4**				**4**			**0**	**2**	**2**
	Linear algebra - an introduction to data analysis	**4**				**4**			**0**	**2**	**2**
	Cognitive Psychology	**4**		**4**					**0**	**2**	**2**
	R Course	**4**			**4**				**0**	**2**	**4**
	Developmental Neuropsychology	**4**					**4**		**0**	**2**	**2**
	Network Neuroscience	**4**					**4**		**0**	**2**	**2**
	Theory of computation	**4**				**4**			**0**	**2**	**2**

		1	2	3	4	5	6	7	8	9	10
	Basic introduction to programming with Matlab and Octave	**4**			**4**				**0**	**2**	**2**
	Artificial Neural Networks	**4**	**4**						**0**	**2**	**4**
	Advanced Programming	**4**			**4**				**0**	**2**	**4**
	Machine learning	**4**	**4**						**0**	**2**	**4**
	Eye tracking in Cognitive Science	**4**	**4**						**0**	**2**	**4**
Course module II Project Module	Excellence Initiative – Research University Project A	**4**	**4**						**4**	**3**	**4**
	Excellence Initiative – Research University Project B	**4**	**4**						**4**	**3**	**4**
Course module III Optional Subjects Module **(Student chooses the optional courses to collect minimum 36 ECTS)**	optional subjects	**36**	**36**						**36**	**18**	**18**

Elective course module, e.g., university-wide courses or courses included in another field of study that are unrelated to a specific field of study	university-wide course	**8**	**8**						**8**	**4**	**0**
Foreign language classes	English B2+	**3**	**3**						**0**	**3**	**0**
Diploma project and/or diploma examination ***	Master Seminar	**17**	**17**						**0**	**10**	**10**
	IN TOTAL:	**120**	68/57%	12/10%	12/10%	12/10%	12/10%	4/3%	52/43%	**65/54%**	**70/58,8%**

* the description of a course sylabus is attached to the study programme

This study programme is effective as of winter semester of the academic year 2023/2024.