DIVISION OF COGNITIVE SCIENCES

PLAN AND PROGRAMME
OF THE UNIVERSITY GRADUATE PROGRAMME
COGNITIVE SCIENCES: COGNITION AND THE MIND

Date of the initial accreditation of the study programme: May 2021
Date of the last changes to the study programme: April 2025

Rijeka, September 2025

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FORM OB-1

FORM FOR CHANGES AND ADDENDA TO A STUDY PROGRAMME

General information	
Name of the study programme	**Cognitive Sciences: Cognition and the Mind**
Type of the study programme	**Graduate university study**
Provider of the study programme	**Faculty of Humanities and Social Sciences in Rijeka**
Institution implementing the study programme	**Faculty of Humanities and Social Sciences in Rijeka**
Academic/vocational title awarded upon completion of the study programme	**Magistar/Magistra kognitivnih znanosti (students are awarded the Croatian academic title; translation: Master of Cognitive Sciences)**
Name and code of the qualification in the CROQF Register for which the study program meets the requirement of minimum common learning outcomes (if applicable)	**-**
Month and year of last MZO (ministry) authorization/certificate for the programme	**January 2022**
Month and year of last changes and addenda of the study programme (Senate confirmed)	**June 2024**

1. Types of changes and addenda that are proposed
1.1. Introduction, deletion, or change of a specific learning outcome at the level of the study programme, module or course that influences the learning outcomes at the programme level
No proposed changes or addenda influence the learning outcomes at the programme level.
1.2. Introduction or removal of an existing study module or course, which influences the learning outcomes at the programme level
No proposed changes or addenda influence the learning outcomes at the programme level.
1.3. Other changes and addenda
• Changes/addenda to the course instructor for the courses *Statistics* (one course instructor added), *Empirical Research Methods 1* (one course instructor added), *Elective Modules in Cognitive Sciences* (one course instructor added), *Empirical Research Methods 2* (one course instructor added), *Advanced Statistical Methods* (one course instructor added), *Preparation of Masters Thesis 1* (added two course instructors), *Preparation of Masters Thesis 2* (added two course instructors). • Change in the description of the student assessment and grading during classes and in the course's final exam for the course *Introduction to the Disciplines and Work in Cognitive Sciences.* • Change in the description of the student assessment and grading during classes and in the course's final exam for the course *Preparation of Masters Thesis 1*.

2. Explanation of proposed changes and addenda
2.1. Reasons and explanations for the changes and addenda in the study programme
• The changes in the listed course instructors for specific compulsory courses and the two elective courses were needed to reflect the fact that instructors who conduct the majority of instruction in the addended courses are represented as course instructors; considering that doc. dr. sc. Sandra Arbula joined the Faculty of Social Sciences and Humanities under the returned scientist scheme and joined the Chair in Cognitive Sciences. Two course instructors were added to the courses *Preparation of Masters Thesis 1* and *Preparation of Masters Thesis 2* in order to streamline the organization of poster presentations that are part of the course *Preparation of Masters Thesis 1* and the oral presentations that students perform as part of the symposium organized during the course *Preparation of Masters Thesis 2*. • The change in the description of the student assessment and grading during classes and in the course's final exam for the course *Introduction to the Disciplines and Work in Cognitive Sciences* was needed because this course is not graded summatively, while the Course description part of the original form included the wrong text about the course assessment by mistake. • The change in the description of assessment and grading during classes and in the course's final exam for the course *Preparation of Masters Thesis 1* was required because according to the previous description of the course, students fulfilled the requirements of the course by successfully defending their thesis (as was the case for the course *Preparation of Masters Thesis 2*). With the proposed change in the course description of *Preparation of Masters Thesis 1* students fulfill the course requirements by adequately presenting their idea and proposed design for their thesis via a poster presentation, without summative grading. The changes do not impact the previously stated learning outcomes for these courses.
2.2. Justification of the changes and addenda in the study programme in regards to the mission and strategic objectives of the higher learning institution and economic and social needs
All the proposed changes are made with the goal of improving the study programme, and as such they are in line with the strategic goal of internationalization and improving the research competencies of the students. Changes that relate to the learning outcomes in the courses *Statistics* and *Advanced Statistical Methods* and the changes in the elective course *Elective Modules in Cognitive Sciences* are in line with the Teaching strategy (strategija Učenja i poučavanja), with the goal: Develop a personalized approach to learning. All the proposed changes are based on the analysis of Year 1 of the Masters that was conducted by the instructors in cooperation with the students, taking into account the students' anonymous feedback during internal evaluations during and after the semester and as such, the proposed changes are in line with the goal: To continue regular monitoring of student satisfaction.
2.3. Assessment of the influence of particular changes and addenda on the learning outcomes of courses, programme and modules
We asses that the proposed changes and addenda to the study programme do not influence the learning outcomes of courses, programmes and modules.
2.4. Other relevant information according to the proposers
The English version of this form will be delivered after the changes and addenda are approved.

3.1. List of compulsory and elective courses and/or modules with the number of active/direct class hours required for their implementation and the number of ECTS credits - version with the highlighted changes to the existing programme

LIST OF COURSES[1]						
Year of study: 1						
Semester: 1						
COURSE	COURSE INSTRUCTOR	L	P	S	ECTS	STATUS[2]
Introduction to the Disciplines and Work in Cognitive Sciences	dr. sc. Luca Malatesti dr. sc. Igor Bajšanski dr. sc. Ljerka Ostojić dr. sc. Edward Legg	48		48	7	C
Interdisciplinary Modules in Cognitive Sciences 1	dr. sc. Igor Bajšanski dr. sc. Marko Jurjako	26		13	6	C
Statistics	dr. sc. Petra Anić, dr. sc. Marko Tončić dr. sc. Sandra Arbula	18	18	18	5	C
Empirical Research Methods 1	~~dr. sc. Dražen Domijan~~ ~~dr. sc. Tamara Mohorić~~ dr. sc. Ljerka Ostojić dr. sc. Sandra Arbula	18		18	5	C
Rotation Project 1	dr. sc. Ljerka Ostojić	2		16	4	C
Elective Modules in Cognitive Sciences	dr. sc. Ljerka Ostojić dr. sc. Edward Legg dr. sc. Zdenka Brzović dr. sc. Sandra Arbula	12		12	3	E
Academic English	dr. sc. Irena Vodopija-Krstanović	10		10	3	E
LIST OF COURSES[3]						
Year of study: 1						
Semester: 2						
COURSE	COURSE INSTRUCTOR	L	P	S	ECTS	STATUS[4]
Interdisciplinary Modules in Cognitive Sciences 2	dr. sc. Luca Malatesti dr. sc. Asmir Gračanin dr. sc. Igor Bajšanski dr. sc. Marko Jurjako dr. sc. Edward Legg	60		20	9	C
Ethics	dr. sc. Ljerka Ostojić	15		30	6	C
Empirical Research Methods 2	dr. sc. Edward Legg dr. sc. Asmir Gračanin	30		30	7	C

[1] The table must be copied for each year of study.
[2] If a course is compulsory, write C, if elective, write E.
[3] The table must be copied for each year of study.
[4] If a course is compulsory, write C, if elective, write E.

	dr. sc. Sandra Arbula					
Rotation Project 2	dr. sc. Ljerka Ostojić	3		19	5	C
Elective Modules in Cognitive Sciences	dr. sc. Ljerka Ostojić dr. sc. Edward Legg dr. sc. Zdenka Brzović dr. sc. Sandra Arbula	12		12	3	E
LIST OF COURSES[2]						
YEAR OF STUDY: 2						
Semester: 3						
COURSE	COURSE INSTRUCTOR	L	P	S	ECTS	STATUS[2]
Preparation of Masters Thesis 1	dr. sc. Ljerka Ostojić dr. sc. Sandra Arbula				20	C
Journal Club 1	dr. sc. Ljerka Ostojić dr. sc. Edward Legg			8	2	C
Science Communication 1	dr. sc. Ljerka Ostojić	3		14	4	C
Elective Modules in Cognitive Sciences	dr. sc. Ljerka Ostojić dr. sc. Edward Legg dr. sc. Zdenka Brzović dr. sc. Sandra Arbula	12		12	3	E
Advanced Statistical Methods	dr. sc. Petra Anić dr. sc. Marko Tončić dr. sc. Sandra Arbula	10		10	3	E
LIST OF COURSES[2]						
Year of Study: 2						
Semester: 4						
COURSE	COURSE INSTRUCTOR	L	P	S	ECTS	STATUS[2]
Preparation of Masters Thesis 2	dr. sc. Ljerka Ostojić dr. sc. Sandra Arbula				20	C
Journal Club 2	dr. sc Ljerka Ostojić dr. sc. Edward Legg			8	2	C
Science Communication 2	dr. sc. Ljerka Ostojić	3		14	4	C
Professional Development	dr. sc. Ljerka Ostojić			12	2	C
Elective Modules in Cognitive Sciences	dr. sc. Ljerka Ostojić dr. sc. Edward Legg dr. sc. Zdenka Brzović dr. sc. Sandra Arbula	12		12	3	E

3.2. List of compulsory and elective courses and/or modules with the number of active/direct class hours required for their implementation and the number of ECTS credits - clean version of the study programme with changes included

LIST OF COURSES[5]						
Year of Study: 1						
Semester: 1						
COURSE	COURSE INSTRUCTOR	L	P	S	ECTS	STATUS[6]
Introduction to the Disciplines and Work in Cognitive Sciences	dr. sc. Luca Malatesti dr. sc. Igor Bajšanski dr. sc. Ljerka Ostojić dr. sc. Edward Legg	48		48	7	C
Interdisciplinary Modules in Cognitive Sciences 1	dr. sc. Igor Bajšanski dr. sc. Marko Jurjako	26		13	6	C
Statistics	dr. sc. Petra Anić, dr. sc. Marko Tončić dr. sc. Sandra Arbula	18	18	18	5	C
Empirical Research Methods 1	dr. sc. Ljerka Ostojić dr. sc. Sandra Arbula	18		18	5	C
Rotation Project 1	dr. sc. Ljerka Ostojić	2		16	4	C
Elective Modules in Cognitive Sciences	dr. sc. Ljerka Ostojić dr. sc. Edward Legg dr. sc. Zdenka Brzović dr. sc. Sandra Arbula	12		12	3	E
Academic English	dr. sc. Irena Vodopija-Krstanović	10		10	3	E
LIST OF COURSES[7]						
Year of Study: 1						
Semester: 2						
COURSE	COURSE INSTRUCTOR	L	P	S	ECTS	STATUS[8]
Interdisciplinary Modules in Cognitive Sciences 2	dr. sc. Luca Malatesti dr. sc. Asmir Gračanin dr. sc. Igor Bajšanski dr. sc. Marko Jurjako dr. sc. Edward Legg	60		20	9	C
Ethics	dr. sc. Ljerka Ostojić	15		30	6	C
Empirical Research Methods 2	dr. sc. Asmir Gračanin dr. sc. Edward Legg dr. sc. Sandra Arbula	30		30	7	C
Rotation Project 2	dr. sc. Ljerka Ostojić	3		19	5	C
Elective Modules in Cognitive Sciences	dr. sc. Ljerka Ostojić dr. sc. Edward Legg dr. sc. Zdenka Brzović dr. sc. Sandra Arbula	12		12	3	E
LIST OF COURSES[2]						
Year of Study: 2						

[5] The table must be copied for each year of study.
[6] If a course is compulsory, write C, if elective, write E.
[7] The table must be copied for each year of study.
[8] If a course is compulsory, write C, if elective, write E.

Semester: 3						
COURSE	COUSE INSTRUCTOR	L	P	S	ECTS	STATUS[2]
Preparation of Masters Thesis 1	dr. sc. Ljerka Ostojić dr. sc. Sandra Arbula				20	C
Journal Club 1	dr. sc. Ljerka Ostojić dr. sc. Edward Legg			8	2	C
Science Communication 1	dr. sc. Ljerka Ostojić	3		14	4	C
Elective Modules in Cognitive Sciences	dr. sc. Ljerka Ostojić dr. sc. Edward Legg dr. sc. Zdenka Brzović dr. sc. Sandra Arbula	12		12	3	E
Advanced Statistical Methods	dr. sc. Petra Anić dr. sc. Marko Tončić dr. sc. Sandra Arbula	10		10	3	E
LIST OF COURSES[2]						
Year of Study: 2						
Semester: 4						
COURSE	COURSE INSTRUCTOR	L	P	S	ECTS	STATUS[2]
Preparation of Masters Thesis 2	dr. sc. Ljerka Ostojić dr. sc. Sandra Arbula				20	C
Journal Club 2	dr. sc Ljerka Ostojić dr. sc. Edward Legg			8	2	C
Science Communication 2	dr. sc. Ljerka Ostojić	3		14	4	C
Professional Development	dr. sc. Ljerka Ostojić			12	2	C
Elective Modules in Cognitive Sciences	dr. sc. Ljerka Ostojić dr. sc. Edward Legg dr. sc. Zdenka Brzović dr. sc. Sandra Arbula	12		12	3	E

3.3. Description of all courses in the study programme

GENERAL INFORMATION		
Course instructor	Prof. dr. sc. Luca Malatesti, Prof. dr. sc. Igor Bajšanski, Doc. dr. sc. Ljerka Ostojić, Doc. dr. sc. Edward Legg	
Name of the course	Introduction to the Disciplines and Work in Cognitive Sciences	
Study programme	Graduate study: Cognitive Sciences: Cognition and the Mind	
Status of the course	Compulsory	
Year of Study	1	
ECTS credits and manner of instruction	ECTS credits	7
	Number of class hours (L+P+S)	48+0+48

COURSE DESCRIPTION

1.1. Course objectives

This introductory course has three objectives:
1. to introduce students to the work in cognitive sciences,
2. to enable students from different undergraduate studies to complement their knowledge, and
3. to introduce students to the different ways of learning and teaching involved in the programme.

To achieve objective 2, the course is divided into a compulsory component, an elective module (students choose one) and elective elements (students choose two). To achieve objective 3, this introductory course has a large number of hours of direct teaching (all work on the course is performed during direct teaching). The lecturers prepare students for future group and individual work by moderating and assisting students in acquiring skills for independent work and self-organisation.

Note: The compulsory component of the course is organised for all students at the same time (week 1). Each elective module is organised once (weeks 2 to 6) because students either choose one or the other. Each elective element is – if necessary – organised twice (once in weeks 2 to 4, and once in weeks 4 to 6) to ensure that all students can enrol in those elective elements that best compliment their prior training.

1.2. Course enrolment requirements

Enrolment in the Masters course.

1.3. Expected learning outcomes

Compulsory learning outcomes:
1. to describe and analyse disciplines and areas within cognitive sciences,
2. to compare different approaches and methods within cognitive sciences,
3. to analyse concepts connecting different disciplines.

Elective learning outcomes:
Module „Introduction to empirical cognitive sciences”:
1. to visualise and use descriptors for specific data distributions,
2. to describe and visualise relationships between a set of variables,
3. to describe the foundations of empirical research in cognitive sciences.

Module „Introduction to philosophy of cognitive sciences “:
4. to competently read contemporary philosophical literature from philosophy of mind and philosophy of cognitive sciences,

5. to use informal logic, thought experiments, and conceptual analysis for evaluating philosophical texts,
6. to describe the most significant philosophical problems arising from research in cognitive sciences,
7. to evaluate philosophical views related to types of explanations in cognitive sciences,
8. to independently read and analyse original works in philosophy of science and philosophy of special sciences,
9. to defend different philosophical positions within debates in contemporary philosophy of science.

Elective elements:

10. to analyse concepts and approaches of research within a selected area,
11. to identify and formulate major issues and discussions within a selected area.

1.4. Course content

Compulsory component: Introduction to the work of cognitive sciences (discipline overview; levels of explanation in cognitive sciences); interdisciplinarity in cognitive sciences; literature and its use in different disciplines within cognitive sciences.

Elective components:
Elective modules (students choose one):
Module „Introduction to empirical cognitive sciences": introductory statistical methods (data description, bivariate description, graphical visualisation of data); introduction to empirical research methods (scientific methods in empirical cognitive sciences; comparison of scientific and non-scientific approaches to knowledge acquisition; measurements and measurement instruments; theories and hypotheses in empirical cognitive sciences)
Module „Introduction to the philosophy of cognitive sciences": foundations of philosophy of cognitive sciences, introduction to philosophical research methods, introduction to philosophy of science

Elective elements (students choose two):

- Cognitive psychology: perception and attention; learning and memory; language: understanding, production and categorization; judgement and reasoning
- Neuropsychology and cognition: structure and functions of the nervous system; brain and behaviour – neural mechanisms of emotions, learning and memory, language and consciousness (normal functions and disfunctions); neurocognitive networks and connectome
- Comparative cognition: theories in comparative cognition; methodological approaches; main research areas and questions, concepts and issues
- Critical history of cognitive science and its methods: early development of cognitive science in the second half of the 20th century; debates that marked the development of cognitive sciences; cognitive sciences and the cultural context of the late 20th century; critical history of monodisciplinary methodologies on the example of psychology

1.5. Manner of instruction		
	☒ lectures	☒ individual assignments
	☒ seminars and workshops	☐ multimedia and network
	☐ practicals	☐ laboratory
	☐ distance learning	☒ mentorship
	☒ fieldwork	☐ other _____

1.6. Student responsibilities

1.7. Monitoring of student work

Class attendance	x	Class participation	x	Seminar paper		Experimental work	
Written exam		Oral exam		Essay		Research	
Project		Continuous assessment		Report		Practical work	
Portfolio							

1.8. Assessment of learning outcomes in class and on the final exam

This course is not graded with a summative grade. During all elements of the course the students receive formative assessment (feedback from instructors). Students are awarded ECTS points if they attended class and actively participated in coursework.

1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course

Title	Number of copies	Number of Students
Shaughnessy, J.J., Zechmeister, E.B. & Zechmeister, J.S. (2012). *Research methods in psychology* (9th ed.). McGraw-Hill.	5	20
Weiskopf, D.A., & Adams. F. (2015). *An introduction to the philosophy of psychology.* Cambridge University Press. [odabrana poglavlja].	1	20
Fosl, P.S., & Baggini, J. (2020). *The philosopher's toolkit: A compendium of philosophical concepts and methods.*	1	20
Martinich, A. (2001). *Philosophical writing: An introduction (3rd ed.)* Blackwell.	5	20
Bear, F.M., Connor, B.W., & Paradiso, M.A. (2016). *Neuroscience exploring the brain*. Philadelphia: Wolters Kluwer.	5	20
Kolb,B. & Whishaw, I.Q. (2003). *Fundamentals of Human Neuropsychology*. New York: W.H. Freeman and Company.	1	20
Field, A., Miles., & Field, Z. (2012). *Discovering Statistics Using R*. Sage Publications.	1	20
King, B.M., Rosopa, P.J., & Minium, E.W. (2011). *Statistical Reasoning in the Behavioral Sciences* (6th ed.) John Wiley & Sons, Inc.	5	20

Olmstead, M.C. & Kuhlmeier, V. (2015). *Comparative cognition.* Cambridge University Press.	1	20
Andrews, K. (2020). *How to study animal minds.* Cambridge: Cambridge Univeristy Press.	1	20
Cohen-Cole, J. (2014). *The open mind: Cold War politics and the sciences of human nature*. University of Chicago.	1	20
Eysenck, M.W. & Keane, M.T. (2007). Psychology Press.	1	20
Okasha, Samir (2004). *Philosophy of Science: A Very Short Introduction*. Oxford University Press.	5	20
Philip Kitcher and Gillian Barker (2014). *Philosophy of Science: A New Introduction*. Oxford University Press.	2	20
Godfrey-Smith, Peter (2003). *Theory and Reality: An Introduction to the Philosophy of Science*. Chicago University Press.	4	20
1.10. Additional literature		
1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies		
Evaluation will be carried out at the end of the course using an anonymous questionnaire examining the course/teaching/ teaching materials/interaction with students/adoption of content. Additionally, an informal discussion with students will take place at the end of the course and a formal discussion with student representatives will take place at the end of the semester during the Teaching Committee meeting.		

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GENERAL INFORMATION		
Course instructor	Dr. sc. Igor Bajšanski, Dr. sc. Marko Jurjako	
Name of the course	**Interdisciplinary Modules in Cognitive Sciences 1**	
Study programme	**Graduate study: Cognitive Sciences: Cognition and the Mind**	
Status of the course	**Compulsory**	
Year of study	1	
ECTS credits and manner of instruction	ECTS credits	6
	Number of class hours (L+P+S)	26+0+13

COURSE DESCRIPTION

1.1. Course objectives

The aim of the course is to familiarise students with selected topics in cognitive sciences from a disciplinary and interdisciplinary perspective. Interdisciplinary teaching will primarily take part in moderated discussion groups. In addition to pre-selected papers for each of the topics, students will be able to choose topics and papers for a certain number of discussion groups.

1.2. Course enrolment requirements

Enrolment in the Masters programme; completed course 'Introduction to the Disciplines and Work in Cognitive Sciences'

1.3. Expected learning outcomes

1. to synthesise results and insights from selected areas,
2. to consider and compare theories and models within selected areas,
3. to critically evaluate claims of empirical research from selected areas,
4. to analyse interdisciplinary links between disciplines and areas.

1.4. Course content

Examples of modules:

Interdisciplinarity vs. multidisciplinarity in cognitive sciences
- Difference between interdisciplinarity and multidisciplinarity
- Cognitive sciences as an interdisciplinary science
- The role of psychology in cognitive sciences

Numerical cognition
- Cognitive and neuronal mechanisms of understanding numbers
- Cognitive and neuronal mechanisms of mental arithmetic

Visual cognition
- Visual selective attention
- Spatial cognition
- Object recognition
- Visual working memory

Judgement and reasoning
- Deductive reasoning
- Induction
- Judgement: heuristics and biases
- Dual-process theory of thought

- Individual differences in judgement and reasoning

Rationality
- Rational thinking
- The role of rationality in explaining behaviour and attributing mental attitudes
- Rationality and normative standards of inference

1.5. Manner of instruction		
	☒ lectures ☒ seminars and workshops ☐ practicals ☐ distance learning ☐ fieldwork	☒ individual assignments ☐ multimedia and network ☐ laboratory ☒ mentorship ☐ other _____

1.6. Student responsibilities

1.7. Monitoring of student work

Class attendance	x	Class participation	x	Seminar paper		Experimental work	
Written exam	x	Oral exam		Essay	x	Research	
Projekt		Continuous assessment		Report		Practical work	
Portfolio							

1.8. Assessment of learning outcomes in class and on the final exam

Students' work will be evaluated during classes. Learning outcomes will be evaluated during classes and assessed on the final exam. A detailed elaboration of monitoring and assessing students' work will be presented in the course syllabus.

1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course

Title	Number of copies	Number of students
Frodeman, R., Klein, J.T., & Pacheco, R.C.D.S. (Eds). (2017). *The Oxford handbook of interdisciplinarity.* Oxford University Press.	1	20
Dennett, D.C. (1981). True believers: the intentional strategy and why it works. In Chalmers (2002). *Philosophy of Mind: classical and comtemporary readings.* Oxford University Press.	1	20
Samuels, R., Stich, S., & Bishop, M. (2002). Ending the rationality wars:	Publicly available	20

how to make disputes about human rationality disappear. In R. Eliso (Ed.), *Common Sense, Reasoning, and Rationality*. Oxford University Press.		
Gentner, D. (2010). Psychology in cognitive science: 1987-2038. *Topics in Cognitive Science*, 2(3), 328-344. https://doi.org/10.1111/j.1756/8765.2010.01103.x		20
Van Eck, N.J. & Waltman, L. (2014). CitNetExlorer: A new software tool for analyzing and visualizing citation networks. *Journal of Informetrics*, 8(4), 802-823. https://doi.org/10.1016/j.joi.2014.07.006		20
Dehaene, S. (2009). Origins of mathematical intuitions: the case of arithmetic. *Annals of the New York Academy of Sciences*, 1156, 232-259. https://doi.org/10.1111/j.1749-6632.2009.04469.x		20
Fischer, M. H. & Shaki, S. (2014). Spatial associations in numerical cognition – from single digits to arithmetic. *Quarterly Journal of Experimental Psychology*, 67(8), 1461-1483. https://doi.org/10.1080/17470218.2014.927515		20
Nieder, A., & Dehaene, S. (2009). Representation of number in the brain. *Annual Review of Neuroscience*, 32, 185-208. https://doi.org/10.1146/annurev.neuro.051508.135550		20
Cavanagh, P. (2011). Visual cognition. *Vision Research*, 51(13), 1538-1551. https://doi.org/10.1016/j.visres.2011.01.05		20

Franconeri, S.L., Alvarez, G.A., & Cavanagh, P. (2013). Flexible cognitive resources: competitive content maps for attention and memory. *Trends in Cognitive Sciences*, 17(3), 134-141. https://doi.org/10.1016/j.tics.2013.01.010		20
Roelfsema, P.R., & Houtkamp, R. (2011). Incremental grouping of image elements in vision. *Attention, Perception & Psychophysics*, 73(8), 2542-2572. https://doi.org/10.3758/s13414-011-0200-0		20
De Neys, W. & Glumicic, T. (2008). Conflict monitoring in dual process theories of reasoning. *Cognition*, 106, 1248-1299. https://doi.org/10.1016/j.cognition.2007.06.002		20
Evans, J.St.B.T. & Stanovich, K.E. (2013). Dual-process theories of higher cognition advancing the debate. *Perspectives on Psychological Science*, 8(3), 223-241. https://doi.org/10.1177/1745691612460685		20
Pennycook, G., Fugelsang, J.A., & Koehler, D.J. (2015). What makes us think? A three-stage dual-process model of analytic engagement. *Cognitive Psychology*, 80, 34-72. https://doi.org/10.1016/j.cogpsych.2015.05.001		20
Stanovich, K.E. & West, R.F. (2000). Individual differences in reasoning: implications for the rationality debate. *Behavioral & Brain Sciences*, 23, 645-726. https://doi.org/10.1017/S0140525X0028343X		20

Tversky, A. & Kahneman, D. (1974). Judgement under uncertainty: Heuristics and biases. *Science*, 185, 1124-1131. https://doi.org/10.1126/science.185.4157.1124		20

1.10. Additional literature
Cohen Kadosh, R., & Dowker, A. (2015). *The Oxford handbook of numerical cognition*. New York: Oxford University Press. Dehaene, S. (2011). *The number sense*. *2nd ed.* New York: Oxford University Press. Coltheart, V. (2010). *Tutorials in visual cognition*. New York: Psychology Press. Ross, B.H., & Irwin, D. (2013). *Cognitive vision*. Amsterdam: Elsevier Science.
1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies
Evaluation will be carried out at the end of the course using an anonymous questionnaire examining the course/teaching/ teaching materials/interaction with students/adoption of content. Additionally, an informal discussion with students will take place at the end of the course and a formal discussion with student representatives will take place at the end of the semester during the Teaching Committee meeting.

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GENERAL INFORMATION		
Course instructor	izv. prof. dr. sc. Petra Anić, doc. dr. sc. Marko Tončić, doc. dr. sc. Sandra Arbula	
Name of the course	Statistics	
Study programme	Graduate study: Cognitive Sciences: Cognition and the Mind	
Status of the course	Compulsory	
Year of study	1	
ECTS credits and manner of instruction	ECTS credits	5
	Number of class hours (L+P+S)	18+18+18

COURSE DESCRIPTION

1.1. Course objectives

The aim of the course is to enable students to work with empirical data and to plan and perform statistical analyses.

To ensure that students can use the acquired skills and knowledge in future work, open-source software will be used - wherever possible - for all manipulations and analyses.

1.2. Course enrolment requirements

Enrolment in the Masters programme; completed course 'Introduction to the Disciplines and Work in Cognitive Sciences'

1.3. Expected learning outcomes

1. to use R to manipulate data files,
2. to use R to visualise data (1D, 2D and 3D),
3. to use R for modelling continuous and categorical outcome variables,
4. to apply and interpret basic linear models for continuous and categorical variables,
5. to apply the learned methods in independent research

1.4. Course content

Introduction to R:
- basic data types in R,
- importing data,
- use of R 'packages'
- data visualisation (package „lattice").

Modelling continuous data
- linear models with 1 parameter,
- linear models with 2 parameters,
- use of categorical predictors,
- interactions.

Modelling of categorical data:
- logistic regression.

Modelling continuous data from research with 'pseudo-replications'
- Repeated measures ANOVA

1.5. Manner of instruction	☒ lectures	☒ individual assignments

	☒ seminars and workshops ☒ practicals ☐ distance learning ☐ fieldwork	☐ multimedia and network ☐ laboratory ☒ mentorship ☐ other _____

1.6. Student responsibilities

1.7. Monitoring of student work

Class attendance	x	Class participation	x	Seminar paper	x	Experimental work	
Written exam	x	Oral exam	x	Essay		Research	
Projekt		Continous assessment		Report		Practical work	
Portfolio							

1.8. Assessment of learning outcomes in class and on the final exam

Students' work and learning outcomes will be evaluated and assessed during classes and at the final exam. A detailed elaboration of monitoring and assessing students' work will be presented in the course syllabus.

1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course

Title	Number of copies	Number of students
Judd, C.M., McClelland, G.H., & Ryan, C.S. (2017). *Data Analysis: A model comparison approach to regression, ANOVA, and beyond.* Routledge/Taylor & Francis Group.	1	20
Maindonald, J. & Braun, J.W. (2010). *Data Analysis and Graphics Using R – an Example-Based Approach.* Cambridge University Press	1	20
Miles, J. & Shevlin, M. (2001). *Applying Regression & Correlation.* SAGE Publications.	1	20

1.10. Additional literature

Agresti, A. (1996). *Categorical Data Analysis.* John Wiley & Sons, Inc.

Crawley, M.J. (2007). *The R book*. John Wiley & Sons.

Field, A., Miles., & Field, Z. (2012). *Discovering Statistics Using R.* Sage Publications.

Pinheiro, J.C. & Bates, D.M. (2000). *Mixed-effects models in S and S-PLUS.* Springer.
1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies
Evaluation will be carried out at the end of the course using an anonymous questionnaire examining the course/teaching/ teaching materials/interaction with students/adoption of content. Additionally, an informal discussion with students will take place at the end of the course and a formal discussion with student representatives will take place at the end of the semester during the Teaching Committee meeting.

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GENERAL INFORMATION		
Course instructor	doc. dr. sc. Ljerka Ostojić, doc. dr. sc. Sandra Arbula	
Name of the course	Empirical Research Methods 1	
Study programme	Graduate study: Cognitive Sciences: Cognition and the Mind	
Status of the course	Compulsory	
Year of study	1	
ECTS credits and manner of instruction	ECTS credits	5
	Number of class hours (L+P+S)	18+0+18

COURSE DESCRIPTION

1.1. Course objectives

The aim of the course is to prepare and train students for (independent) research in cognitive sciences by familiarising them with
1. different theoretical approaches in the study of the mind and methods of model construction in cognitive sciences, and
2. experimental research methods.

1.2. Course enrolment requirements

Enrolment in the Masters programme; completed course 'Introduction to the Disciplines and Work in Cognitive Sciences'

1.3. Expected learning outcomes

1. to describe and compare different theoretical approaches in cognitive sciences (symbolic, neural, statistical models),
2. to describe and compare procedures for constructing cognitive models,
3. to analyse experimental research designs and compare their methodological features,
4. to interpret interaction terms in complex experimental designs,
5. to design experimental studies for different research questions,
6. to select and devise an appropriate method when planning and conducting research,
7. to describe and analyse the main measurement theories,
8. to evaluate discussions on validity and reliability,
9. to describe and evaluate neuroscience methods.

1.4. Course content

Theories and models in cognitive science, theories of measurement (reliability and validity), Experimental designs (reliability, validity, replicability in experimental designs in the cognitive sciences), neuroscientific methods (methods and conceptual questions in neuroscience).

1.5. Manner of instruction		
	☒ lectures	☒ individual assignments
	☒ seminars and workshops	☒ multimedia and network
	☐ practicals	☐ laboratory
	☐ distance learning	☒ mentorship
	☐ fieldwork	☐ other _____

1.6. Student responsibilities

1.7. Monitoring of student work							
Class attendance	x	Class participation	x	Seminar paper	x	Experimental work	
Written exam	x	Oral exam	x	Essay		Research	
Projekt		Continous assessment		Report		Practical work	
Portfolio							

1.8. Assessment of learning outcomes in class and on the final exam

Students' work and learning outcomes will be evaluated and assessed during classes and at the final exam. A detailed elaboration of monitoring and assessing students' work will be presented in the course syllabus.

1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course

Title	Number of copies	Number of students
Bermúdez, J. (2016). *Cognitive science: An introduction to the science of the mind* (2nd ed.). Cambridge University Press.	1	20
Shaughnessy, J. J., Zechmeister, E. B. i Zechmeister, J. S. (2012). *Research methods in psychology* (9th ed.). McGraw-Hill.	5	20

1.10. Additional literature

Wagenmakers, E.-J. (2018). *Stevens' handbook of experimental psychology and cognitive neuroscience. Volume 5: Methodology* (4th ed.). John Wiley & Sons.

Dienes, Z. (2008). *Understanding psychology as a science: An introduction to scientific and statistical inference*. Palgrave Macmillan.

Stanovich, K. E. (2013). *How to think straight about psychology* (10th ed.). Pearson Education.

Sun, R. (2008). *The Cambridge handbook of computational psychology*. Cambridge University Press.

1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies

Evaluation will be carried out at the end of the course using an anonymous questionnaire examining the course/teaching/ teaching materials/interaction with students/adoption of content. Additionally, an informal discussion with students will take place at the end of the course and a formal discussion with student representatives will take place at the end of the semester during the Teaching Committee meeting.

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GENERAL INFORMATION		
Course instructor	Dr. sc. Ljerka Ostojić	
Name of the course	Rotation project 1	
Study programme	Graduate study: Cognitive Sciences: Cognition and the Mind	
Status of the course	Compulsory	
Year of study	1	
ECTS credits and manner of instruction	ECTS credits	4
	Number of class hours (L+P+S)	2+0+16

COURSE DESCRIPTION

1.1. Course objectives

The aim of this course is to recognise the importance of early stages of research projects. To this end, students will choose one of the offered topics and will, independently and with their supervisor, plan and design a study. For empirical projects, this includes planning statistical analyses, but does not include data collection.

Thus, the rotation project has three functions:
1. to introduce students to different topics and areas of research of the lecturers involved in the study programme,
2. to introduce students to the research method of the selected project, and
3. to offer students the opportunity to apply their knowledge and skills from the 'Empirical Research Methods 1' and 'Statistics' courses as well as from the elective module 'Philosophy in cognitive sciences' in the 'Introduction to Disciplines and Work in Cognitive Sciences' course to a specific research project.

1.2. Course enrolment requirements

Enrolment in the Masters programme; completed course 'Introduction to the Disciplines and Work in Cognitive Sciences'

1.3. Expected learning outcomes

1. to select and adapt research designs according to a research question,
2. to explain and argue the choice of research design according to a research question,
3. to critically assess possible claims based on the planned study.

1.4. Course content

Open science; preregistrations; relationships between research designs, statistical analysis, and inferences/claims

1.5. Manner of instruction	☒ lectures ☒ seminars and workshops ☐ practicals ☐ distance learning ☐ fieldwork	☒ individual assignments ☒ multimedia and network ☐ laboratory ☒ mentorship ☒ other _____project work_____

1.6. Student responsibilities

1.7. Monitoring of student work							
Class attendance	x	Class participation		Seminar paper	x	Experimental work	
Written exam		Oral exam		Essay		Research	
Projekt	x	Continous assessment		Report		Practical work	
Portfolio							

1.8. Assessment of learning outcomes in class and on the final exam

Students' work and learning outcomes will be evaluated and assessed during classes and in the seminar paper (project report). A detailed elaboration of monitoring and assessment of students' work will be presented in the course syllabus.

1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course

Title	Number of copies	Number of students
Munafò, M.R., Nosek, B.A., Bishop. D.V., Button, K.S., Chambers, C.D:, Du Sert, N.P., Simonsohn, U., Wagenmakers, E.-J., Ware, J.J., & Ionnidis, J.P. (2017). A manifesto for reproducible science. *Nature Human Behaviour*, 1, 1-9.		20
Allen, C. & Mehler, D.M. (2019). Open science challenges, benefits and tips in early career and beyond. *PLoS Biology,* 17, e3000246.		20

1.10. Additional literature

1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies

Evaluation will be carried out at the end of the course using an anonymous questionnaire examining the course/teaching/ teaching materials/interaction with students/adoption of content. Additionally, an informal discussion with students will take place at the end of the course and a formal discussion with student representatives will take place at the end of the semester during the Teaching Committee meeting.

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GENERAL INFORMATION		
Course instructor	Prof. Dr. sc. Luca Malatesti, izv. prof. dr. sc. Asmir Gračanin, prof. dr. sc. Igor Bajšanski, izv. prof. dr. sc. Marko Jurjako, doc. dr. sc. Edward Legg	
Name of the course	**Interdisciplinary Modules in Cognitive Sciences 2**	
Study programme	Graduate study: Cognitive Sciences: Cognition and the Mind	
Status of the course	Compulsory	
Year of study	1	
ECTS credits and manner of instruction	ECTS credits	9
	Number of class hours (L+P+S)	60+0+20

COURSE DESCRIPTION

1.1. Course objectives

The aim of the course is to familiarise students with selected topics from cognitive sciences from a disciplinary and interdisciplinary perspective. Interdisciplinary teaching will primarily take place as part of moderated discussion groups. In addition to pre-selected papers for each of the topics, students will be able to select topics and papers for a certain number of discussion groups.

1.2. Course enrolment requirements

Enrolment in the Masters programme; completed course 'Introduction to the Disciplines and Work in Cognitive Sciences'

1.3. Expected learning outcomes

1. to synthesise results and insights from selected areas,
2. to evaluate and compare theories and models within selected areas,
3. to critically assess and compare theories and the way theories are developed between selected areas,
4. to critically assess claims of empirical studies from selected areas,
5. to analyse interdisciplinary links between disciplines and areas,
6. to synthesise arguments from philosophy in selected areas,
7. to compare discussions in selected areas in philosophy and within empirical disciplines and areas.

1.4. Course content

Examples of modules:

Individual differences in cognition:
- Co-evolution of motivation and cognition,
- Cognitive styles,
- Individual differences in the need for cognition.

Metacognition:
- Metacognitive knowledge and cognitive regulation,
- Monitoring and control,
- Meta-memory,
- Meta-reasoning,
- Metacognitive assessments: research methods and problems,
- Confidence in the accuracy of answers: models and research.

Consciousness:
- Hard problems of consciousness,

- Intentionality – the nature of the content of mental states,
- Metacognition and consciousness,
- Self-recognition and consciousness from a comparative perspective.

Theory of Mind:
- Contemporary approaches in theory and empirical testing of Theory of Mind,
- Theory of Mind: automatism or the result of effort?,
- Evolutionary and developmental aspects of Theory of Mind ,
- Folk psychology and mind reading,
- Different perspectives on the nature of the "mind reading" ability.

Perception and Social Cognition:
- How does the perception of another's eyes affect behaviour and cognition?,
- The role of mirror neurons in social cognition,
- Action understanding and automatic imitation.

1.5. Manner of instruction	☒ lectures ☒ seminars and workshops ☐ practicals ☐ distance learning ☐ fieldwork	☒ individual assignments ☐ multimedia and network ☐ laboratory ☒ mentorship ☐ other _____

1.6. Student responsibilities

1.7. Monitoring of student work

Class attendance	x	Class participation	x	Seminar paper		Experimental work	
Written exam	x	Oral exam		Essay	x	Research	
Projekt		Continous assessment		Report		Practical work	
Portfolio							

1.8. Assessment of learning outcomes in class and on the final exam

Students' work and learning outcomes will be evaluated and assessed during classes and at the final exam. A detailed elaboration of monitoring and assessment of students' work will be presented in the course syllabus.

1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course

Title	Number of copies	Number of students
Ackerman, R. & Thompson, V. (2015). Meta-reasoning: What can we learn from metamemory. In A. Feeney & V. Thompson (Eds.) *Reasoning as Memory* (pp. 164-182). Hove, UK: Psychology Press.	Publicly available	20

Nelson, T.O. & Narens, L. (1990). Metamemory: A theoretical framework and new findings. In G.H. Bower (Ed.) *The psychology of learning and motivation: Advances in research and theory* Vol 26 (pp. 125-169). New York, NY: Academic Press.	Publicly available	20
Koriat, A. (2007). Metacognition and consciousness. In P.D. Zelazo, M. Mozscovitch, & E. Thompson (Eds.). *The Cambridge Handbook of consciousness* (pp.289-325). Cambridge: Cambridge University Press.	Publicly available	20
Levine, J. (2009). The Explanatory Gap. In Ansger Beckermann, Brian P. McLaughlin, and Sven Walter (Eds.) *The Oxford Handbook of Philosophy od Mind. 1st ed.* Oxford University Press	1	20
Tye, M. (2009). Representationalist theories of consciousness. In Ansger Beckermann, Brian P. McLaughlin, and Sven Walter (Eds.) *The Oxford Handbook of Philosophy od Mind. 1st ed.* Oxford University Press	Publicly available	20
Ackerman, R. & Thompson, V.A. (2017). Meta-reasoning: Monitoring and control of thinking and reasoning. *Trends in Cognitive Sciences*, 21(8), 607-617.		20
Koriat, A. (2012). The self-consistency model of subjective confidence. *Psychological Review* 119, 80-113.		20
Thompson, V.A., Prowse Turner, J. A., & Pennycock, G. (2001). Intuition, reason, and metacognition. *Cognitive Psychology*, 63, 107-140.		20
Gallup, G.G. (1977). Self recognition in primates: A comparative approach to the bidirectional properties of consciousness. *American psychologist*, 32(5), 329.		20

Nieder, A., Wagener, L., & Rinnert, P. (2020). A neural correlate of sensory consciousness on a corvid bird. *Science*, 396(6511), 1626-1629.		20
Kohda, M., Hotta, T., Takeyama, T., Awata, S., Tanaka, H., Asai, J.Y., & Jordan, A.L. (2019). If a fish can pass the mark test, what are the implications for consciousness and self-awareness testing in animals? *PLoS Biology*, 17(2), e3000021.		20
Heyes, C.M. (1994). Reflections of self-recognition in primates. *Animal Behaviour*, 47(4), 909-919.		20
Penn, D.C., & Povinelli, D.J. (2017). On the lack of evidence that non-human animals possess anything remotely resembling a 'theory of mind'. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 362(1480), 731-744.		20
Andrews, K. (2005). Chimpanzee theory of mind: Looking in all the wrong places? *Mind & Language*, 20(5), 532-536.		20
Call, J., & Tomasello, M. (2008). Does the chimpanzee have a theory of mind? 30 years later. *Trends in Cognitive Sciences*, 12(5), 187-192.		20
Ermer, E., Cosmides, L., & Tooby, J. (2008). Relative status regulates risky decision making about resources in men: Evidence for the co-evolution of motivation and cognition. *Evolution and Human Behavior*, 29(2), 106-118.		20
Kozhenikov, M. (2007). Cognitive styles in the context of modern psychology: toward an intehgrated framework of cognitive styles. *Psychological Bulletin*, 133(3), 464.		20

Bruinsma, J. & Crutzen, R. (2018). A longitudinal study on the stability for the need for cognition. *Personality and Individual Differences,* 127, 151-161.		20
Churchland, P. (1988). Folk psychology and the explanation of human behaviour. *Aristotelian Society Supplementary Volume*, 62(1), 209-221. https://doi.org/10.1093/aristoteliansupp/62.1.209		20
Goldman, A.I. (1989). Interpretation psychologized. *Mind & Language*, 4(3), 161-185. https://doi.org/10.1111/j.1468-0017.1989.tb00249.x		20
Cook, R., Bird, G., Catmur, C., Press. C., & Heyes, C. (2014) Mirror neurons: from origin to functiom. *Behavioural and Brain Sciences,* 37(2), 177-192. https://doi.org/10.1017/S0140525X13000903		20
Friesen, C.K. & Kingstone, A. (1998). The eyes have it! Reflexive orienting is triggered by nonpredictive gaze. *Psychonomic Bulletin & Review*, 5, 490-495. https://doi.org/10.3758/BF03208827		20
Hood, B.M., Willen, J.D., & Driver, J. (1998). Adult's eyes trigger shifts of visual attention in human infants. *Psychological Science*, 9(2), 131-134. https://doi.org/10.1111/1467-9280.00024		20
Burge, T. (2018). Do infants and nonhuman animals attribute mental states? *Psychological Review*, 125(3), 409-434. https://doi.org/10.1037/rev0000091		20
Butterfill, S.A. & Apperly, I.A. (2013). How to construct a minimal Theory		20

of Mind. *Mind and Language*, 28(5), 606-637. htpps://doi.org/10.1111/mila.12036		
Heyes, C. (2014). False belief in infancy: A fresh look. *Developmental science*, 17(5), 647-659. https://doi.org/10.1111/desc.12148		20

1.10. Additional literature

Dunlonsky, J. & Metcalfe, J. (2009). Metacognition. Beverly Hills, CA: Sage.

Dunlosky, J. & Tauber, S.K. (2014). Understanding people's metacognitive judgement: An isomechanism framework and its implications for applied and theoretical research. In T. Perfect & D.S. Lindsay (Eds.) *Handbook of Applied Memory* (pp. 444-464). Thousand Oaks, CA: Sage.

Ansgar Beckermann, Brian P. McLaughlin, & Sven Walker, Eds. (2009). *The Oxford Handbook of Philosophy of Mind*, 1st ed. Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199262618.001.0001

Catmur, C., Thompson, E.L., Bairaktari, O., Lind, F., & Bird, G. (2018). Sensorimotor training alters action understanding. *Cognition*, 171, 10-14. https://doi.org/10.1016/j.cognition.2017.10.024

Gallese, V., Fadiga, L., Fogassi, L., & Rizzolatti, G. (1996). Action recognition in the premotor cortex. *Brain*, 119, 593-609.

Bugnyar, T., Reber, S., & Buckner, C. (2016). Ravens attribute visual access to unseen competitors. *Nature Communications*, 7, 10506. https://doi.org/10.1038/ncomms10506

Kovács, Á.M., Téglás, E., & Endress, A.D. (2010). The social sence: Susceptibility to others' beliefs in human infants and adults. *Science*, 330(6012), 1830-1834. https://doi.org/10.1126/science.1190792

Krupenye, C., Kano, F., Hirata, S., Call, J., & Tomasello, M. (2016). Great apes anticipate that other individuals will act according to false beliefs. *Science*, 354, 110-114. https://doi.org/10.1126/science.aaf8110

Kulke, L., von Duhn, B., Schneider, D., & Rakoczy, H. (2018). Is implicit theory of mind a real and robust phenomenon? Results from a systematic replication study. *Psychological Science*, 29(6), 888-900. https://doi.org/10.1177/095679617747090

Southgate, V., Senju, A., &Csibra, G. (2007). Action anticipation through attribution of false belief by 2-year olds. *Psychological science*, 18(7), 587-592. https://doi.org/10.1111/j.1467-9280.2007.01944

1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies

Evaluation will be carried out at the end of the course using an anonymous questionnaire examining the course/teaching/ teaching materials/interaction with students/adoption of content. Additionally, an informal discussion with students will take place at the end of the course and a formal discussion with student representatives will take place at the end of the semester during the Teaching Committee meeting.

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GENERAL INFORMATION		
Course instructor	Dr. sc. Ljerka Ostojić	
Name of the course	Ethics	
Study programme	Graduate study: Cognitive Sciences: Cognition and the Mind	
Status of the course	Compulsory	
Year of study	16	
ECTS credits and manner of instruction	ECTS credits	6
	Number of class hours (L+P+S)	15+0+30

COURSE DESCRIPTION

1.1. Course objectives

The course has two related aims:
1. to familiarise students with ethical questions in cognitive sciences research from a philosophical perspective, and
2. to introduce students to contemporary approaches and problems in research from an ethical view such that during the course students and lecturers can discuss situations and components that the students are likely to encounter during their future research work.

1.2. Course enrolment requirements

Enrolment in the Masters programme; completed course 'Introduction to the Disciplines and Work in Cognitive Sciences'

1.3. Expected learning outcomes

1. to critically assess the role of ethics for cognitive sciences,
2. to analyse ethical issues related to different studies,
3. to assess the ways in which ethical issues in empirical research can be approached during applications for ethical approval,
4. to discuss ethical issues arising from the use of empirical data and results,
5. to analyse ethical questions related to the nature of work and professional development in academia.

1.4. Course content

Introduction to ethics in philosophy; ethics in cognitive sciences research; ethical issues in working with participants (people, animals); ethical issues in research methods and data analysis; data management and sharing; General Data Protection Regulation (GDPR); dissemination of results; use of results of empirical research to create public policy; use and misuse of empirical research results: historical and contemporary perspectives; ethical issues in the scientific community, visibility of minority researchers and their work; diversity in the research community, scientific colonialism.

1.5. Manner of instruction		
	☒ lectures	☒ individual assignments
	☒ seminars and workshops	☐ multimedia and network
	☐ practicals	☐ laboratory
	☐ distance learning	☒ mentorship
	☐ fieldwork	☐ other _____

1.6. Student responsibilities

1.7. Monitoring of student work							
Class attendance	x	Class participation		Seminar paper	x	Experimental work	
Written exam		Oral exam		Essay		Research	
Projekt	x	Continous assessment		Report		Practical work	
Portfolio							

1.8. Assessment of learning outcomes in class and on the final exam
Students' work and learning outcomes will be evaluated and assessed through a project and seminar paper (project report). A detailed elaboration of monitoring and assessment of students' work will be presented in the course syllabus.

1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course

Title	Number of copies	Number of students
Rosnow, R.L. & Rosenthal (2013). *Beginning Behavioral Research: A Conceptual Primer*. Harlow: Prentice Hall.	1	20
Levelt, W.J., Drenth., P.J.D., & Noort, E. (2012). Flawed science: The fraudulent research practices of social psychologist Diederik Stapel. Retrieved from https://pure.mpg.de/rest/items/item_1569964/component/file_1569966/content		20
Birhane, A. & Guest, O. (2020). Towards decolonising computational sciences. *aXiv:1009.14258.*		20
Lee, D.N. (2020). Diversity and inclusion activism in nimal behaviour and the ABS: a historical view from the USA. *Animal Behaviour*, 164, 273-280. https://doi.org//10.1016/j.anbehav.2020.03.019		20
Greene, T., Schmueli, G., Ray, S., & Fell, J. (2019). Adjusting to the GDPR:The imapct on data scientists		20

and behavioral researchers. *Big data*, 7(3), 140-162. https://doi.org/10.1089/big.2018.0176		
Buchanan, K., Burt de Perera, T., Carere, C., Carter, T., Hailey, A., Hubrecht, R., Jennings, D., Metcalfe, N., Pitcher, T., Peron, F., Sneddon, L., Sherwin, C., Talling, J., Thomas, R., & Thompson, M. (2012). Guidelines for the treatment of animals on behavioural research and teaching. *Animal Behaviour*, 83(1), 301-309. https://doi.org/10.1016/j.anbehav.2011.10.031		20
Norton, B.J. (1978). Karl Pearson and Statistics: The origins of scientific innovation. *Social Studies of Science*, 8(1), 3-34.		20
Smaldino, P.E. &McElreath, R. (2016). The natural selection of bad science. *Royal Society Open Science*, 3(9), 160384. https://doi.org/10.1098/rsos.160384		20
Vanderkerckhove, J., White, C.N., Trueblood, J.S., Rouder, J.N., Matzke, D., Leite, F.P., Etz, A., Donkin, C, Devezer, B., Criss, A.H., & Lee, M.D. (2019). Robust diversity in cognitive science. *Computational Brain & Behavior*, 2, 271-276. https://doi.org/10.1007/s42113-019-00066-7.		20
Chambers, C.D., Dienes, Z., McIntosh, R.D., Rotshtein, P., & Willmes, K. (2015). Registered reports: realigning incentives in scientific publishing. *Cortex,* 66, A1-A2. https://doi.org/10.1016/j.cortex.2015.03.022		20
Tennant, J.P., Waldner, F., Jacques, D.C., Masuzzo, P., Collister, L.B., &		20

Hartgerink. C.H. (2016). The academic, economic and sociatal impacts of Open Access: an evidence/based review. *F1000Research,* 5, 632. https://doi.org/10.12688/f1000research.8460.3		
Eren, E. (2020). Never the right time: maternity planning alongside a science career in academia. *Journal of Gender Studies*, 1-12. https://doi.org/10.1080/09589236.2020.1858765		20

1.10. Additional literature

Siebert, J.E. (2004). Empirical research on research ethics. *Ethics & Behavior,* 14(4), 397-412. https://doi.org/10.1207/s15327019eb1404_9

Mietola, R., Miettinen, S., & Vehmas, S. (2017). Voiceless subjects? Research ethics and persons with profound intellectual disabilities. *International Journal of Social Research Methodology,* 20(3), 263-274.

Jaffe, K., Correa, J.C., & Tang-Martinez, Z. (2020). Ethology and animal behaviour in Latin America. *Animal Behaviour*, 164, 281-291. https://doi.org/j.anbehav.2019.11.007

Gluck, J.P. (1997). Harry F. Harlow and animal research: reflections on the ethical paradox. *Ethics & Behavior,* 7(2), 149-161.

Delzell, D.A.P. & Poliak, C.D. (2013). Karl Pearson and Eugenics: Personal Opinions and Scienctific Rigor. *Science and Engineering Ethics*, 19, 1057-1070.

Smaldino, P.E., Turner, M.A., & Contreras Kallens, P.A. (2019). Open science and modified funding lotteries can imepede the natual selection of bad science. *Royal Society Open Science*, 6(7), 190194. https://doi.org/10.1098/rsos.190194

Nosek, B.A., Spies, J.R., & Motyl, M. (2012). Scientific Utopia II. Restructuring incentives and practices to promtore truth over publishability. *Perspectives on Psychological Science*, 7(6), 615-631. https://doi.org/10.1177/1745691612459058

Weisshaar, K. (2017). Publish *and* perish? An assessment of gender gaps in promotion to tenure in academia. *Social Forces*, 96(2), 529-560. https://doi.org/10.1093/sf/sox052

1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies

Evaluation will be carried out at the end of the course using an anonymous questionnaire examining the course/teaching/ teaching materials/interaction with students/adoption of content. Additionally, an informal discussion with students will take place at the end of the course and a formal discussion with student representatives will take place at the end of the semester during the Teaching Committee meeting.

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GENERAL INFORMATION		
Course instructor	doc. dr. sc. Edward Legg, doc. dr. sc. Sandra Arbula, izv. prof. dr. sc. Asmir Gračanin	
Name of the course	Empirical Research Methods 2	
Study programme	Graduate study: Cognitive Sciences: Cognition and the Mind	
Status of the course	Compulsory	
Year of study	1	
ECTS credits and manner of instruction	ECTS credits	7
	Number of class hours (L+P+S)	30+0+30

COURSE DESCRIPTION
1.1. Course objectives
The aim of the course is to prepare and train students for (independent) research in cognitive sciences by 1. introducing them to the diversity of methodological approaches and methods in cognitive sciences and 2. integrating steps in empirical research through specialized workshops.
1.2. Course enrolment requirements
Enrolment in the Masters programme; completed course 'Introduction to the Disciplines and Work in Cognitive Sciences'
1.3. Expected learning outcomes
1. to design experimental and non-experimental studies based on different research questions, 2. to select and conceptualise appropriate methods for planning and conducting a study, 3. to analyse and evaluate the implementation of correlational designs in cognitive sciences, 4. to apply and adapt assessment scales in cognitive sciences, 5. to apply psychophysiological measures for research in cognitive sciences, 6. to design cognitive experiments with reaction time as a dependent variable, 7. to analyse and interpret the results of an experiment with reaction time as a dependent variable, 8. to program a cognitive experiment using PsychoPy or OpenSesame, 9. to design and program online experiments, 10. to critically evaluate the use of online testing in cognitive sciences.
1.4. Course content
Non-experimental correlational designs, Mental chronometry (Donders' subtractive method, Sternberg's additive factors method, Methodological aspects of reaction time measurement), Programming cognitive experiments on a computer, e.g.: PsychoPy and OpenSesame, Online testing in cognitive sciences, Open Science tools for planning and designing empirical research

1.5. Manner of instruction		
	☒ lectures	☒ individual assignments
	☒ seminars and workshops	☒ multimedia and network
	☐ practicals	☐ laboratory
	☐ distance learning	☒ mentorship
	☐ fieldwork	☐ other _____

1.6. Student responsibilities

1.7. Monitoring of student work							
Class attendance	x	Class participation	x	Seminar paper	x	Experimental work	
Written exam		Oral exam		Essay		Research	
Projekt	x	Continous assessment		Report		Practical work	
Portfolio							

1.8. Assessment of learning outcomes in class and on the final exam
Students' work and learning outcomes will be evaluated and assessed during classes and through other stated activities. A detailed elaboration of monitoring and assessing students' work will be presented in the course syllabus.

1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course

Title	Number of copies	Number of students
Bermúdez, J. (2016). *Cognitive science: An introduction to the science of the mind* (2nd ed.). Cambridge University Press.	1	20
Shaughnessy, J. J., Zechmeister, E. B. i Zechmeister, J. S. (2012). *Research methods in psychology* (9th ed.). McGraw-Hill.	5	20
Farrell, S. i Lewandowsky, S. (2018). *Computational modeling of cognition and behavior*. Cambridge University Press.	1	20
Kline, R. B. (2008). *Becoming a behavioral science researcher: A Guide to producing research that matters*. The Guilford Press.	1	20
Stewart, N., Chadler, J., & Paolacci, G. (2017). Crowdsourcing samples in cognitive science. *Trends in cognitive sciences*, 21(10), 736-748. https://doi.org/10.1016/j.tics.2017.06.007		20

1.10. Additional literature		
Wagenmakers, E.-J. (2018). *Stevens' handbook of experimental psychology and cognitive neuroscience. Volume 5: Methodology* (4th ed.). John Wiley & Sons. Dienes, Z. (2008). *Understanding psychology as a science: An introduction to scientific and statistical inference*. Palgrave Macmillan. Sun, R. (2008). *The Cambridge handbook of computational psychology*. Cambridge University Press. Chmielewski, M. & Kucker, S.C. (2019). An MTurk crisis? Shifts in data quality and the impact on study results. *Social Psychological and Personality Science*, 11, 464-473. https://doi.org/10.1177/1948550619875149 Owens, J. & Hawkins, E.M. (2019). Using online labor market participants for nonprofessional investor research: a comparison of MTurk and Qualtrics samples. *Journal od Information Systems*, 33(1), 113-128. https://doi.org/10.2308/isys/52036		
1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies		
Evaluation will be carried out at the end of the course using an anonymous questionnaire examining the course/teaching/ teaching materials/interaction with students/adoption of content. Additionally, an informal discussion with students will take place at the end of the course and a formal discussion with student representatives will take place at the end of the semester during the Teaching Committee meeting.		

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GENERAL INFORMATION		
Course instructor	Doc. dr. sc. Ljerka Ostojić	
Name of the course	Rotation Project 2	
Study programme	Graduate study: Cognitive Sciences: Cognition and the Mind	
Status of the course	Compulsory	
Year of study	1	
ECTS credits and manner of instruction	ECTS credits	5
	Number of class hours (L+P+S)	3+0+19

COURSE DESCRIPTION

1.1. Course objectives

The aim of this course is to recognise the importance of early stages of research projects. To this end, students will choose one of the offered topics and plan and will, independently and with their supervisor, design a study. For empirical projects, this includes planning statistical analyses, but does not include data collection.

Thus, the rotation project has three functions:
1. to introduce students to different topics and areas of research of the lecturers involved in the study programme,
2. to introduce students to the research method of the selected project, and
3. to offer students the opportunity to apply of knowledge and skills from the 'Empirical Research Methods 2' and 'Ethics' courses as well as from the elective module 'Philosophy in cognitive sciences' in the 'Introduction to the Disciplines and Work in Cognitive Sciences' course to a specific research project.

1.2. Course enrolment requirements

Enrolment in the Masters programme; completed course 'Introduction to the Disciplines and Work in Cognitive Sciences'

1.3. Expected learning outcomes

1. to select and adapt the research design based on a research question,
2. to explain and argue the choice of research design based on a research question,
3. to critically evaluate possible claims based on a planned study,
4. to critically evaluate possible ways to increase the reproducibility and replicability of research (if relevant),
5. to plan and write a data management plan for a selected research question,
6. to critically evaluate ethical questions related to a selected research question,
7. to analyse possible ways to approach the above-mentioned ethical questions in practice.

1.4. Course content

Open Science; Data Management; replicability; ethical questions in cognitive science research

1.5. Manner of instruction		
	☒ lectures ☒ seminars and workshops ☐ practicals ☐ distance learning ☐ fieldwork	☒ individual assignments ☒ multimedia and network ☐ laboratory ☒ mentorship

		☒ other _____projektna nastava_____

1.6. Student responsibilities

1.7. Monitoring of student work

Class attendance	x	Class participation		Seminar paper	x	Experimental work	
Written exam		Oral exam		Essay		Research	
Projekt	x	Continous assessment		Report		Practical work	
Portfolio							

1.8. Assessment of learning outcomes in class and on the final exam

Students' work and learning outcomes will be evaluated and assessed during classes and through the seminar paper (project report). A detailed elaboration of monitoring and assessing students' work will be presented in the course syllabus.

1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course

Title	Number of copies	Number of students
Wilkinson, M., Dumontier, M., Aalbersberg, I. *et al.* (2016). The FAIR Guiding Principles for scientific data management and stewardship. *Scientific Data* 3, 160018		20
Gewin, V. (2016). Data sharing: An open mind on open data. *Nature*, *529*(7584), 117-119.		20
Stewart, N., Chandler, J., & Paolacci, G. (2017). Crowdsourcing samples in cognitive science. *Trends in cognitive sciences*, *21*(10), 736-748.		20
Crüwell, S., van Doorn, J., Etz, A., Makel, M. C., Moshontz, H., Niebaum, J. C., ... & Schulte-Mecklenbeck, M. (2019). Seven easy steps to open science. *Zeitschrift für Psychologie*.		20

1.10. Additional literature

Truong, N. B., Sun, K., Lee, G. M., & Guo, Y. (2019). Gdpr-compliant personal data management: A blockchain-based solution. *IEEE Transactions on Information Forensics and Security*, *15*, 1746-1761.

McLeod, J., & O'Connor, K. (2020). Ethics, archives and data sharing in qualitative research. *Educational Philosophy and Theory*, *53*(5), 523-535.

Gurevitch, J., Koricheva, J., Nakagawa, S., & Stewart, G. (2018). Meta-analysis and the science of research synthesis. *Nature*, *555*(7695), 175-182.

1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies
Evaluation will be carried out at the end of the course using an anonymous questionnaire examining the course/teaching/ teaching materials/interaction with students/adoption of content. Additionally, an informal discussion with students will take place at the end of the course and a formal discussion with student representatives will take place at the end of the semester during the Teaching Committee meeting.

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GENERAL INFORMATION		
Course instructor	Doc. dr. sc. Ljerka Ostojić, Doc. dr. sc. Sandra Arbula	
Name of the course	Preparation of Masters Thesis 1	
Study programme	Graduate study: Cognitive Sciences: Cognition and the Mind	
Status of the course	Compulsory	
Year of study	2	
ECTS credits and manner of instruction	ECTS credits	20
	Number of class hours (L+P+S)	

COURSE DESCRIPTION

1.1. Course objectives

The objective of the course is to teach the planning and execution of independent research and the presentation of the conducted work in a poster.

1.2. Course enrolment requirements

Enrolment in the Masters programme; completed course 'Introduction to the Disciplines and Work in Cognitive Sciences,' all compulsory courses from the first year completed

1.3. Expected learning outcomes

1. Select a research question for independent research
2. For empirical projects: design the research according to the research question
3. For theoretical projects: select the appropriate research methods
4. Critically assess the possibilities of inference based on the planned thesis projet
5. Conceptualize and develop the presentation of the conducted research for poster dissemination

1.4. Course content

Planning and design of a thesis.

1.5. Manner of instruction		
	☐ lectures	☐ individual assignments
	☐ seminars and workshops	☐ multimedia and network
	☐ practicals	☐ laboratory
	☐ distance learning	☒ mentorship
	☐ fieldwork	☐ other _____

1.6. Student responsibilities

1.7. Monitoring of student work

Class attendance		Class participation		Seminar paper		Experimental work	
Written exam		Oral exam		Essay		Research	
Projekt		Continous assessment		Report		Practical work	

Portfolio		Poster prezentacija	x				

1.8. Assessment of learning outcomes in class and on the final exam

Students are awarded ECTS credits for this course if the supervisors confirm that the students conducted their thesis projects and that they have adequately presented their thesis with a poster presentation.

1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course

Title	Number of copies	Number of students
Literature depends on the topic of the student's research.		20

1.10. Additional literature

1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies

Students regularly meet with their supervisor, co-supervisor and adviser.

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GENERAL INFORMATION		
Course instructor	doc. dr. sc. Ljerka Ostojić, doc. dr. sc Edward Legg	
Name of the course	Journal Club 1	
Study programme	Graduate study: Cognitive Sciences: Cognition and the Mind	
Status of the course	Compulsory	
Year of study	2	
ECTS credits and manner of instruction	ECTS credits	2
	Number of class hours (L+P+S)	0+0+8

COURSE DESCRIPTION

1.1. Course objectives

The aim of the course is to introduce students to the style of seminars known as 'journal clubs' with the primary purpose of presenting and discussing current literature.

Note 1: This course has a second part that is offered in the fourth semester (Journal Club 2). Both courses have the same objective and expected learning outcomes, while their content and literature will depend on the studies and topics selected by the students. Together, these two courses allow a continuous, regular and active dealing with contemporary research in cognitive sciences.

Note 2: The "Journal club 1 and 2" courses are conceptualised to fit the mobility period offered to students in their third or fourth semester. They are compatible with journal clubs organised by research groups, Departmental or other seminars at potential host institutions. To ensure the maximum flexibility for students, a special committee will work out an individual plan with each student taking part in the mobility programme.

1.2. Course enrolment requirements

Enrolment in the Masters programme; completed course 'Introduction to the Disciplines and Work in Cognitive Sciences', all compulsory courses from the first year completed

1.3. Expected learning outcomes

1. to present literature (e.g., an article) in a concise form to an audience of scientists with different experiences,
2. to critically evaluate and discuss methods, claims and possible impact of research.

1.4. Course content

Short presentations of articles in cognitive sciences selected by students with subsequent discussion.

1.5. Manner of instruction		
	☐ lectures	☒ individual assignments
	☒ seminars and workshops	☐ multimedia and network
	☐ practicals	☐ laboratory
	☐ distance learning	☒ mentorship
	☐ fieldwork	☐ other _____

1.6. Student responsibilities

Students are required to participate in journal clubs. During the second year of study, each student is required to select and present a topic in one journal club. If for some reason (e.g., justified absence of

the student) it is not possible to give the presentation, the lecturer and student will agree on a different form of student contribution in order for the student to receive a positive grade. As it is not possible for every student to give the presentation in the same semester, lecturers will adjust the programme of the 'Journal Club 1' and 'Journal Club 2' courses.
1.7. Monitoring of student work

Class attendance	x	Class participation	x	Seminar paper		Experimental work	
Written exam		Oral exam		Essay		Research	
Projekt		Continous assessment		Report		Practical work	
Portfolio							

1.8. Assessment of learning outcomes in class and on the final exam
Students will obtain a positive grade for the course if they have presented (or made an equivalent contribution in situations where presentation was not possible) in one journal club, or if their presentation is planned during the course "Journal Club 2", and if they actively participate in discussions.
1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course

Title	Number of copies	Number of students
Articles and texts selected by students.		20

1.10. Additional literature
1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies
Evaluation will be carried out at the end of the course using an anonymous questionnaire examining the course/teaching/ teaching materials/interaction with students/adoption of content.

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GENERAL INFORMATION		
Course instructor	Dr. sc. Ljerka Ostojić	
Name of the course	**Science Communication 1**	
Study programme	Graduate study: Cognitive Sciences: Cognition and the Mind	
Status of the course	Compulsory	
Year of study	2	
ECTS credits and manner of instruction	ECTS credits	4
	Number of class hours (L+P+S)	3+0+14

COURSE DESCRIPTION
1.1. Course objectives
The aim of the course is to encourage and train students to plan and develop different ways of communicating science. To this end, students will plan a science communication project related to their Masters thesis. Note : The course is conceptualised to fit the mobility period offered to students in their third or fourth semester. It is compatible with potential projects or courses in science communication at potential host institutions. There is also the possibility of hybrid mentoring and teaching. To ensure the maximum flexibility for students, a special committee will work out an individual plan with each student taking part in the mobility programme.
1.2. Course enrolment requirements
Enrolment in the Masters programme; completed course 'Introduction to the Disciplines and Work in Cognitive Sciences', all compulsory courses from the first year completed
1.3. Expected learning outcomes
1. to conceptualise different science communication ideas and adapt them to the topic of a research project, 2. to create a plan for a science communication project according to a selected topic, 3. to critically evaluate the benefits and possible problems in science communication in general and for specific projects.
1.4. Course content
Science communication; Citizen science (Community science); science communication tools; social media

1.5. Manner of instruction	☒ lectures ☒ seminars and workshops ☒ practicals ☒ distance learning ☒ fieldwork	☒ individual assignments ☒ multimedia and network ☐ laboratory ☒ mentorship ☒ other ____projektna nastava_____

1.6. Student responsibilities
1.7. Monitoring of student work

Class attendance	x	Class participation	x	Seminar paper		Experimental work	
Written exam		Oral exam		Essay		Research	
Projekt	x	Continous assessment		Report		Practical work	
Portfolio							

1.8. Assessment of learning outcomes in class and on the final exam

Students' work and learning outcomes will be evaluated and assessed during classes and through creation of a project plan (project report). A detailed elaboration of monitoring and assessing students' work will be presented in the course syllabus.

1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course

Title	Number of copies	Number of students
Burns, T.W., O'Connor, D.J., & Stocklmayer, S.M. (2003). Science communication: A contemporary definition. *Public Understanding of Science*, 12, 183. https://doi.org/10.1177/0963662503012204		20

1.10. Additional literature

Fishhoff, B. (2019). Evaluating science communication. *Proceedings of the National Academy of Science*, 116(16), 7670-7675. https://doi.org/10.1073/pnas.1805863115

Welbourne, D.J. & Grant, W.J. (2015). Science communication on YouTube: factors that affect channel and video popularity. *Public Understanding of Science*, 25(6), 706-718. https://doi.org/10.1177/0963662515572068

McCartney, M., Childers, C., Baiduc, R.R., & Barnicle, K. (2018). Annotated Primary Literature: A Professional Development Opportunity in Science Communication for Graduate Students and Postdocs. *Journal of Microbiology & Biology Education*, 19(1), 19.1.24. https://dx.doi.org/10.1128%2Fjmbe.v19i1.1439

National Academies of Sciences, Engineering, and Medicine (2017). *Communicating science effectively: a research agenda.* Washington, DC: National Academies Press (US)

Bubela, T., Nisbet, M.C., Borchelt, R., Brunger, F., Critchley, C., Einsiedel, E., Geller, G., Gupta, A., Hampel, J., Hyde-Lay, R., Jandciu, E.W., Jones S.A., Kolopack, P., Lane, S., Lougheed, T., Nelich, B., Ogbogu, U., O'Riordan, K., Ouellette, C., Spear, M., Strauss, S., Thavaratnam, T., Willemse, L., & Caulfield, T. (2009). Science communication revisited. *Nature Biotechnology*, 27(6), 514-518.

1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies

Evaluation will be carried out at the end of the course using an anonymous questionnaire examining the course/teaching/ teaching materials/interaction with students/adoption of content.

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GENERAL INFORMATION		
Course instructor	Doc. dr. sc. Ljerka Ostojić, doc. dr. sc. Sandra Arbula	
Name of the course	Preparation of Masters Thesis 2	
Study programme	Graduate study: Cognitive Sciences: Cognition and the Mind	
Status of the course	Compulsory	
Year of study	2	
ECTS credits and manner of instruction	ECTS credits	20
	Number of class hours (L+P+S)	

COURSE DESCRIPTION
1.1. Course objectives
The objective of the course is conducting independent research and the oral presentation of the thesis.
1.2. Course enrolment requirements
Enrolment in the Masters programme; completed course 'Introduction to the Disciplines and Work in Cognitive Sciences,' all compulsory courses from the first year completed
1.3. Expected learning outcomes
1. for empirical projects, conduct data collection 2. for empirical projects, analyze and interpreted the collected data 3. for theoretical projects, the implementation of planned methods 4. put the conducted research into writing 5. design and execute the oral presentation of conducted work
1.4. Course content
Developing the thesis

1.5. Manner of instruction		
	☐ lectures	☐ individual assignments
	☒ seminars and workshops	☐ multimedia and network
	☐ practicals	☐ laboratory
	☐ distance learning	☒ mentorship
	☐ fieldwork	☐ other _____

1.6. Student responsibilities

1.7. Monitoring of student work							
Class attendance		Class participation		Seminar paper		Experimental work	
Written exam		Oral exam		Essay		Research	
Projekt		Continous assessment		Report		Practical work	

Portfolio		Obrana diplomskog rada	x				

1.8. Assessment of learning outcomes in class and on the final exam

The work of the student and the learning outcomes will be evaluated during thesis defense.

1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course

Title	Number of copies	Number of students
The literature depends on the topic of the thesis		20

1.10. Additional literature

1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies

Students regularly meet with supervisor, co-supervisor, and adviser.

uniri

GENERAL INFORMATION		
Course instructor	Doc. dr. sc. Ljerka Ostojić, doc. dr. sc. Edward Legg	
Name of the course	Journal Club 2	
Study programme	Graduate study: Cognitive Sciences: Cognition and the Mind	
Status of the course	Compulsory	
Year of study	2	
ECTS credits and manner of instruction	ECTS credits	2
	Number of class hours (L+P+S)	0+0+8

COURSE DESCRIPTION

1.1. Course objectives

The aim of the course is to introduce students to the style of seminars known as 'journal club', with the primary purpose of presenting and discussing current literature.

Note 1: This course has a first part that is offered in the third semester (Journal Club 1). It is not necessary to have completed the "Journal Club 1" course to enrol in this course (see note about mobility). Both courses have the same objective and expected learning outcomes, while their content and literature will depend on the studies and topics selected by the students. Together, these two courses allow a continuous, regular and active dealing with contemporary research in cognitive sciences.

Note 2: The "Journal club 1 and 2" courses are conceptualised to fit the mobility period offered to students in their third or fourth semester. They are compatible with journal clubs organised by research groups, Departmental or other seminars at potential host institutions. To ensure the maximum flexibility for students, a special committee will work out an individual plan with each student taking part in the mobility programme.

1.2. Course enrolment requirements

Enrolment in the Masters programme; completed course 'Introduction to the Disciplines and Work in Cognitive Sciences', all compulsory courses from the first year completed

1.3. Expected learning outcomes

1. to present literature (e.g., an article) in a concise form to an audience of scientists with different experiences,
2. to critically evaluate and discuss methods, claims and possible impact of research.

1.4. Course content

Short presentations of articles in cognitive sciences selected by students with subsequent discussion.

1.5. Manner of instruction		
	☐ lectures	☒ individual assignments
	☒ seminars and workshops	☐ multimedia and network
	☐ practicals	☐ laboratory
	☐ distance learning	☒ mentorship
	☐ fieldwork	☐ other _____

1.6. Student responsibilities

Students are required to participate in journal clubs. During the second year of study, each student is required to select and present a topic in one journal club. If for some reason (e.g., justified absence of the student) it is not possible to give the presentation, the lecturer and student will agree on a different form of student contribution in order for the student to obtain a positive grade. As it is not possible for each student to give the presentation in the same semester, lecturers will adjust the programme of the courses 'Journal Club 1' and 'Journal Club 2'.
1.7. Monitoring of student work

Class attendance	x	Class participation	x	Seminar paper		Experimental work	
Written exam		Oral exam		Essay		Research	
Projekt		Continous assessment		Report		Practical work	
Portfolio							

1.8. Assessment of learning outcomes in class and on the final exam
Students will obtain a positive grade for the course if they present (or make an equivalent contribution in situations where presentation was not possible) in one journal club, or if they did a presentation during the course 'Journal Club 1', and if they actively participate in discussions.
1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course

Title	Number of copies	Number of students
Articles and texts selected by students		20

1.10. Additional literature
1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies
Evaluation will be carried out at the end of the course using an anonymous questionnaire examining the course/teaching/ teaching materials/interaction with students/adoption of content.

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GENERAL INFORMATION		
Course instructor	Dr. sc. Ljerka Ostojić	
Name of the course	Science Communication 2	
Study programme	Graduate study: Cognitive Sciences: Cognition and the Mind	
Status of the course	Compulsory	
Year of study	2	
ECTS credits and manner of instruction	ECTS credits	4
	Number of class hours (L+P+S)	3+0+14

COURSE DESCRIPTION
1.1. Course objectives
The aim of the course is to carry out a science communication project related to the Masters thesis. Note: The course is conceptualised to fit the mobility period offered to students in their third or fourth semester. It is compatible with potential projects or courses in science communication at potential host institutions. There is also the possibility of hybrid mentoring and teaching. To ensure the maximum flexibility for students, a special committee will work out an individual plan with each student taking part in the mobility programme.
1.2. Course enrolment requirements
Enrolment in the Masters programme; completed course 'Introduction to the Disciplines and Work in Cognitive Sciences', all compulsory courses from the first year completed
1.3. Expected learning outcomes
1. to adapt the content and manner of presentation to a target audience, 2. to make a presentation and materials in line with the target audience
1.4. Course content
Oral and written presentations, digital presentation tools, social media, multimedia, self-assessment of presentation and project, project management

1.5. Manner of instruction		
	☒ lectures	☒ individual assignments
	☒ seminars and workshops	☒ multimedia and network
	☒ practicals	☐ laboratory
	☒ distance learning	☒ mentorship
	☒ fieldwork	☐ other _____

1.6. Student responsibilities
To regularly attend classes and actively participate in seminars. To carry out a science communication project planned during the course 'Science Communication 1'.
1.7. Monitoring of student work

Class attendance	x	Class participation	x	Seminar paper		Experimental work	
Written exam		Oral exam		Essay		Research	

Projekt	x	Continous assessment		Report		Practical work	
Portfolio							

1.8. Assessment of learning outcomes in class and on the final exam
Students' work and learning outcomes will be evaluated and assessed during, through a realized project and final report (seminar paper). A detailed elaboration of monitoring and assessing students' work will be presented in the course syllabus.

1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course		
Title	Number of copies	Number of students

1.10. Additional literature

1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies
Evaluation will be carried out continuously during classes and at the end of the course using an anonymous questionnaire examining the course/teaching/ teaching materials/interaction with students/adoption of content.

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GENERAL INFORMATION		
Course instructor	Dr. sc. Ljerka Ostojić	
Name of the course	Professional Development	
Study programme	Graduate study: Cognitive Sciences: Cognition and the Mind	
Status of the course	Compulsory	
Year of study	2	
ECTS credits and manner of instruction	ECTS credits	
	Number of class hours (L+P+S)	0+0+12

COURSE DESCRIPTION

1.1. Course objectives

The aim of the course is to familiarise students with different professional development tools and assist them in developing tools that may be useful for their future careers.

Note: The course is conceptualised to fit the mobility period offered to students in their third or fourth semester. It is compatible with potential professional development courses or workshops at potential host institutions. There is also the possibility of hybrid mentoring and teaching. To ensure the maximum flexibility for students, a special committee will work out an individual plan with each student taking part in the mobility programme.

1.2. Course enrolment requirements

Enrolment in the Masters programme; completed course 'Introduction to the Disciplines and Work in Cognitive Sciences', all compulsory courses from the first year completed

1.3. Expected learning outcomes

1. to write a CV and adapt it for different situations (applying for a doctorate, applying for other jobs within the academic environment, applying for jobs in industry),
2. effectively use social networks and other online platforms for professional development and professional visibility.
3. effectively plan the next steps in one's own professional work.
4. prepare questions for people working in the field they are interested in.

1.4. Course content

1.5. Manner of instruction		
	☒ lectures	☒ individual assignments
	☒ seminars and workshops	☒ multimedia and network
	☒ practicals	☐ laboratory
	☒ distance learning	☒ mentorship
	☐ fieldwork	☐ other _____

1.6. Student responsibilities

1.7. Monitoring of student work

Class attendance	x	Class participation	x	Seminar paper		Experimental work	
Written exam		Oral exam		Essay		Research	
Projekt		Continous assessment		Report		Practical work	
Portfolio							

1.8. Assessment of learning outcomes in class and on the final exam

Student work will be assessed positively (pass) if students participate in at least two assignments during classes.

1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course

Title	Number of copies	Number of students
Mohammadi, E., Thelwall, M., Kwasny, M., & Holmes, K.L. (2018). Academic information on Twitter: A user survey. *PLoS ONE,* 13(5), e0197265. https://doi.org/10.1371/journal.pone.0917265		20

1.10. Additional literature

1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies

Evaluation will be carried out continuously during classes and at the end of the course using an anonymous questionnaire examining the course/teaching/ teaching materials/interaction with students/adoption of content.

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GENERAL INFORMATION		
Course instructor	Doc. dr. sc. Ljerka Ostojić, Doc. dr. sc. Zdenka Brzović, Doc. dr. sc. Edward Legg, doc. dr. sc. Sandra Arbula	
Name of the course	Elective Modules in Cognitive Sciences	
Study programme	Graduate study: Cognitive Sciences: Cognition and the Mind	
Status of the course	Izborni	
Year of study	1, 2	
ECTS credits and manner of instruction	ECTS credits	3
	Number of class hours (L+P+S)	10+0+10

COURSE DESCRIPTION

1.1. Course objectives

The goal of the course is to introduce students to various fields of work and study within the cognitive sciences from a disciplinary, multidisciplinary and interdisciplinary perspective.

1.2. Course enrolment requirements

Enrolment in the Masters programme; completed course 'Introduction to the Disciplines and Work in Cognitive Sciences'.

1.3. Expected learning outcomes

Izborni ishodi učenja (zavisno o upisanim modulima):

Current Issues in Empirical Cognitive Sciences:

- to describe and analyze current topics in metascience from various perspectives
- to critically evaluate the work of metascientists

Cognitive and neural modelling:

- to describe and compare different approaches to modelling cognitive processes,
- to analyze cognitive processes as neural mechanisms
- to independently study recent literature in cognitive and neural modelling

Artificial intelligence and cognition:

- to evaluate the use of artificial intelligence in the research of the mind and cognition,
- to identify and analyze barriers and challenges in artificial intelligence,
- to independently study recent literature in artificial intelligence

Developing Minds:

- to identify the main topics of discussion within the research field of the development of cognition
- to evaluate the use and challenges of different empirical approaches in the development of cognition
- to critically evaluate the results of empirical research about the development of cognition and the relationship of such research with developmental theories
- to discuss selected topics within developmental psychology

Evolution of Cognition: Brain and Behaviour

- to describe and analyze contemporary topics and recent research in evolution of cognition
- to critically evaluate methods and conclusions of recent research in evolution of cognition

Scientific Writing and Reviewing:

- to write on the same topic in different ways, depending on where the text is expected to be published,
- to structure a scientific text according to where the text is expected to be published,
- to recognise how to rearrange the text when a change in the main structure is needed, e.g., because there is a change in the place where the paper is sent for review,
- to analyse potential challenges and benefits of working with multiple co-authors,
- to integrate the above-mentioned challenges and benefits in decision-making on co-authorship and organisation of work,
- to analyse and evaluate others' comments on the text, and how and when to integrate them into new versions,
- to analyse and evaluate the usefulness of own comments on others' writing, and how to structure own comments,
- to formulate constructive comments and feedback in the role of a reviewer.

Cognitive linguistics:

- to analyse basic terminology and theoretical assumptions in cognitive linguistics,
- to interpret linguistic phenomena (of English but also other languages familiar to the students),
- to interpret differences between languages regarding terminology and principles of cognitive linguistics,
- to compare differences between languages with universally operational elements and processes of the human mind and human language competencies,
- to summarise and evaluate research in cognitive linguistics,
- to discuss approaches and projects in cognitive linguistics.

Social Cognition: What do we know about others' minds?

- to describe and analyse current topics and recent studies in social cognition research,
- to critically evaluate methods and claims of social cognition studies.

Introduction to Individual Differences:

- to describe and critically evaluate components of personality psychology, such as: personality traits, personality types, personality processes, interaction between hereditary and environmental factors, interaction between personality and situations,
- to explain the historical context and causes of fundamental personality theory development,
- to evaluate the basics of biological, psychodynamic, neo-analytic and cognitive approaches to personality,
- to evaluate dimensional and factor-analytic approaches to personality,
- to assess the compatibility of different personality theories,
- to use the insights from psychodynamic, cognitive, biological and dimensional theories when analysing various topics in the field of humanities and social sciences, but also in understanding everyday life and professional situations,

- to critically analyse and discuss scientific and popular-scientific literature on individual differences.

Open Science and Its Tools:

- to analyse the challenges and benefits of Open Science approaches and tools,
- to apply and adapt various Open Science tools to own research,
- to discuss benefits and suitability of various tools for different research,
- to discuss and make informed decisions about using Open Science approaches and tools in own work.

Philosophy of Science:

- to explain recent discussions within contemporary philosophy of science,
- to defend different philosophical positions within discussions on contemporary philosophy of science.

Foundations and Current Topics in Philosophy of Mind:

- to describe the development of the debate on the relationship between the mind and the body from René Descartes to contemporary functionalism,
- to explain the physicalist/materialist foundations of contemporary approaches to research of the mind,
- to distinguish types of physicalism,
- to analyse the most important arguments against physicalism, especially those based on the hard problem of consciousness,
- to analyse the role of thought experiments in science,
- to evaluate and use deductive arguments in research on the mind.

Introduction to Philosophy of Psychology and Neuroscience:

- to explain the discrepancies between folk psychology and scientific concepts from psychology and neuroscience,
- to explain and evaluate the role of philosophy of psychology in integrating philosophical, psychological and neuroscientific approaches to the research of the human mind (the interface problem),
- to apply the interface problem to a practical case study,
- to discuss the interface problem.

1.4. Course content		
Recent topics from the module and their extensions.		
1.5. Manner of instruction	☒ lectures ☒ seminars and workshops ☐ practicals ☒ distance learning ☐ fieldwork	☒ individual assignments ☒ multimedia and network ☐ laboratory ☒ mentorship ☐ other _____
1.6. Student responsibilities		
1.7. Monitoring of student work		

Class attendance	x	Class participation	x	Seminar paper		Experimental work	
Written exam		Oral exam		Essay		Research	
Projekt	x	Continous assessment		Report		Practical work	
Portfolio							

1.8. Assessment of learning outcomes in class and on the final exam

Students' work and learning outcomes will be evaluated and assessed during classes. A detailed elaboration of monitoring assessing students' work will be presented in the course syllabus.

1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course

Title	Number of copies	Number of students
Recent literature from the module area		

1.10. Additional literature

1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies

Continuous monitoring of students' progress by the lecturer, anonymous survey evaluating the course and joint discussion at the end of the course.

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GENERAL INFORMATION		
Course instructor	Izv. prof. dr. sc. Irena Vodopija-Krstanović	
Name of the course	Academic English	
Study programme	Graduate study: Cognitive Sciences: Cognition and the Mind	
Status of the course	Elective	
Year of study	1	
ECTS credits and manner of instruction	ECTS credits	3
	Number of class hours (L+P+S)	10+0+10

COURSE DESCRIPTION

1.1. Course objectives

The aim of the course is to enable students to use English in an academic environment in all areas an academic environment: reading, writing, listening and speaking.

1.2. Course enrolment requirements

Enrolment in the Masters programme.

1.3. Expected learning outcomes

1. to independently read technical and scientific literature,
2. to listen to lectures and talks and take notes,
3. to present their own arguments,
4. to prepare and orally present technical and scientific topics,
5. to plan and write a structured text,
6. to summarise and critically evaluate written academic texts,
7. to paraphrase texts,
8. to use academic discourse,
9. to reflect on their own skills, recognise areas for improvements and identify useful resources.

1.4. Course content

Listening for academic purposes: listening to lectures and seminars, note taking. Reading for academic purposes: understanding academic texts, use of reading strategies, critical reading, summarising of arguments. Writing for academic purposes: planning and organising (structuring) of texts, argumentation, paraphrasing, argument synthesis, academic discourse. Speaking for academic purposes: argumentation, group discussion, presentation, academic discourse.

1.5. Manner of instruction		
	☒ lectures	☒ individual assignments
	☒ seminars and workshops	☒ multimedia and network
	☐ practicals	☐ laboratory
	☐ distance learning	☒ mentorship
	☐ fieldwork	☐ other _____

1.6. Student responsibilities

To regularly attend classes, to complete tasks and actively participate in seminars.

1.7. Monitoring of student work

Class attendance	x	Class participation	x	Seminar paper		Experimental work	
Written exam		Oral exam		Essay		Research	
Projekt		Continous assessment		Report		Practical work	
Portfolio							

1.8. Assessment of learning outcomes in class and on the final exam

The learning outcomes will be formatively assessed during the course.

1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course

Title	Number of copies	Number of students
Moore, J. (2017) *Oxford Academic Vocabulary Practice: Upper-intermediate.* Oxford University Press.	1	20
Swales, J. M., Feak, C. (2012) *Academic Writing for Graduate Students: Essential Tasks and Skills*. Michigan: University of Michigan.	1	20
McCarthy, P., Hatcher, C. (2002) *Presentation Skills: Essential Guide for Students*: New Delhi: Sage Publications	1	20

1.10. Additional literature

1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies

Continuous monitoring of students' progress by the lecturer, anonymous survey evaluating the course and joint discussion at the end of the course.

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GENERAL INFORMATION		
Course instructor	Doc. dr. sc. Petra Anić, Doc. dr. sc. Marko Tončić, doc. dr. sc. Sandra Arbula	
Name of the course	Advanced Statistical Methods	
Study programme	Graduate study: Cognitive Sciences: Cognition and the Mind	
Status of the course	Elective	
Year of study	2	
ECTS credits and manner of instruction	ECTS credits	3
	Number of class hours (L+P+S)	5+15+0

COURSE DESCRIPTION

1.1. Course objectives

The objective of the course is to enable students to use advanced statistical methods if so is required by their thesis.

1.2. Course enrolment requirements

Enrolment in the Masters programme; completed course 'Introduction to the Disciplines and Work in Cognitive Sciences'

1.3. Expected learning outcomes

1. to use specific complex statistical methods that are relevant to a chosen research area,
2. to assess the adequacy of different statistical methods for the selected research area.
3. to apply the basic methods of structural equation modelling (PATH, SEM),
4. to explain and interpret the results of hierarchical linear modelling

1.4. Course content

The course content will be adapted to the needs of students and their master theses.

1.5. Manner of instruction		
	☒ lectures	☒ individual assignments
	☒ seminars and workshops	☐ multimedia and network
	☐ practicals	☐ laboratory
	☐ distance learning	☒ mentorship
	☐ fieldwork	☐ other _____

1.6. Student responsibilities

1.7. Monitoring of student work

Class attendance	x	Class participation	x	Seminar paper		Experimental work	
Written exam		Oral exam		Essay		Research	
Projekt		Continous assessment		Report		Practical work	
Portfolio							

1.8. Assessment of learning outcomes in class and on the final exam

Students' work and learning outcomes will be evaluated and assessed through class participation.		
1.9. Mandatory literature and number of copies in relation to the number of students who are currently attending the course		
Title	Number of copies	Number of students
Crawley, M.J. (2007). *The R book*. John Wiley & Sons	1	20
McElreath, R. (2020). *Statistical rethinking: A Bayesian course with examples in R and Stan*. CRC press.	1	20
1.10. Additional literature		
1.11. Quality assessment ensuring acquisition of learning outcomes, skills and competencies		
Continuous monitoring of students' progress by the lecturer, anonymous survey evaluating the course and joint discussion at the end of the course.		