SVEUČILIŠTE U RIJECI
Filozofski fakultet

Sveučilišna avenija 4
51 000 Rijeka

Division of Cognitive Sciences

Masters in Cognitive Sciences:

Cognition and the Mind

SYLLABUSES

Winter and Summer Semester

Academic Year 2024/2025

Rijeka, September 2024

LIST OF COURSES IN THE FIRST SEMESTER

Mandatory courses

Introduction to the Disciplines and Work in Cognitive Sciences

Interdisciplinary Modules in Cognitive Sciences 1

Statistics

Empirical Research Methods 1

Rotation project 1

Elective courses

Elective Modules in Cognitive Sciences

NOTE: Each student is required to choose 3 ECTS points from the modules offered in the course *Elective Modules in Cognitive Sciences* and/or *Communis* courses provided they are held in English.

LIST OF COURSES IN THE SECOND SEMESTER

Mandatory courses

Interdisciplinary Modules in Cognitive Sciences 2

Ethics

Empirical Research Methods 2

Rotation project 2

Elective courses

Elective Modules in Cognitive Sciences

NOTE: Each student is required to choose 3 ECTS points from the modules offered in the course *Elective Modules in Cognitive Sciences* and/or *Communis* courses provided they are held in English.

LIST OF COURSES IN THE THIRD SEMESTER

Mandatory courses

Preparation of Masters Thesis 1

Science Communication 1

Journal Club 1

Elective courses

Elective Modules in Cognitive Sciences

NOTE: Each student is required to choose 3 ECTS points from the modules offered in the course *Elective Modules in Cognitive Sciences* and/or *Communis* courses provided they are held in English.

LIST OF COURSES IN THE FOURTH SEMESTER

Mandatory courses

Preparation of Masters Thesis 2

Science Communication 2

Journal Club 2

Professional Development

Elective courses

Elective Modules in Cognitive Sciences

NOTE: Each student is required to choose 3 ECTS points from the modules offered in the course *Elective Modules in Cognitive Sciences* and/or *Communis* courses provided they are held in English.

SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Introduction to the Disciplines and Work in Cognitive Sciences
Study programme	Masters in Cognitive Sciences: Cognition and the Mind
Semester	1st
Academic year	2024/2025
ECTS credits	7
Contact hours **(Lectures + Seminars + Practical work)**	48+48+0
Time and venue of classes	TBC
Language of instruction	English
Course organisers	Prof. Igor Bajšanski, Prof. Luca Malatesti, Dr. Ljerka Ostojić, Dr. Edward Legg
Course instructors	**Contact details**
Dr. Sandra Arbula	Email: saarbul@sissa.it (external collaborator)
Dr. Zdenka Brzović	Email: zdenka@ffri.uniri.hr, Phone: 051/265-795, Office: F-413, Office hours: TBA
Dr. Ivan Flis	Email: ivan.flis@uniri.hr, Office: F-121, Office hours: TBA
Dr. Edward Legg	Email: edward.legg@uniri.hr, Phone: 051/699-217, Office: F-344, Office hours: TBA
Prof. Luca Malatesti	Email: lmalatesti@ffri.uniri.hr, Phone: 051/265-650, Office: F-422, Office hours: TBA
Dr. Ljerka Ostojić	Email: lj.ostojic@uniri.hr, Phone: 051/699-217, Office: F-344, Office hours: TBA
Dr. Matia Torbarina	Email: matia.torbarina@efri.uniri.hr (external collaborator)

I. DETAILED COURSE DESCRIPTION

COURSE OVERVIEW

This is an intensive, introductory course that runs over the first 6 weeks in the first semester.
The course has three objectives: i) to introduce you to the work in cognitive sciences, ii) to enable you to complement your knowledge from your undergraduate training, and iii) to introduce you to the different ways of learning and teaching involved in the Masters programme.

This course is divided into a compulsory component, an elective module (you choose one out of two modules), and elective elements (you choose two out of four elements). At the beginning of the course, our First Year Tutor will help you figure out how to choose the elective parts of the course.

EXPECTED LEARNING OUTCOMES

Compulsory learning outcomes:

- describe and analyse disciplines and areas within cognitive sciences,
- compare different approaches and methods within cognitive sciences,
- analyse concepts connecting different disciplines.

Elective learning outcomes:
Module „Introduction to empirical cognitive sciences":

- visualise and use descriptors for specific data distributions,
- describe and visualise relationships between a set of variables,
- describe the foundations of empirical research in cognitive sciences.

Module „Introduction to philosophy of cognitive sciences ":

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

Elective elements:

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

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')

Lectures	Seminars	Practical work	Independent work
x	x		x
Fieldwork	**Laboratory work**	**Mentoring**	**Other**
x		x	

II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
Class attendance	3.2	
Class Participation	3.8	N/A
TOTAL	7	N/A

This course is not graded. However, students must actively participate in this course to be able to progress to the other courses that follow this introductory course.

This course is the prerequisite for enrolling in all other courses in the study programme.

Class participation: Lectures will have interactive elements and seminars may involve reading of literature, discussions, short writing assignments, short presentations.

III. READING

MANDATORY READING

- Shaughnessy, J.J., Zechmeister, E.B. & Zechmeister, J.S. (2012). *Research methods in psychology* (9th ed.). McGraw-Hill. Weiskopf, D.A., & Adams. F. (2015). *An introduction to the philosophy of psychology.* Cambridge University Press. [Selected chapters].
- Fosl, P.S., & Baggini, J. (2020). *The philosopher's toolkit: A compendium of philosophical concepts and methods.*
- Martinich, A. (2001). *Philosophical writing: An introduction (3rd ed.)* Blackwell.
- Bear, F.M., Connor, B.W., & Paradiso, M.A. (2016). *Neuroscience exploring the brain*. Philadelphia: Wolters

Kluwer.
- Kolb,B. & Whishaw, I.Q. (2003). *Fundamentals of Human Neuropsychology*. New York: W.H. Freeman and Company.
- Field, A., Miles., & Field, Z. (2012). *Discovering Statistics Using R*. Sage Publications.
- King, B.M., Rosopa, P.J., & Minium, E.W. (2011). *Statistical Reasoning in the Behavioral Sciences* (6th ed.) John Wiley & Sons, Inc.
- Olmstead, M.C. & Kuhlmeier, V. (2015). *Comparative cognition.* Cambridge University Press.
- Heyes, C. (2012). Simple minds: a qualified defence of associative learning. *Proceedings of the Royal Society B*, 367, 2697-2703. https://doi.org/10.1098/rstb.2012.0217
- Andrews, K. (2020). *How to study animal minds.* Cambridge: Cambridge University Press. https://doi.org/10.1017/9781108616522
- Miller, G.A. (2003). The cognitive revolution: a historical perspective. *Trends in Cognitive Sciences*, 7(3), 141-144. https://doi.org/10.1016/S1364-6613(03)00029-9
- Greenwood, J.D. (1999). Understanding the "cognitive revolution" in psychology. *Journal of the History of the Behavioral Sciences*, 35(1), 1-22. https://doi.org/10.1002/(SICI)1520-6606(199924)35:1<1::AID-JHBS1>3.0.CO;2-4
- Cohen-Cole, J. (2014). *The open mind: Cold War politics and the sciences of human nature*. University of Chicago.
- Eysenck, M.W. & Keane, M.T. (2007). Psychology Press.
- Okasha, Samir (2004). *Philosophy of Science: A Very Short Introduction*. Oxford University Press.
- Kitcher, P. & Barker, G. (2014). *Philosophy of Science: A New Introduction*. Oxford University Press.
- Godfrey-Smith, Peter (2003). *Theory and Reality: An Introduction to the Philosophy of Science*. Chicago University Press.

RECOMMENDED FURTHER READING

- Bermudez, J. L. ed. (2006). *Philosophy of psychology: contemporary readings*. New York and London: Routledge.
- Weiskopf, D. and Adams, F. (2015). *An introduction to the philosophy of psychology*. Cambridge: Cambridge University Press
- Borsboom, D. (2005). *Measuring the mind: conceptual issues in contemporary psychometrics*. Cambridge: Cambridge University Press.
- Crane, T. 2001. *The Elements of Mind: An Introduction to the Philosophy of Mind*. Oxford: Oxford University Press. (str. 34-58).
- Okasha, S. (2019). *Philosophy of Biology: A Very Short Introduction*. Oxford University Press.
- Godfrey-Smith, P. (2014). *Philosophy of Biology*. Princeton University Press.
- Shettleworth, S. J. (2009). *Cognition, evolution, and behavior*. Oxford University Press.
- Pearce, J. M. (2013). *Animal learning and cognition: An introduction*. Psychology Press.

IV. ADDITIONAL INFORMATION

ATTENDANCE

Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.

WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Students can talk to their course instructors in and after class, contact them over email or Moodle, and during office hours. It is recommended that students contact lecturers in advance to arrange a meeting.

INFORMATION ABOUT THE FINAL EXAM

There is no final exam for this course.

OTHER RELEVANT INFORMATION	
Academic honesty Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.	
V. COURSE OUTLINE	
DATE	TOPIC
Week 1	
Day 1	Introduction to the programme and the course Instructor: Ljerka Ostojić Students will choose their elective module and elective elements and receive detailed information about their schedule and modules and elements.
Day 2	Cognitive Sciences Instructors: Edward Legg
Day 3	Cognitive Sciences Instructors: Edward Legg
Day 4	Interdisciplinarity in Cognitive Sciences Instructors: Edward Legg
Day 5	Interdisciplinarity in Cognitive Sciences Instructors: Ivan Flis
Week 2	
Day 1	Working with Scientific Literature Instructor: Edward Legg
Day 2	Elective Module*
Day 3	Elective Module *
Day 4	Elective Element 1**
Week 3	
Day 1	Elective Element 1**
Day 2	Elective Module*
Day 3	Elective Module*
Day 4	Elective Element 1**
Week 4	
Day 1	Elective Element 1**
Day 2	Elective Module*
Day 3	Elective Module*
Day 4	Elective Element 2**
Week 5	
Day 1	Elective Element 2**
Day 2	Elective Module*
Day 3	Elective Module*
Day 4	Elective Element 2**
Week 6	
Day 1	Elective Element 2**
Day 2	Elective Module*
Day 3	Elective Module*
* If you choose the elective module *Introduction to empirical cognitive sciences*, there are two parts to this module: 1) *Introduction to statistics* (instructor: Matia Torbarina) and 2) *Introduction to empirical research methods* (instructor: Ljerka Ostojić).	

If you choose the elective module *Introduction to the philosophy of cognitive sciences*, there are three parts to this module:
1) *Introduction to philosophy of cognitive sciences* (instructor: Luca Malatesti),
2) *Introduction to philosophical research methods* (instructors: Luca Malatesti, Zdenka Brzović), and
3) *Introduction to philosophy of science* (Zdenka Brzović).

** You chose two out of four elective modules available:
1. *Cognitive Psychology* (instructor: Edward Legg),
2. *Neuropsychology and cognition* (instructor: Sandra Arbula),
3. *Comparative cognition* (instructor: Ljerka Ostojić), and
4. *Critical history of cognitive science and its methods* (instructor: Ivan Flis).

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
Compulsory learning outcome: describe and analyse disciplines and areas within cognitive sciences	Introduction to cognitive sciences, Interdisciplinarity in cognitive sciences	Lectures, Seminars, Discussions	The study programme foresees no assessment of students for this course.
Compulsory learning outcome: compare different approaches and methods within cognitive sciences	Introduction to cognitive sciences, Interdisciplinarity in cognitive sciences	Lectures, Seminars, Discussions	The study programme foresees no assessment of students for this course.
Compulsory learning outcome: analyse concepts connecting different disciplines	Introduction to cognitive sciences, Interdisciplinarity in cognitive sciences	Lectures, Seminars, Discussions	The study programme foresees no assessment of students for this course.
Elective learning outcome: visualise and use descriptors for specific data distributions	Statistics	Lectures, Seminars	The study programme foresees no assessment of students for this course.
Elective learning outcome: describe and visualise relationships between a set of variables	Statistics	Lectures, Seminars	The study programme foresees no assessment of students for this course.
Elective learning outcome: describe the foundations of empirical research in cognitive sciences	Empirical research methods	Lectures, Seminars	The study programme foresees no assessment of students for this course.
Elective learning outcome: competently read contemporary philosophical literature from philosophy of mind and philosophy of cognitive sciences	Philosophy of mind, Philosophy of cognitive sciences	Seminars	The study programme foresees no assessment of students for this course.

Elective learning outcome: use informal logic, thought experiments, and conceptual analysis for evaluating philosophical texts, describe the most significant philosophical problems arising from research in cognitive sciences	Philosophical research methods, Philosophy of science, Philosophy of cognitive science, Philosophy of mind	Lectures, Seminars, Discussions	The study programme foresees no assessment of students for this course.
Elective learning outcome: evaluate philosophical views related to types of explanations in cognitive sciences	Philosophy of mind, Philosophy of mind, Philosophy of cognitive science	Lectures, Seminars, Discussions	The study programme foresees no assessment of students for this course.
Elective learning outcome: independently read and analyse original works in philosophy of science and philosophy of special sciences	Philosophical research methods, Philosophy of science, Philosophy of cognitive science, Philosophy of mind	Seminars	The study programme foresees no assessment of students for this course.
Elective learning outcome: defend different philosophical positions within debates in contemporary philosophy of science	Philosophical research methods, Philosophy of science, Philosophy of cognitive science, Philosophy of mind	Lectures, Seminars, Discussions	The study programme foresees no assessment of students for this course.
Elective learning outcome: Elective elements: analyse concepts and approaches of research within a selected area	Cognitive psychology, Comparative cognition, Neuropsychology and cognition, Critical history of cognitive science and its methods	Lectures, Seminars, Discussions	The study programme foresees no assessment of students for this course.
Elective learning outcome: identify and formulate major issues and discussions within a selected area	Cognitive psychology, Comparative cognition, Neuropsychology and cognition, Critical history of cognitive science and its methods	Lectures, Seminars, Discussions	The study programme foresees no assessment of students for this course.

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SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Interdisciplinary Modules in Cognitive Sciences 1
Study programme	Masters in Cognitive Sciences: Cognition and the Mind
Semester	1st
Academic year	2024/2025
ECTS credits	6
Contact hours (Lectures + Seminars + Practical work)	26+13+0
Time and venue of classes	TBC
Language of instruction	English
Course organisers	Prof. Igor Bajšanski, Dr. Marko Jurjako
Course instructors	**Contact details**
Prof. Pavle Valerjev	Email: valerjev@unizd.hr (guest lecturer)
Dr. Ljerka Ostojić	Email: lj.ostojic@uniri.hr, Phone: 051/699-217, Office: F-344, Office hours: TBA
Dr. Edward Legg	Email: edward.legg@uniri.hr, Phone: 051/699-217, Office: F-344, Office hours: TBA
Dr. Ivan Flis	Email: ivan.flis@ffri.uniri.hr, Office: F-121, Office Hours: TBA
Dr. Marko Jurjako	Email: mjurjako@ffri.uniri.hr, Phone: 051/669-210, Office: F-415, Office Hours: TBA
Dr. Sandra Arbula	Email: saarbul@sissa.it (external collaborator)

I. DETAILED COURSE DESCRIPTION

COURSE OVERVIEW

In this course, you will gain knowledge of selected topics from cognitive sciences from a disciplinary and interdisciplinary perspective. In addition to interactive lectures, we will have interdisciplinary moderated discussion groups. For some of these, your lecturers will select the literature, for others you will be able to select topics and papers of your interest. In addition, we will have invited lecturers for specific topics.

EXPECTED LEARNING OUTCOMES

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

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')

Lectures	Seminars	Practical work	Independent work
x	x		x
Fieldwork	**Laboratory work**	**Mentoring**	**Other**
		x	

II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
Class attendance	1.3	
Class participation	0.7	35
Essay	2	35
Written Exam	2	30
TOTAL	6	100

To obtain a grade on this course, students must i) participate in class discussions and other tasks during classes (maximum points available: 35), ii) submit one essay per module for four modules (maximum points available: 35), and iii) write an essay-style exam at the end of the term (maximum points available: 30).

Detailed information about all graded elements will be given and discusses in the first lecture.

Final grades will be determined as follows:

GRADE	UNDEGRADUATE AND GRADUATE PROGRAMMES
5 (A)	90 – 100 % points
4 (B)	75 – 89.9 % points
3 (C)	60 – 74.9 % points
2 (D)	50 – 59.9 % points
1 (F)	0 – 49.9 % points

III. READING

MANDATORY READING

- Frodeman, R., Klein, J.T., & Pacheco, R.C.D.S. (Eds). (2017). *The Oxford handbook of interdisciplinarity.* Oxford University Press.
- 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.
- Gentner, D. (2010). Psychology in cognitive science: 1987-2038. *Topics in Cognitive Science*, 2(3), 328-344.
- 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
- 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
- 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
- Cavanagh, P. (2011). Visual cognition. *Vision Research*, 51(13), 1538-1551. https://doi.org/10.1016/j.visres.2011.01.05
- 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
- 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

- Samuels, R., Stich, S., & Bishop, M. (2002). Ending the rationality wars: how to make disputes about human rationality disappear. In R. Eliso (Ed.), *Common Sense, Reasoning, and Rationality*. Oxford University Press.
- 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
- 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
- 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
- Tversky, A. & Kahneman, D. (1974). Judgement under uncertainty: Heuristics and biases. *Science*, 185, 1124-1131. https://doi.org/10.1126/science.185.4157.1124

RECOMMENDED FURTHER READING

- Cohen Kadosh, R., & Dowker, A. (2015). *The Oxford handbook of numerical cognition*. New York: Oxford University Press.
- 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
- 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
- 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.

IV. ADDITIONAL INFORMATION

ATTENDANCE

Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.

WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Students can talk to their course instructors in and after class, contact them over email or Moodle, and during office hours. It is recommended that students contact lecturers in advance to arrange a meeting.

INFORMATION ABOUT THE FINAL EXAM

The final exam is an essay-style exam in which students will choose two out of four given questions.

OTHER RELEVANT INFORMATION

Academic honesty

Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.

EXAM DATES

Winter	10 February 2025 and 24 February 2025
Summer	30 June 2025 and 14 July 2025
Autumn	2 September 2025 and 16 September 2025

V. COURSE OUTLINE

DATE	TOPIC

Week 7	Introductory Module: Inter-/Trans-/Multidisciplinarity and Cognitive Sciences Instructor: Ivan Flis
Week 8	Module 1: Reasoning and Judgement Instructor: Pavle Valerjev, Sandra Arbula, Ljerka Ostojić
Week 9	Module 1: Reasoning and Judgement Instructor: Pavle Valerjev, Sandra Arbula, Ljerka Ostojić
Week 10	Module 2: Rationality Instructor: Marko Jurjako
Week 11	Module 2: Rationality Instructor: Marko Jurjako
Week 12	Module 3: Numerical Cognition: Cognitive foundations of numerical cognition Instructors: Ljerka Ostojić, Edward Legg
Week 13	Module 3 Numerical Cognition: Cognitive foundations of numerical cognition Instructors: Ljerka Ostojić, Edward Legg
Week 14	Module 4: Visual Cognition Instructors: Edward Legg
Week 15	Module 4: Visual Cognition Instructors: Edward Legg

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
Synthesise results and insights from selected areas	Interdisciplinarity, visual cognition, numerical cognition, judgement and reasoning, rationality	Lectures and seminars for all modules	Class Participation (discussion), essays, written exam
Consider and compare theories and models within selected areas	Visual cognition, numerical cognition, judgement and reasoning	Lectures and seminars for modules 1-3	Class Participation (discussion), essays, written exam
Critically evaluate claims of empirical research from selected areas	Visual cognition, numerical cognition, judgement and reasoning, rationality	Lectures and seminars for modules 1-4	Class Participation (discussion), essays, written exam
Analyse interdisciplinary links between disciplines and areas	Interdisciplinarity, visual cognition, numerical cognition, judgement and reasoning, rationality	Lectures from the Introductory Module, Seminars for all five modules	Class Participation (discussion), essays, written exam

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SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Statistics
Study programme	Masters in Cognitive Sciences: Cognition and the Mind
Semester	1st
Academic year	2024/2025
ECTS credits	5
Contact hours (Lectures + Seminars + Practical work)	18+18+18
Time and venue of classes	According to Schedule
Language of instruction	English
Course organisers	Dr. Petra Anić, Dr. Marko Tončić
Course instructors	Contact details
Marko Tončić	Email: mtoncic@ffri.uniri.hr, Phone: 051/265-769, Office: F-369, Office hours: TBA

I. DETAILED COURSE DESCRIPTION

COURSE OVERVIEW

The aim of the course is to enable you to work with empirical data and plan and perform statistical analyses. During this course, we will, wherever possible, use open-source software for all data manipulations and analyses to ensure that you can transfer the acquired skills and knowledge to your future work.

EXPECTED LEARNING OUTCOMES

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

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')

Lectures	Seminars	Practical work	Independent work
x	x	x	x
Fieldwork	**Laboratory work**	**Mentoring**	**Other**
		x	

II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
Class attendance	1.8	
Class participation	0.5	10
Seminar paper	0.9	40
Written exam	0.9	30
Oral exam	0.9	20
TOTAL	5	100

To obtain a grade on this course, students must i) actively engage in the class (maximum points; 10), ii) submit a seminar paper (maximum points: 50), iii) pass a written exam (maximum points: 30) and oral exam (maximum points: 20).

Detailed information about all graded elements will be given and discusses in the first lecture.

Final grades will be determined as follows:

GRADE	UNDEGRADUATE AND GRADUATE PROGRAMMES
5 (A)	90 – 100 % points
4 (B)	75 – 89.9 % points
3 (C)	60 – 74.9 % points
2 (D)	50 – 59.9 % points
1 (F)	0 – 49.9 % points

III. READING

MANDATORY READING

- 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.
- Maindonald, J. & Braun, J.W. (2010). *Data Analysis and Graphics Using R – an Example-Based Approach.* Cambridge University Press
- Miles, J. & Shevlin, M. (2001). *Applying Regression & Correlation.* SAGE Publications.

RECOMMENDED FURTHER READING

- 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

IV. ADDITIONAL INFORMATION

ATTENDANCE

Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.

WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Students can talk to their course instructors in and after class, contact them over email or Moodle, and during office hours. It is recommended that students contact the lecturer in advance to arrange for a meeting.

INFORMATION ABOUT THE FINAL EXAM

Students must pass a written and an oral exam.

OTHER RELEVANT INFORMATION

Academic honesty

Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.	
EXAM DATES	
Winter	4 February 2025 and 18 February 2024 (both 10am)
Summer	17 June 2025 and 1 July 2025 (both 10am)
Autumn	1 September and 15 September (both 10am)

V. COURSE OUTLINE

DATE	TOPIC
Week 7	Course introduction; Basic data manipulation in R
Week 8	Statistical models; GLM; Categorical predictors (ANOVA models)
Week 9	GLM; multi-parameter GLM
Week 10	GLM; multi-parameter GLM
Week 11	GLM; Curve estimation (polynomial models)
Week 12	GLM; Curve estimation (polynomial models)
Week 13	Data visualization (1D, 2D, 3D)
Week 14	Data visualization (1D, 2D, 3D)
Week 15	Binomial outcome models: logistic regression

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
Use R to manipulate data files	Basic data manipulation in R	Lectures, Practical work, Independent work	Exam (written and oral); Seminar paper
Use R to visualise data (1D, 2D, 3D)	Data visualization	Lectures, Practical work, Independent work	Exam (written and oral; problem solving task); Seminar paper
Use R for modelling continuous and categorical outcome variables	One parameter GLM; GLM; Categorical predictors; GLM; Curve estimation; GLM; multi-parameter GLM	Lectures, Practical work, Independent work	Exam (written and oral); Seminar paper
Apply and interpret basic linear models for continuous and categorical variables	One parameter GLM; GLM; Categorical predictors; GLM; Curve estimation; GLM; multi-parameter GLM; Binomial outcome models: logistic regression	Lectures, practical work, Independent work	Exam (written and oral); Seminar paper
Apply the acquired methods in own research	All topics	Lectures, Practical work, Independent work	Self-Evaluation

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SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Empirical Research Methods 1
Study programme	Masters in Cognitive Sciences: Cognition and the Mind
Semester	1st
Academic year	2024/2025
ECTS credits	5
Contact hours (Lectures + Seminars + Practical work)	18+18+0
Time and venue of classes	TBC
Language of instruction	English
Course organisers	Prof. Dražen Domijan, Dr. Tamara Mohorić, Dr. Ljerka Ostojić
Course instructors	**Contact details**
Dr. Sandra Arbula	Email: saarbul@sissa.it (external collaborator)
Dr. Asmir Gračanin	Email: agracanin@ffri.uniri.hr, Phone: 051/265-368, Office: F-361, Office Hours: TBA
Dr. Ljerka Ostojić	Email: lj.ostojic@uniri.hr, Phone: 051/669-217, Office: F-344, Office Hours: TBA

I. DETAILED COURSE DESCRIPTION

COURSE OVERVIEW

In this course, you will familiarise yourself with different theoretical approaches in the study of the mind and methods of model construction, experimental research and neuroscience research methods.

EXPECTED LEARNING OUTCOMES

- describe and compare different theoretical approaches in cognitive sciences (symbolic, neural, statistical models),
- describe and compare procedures for constructing cognitive models,
- analyse experimental research designs and compare their methodological features,
- interpret interaction terms in complex experimental designs,
- design experimental studies for different research questions,
- select and devise an appropriate method when planning and conducting research,

- describe and analyse the main measurement theories,
- evaluate discussions on validity and reliability,
- describe and evaluate neuroscience methods.

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')			
Lectures	Seminars	Practical work	Independent work
x	x		
Fieldwork	Laboratory work	Mentoring	Other
			x

II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
Class attendance	1.2	
Class participation	0.5	10
Seminar paper	1.5	50
Written exam	0.9	20
Oral exam	0.9	20
TOTAL	6	100

To obtain a grade on this course, students must i) actively engage in classes (maximum points: 10), ii) submit one seminar paper (maximum points: 50), and iii) pass a written and oral exam (written exam, maximum points: 20, oral exam, maximum points: 20).

Detailed information about all graded elements will be given and discusses in the first lecture.

Final grades will be determined as follows:

GRADE	UNDEGRADUATE AND GRADUATE PROGRAMMES
5 (A)	90 – 100 % points
4 (B)	75 – 89.9 % points
3 (C)	60 – 74.9 % points
2 (D)	50 – 59.9 % points
1 (F)	0 – 49.9 % points

III. READING

MANDATORY READING

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

RECOMMENDED FURTHER READING

- 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.

IV. ADDITIONAL INFORMATION

ATTENDANCE

Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE
Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.
WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS
Students can talk to their course instructors in and after class, contact them over email or Moodle, and during office hours. It is recommended that students contact lecturers in advance to arrange for a meeting.
INFORMATION ABOUT THE FINAL EXAM
Students must pass a written and an oral exam.
OTHER RELEVANT INFORMATION
Academic honesty Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.

EXAM DATES	
Winter	3 February 2025 and 17 February 2025
Summer	2 July 2025 and 16 July 2025
Autumn	4 September 2025 and 18 September 2025

V. COURSE OUTLINE

DATE	TOPIC
Week 7	Introduction to the course Instructor: Ljerka Ostojić
Week 8	Module 1: Measurement Theories Instructor: TBC
Week 9	Module 1: Measurement theories Instructor: TBC
Week 10	Module 2: Experimental Research Methods Instructor: Ljerka Ostojić
Week 11	Module 2: Experimental Research Methods Instructor: Ljerka Ostojić
Week 12	Module 3: Neuroscience Methods Instructor: Sandra Arbula
Week 13	Module 3: Neuroscience Methods Instructor: Sandra Arbula
Week 14	Module 4: Non-experimental Research Methods Instructor: Asmir Gračanin
Week 15	Module 4: Non-experimental Research Methods Instructor: Asmir Gračanin

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
Describe and compare different theoretical approaches in cognitive sciences (symbolic, neural, statistical models)	Theory and model construction	Lectures, Seminars	Seminar paper, Written exam, Oral exam
Describe and compare procedures for constructing cognitive models	Theory and model construction	Lectures, Seminars	Seminar paper, Written exam, Oral exam
Analyse experimental research designs and compare their methodological features	Experimental Research Methods	Lectures, Seminars	Seminar paper, Written exam, Oral exam
Interpret interaction terms in complex experimental designs	Complex experimental research designs, interaction terms	Lectures, Seminars	Seminar paper, Written exam, Oral exam
Design experimental studies for different research questions	Experimental Research Methods	Lectures, Seminars	Seminar paper, Written exam, Oral exam
Select and devise an appropriate method when planning and conducting research	Experimental Research Methods	Lectures, Seminars	Seminar paper, Written exam, Oral exam
Describe and analyse the main measurement theories	Measurement theories, Validity, Reliability	Lectures, Seminars	Seminar paper, Written exam, Oral exam
Evaluate discussions on validity and reliability	Measurement theories, Validity, Reliability	Lectures, Seminars	Seminar paper, Written exam, Oral exam
Describe and evaluate neuroscience methods	Neuroscience methods, Signal processing	Lectures, Seminars	Seminar paper, Written exam, Oral exam

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SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Rotation project 1
Study programme	Masters in Cognitive Sciences: Cognition and the Mind
Semester	1st
Academic year	2024/2025
ECTS credits	4
Contact hours **(Lectures + Seminars + Practical work)**	2+16+0
Time and venue of classes	TBC
Language of instruction	English
Course organisers	Dr. Ljerka Ostojić
Course instructors	**Contact details**
Dr. Ljerka Ostojić	Email: lj.ostojic@uniri.hr, Phone: 051/669-217, Office: 344, Office Hours: TBA

I. DETAILED COURSE DESCRIPTION

COURSE OVERVIEW

In this course, you will choose one of the offered topics and, independently and with your supervisor, plan and design a study. The aim of the course is to think about the importance of early stages of research, thus the emphasis will be on planning and structuring the research: for empirical projects, this will include planning statistical analysis but will not include data collection, and for theoretical projects, this will focus on structuring and planning the project.

This semester, you will be asked to especially focus on the research design and planning of statistical analyses. Thus, the rotation project will give you the opportunity to apply knowledge and skills from the *Empirical Research Methods 1* and *Statistics* courses.

In addition, we will organise workshops with external collaborators and invited lecturers.

EXPECTED LEARNING OUTCOMES

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

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')

Lectures	Seminars	Practical work	Independent work
x	x		x
Fieldwork	Laboratory work	Mentoring	Other
		x	x

II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
Class attendance	0.6	
Project	2	50
Seminar paper	1.4	50
TOTAL	4	100

To obtain a grade on this course, students must i) choose and conduct one rotation project (maximum points: 50) and ii) submit a seminar paper (rotation project report; maximum points: 50).

Detailed information about all graded elements will be given and discusses in the first lecture.

Final grades will be determined as follows:

GRADE	UNDEGRADUATE AND GRADUATE PROGRAMMES
5 (A)	90 – 100 % points
4 (B)	75 – 89.9 % points
3 (C)	60 – 74.9 % points
2 (D)	50 – 59.9 % points
1 (F)	0 – 49.9 % points

III. READING

MANDATORY READING

- Forstmeier, W., Wagenmakers, E. J., & Parker, T. H. (2017). Detecting and avoiding likely false-positive findings – a practical guide. *Biological Reviews*, *92*(4), 1941-1968.
- Allen, C. & Mehler, D.M. (2019). Open science challenges, benefits and tips in early career and beyond. *PLoS Biology,* 17, e3000246.
- Munro, K. J., & Prendergast, G. (2019). Encouraging pre-registration of research studies. *International Journal of Audiology 58*

RECOMMENDED FURTHER READING

- Haven, T. L., & Van Grootel, D. L. (2019). Preregistering qualitative research. *Accountability in Research*, *26*(3), 229-244.
- Ledgerwood, A. (2018). The preregistration revolution needs to distinguish between predictions and analyses. *Proceedings of the National Academy of Sciences*, *115*(45), E10516-E10517.

IV. ADDITIONAL INFORMATION

ATTENDANCE

Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.

WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Students can talk to their course instructors in and after class, contact them over email or Moodle, and during office hours. It is recommended that students contact the lecturer in advance to arrange a meeting.

INFORMATION ABOUT THE FINAL EXAM

There is no final exam for this course.

OTHER RELEVANT INFORMATION

Academic honesty

Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.

EXAM DATES

Winter	12 February 2025 and 26 February 2025
Summer	24 June 2025 and 8 July 2025
Autumn	26 August 2025 and 9 September 2025

V. COURSE OUTLINE

DATE	TOPIC
Week 7	Introduction to the course (choosing of topics, preparing for the rotation project) (2S)
Week 8	Project Work (2S)
Week 9	
Week 10	Workshop 1*: Open Science and pre-registrations (1L+2S)
Week 11	Project Work (2S)
Week 12	Workshop 2*: Analysis plans (1L+2S)
Week 13	Project Work (2S)
Week 14	Project Work (2S)
Week 15	Final discussion (2S)

* Workshops are organised with external collaborators or invited lecturers, thus the dates may change. Workshops will either be held in person or online.

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
Select and adapt research designs according to a research question	Selected project area, Open Science, Pre-registration	Individual work, Meetings with project supervisor, Workshops	Project, Seminar paper
Explain and argue the choice of research design according to a research question	Selected project area, Open Science, Pre-registration	Individual work, Meetings with project supervisor, Workshops	Project, Seminar paper
Critically assess possible claims based on the planned study	Selected project area, Open Science, Pre-registration	Individual work, Meetings with project supervisor, Workshops	Project, Seminar paper

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51 000 Rijeka

SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Elective Modules in Cognitive Sciences
Study programme	Masters in Cognitive Sciences: Cognition and the Mind
Semester	1st, 3rd
Academic year	2024/2025
ECTS credits	3
Contact hours **(Lectures + Seminars + Practical work)**	12+12+0
Time and venue of classes	TBC
Language of instruction	English
Course organiser and instructor	Dr. Zdenka Brzović, Dr. Edward Legg, Dr. Ljerka Ostojić
Course instructors	**Contact Details**
Prof. Marija Brala Vukanović	Email: marija.brala@ffri.uniri.hr, Phone: 051/265-629, Office: F-901, Office hours: TBA
Dr. Edward Legg	Email: edward.legg@uniri.hr, Phone: 051/699-217, Office: F-344, Office hours: TBA
Dr. Sandra Arbula	Email: saarbul@sissa.it (external collaborator)
Dr. Ljerka Ostojić	Email: lj.ostojic@uniri.hr, Phone: 051/699-217, Office: F-344, Office hours: TBA
Dr. Jana Jurčević	Email: jana.jurcevic@ffri.uniri.hr, Phone and Office Hours TBA
Dr. Zdenka Brzović	Email: zdenka@ffri.uniri.hr, Phone: 051/265-795, Office: F-413, Office hours: TBA
Dr. Ivan Flis	Email: ivan.flis@uniri.hr, Office: F-121, Office hours: TBA
I. DETAILED COURSE DESCRIPTION	
COURSE OVERVIEW	

The aim of this course is to familiarise you with different areas of cognitive sciences from a disciplinary, multidisplinary and interdisciplinary perspective.

Within the elective course, there are several modules from which you can choose one.

EXPECTED LEARNING OUTCOMES

Depending on the chosen module from the modules offered in this semester, students are expected to achieve a subset of the following course outcomes:

- 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,
- 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,
- to describe and analyse current topics and recent studies in social cognition research,
- to critically evaluate methods and claims of social cognition studies,
- to explain recent discussions within contemporary philosophy of science,
- to defend different philosophical positions within discussions on contemporary philosophy of science.

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')

Lectures	Seminars	Practical work	Independent work
x	x		x
Fieldwork	**Laboratory work**	**Mentoring**	**Other**
		x	x

II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
Class attendance	0.73	
Class Participation	1	50
Project	1.27	50
TOTAL	3	100

To obtain a grade on this course, students must i) actively participate in class (maximum points: 50) and ii) successfully complete a project (maximum points: 50).

Activities and class and projects will differ in their content and form based on the chosen module. Detailed information will be given by the module instructor(s) in the first module class.

Final grades will be determined as follows:

GRADE	UNDEGRADUATE AND GRADUATE PROGRAMMES
5 (A)	90 – 100 % points

4 (B)	75 – 89.9 % points
3 (C)	60 – 74.9 % points
2 (D)	50 – 59.9 % points
1 (F)	0 – 49.9 % points

III. READING

MANDATORY READING

- Smaldino, P. E. & McElreath, R. (2016). The natural selection of bad science. *Royal Society Open Science,* doi: 10.1098/rsos.160384.
- Leonelli, S. (2018). Re-thinking reproducibility as a criterion for research quality. [Pre-print]. http://philsci-archive.pitt.edu/14352/1/Reproducibility_2018_SL.pdf
- Bermúdez, J. (2016). *Cognitive science: An introduction to the science of the mind* (3rd ed.). New York: Cambridge University Press.
- Levine, D. S. (2019). *Introduction to cognitive and neural modeling* (3rd ed.). New York: Routledge
- Spelke, E. S., & Kinzler, K. D. (2007). Core knowledge. *Developmental Science*, 10(1), 89–96. doi:10.1111/j.1467-7687.2007.00569.x
- Gopnik, A. (1996). The Scientist as Child. *Philosophy of Science*, 63(4), 485–514. doi:10.1086/289970
- Tenenbaum, J. B., Kemp, C., Griffiths, T. L., & Goodman, N. D. (2011). How to Grow a Mind: Statistics, Structure, and Abstraction. *Science*, 331(6022), 1279–1285. doi:10.1126/science.1192788
- Kubricht, J. R., Holyoak, K. J., & Lu, H. (2017). Intuitive Physics: Current Research and Controversies. *Trends in Cognitive Sciences*, 21(10), 749–759. doi:10.1016/j.tics.2017.06.002
- Kuhl, P. K. (2004). Early language acquisition: cracking the speech code. *Nature Reviews Neuroscience*, 5(11), 831–843. doi:10.1038/nrn1533
- Suddendorf, T. (2017). The Emergence of Episodic Foresight and Its Consequences. *Child Development Perspectives*, 11(3), 191–195. doi:10.1111/cdep.12233
- Hamlin, J. K. (2013). Moral Judgment and Action in Preverbal Infants and Toddlers. *Current Directions in Psychological Science*, 22(3), 186–193. doi:10.1177/0963721412470687
- Poulin-Dubois, D. (2020). Theory of mind development: State of the science and future directions. *Progress in Brain Research*. doi:10.1016/bs.pbr.2020.05.021
- Bear, F. M., Connors, B. W., Paradiso, M. A. (2016). *Neuroscience exploring the brain*. Philadelphia: Wolters Kluwer.
- Byrne, R.W. & Bates, L.A. (2007). Sociality, evolution and cognition. *Current Biology*, 17(16), R714-R723. http://doi.org/10.1016/j.cub.2007.05.069
- Heyes, C. (2019). Précis of *Cognitive gadgets: The cultural evolution of thinking*. *Behavioral and Brain Sciences*, 42, E169. https://doi.org/10.1017/S0140525X18002145
- Shettleworth, S.J. (2012). Modularity, comparative cognition and human uniqueness. *Philosophical Transactions of the Royal Society B*, 367, 2794-2802. https://doi.org/10.1098/rstb.2012.0211
- Huber, L. & Wilkinson, A. (2012). Evolution of cognition: a comparative approach. In *Sensory Perception* (pp. 135-152). Vienna: Springer.
- Confer, J. C., Easton, J. A., Fleischman, D. S., Goetz, C. D., Lewis, D. M., Perilloux, C., & Buss, D. M. (2010). Evolutionary psychology: Controversies, questions, prospects, and limitations. *American Psychologist*, *65*(2), 110.
- Buss, D. M. (1995). Evolutionary psychology: A new paradigm for psychological science. *Psychological inquiry*, *6*(1), 1-30.
- Buss, D. M. (2009). How can evolutionary psychology successfully explain personality and individual differences?. *Perspectives on Psychological Science*, *4*(4), 359-366.
- Cosmides, L., & Tooby, J. (2013). Evolutionary psychology: New perspectives on cognition and motivation. *Annual review of psychology*, *64*, 201-229.
- Mack, C.A. (2012). How to write a good scientific paper: title, abstract, and keywords. *Journal of Micro/Nanolithography, MEMS, and MOEMS*, 11(2), 020101.
- Schickore. J. (2008). Doing science, writing science. *Philosophy of Science,* 7(3), 323-343
- Croft, William & D. Alan Cruse. 2004. *Cognitive Linguistics*. (Cambridge Textbooks in Linguistics.) Cambridge:

Cambridge University Press.
- Matthews, Peter. 2014. *The Concise Dictionary of Linguistics* (Oxford Paperback Reference). New York: Oxford University Press.
- Frith, C.D. (2008). Social Cognition. *Philosophical Transactions of the Royal Society B*, 363(1499): 2033–2039. https://doi.org/10.1098/rstb.2008.0005
- Larsen, R.J., & Buss, D.M. (2005). Personality psychology. New York: McGraw-Hill
- Fecher, B. & Friesike, S. (2014). Open science: one term, five schools of thought. In *Opening science* (pp. 17-47). Cham: Springer.
- McKiernan, E.C. et al. (2016). Point of view: How open science helps researchers succeed. *eLife*, 5, e16800.
- Allen, C. & Mehler, D.M. (2019). Open science challenges, benefits and tips in early career and beyond. *PLoS Biology*, 17(5), e3000246.
- Nosek, B.A. & Lindsay, D.S. (2018). Preregistration becoming the norm in psychological science. *APS Observer*, 31(3).
- Szollosi, A., Kellen, D., Navarro, D.J., Shiffrin, R., van Rooij, I., Van Zandt, T., & Donkin, C. (2019). Is preregstration worthwhile? *Trends in Cognitive Sciences*, 24(2), 94-95.
- Scheel, A.M., Schijen, M., & Lakens, D. An excess of positive results. *Comparing the standard Psychology literature with Registered Reports.* Preprint at https//osf.io/p6e9c (2020).
- Hunter, J. (2012). Post-publication peer review: opening up scientific conversation. *Frontiers in Computational Neuroscience*, 6(63). https://doi.org/10.3389/fncom.2012.00063
- Kirkham, J. & Moher, D. (2018). Who and why do researchers opt to publish in post-publication peer review platforms? – findings from a review and survey of F1000 Research. *F1000Research*, 7(920). https://doi.org/10.12688/f1000research.15436.1
- Sarabipour, S., Debat, H.J., Burgess, S.J., Schwessinger, B., & Hensel, Z. (2019). On the value of preprints: An early career researcher perspective. *PLoS Biology*, 17(2), e3000151. https://doi.org/10.1371/journal.pbio.3000151
- Okasha, Samir (2004). *Philosophy of Science: A Very Short Introduction*. Oxford University Press.
- Godfrey-Smith, Peter (2003). *Theory and Reality: An Introduction to the Philosophy of Science*. Chicago University Press.
- Philip Kitcher and Gillian Barker (2014). *Philosophy of Science: A New Introduction*. Oxford University Press.
- Block, N. 1978. Troubles with Functionalism. Pretiskano u W. Lycan, ur. *Mind and Cognition*. Oxford: Blackwell, 2008.
- Dennett, D. 1988. Quining Qualia. U A. Marcel and E. Bisiach, ur. *Consciousness in Contemporary Science.* Oxford: Oxford University Press, 43-77. Reprinted in N. Block, O. Flanagan i G. Güzeldere, ur. *The Nature of Consciousness*. Cambridge, Mass.: MIT Press, 1997.
- Crane, T. 2001. *The Elements of Mind: An Introduction to the Philosophy of Mind*. Oxford: Oxford University Press.
- Kim, J. 2006. *Philosophy of Mind*. Boulder, Co.: Westview Press.
- Maslin, K. T. 2001. *An Introduction to the Philosophy of Mind*. Cambridge: Polity.
- Nagel, T. 1974. What is it Like to be a Bat? *Philosophical Review* 83: 435–450. Reprinted in D. Chalmers, ur. *Philosophy of Mind: Classical and Contemporary Readings*. Oxford: Oxford University Press.
- Ryle, G. 1949. *The Concept of Mind*. London: Hutchinson. Pretiskano s uvodom D. Dennetta, Penguin: London, 1980.
- Chalmers, D. 2002. Philosophy of Mind: Classical and Contemporary Readings. New York: Oxford University Press.
- Weiskopf, D. and Adams, F. (2015). *An introduction to the philosophy of psychology*. Cambridge: Cambridge University Press.

RECOMMENDED FURTHER READING

IV. ADDITIONAL INFORMATION

ATTENDANCE

Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.

WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Students can talk to their course instructors in and after class, contact them over email or Moodle, and during office hours. It is recommended that student contact lecturers in advance to arrange for meeting, whether during office hours or at a different time.

INFORMATION ABOUT THE FINAL EXAM

There is no final exam for this course.

OTHER RELEVANT INFORMATION

Academic honesty

Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.

EXAM DATES

Winter	11 February 2025 and 25 February 2025
Summer	23 June 2025 and 7 July 2025
Autumn	25 August 2025 and 8 September 2025

V. COURSE OUTLINE

DATE	TOPIC
Week 7	Introduction to the course (2L) Instructor: Ljerka Ostojić
Week 8	Work in modules (2L + 1S) Instructors: Cognitive Linguistics: Maja Brala Vukanović, Social Cognition: Edward Legg, Sandra Arbula, Science Writing and Reviewing: Ljerka Ostojić, Sandra Arbula (second year students only), Extension to Cognitive Linguistics – Cognitive Semiotics: Jana Jurčević, Philosophy of Mind: Zdenka Brzović, Ivan Flis
Week 9	Work in modules (2L + 1S) Instructors: Cognitive Linguistics: Maja Brala Vukanović, Social Cognition: Edward Legg, Sandra Arbula, Science Writing and Reviewing: Ljerka Ostojić, Sandra Arbula (second year students only), Extension to Cognitive Linguistics – Cognitive Semiotics: Jana Jurčević, Philosophy of Mind: Zdenka Brzović, Ivan Flis
Week 10	Work in modules (2L + 1S) Instructors: Cognitive Linguistics: Maja Brala Vukanović, Social Cognition: Edward Legg, Sandra Arbula, Science Writing and Reviewing: Ljerka Ostojić, Sandra Arbula (second year students only), Extension to Cognitive Linguistics – Cognitive Semiotics: Jana Jurčević, Philosophy of Mind: Zdenka Brzović, Ivan Flis
Week 11	Work in modules (2L + 1S) Instructors: Cognitive Linguistics: Maja Brala Vukanović,

	Social Cognition: Edward Legg, Sandra Arbula, Science Writing and Reviewing: Ljerka Ostojić, Sandra Arbula (second year students only), Extension to Cognitive Linguistics – Cognitive Semiotics: Jana Jurčević, Philosophy of Mind: Zdenka Brzović, Ivan Flis
Week 12	Work in modules (2L + 1S) Instructors: Cognitive Linguistics: Maja Brala Vukanović, Social Cognition: Edward Legg, Sandra Arbula, Science Writing and Reviewing: Ljerka Ostojić, Sandra Arbula (second year students only), Extension to Cognitive Linguistics – Cognitive Semiotics: Jana Jurčević, Philosophy of Mind: Zdenka Brzović, Ivan Flis
Week 13	Work in modules (2L + 1S) Instructors: Cognitive Linguistics: Maja Brala Vukanović, Social Cognition: Edward Legg, Sandra Arbula, Science Writing and Reviewing: Ljerka Ostojić, Sandra Arbula (second year students only), Extension to Cognitive Linguistics – Cognitive Semiotics: Jana Jurčević, Philosophy of Mind: Zdenka Brzović, Ivan Flis
Week 14	Work in modules (2L + 1S) Instructors: Cognitive Linguistics: Maja Brala Vukanović, Social Cognition: Edward Legg, Sandra Arbula, Science Writing and Reviewing: Ljerka Ostojić, Sandra Arbula (second year students only), Extension to Cognitive Linguistics – Cognitive Semiotics: Jana Jurčević, Philosophy of Mind: Zdenka Brzović, Ivan Flis
Week 15	Final discussion and Wrap-up (2S) Instructor: Ljerka Ostojić

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
to write on the same topic in different ways, depending on where the text is expected to be published	Module Science Writing and Reviewing	Lectures, Seminar	Class Participation, Project
to structure a scientific text according to where the text is expected to be published	Module Science Writing and Reviewing	Lectures, Seminar	Class Participation, Project
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	Module Science Writing and Reviewing	Lectures, Seminar	Class Participation, Project
to analyse potential challenges and benefits of working with multiple co-authors	Module Science Writing and Reviewing	Lectures, Seminar	Class Participation, Project
to integrate the above-mentioned challenges and benefits in decision-making on co-authorship and organisation of work	Module Science Writing and Reviewing	Lectures, Seminar	Class Participation, Project
to analyse and evaluate others' comments on the text, and how and when to integrate them into new versions	Module Science Writing and Reviewing	Lectures, Seminar	Class Participation, Project
to analyse and evaluate the usefulness of own comments on others' writing, and how to structure own comments	Module Science Writing and Reviewing	Lectures, Seminar	Class Participation, Project
to formulate constructive comments and feedback in the role of a reviewer	Module Science Writing and Reviewing	Lectures, Seminar	Class Participation, Project
to analyse basic terminology and theoretical assumptions in cognitive linguistics	Modules Cognitive Linguistics and Extension to Cognitive Linguistics	Lectures, Seminar	Class Participation, Project
to interpret linguistic phenomena (of English	Module Cognitive Linguistics	Lectures, Seminar	Class Participation, Project

but also other languages familiar to the students)			
to interpret differences between languages regarding terminology and principles of cognitive linguistics	Module Cognitive Linguistics	Lectures, Seminar	Class Participation, Project
to compare differences between languages with universally operational elements and processes of the human mind and human language competencies	Modules Cognitive Linguistics and Extension to Cognitive Linguistics	Lectures, Seminar	Class Participation, Project
to summarise and evaluate research in cognitive linguistics	Modules Cognitive Linguistics and Extension to Cognitive Linguistics	Lectures, Seminar	Class Participation, Project
to discuss approaches and projects in cognitive linguistics	Modules Cognitive Linguistics and Extension to Cognitive Linguistics	Lectures, Seminar	Class Participation, Project
to describe and analyse current topics and recent studies in social cognition research	Module Social Cognition	Lectures, Seminar	Class Participation, Project
to critically evaluate methods and claims of social cognition studies	Module Social Cognition	Lectures, Seminar	Class Participation, Project
to explain recent discussions within contemporary philosophy of science,	Module Philosophy of Science	Lectures, Seminar	Class Participation, Project
to defend different philosophical positions within discussions on contemporary philosophy of science.	Module Philosophy of Science	Lectures, Seminar	Class Participation, Project

SVEUČILIŠTE U RIJECI
Filozofski fakultet

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51 000 Rijeka

SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Interdisciplinary Modules in Cognitive Sciences 2
Study programme	Masters in Cognitive Sciences: Cognition and the Mind
Semester	3rd
Academic year	2024/2025
ECTS credits	9
Contact hours **(Lectures + Seminars + Practical work)**	
Time and venue of classes	TBC
Language of instruction	English
Course organisers	Prof. Luca Malatesti, Dr. Asmir Gračanin, Prof. Igor Bajšanski, Dr. Marko Jurjako, Dr. Edward Legg
Course instructors	**Contact details**
Prof. Pavle Valerjev	Email: valerjev@unizd.hr (guest lecturer)
Dr. Miguel Núñez de Prado Gordillo	Email: m.nunnezdep.gor@gmail.com, Phone and Office Hours TBA
Dr. Ljerka Ostojić	Email: lj.ostojic@uniri.hr, Phone: 051/699-217, Office: F-344, Office hours: TBA
Dr. Edward Legg	Email: edward.legg@uniri.hr, Phone: 051/699-217, Office: F-344, Office hours: TBA
Dr. Ivan Flis	Email: ivan.flis@ffri.uniri.hr, Office: F-121, Office Hours: TBA
Dr. Sandra Arbula	Email: saarbul@sissa.it (external collaborator)

I. DETAILED COURSE DESCRIPTION

COURSE OVERVIEW

In this follow-up course to the *Interdisciplinary Modules in Cognitive Sciences 1*, you will gain further knowledge of selected topics from cognitive sciences from a disciplinary and interdisciplinary perspective. In addition to interactive lectures, we will have interdisciplinary moderated discussion groups. For some of these, your lecturers will select the literature, for others you will be able to select topics and papers of your interest. In addition, we will have invited lecturers for specific topics.

EXPECTED LEARNING OUTCOMES

- synthesise results and insights from selected areas,
- consider and compare theories and models within selected areas,
- critically evaluate claims of empirical research from selected areas,
- analyse interdisciplinary links between disciplines and areas,
- synthesise arguments from philosophy in selected areas,
- compare discussions in selected areas in philosophy and within empirical disciplines and areas.

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')

Lectures	Seminars	Practical work	Independent work
x	x		x
Fieldwork	**Laboratory work**	**Mentoring**	**Other**
		x	

II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
Class attendance	2.67	
Class participation	2.33	35
Essay	2	35
Written Exam	2	30
TOTAL	9	100

To obtain a grade on this course, students must i) participate in class discussions and other tasks during classes (maximum points available: 35), ii) submit one essay per module for four modules (maximum points available: 35), and iii) write an essay-style exam at the end of the term (maximum points available: 30).

Detailed information about all graded elements will be given and discusses in the first lecture.

Final grades will be determined as follows:

GRADE	UNDEGRADUATE AND GRADUATE PROGRAMMES
5 (A)	90 – 100 % points
4 (B)	75 – 89.9 % points
3 (C)	60 – 74.9 % points
2 (D)	50 – 59.9 % points
1 (F)	0 – 49.9 % points

III. READING

MANDATORY READING

- Frodeman, R., Klein, J.T., & Pacheco, R.C.D.S. (Eds). (2017). *The Oxford handbook of interdisciplinarity.* Oxford University Press.
- Dennett, D.C. (1981). True believers: the intentional strategy and why it works. In Chalmers (2002). *Philosophy of Mind: classical and contemporary readings.* Oxford University Press.
- Gentner, D. (2010). Psychology in cognitive science: 1987-2038. *Topics in Cognitive Science*, 2(3), 328-344.
- 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
- 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
- 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
- Cavanagh, P. (2011). Visual cognition. *Vision Research*, 51(13), 1538-1551. https://doi.org/10.1016/j.visres.2011.01.05
- 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
- 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
- Samuels, R., Stich, S., & Bishop, M. (2002). Ending the rationality wars: how to make disputes about human rationality disappear. In R. Eliso (Ed.), *Common Sense, Reasoning, and Rationality*. Oxford University Press.
- 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
- 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
- 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
- Tversky, A. & Kahneman, D. (1974). Judgement under uncertainty: Heuristics and biases. *Science*, 185, 1124-1131. https://doi.org/10.1126/science.185.4157.1124

RECOMMENDED FURTHER READING

- Cohen Kadosh, R., & Dowker, A. (2015). *The Oxford handbook of numerical cognition*. New York: Oxford University Press.
- 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
- 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
- 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.

IV. ADDITIONAL INFORMATION

ATTENDANCE

Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.

WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Students can talk to their course instructors in and after class, contact them over email or Moodle, and during office hours. It is recommended that students contact lecturers in advance to arrange a meeting.

INFORMATION ABOUT THE FINAL EXAM

The final exam is an essay-style exam in which students will choose two questions.

OTHER RELEVANT INFORMATION

Academic honesty

Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.

EXAM DATES

Winter	N/A
Summer	4 July 2025 and 18 July 2025
Autumn	3 September 2025 and 17 September 2025

V. COURSE OUTLINE

DATE	TOPIC
Week 1	Module 1: Metacognition and Metareasoning

	Instructors: Pavle Valerjev, Ljerka Ostojić, Sandra Arbula
Week 2	Module 1: Metacognition and Metareasoning Instructors: Pavle Valerjev, Ljerka Ostojić, Sandra Arbula
Week 3	Module 1: Metacognition and Metareasoning Instructors: Pavle Valerjev, Ljerka Ostojić, Sandra Arbula
Week 4	Module 2: Metacognition and Consciousness Instructor: Ljerka Ostojić, Markjo Jurjako
Week 5	Module 2: Metacognition and Consciousness Instructors: Ljerka Ostojić, Marko Jurjako
Week 6	Module 2: Metacognition and Consciousness Instructor: Ljerka Ostojić, Marko Jurjako
Week 7	Module 3: Theory of Mind Instructors: Edward Legg, Ljerka Ostojić, Sandra Arbula
Week 8	Module 3: Theory of Mind Instructors: Edward Legg, Ljerka Ostojić, Sandra Arbula
Week 9	Module 3: Theory of Mind Instructors: Edward Legg, Ljerka Ostojić, Sandra Arbula
Week 10	Module 4: Social Perception Instructor: Edward Legg, Sandra Arbula
Week 11	Module 4: Social Perception Instructor: Edward Legg, Sandra Arbula
Week 12	Module 5: Individual Differences in Cognition Instructor: Asmir Gračanin
Week 13	Module 5: Individual Differences in Cognition Instructor: Asmir Gračanin
Week 14	Workshop: Interdisciplinarity vs. Multidisciplinarity in Cognitive Sciences Instructor: Ivan Flis
Week 15	Workshop: Interdisciplinarity vs. Multidisciplinarity in Cognitive Sciences Instructor: Ivan Flis

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
Synthesise results and insights from selected areas	Metacognition, Consciousness, Theory of Mind, Social Cognition, Social Perception, Individual Differences	Lectures, Seminars	Class Participation (discussion), Essays, Written exam
Consider and compare theories and models within selected areas	Metacognition, Consciousness, Theory of Mind, Social Cognition, Social Perception	Lectures, Seminars	Class Participation (discussion), Essays, Written exam
Critically evaluate claims of empirical research from selected areas	Metacognition, Consciousness, Theory of Mind, Social Cognition, Social Perception, Individual Differences	Lectures, Seminars	Class Participation (discussion), Wssays, Written exam
Analyse interdisciplinary links between disciplines and areas	Interdisciplinarity, Multidisciplinarity	Workshop	Class Participation (discussion), Wssays, Written exam
Synthesise arguments from philosophy in selected areas	Metacognition, Consciousness, Theory of Mind	Lectures, Seminars	Class Participation (discussion), Essays, Written exam
Compare discussions in selected areas in philosophy and within empirical disciplines and areas	Metacognition, Consciousness, Theory of Mind	Lectures, Seminars, Workshop	Class Participation (discussion), Essays, Written exam

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Filozofski fakultet

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SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Ethics
Study programme	Masters in Cognitive Sciences: Cognition and the Mind
Semester	2nd
Academic year	2024/2025
ECTS credits	6
Contact hours (Lectures + Seminars + Practical work)	15+30+0
Time and venue of classes	TBC
Language of instruction	English
Course organiser	Dr. Ljerka Ostojić
Course instructors	**Contact details**
Dr. Ivan Flis	Email: ivan.flis@ffri.uniri.hr, Office: F-121, Office Hours: TBA
Dr. Ljerka Ostojić	Email: lj.ostojic@uniri.hr, Phone: 051/669-217, Office: F-344, Office Hours: TBA
Dr. Sandra Arbula	Email: saarbul@sissa.hr (external collaborator)

I. DETAILED COURSE DESCRIPTION

COURSE OVERVIEW

In this course, will work through ethical questions in cognitive sciences research and discuss situations and components that you are likely to encounter in your future research career.

EXPECTED LEARNING OUTCOMES

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

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')			
Lectures	Seminars	Practical work	Independent work
x	x		x
Fieldwork	Laboratory work	Mentoring	Other
		x	

II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
Class attendance	1.5	
Project	2.5	50
Seminar paper	2	50
TOTAL	6	100

To obtain a grade on this course, students must i) take part in a project (maximum points: 50) and ii) submit one seminar paper (maximum points: 50).

Detailed information about all graded elements will be given and discusses in the first lecture.

Final grades will be determined as follows:

GRADE	UNDEGRADUATE AND GRADUATE PROGRAMMES
5 (A)	90 – 100 % points
4 (B)	75 – 89.9 % points
3 (C)	60 – 74.9 % points
2 (D)	50 – 59.9 % points
1 (F)	0 – 49.9 % points

III. READING

MANDATORY READING

- Rosnow, R.L. & Rosenthal (2013). *Beginning Behavioral Research: A Conceptual Primer.* Harlow: Prentice Hall.
- 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
- Birhane, A. & Guest, O. (2020). Towards decolonising computational sciences. *aXiv:1009.14258.*
- Lee, D.N. (2020). Diversity and inclusion activism in animal 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
- Greene, T., Schmueli, G., Ray, S., & Fell, J. (2019). Adjusting to the GDPR: The impact on data scientists 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
- Norton, B.J. (1978). Karl Pearson and Statistics: The origins of scientific innovation. *Social Studies of Science*, 8(1), 3-34.
- 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
- 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.
- 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
- Tennant, J.P., Waldner, F., Jacques, D.C., Masuzzo, P., Collister, L.B., & Hartgerink. C.H. (2016). The academic, economic and societal 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

RECOMMENDED FURTHER READING

- 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 Scientific 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 impede the natural 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 promote 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

IV. ADDITIONAL INFORMATION

ATTENDANCE

Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.

WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Students can talk to their course instructors in and after class, contact them over email or Moodle, and during office hours. It is recommended that students contact lecturers in advance to arrange a meeting.

INFORMATION ABOUT THE FINAL EXAM

There is no final exam for this course.

OTHER RELEVANT INFORMATION

Academic honesty

Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.

EXAM DATES

Winter	N/A
Summer	27 June 2025 and 11 July 2025
Autumn	27 August 2025 and 10 September 2025

V. COURSE OUTLINE

DATE	TOPIC
Week 1	Introduction to the course. Introduction to Ethics in Cognitive Sciences Instructors: Ljerka Ostojić, Ivan Flis
Week 2	Module 1: Ethics and Philosophy Instructor: TBC

Week 3	Module 2: Ethics in Research with Participants Instructor: Ljerka Ostojić
Week 4	Module 2: Ethics in Research with Participants Instructor: Ljerka Ostojić, Ivan Flis
Week 5	Module 2: Ethics in Research with Participants Instructor: Ljerka Ostojić, Sandra Arbula
Week 6	Module 2: Ethics in Research with Participants Instructor: Ljerka Ostojić
Week 7	Project Introduction
Week 8	Module 3: Ethics and Open Science Instructor: Ivan Flis, Ljerka Ostojić
Week 9	Module 3: Ethics and Open Science Instructor: Ivan Flis, Ljerka Ostojić
Week 10	Module 4: Ethics in AI Instructor: Ivan Flis, Ljerka Ostojić
Week 11	Module 4: Ethics in AI Instructor: Ivan Flis, Ljerka Ostojić
Week 12	Project Work
Week 13	Module 6: Ethics and the Scientific Community Instructor: Ivan Flis, Ljerka Ostojić
Week 14	Module 6: Ethics and the Scientific Community Instructor: Ivan Flis, Ljerka Ostojić
Week 15	Wrap-up, Project Presentation and Discussion

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
Critically assess the role of ethics for cognitive sciences	Ethics in philosophy, Ethics in empirical research, Ethics in AI	Lectures, Seminars, Discussions	Project-based assessment, Seminar paper
Analyse ethical issues related to different studies	Ethics in philosophy, Ethics in empirical research, Ethics in AI	Lectures, Seminars, Discussions	Project-based assessment, Seminar paper
Assess the ways in which ethical issues in empirical research can be approached during applications for ethical approval	Ethics in working with human participants, Ethics in working with animal participants	Lectures, Seminars, Discussions	Project-based assessment, Seminar paper
Discuss ethical issues arising from the use of empirical data and results	Ethics in empirical research, Open Science, Data Management, Data Sharing, Dissemination of research, Participatory research	Lectures, Seminars, Discussions	Project-based assessment, Seminar paper
Analyse ethical questions related to the nature of work and professional development in academia	Ethics and the scientific community, Visibility and diversity in the scientific community, Scientific colonialism	Lectures, Seminars, Discussions	Project-based assessment, Seminar paper

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SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Empirical Research Methods 2
Study programme	Masters in Cognitive Sciences: Cognition and the Mind
Semester	2nd
Academic year	2023/2024
ECTS credits	7
Contact hours (Lectures + Seminars + Practical work)	30+30+0
Time and venue of classes	TBC
Language of instruction	English
Course organisers	Dr. Asmir Gračanin, Dr. Edward Legg
Course instructors	**Contact details**
Dr. Edward Legg	Email: edward.legg@uniri.hr, Phone: 051/669-217, Office: F-344, Office Hours: TBA
Dr. Ljerka Ostojić	Email: lj.ostojic@uniri.hr, Phone: 051/669-217, Office: F-344, Office Hours: TBA
Dr. Sandra Arbula	Email: saarbul@sissa.it (external collaborator)

I. DETAILED COURSE DESCRIPTION

COURSE OVERVIEW

In this course, you will familiarise yourself with the diversity of methodological approaches and methods in cognitive sciences and will train for (independent) research in cognitive sciences by integrating steps in empirical research through a specialised workshop.

EXPECTED LEARNING OUTCOMES

- design experimental and non-experimental studies based on different research questions,
- select and conceptualise appropriate methods for planning and conducting a study,
- analyse and evaluate the implementation of correlational designs in cognitive sciences,
- apply and adapt assessment scales in cognitive sciences,
- apply psychophysiological measures for research in cognitive sciences,
- design cognitive experiments with reaction time as a dependent variable,
- analyse and interpret results of an experiment with reaction time as a dependent variable,

- program a cognitive experiment using PsychoPy or OpenSesame,
- design and program online experiments.

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')			
Lectures	Seminars	Practical work	Independent work
x	x		x
Fieldwork	Laboratory work	Mentoring	Other
			x

II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
Class attendance	2	
Class participation	2	20
Seminar paper	2	50
Project	2	30
TOTAL	7	100

To obtain a grade on this course, students must i) participate in class discussions and other tasks during classes (maximum points: 20), ii) actively take part in the class project (workshop; maximum points: 30), and iii) submit a seminar paper (workshop report; maximum points: 50).

Detailed information about all graded elements will be given and discusses in the first lecture.

Final grades will be determined as follows:

GRADE	UNDEGRADUATE AND GRADUATE PROGRAMMES
5 (A)	90 – 100 % points
4 (B)	75 – 89.9 % points
3 (C)	60 – 74.9 % points
2 (D)	50 – 59.9 % points
1 (F)	0 – 49.9 % points

III. READING

MANDATORY READING

- Bermúdez, J. (2016). *Cognitive science: An introduction to the science of the mind* (2nd ed.). Cambridge University Press.
- Shaughnessy, J. J., Zechmeister, E. B. i Zechmeister, J. S. (2012). *Research methods in psychology* (9th ed.). McGraw-Hill.
- 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
- Farrell, S. & Lewandowsky, S. (2018). *Computational modeling of cognition and behavior*. Cambridge University Press.
- Kline, R. B. (2008). *Becoming a behavioral science researcher: A Guide to producing research that matters*. The Guilford Press.

RECOMMENDED FURTHER READING

- 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 of Information Systems*, 33(1), 113-128. https://doi.org/10.2308/isys/52036

IV. ADDITIONAL INFORMATION

ATTENDANCE

Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.

WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Students can talk to their course instructors in and after class, contact them over email or Moodle, and during office hours. It is recommended that students contact lecturers in advance to arrange a meeting.

INFORMATION ABOUT THE FINAL EXAM

There is no final exam for this course.

OTHER RELEVANT INFORMATION

Academic honesty

Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.

EXAM DATES

Winter	N/A
Summer	1 July 2025 11 July 2025
Autumn	2 September 2025 16 September 2025

V. COURSE OUTLINE

DATE	TOPIC
Week 1	Introduction to the course and workshop Instructors: Edward Legg, Ljerka Ostojić, Sandra Arbula
Week 2	Mental chronometry Instructor: Sandra Arbula
Week 3	Mental chronometry Instructor: Sandra Arbula
Week 4	Programming cognitive experiments Instructor: Edward Legg
Week 5	Programming cognitive experiments Instructor: Edward Legg
Week 6	Programming cognitive experiments Instructor: Edward Legg
Week 7	Programming cognitive experiments Instructor: Edward Legg
Week 8	Programming cognitive experiments Instructor: Edward Legg
Week 9	Programming cognitive experiments Instructor: Edward Legg
Week 10	Programming cognitive experiments Instructor: Edward Legg

Week 11	Open Science tools for planning and designing empirical research Instructor: Ljerka Ostojic
Week 12	Workshop Instructors: Edward Legg, Sandra Arbula
Week 13	Workshop Instructors: Edward Legg, Sandra Arbula
Week 14	Workshop Instructors: Edward Legg, Sandra Arbula
Week 15	Workshop and Wrap-up Instructors: Edward Legg, Sandra Arbula

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
Design experimental and non-experimental studies based on different research questions	Non-experimental correlational designs, Mental chronometry, Programming cognitive experiments, Online testing	Lectures, Seminars, Workshop	Class Participation, Project, Seminar paper
Select and conceptualise appropriate methods for planning and conducting a study	Non-experimental correlational designs, Mental chronometry, Programming cognitive experiments, Online testing, Open Science	Lectures, Seminars, Workshop	Class Participation, Project, Seminar paper
Analyse and evaluate the implementation of correlational designs in cognitive sciences	Non-experimental correlational designs, Open Science	Lectures, Seminars	Class Participation
Apply and adapt assessment scales in cognitive sciences	Non-experimental correlational designs	Lectures, Seminars	Class Participation
Apply psychophysiological measures for research in cognitive sciences	Non-experimental correlational designs,	Lectures, Seminars	Class Participation
Design cognitive experiments with reaction time as a dependent variable	Mental chronometry, Programming cognitive experiments, Online testing	Lectures, Seminars, Workshop	Class Participation, Project, Seminar paper
Analyse and interpret results of an experiment with reaction time as a dependent variable	Mental chronometry	Lectures, Seminars, Workshop	Class Participation, Project, Seminar paper
Program a cognitive experiment using PsychoPy or OpenSesame	Programming cognitive experiments	Lectures, Seminars	Class Participation
Design and program online experiments	Online testing	Lectures, Seminars	Class Participation

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Sveučilišna avenija 4
51 000 Rijeka

SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Rotation project 2
Study programme	Masters in Cognitive Sciences: Cognition and the Mind
Semester	2nd
Academic year	2023/2024
ECTS credits	5
Contact hours **(Lectures + Seminars + Practical work)**	3+19+0
Time and venue of classes	TBC
Language of instruction	English
Course organisers	Dr. Ljerka Ostojić
Course instructors	**Contact details**
Dr. Ljerka Ostojić	Email: lj.ostojic@uniri.hr, Phone: 051/669-217, Office: F-344, Office Hours: TBA

I. DETAILED COURSE DESCRIPTION

COURSE OVERVIEW

Like in the course *Rotation project 1*, you will choose one of the offered topics and, independently and with your supervisor, plan and design a study. The aim of the course is to think about the importance of early stages of research, thus the emphasis will be on planning and structuring the research: for empirical projects, this will include planning statistical analysis but will not include data collection, and for theoretical projects, this will focus on structuring and planning the project.

This semester, you will be asked to especially focus on data management and ethical questions related to your selected research question. Thus, the rotation project will give you the opportunity to apply knowledge and skills from the *Empirical Research Methods 2* and *Ethics* courses.

In addition, we will organise workshops with external collaborators and invited lecturers.

EXPECTED LEARNING OUTCOMES

- select and adapt research designs according to a research question,
- explain and argue the choice of research design according to a research question,
- critically assess possible claims based on the planned study,
- critically evaluate possible ways to increase reproducibility and replicability of research (if relevant),
- plan and write a data management plan for a selected research question,
- critically evaluate ethical questions related to a selection research question,

- analyse possible ways to approach the above-mentioned ethical questions in practice.

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')

Lectures	Seminars	Practical work	Independent work
x	x		x
Fieldwork	**Laboratory work**	**Mentoring**	**Other**
		x	x

II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
Class attendance	0.73	
Project	2.67	50
Seminar paper	1.6	50
TOTAL	5	100

To obtain a grade on this course, students must i) choose and conduct one rotation project (maximum points: 50) and ii) submit a seminar paper (rotation project report; maximum points: 50).

Detailed information about all graded elements will be given and discusses in the first lecture.

Final grades will be determined as follows:

GRADE	UNDEGRADUATE AND GRADUATE PROGRAMMES
5 (A)	90 – 100 % points
4 (B)	75 – 89.9 % points
3 (C)	60 – 74.9 % points
2 (D)	50 – 59.9 % points
1 (F)	0 – 49.9 % points

III. READING

MANDATORY READING

- Wilkinson, M., Dumontier, M., Aalbersberg, I. *et al.* (2016). The FAIR Guiding Principles for scientific data management and stewardship. *Scientific Data* 3, 160018
- Gewin, V. (2016). Data sharing: An open mind on open data. *Nature*, *529*(7584), 117-119.
- Stewart, N., Chandler, J., & Paolacci, G. (2017). Crowdsourcing samples in cognitive science. *Trends in cognitive sciences*, *21*(10), 736-748.
- 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*.

RECOMMENDED FURTHER READING

- 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.

IV. ADDITIONAL INFORMATION

ATTENDANCE

Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.

WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Students can talk to their course instructors in and after class, contact them over email or Moodle, and during office hours. It is recommended that students contact the lecturer in advance to arrange a meeting.

INFORMATION ABOUT THE FINAL EXAM

There is no final exam for this course.

OTHER RELEVANT INFORMATION

Academic honesty

Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.

EXAM DATES

Winter	N/A
Summer	24 June 2025 and 8 July 2025
Autumn	26 August 2025 and 9 September 2025

V. COURSE OUTLINE

DATE	TOPIC
Week 1	Introduction to the course (choosing of topics, preparing for the rotation project) (1S)
Week 2	Project Work (2S)
Week 3	
Week 4	
Week 5	Project Work (2S)
Week 6	
Week 7	Workshop 1*: Data Management (1L + 3S)
Week 8	
Week 9	Project Work (2S)
Week 10	Workshop 3*: Meta-Analysis (2L + 4S)
Week 11	
Week 12	Project Work (2S)
Week 13	
Week 14	
Week 15	Final discussion (2S)

* Workshops are organised with external collaborators or invited lecturers, thus the dates may change. Workshops will either be held in person or online.

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
Select and adapt research designs according to a research question	Selected project area, Replicability, Reproducibility, Meta-analysis	Individual work, Meetings with project supervisor, Workshops	Project, Seminar paper
Explain and argue the choice of research design according to a research question	Selected project area, Replicability, Reproducibility, Meta-analysis	Individual work, Meetings with project supervisor, Workshops	Project, Seminar paper
Critically assess possible claims based on the planned study	Selected project area	Individual work, Meetings with project supervisor, Workshops	Project, Seminar paper
Critically evaluate possible ways to increase reproducibility and replicability of research (if relevant),	Selected project area, Replicability, Reproducibility	Individual work, Meetings with project supervisor, Workshops	Project, Seminar paper
Plan and write a data management plan for a selected research question,	Selected project area, Data management	Individual work, Meetings with project supervisor, Workshops	Project, Seminar paper
Critically evaluate ethical questions related to a selection research question,	Selected project area, Ethics, GDPR, FAIR Data	Individual work, Meetings with project supervisor, Workshops	Project, Seminar paper
Analyse possible ways to approach the above-mentioned ethical questions in practice.	Selected project area, Ethics, GDPR, FAIR Data	Individual work, Meetings with project supervisor, Workshops	Project, Seminar paper

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SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Elective modules in Cognitive Sciences
Study programme	Masters in Cognitive Sciences: Cognition and the Mind
Semester	2nd, 4th
Academic year	2024/2025
ECTS credits	3
Contact hours (Lectures + Seminars + Practical work)	12+12+0
Time and venue of classes	TBC
Language of instruction	English
Course organiser and instructor	Dr. Zdenka Brzović, Dr. Edward Legg, Dr. Ljerka Ostojić
Course instructors	**Contact Details**
Dr. Edward Legg	Email: edward.legg@uniri.hr, Phone: 051/699-217, Office: F-344, Office hours: TBA
Dr. Sandra Arbula	Email: saarbul@sissa.it (external collaborator)
Dr. Ljerka Ostojić	Email: lj.ostojic@uniri.hr, Phone: 051/699-217, Office: F-344, Office hours: TBA
Dr. Mirta Zelenika	Email: mirta.zelenika@outlook.com (invited lecturer)
Dr. Asmir Gračanin	Email: agracanin@ffri.uniri.hr, Phone: 051/265-368, Office: F-361, Office Hours: TBA
Dr. Ivan Flis	Email: ivan.flis@uniri.hr, Office: F-121, Office hours: TBA

I. DETAILED COURSE DESCRIPTION

COURSE OVERVIEW

The aim of this course is to familiarise you with different areas of cognitive sciences from a disciplinary, multidisplinary, and interdisciplinary perspective.

Within the elective course, there are several modules from which you can choose one.

EXPECTED LEARNING OUTCOMES

Depending on the chosen module, students are expected to achieve a subset of the following course outcomes:

- to evaluate benefits of AI for investigating cognition and the mind,
- to identify and analyse challenges and obstacles in working with AI,
- to independently study recent literature in the field of AI
- to identify the main discussions in research on cognitive development,
- to evaluate benefits and challenges of different empirical approaches to study cognitive development,
- to critically assess results of empirical studies in cognitive development as well as their link to theories on development,
- to discuss chosen research fields within developmental psychology,
- to describe and analyse current topics and studies on the evolution of cognition,
- to critically assess methods and claims of studies on the evolution of cognition,
- 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.

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')

Lectures	Seminars	Practical work	Independent work
x	x		x
Fieldwork	**Laboratory work**	**Mentoring**	**Other**
		x	x

II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
Class attendance	0.73	
Class Participation	1	50
Project	1.27	50
TOTAL	3	100

To obtain a grade on this course, students must i) actively participate in class (maximum points: 50) and ii) successfully complete a project (maximum points: 50).

Activities and class and projects will differ in their content and form based on the chosen module. Detailed information will be given by the module instructor(s) in the first module class.

Final grades will be determined as follows:

GRADE	UNDEGRADUATE AND GRADUATE PROGRAMMES
5 (A)	90 – 100 % points
4 (B)	75 – 89.9 % points
3 (C)	60 – 74.9 % points
2 (D)	50 – 59.9 % points
1 (F)	0 – 49.9 % points

III. READING

MANDATORY READING

- Smaldino, P. E. & McElreath, R. (2016). The natural selection of bad science. *Royal Society Open Science,* doi: 10.1098/rsos.160384.
- Leonelli, S. (2018). Re-thinking reproducibility as a criterion for research quality. [Pre-print]. http://philsci-archive.pitt.edu/14352/1/Reproducibility_2018_SL.pdf
- Bermúdez, J. (2016). *Cognitive science: An introduction to the science of the mind* (3rd ed.). New York: Cambridge University Press.
- Levine, D. S. (2019). *Introduction to cognitive and neural modeling* (3rd ed.). New York: Routledge
- Spelke, E. S., & Kinzler, K. D. (2007). Core knowledge. *Developmental Science*, 10(1), 89–96. doi:10.1111/j.1467-7687.2007.00569.x
- Gopnik, A. (1996). The Scientist as Child. *Philosophy of Science*, 63(4), 485–514. doi:10.1086/289970
- Tenenbaum, J. B., Kemp, C., Griffiths, T. L., & Goodman, N. D. (2011). How to Grow a Mind: Statistics,

Structure, and Abstraction. *Science*, 331(6022), 1279–1285. doi:10.1126/science.1192788

- Kubricht, J. R., Holyoak, K. J., & Lu, H. (2017). Intuitive Physics: Current Research and Controversies. *Trends in Cognitive Sciences*, 21(10), 749–759. doi:10.1016/j.tics.2017.06.002
- Kuhl, P. K. (2004). Early language acquisition: cracking the speech code. *Nature Reviews Neuroscience*, 5(11), 831–843. doi:10.1038/nrn1533
- Suddendorf, T. (2017). The Emergence of Episodic Foresight and Its Consequences. *Child Development Perspectives*, 11(3), 191–195. doi:10.1111/cdep.12233
- Hamlin, J. K. (2013). Moral Judgment and Action in Preverbal Infants and Toddlers. *Current Directions in Psychological Science*, 22(3), 186–193. doi:10.1177/0963721412470687
- Poulin-Dubois, D. (2020). Theory of mind development: State of the science and future directions. *Progress in Brain Research*. doi:10.1016/bs.pbr.2020.05.021
- Bear, F. M., Connors, B. W., Paradiso, M. A. (2016). *Neuroscience exploring the brain*. Philadelphia: Wolters Kluwer.
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- Heyes, C. (2019). Précis of *Cognitive gadgets: The cultural evolution of thinking*. *Behavioral and Brain Sciences*, 42, E169. https://doi.org/10.1017/S0140525X18002145
- Shettleworth, S.J. (2012). Modularity, comparative cognition and human uniqueness. *Philosophical Transactions of the Royal Society B*, 367, 2794-2802. https://doi.org/10.1098/rstb.2012.0211
- Huber, L. & Wilkinson, A. (2012). Evolution of cognition: a comparative approach. In *Sensory Perception* (pp. 135-152). Vienna: Springer.
- Confer, J. C., Easton, J. A., Fleischman, D. S., Goetz, C. D., Lewis, D. M., Perilloux, C., & Buss, D. M. (2010). Evolutionary psychology: Controversies, questions, prospects, and limitations. *American Psychologist*, *65*(2), 110.
- Buss, D. M. (1995). Evolutionary psychology: A new paradigm for psychological science. *Psychological inquiry*, *6*(1), 1-30.
- Buss, D. M. (2009). How can evolutionary psychology successfully explain personality and individual differences?. *Perspectives on Psychological Science*, *4*(4), 359-366.
- Cosmides, L., & Tooby, J. (2013). Evolutionary psychology: New perspectives on cognition and motivation. *Annual review of psychology*, *64*, 201-229.
- Mack, C.A. (2012). How to write a good scientific paper: title, abstract, and keywords. *Journal of Micro/Nanolithography, MEMS, and MOEMS*, 11(2), 020101.
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- Croft, William & D. Alan Cruse. 2004. *Cognitive Linguistics*. (Cambridge Textbooks in Linguistics.) Cambridge: Cambridge University Press.
- Matthews, Peter. 2014. *The Concise Dictionary of Linguistics* (Oxford Paperback Reference). New York: Oxford University Press.
- Frith, C.D. (2008). Social Cognition. *Philosophical Transactions of the Royal Society B*, 363(1499): 2033–2039. https://doi.org/10.1098/rstb.2008.0005
- Larsen, R.J., & Buss, D.M. (2005). Personality psychology. New York: McGraw-Hill
- Fecher, B. & Friesike, S. (2014). Open science: one term, five schools of thought. In *Opening science* (pp. 17-47). Cham: Springer.
- McKiernan, E.C. et al. (2016). Point of view: How open science helps researchers succeed. *eLife*, 5, e16800.
- Allen, C. & Mehler, D.M. (2019). Open science challenges, benefits and tips in early career and beyond. *PLoS Biology*, 17(5), e3000246.
- Nosek, B.A. & Lindsay, D.S. (2018). Preregistration becoming the norm in psychological science. *APS Observer*, 31(3).
- Szollosi, A., Kellen, D., Navarro, D.J., Shiffrin, R., van Rooij, I., Van Zandt, T., & Donkin, C. (2019). Is preregstration worthwhile? *Trends in Cognitive Sciences*, 24(2), 94-95.
- Scheel, A.M., Schijen, M., & Lakens, D. An excess of positive results. *Comparing the standard Psychology literature with Registered Reports.* Preprint at https//osf.io/p6e9c (2020).

- Hunter, J. (2012). Post-publication peer review: opening up scientific conversation. *Frontiers in Computational Neuroscience*, 6(63). https://doi.org/10.3389/fncom.2012.00063
- Kirkham, J. & Moher, D. (2018). Who and why do researchers opt to publish in post-publication peer review platforms? – findings from a review and survey of F1000 Research. *F1000Research*, 7(920). https://doi.org/10.12688/f1000research.15436.1
- Sarabipour, S., Debat, H.J., Burgess, S.J., Schwessinger, B., & Hensel, Z. (2019). On the value of preprints: An early career researcher perspective. *PLoS Biology*, 17(2), e3000151. https://doi.org/10.1371/journal.pbio.3000151
- Okasha, Samir (2004). *Philosophy of Science: A Very Short Introduction*. Oxford University Press.
- Godfrey-Smith, Peter (2003). *Theory and Reality: An Introduction to the Philosophy of Science*. Chicago University Press.
- Philip Kitcher and Gillian Barker (2014). *Philosophy of Science: A New Introduction*. Oxford University Press.
- Block, N. 1978. Troubles with Functionalism. Pretiskano u W. Lycan, ur. *Mind and Cognition*. Oxford: Blackwell, 2008.
- Dennett, D. 1988. Quining Qualia. U A. Marcel and E. Bisiach, ur. *Consciousness in Contemporary Science.* Oxford: Oxford University Press, 43-77. Reprinted in N. Block, O. Flanagan i G. Güzeldere, ur. *The Nature of Consciousness*. Cambridge, Mass.: MIT Press, 1997.
- Crane, T. 2001. *The Elements of Mind: An Introduction to the Philosophy of Mind*. Oxford: Oxford University Press.
- Kim, J. 2006. *Philosophy of Mind*. Boulder, Co.: Westview Press.
- Maslin, K. T. 2001. *An Introduction to the Philosophy of Mind*. Cambridge: Polity.
- Nagel, T. 1974. What is it Like to be a Bat? *Philosophical Review* 83: 435–450. Reprinted in D. Chalmers, ur. *Philosophy of Mind: Classical and Contemporary Readings*. Oxford: Oxford University Press.
- Ryle, G. 1949. *The Concept of Mind*. London: Hutchinson. Pretiskano s uvodom D. Dennetta, Penguin: London, 1980.
- Chalmers, D. 2002. Philosophy of Mind: Classical and Contemporary Readings. New York: Oxford University Press.
- Weiskopf, D. and Adams, F. (2015). *An introduction to the philosophy of psychology*. Cambridge: Cambridge University Press.

RECOMMENDED FURTHER READING

IV. ADDITIONAL INFORMATION

ATTENDANCE

Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.

WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Students can talk to their course instructors in and after class, contact them over email or Moodle, and during office hours. It is recommended that student contact lecturers in advance to arrange for meeting, whether during office hours or at a different time.

INFORMATION ABOUT THE FINAL EXAM

There is no final exam for this course.

OTHER RELEVANT INFORMATION

Academic honesty

Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic

integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.	
EXAM DATES	
Winter	NA
Summer	23 June 2025 and 7 July 2025
Autumn	25 August 2025 and 8 September 2025
V. COURSE OUTLINE	
DATE	TOPIC
Week 1	Introduction to the course (2L) Instructor: Ljerka Ostojić
Week 3	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula
Week 4	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula
Week 5	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula
Week 6	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula
Week 7	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula
Week 8	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula

Week 9	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula
Week 10	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula
Week 11	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula
Week 12	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula
Week 14	Final discussion and Wrap-up (2S) Instructor: Ljerka Ostojić

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
to evaluate benefits of AI for investigating cognition and the mind	Module Cognition and AI	Lectures, Seminar	Class Participation, Project
to identify and analyse challenges and obstacles in working with AI	Module Cognition and AI	Lectures, Seminar	Class Participation, Project
to independently study recent literature in the field of AI	Module Cognition and AI	Lectures, Seminar	Class Participation, Project
to identify the main discussions in research on cognitive development	Module Developing Minds	Lectures, Seminar	Class Participation, Project
to evaluate benefits and challenges of different empirical approaches to study cognitive development	Module Developing Minds	Lectures, Seminar	Class Participation, Project
to critically assess results of empirical studies in cognitive development as well as their link to theories on development	Module Developing Minds	Lectures, Seminar	Class Participation, Project
to discuss chosen research fields within developmental psychology	Module Developing Minds	Lectures, Seminar	Class Participation, Project
to describe and analyse current topics and studies on the evolution of cognition	Module Evolution of the Mind	Lectures, Seminar	Class Participation, Project
to critically assess methods and claims of studies on the evolution of cognition	Module Evolution of the Mind	Lectures, Seminar	Class Participation, Project
to analyse the challenges and benefits of Open Science approaches and tools	Modules Open Science and Its Tools and Extension to Open Science and its Tools	Lectures, Seminar	Class Participation, Project
to apply and adapt various Open Science tools to own research	Modules Open Science and Its Tools and Extension to Open Science and its Tools	Lectures, Seminar	Class Participation, Project
to discuss benefits and suitability of various tools for different research	Modules Open Science and Its Tools and Extension to Open Science and its Tools	Lectures, Seminar	Class Participation, Project

to discuss and make informed decisions about using Open Science approaches and tools in own work	Modules Open Science and Its Tools and Extension to Open Science and its Tools	Lectures, Seminar	Class Participation, Project

SVEUČILIŠTE U RIJECI
Filozofski fakultet

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SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Preparation of Masters Thesis 1
Study programme	Masters in Cognitive of Sciences: Cognition and the Mind
Semester	3rd
Academic year	2024/2025
ECTS credits	20
Contact hours (Lectures + Seminars + Practical work)	NA. Students work with their supervisor(s) on a research project.
Time and venue of classes	TBC
Language of instruction	English

I. DETAILED COURSE DESCRIPTION

COURSE OVERVIEW

Students work independently and with their supervisor(s) and where applicable, advisor(s) on the plan of their Masters thesis project.

EXPECTED LEARNING OUTCOMES

- To select a research question for independent scientific or scholarly work,
- For empirical projects: to design an empirical study to investigate the chosen research question,
- For theoretical projects, to choose adequate theoretical research methods for the chosen research question,
- To critically evaluate the possible inferences and conclusions that can be drawn based on the research project of the Masters thesis,
- To plan and carry out a poster presentation of the chosen Masters thesis project.

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')

Lectures	Seminars	Practical work	Independent work
Fieldwork	**Laboratory work**	**Mentoring**	**Other**
		x	

II. COURSE EVALUATION AND GRADING CRITERIA

TOTAL	4	100

The course outcomes are evaluated during the Masters thesis defense.

Final grades will be determined as follows:

III. READING

MANDATORY READING

The Literature for this course depends on the Masters thesis project.

RECOMMENDED FURTHER READING

IV. ADDITIONAL INFORMATION

ATTENDANCE

Students have regular meetings with their supervisor(s) and advisor(s).

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.

WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Students can talk to their supervisor(s) during meetings, contact them over email or Moodle, and during office hours.

INFORMATION ABOUT THE FINAL EXAM

There is no final exam for this course. The course outcomes are evaluated during the Masters thesis defense.

OTHER RELEVANT INFORMATION

Academic honesty
Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.

EXAM DATES

Winter	10 February 2025 and 24 February 2025
Summer	30 June 2025 and 14 July 2025
Autumn	1 September 2025 and 15 September 2025

V. COURSE OUTLINE

DATE	TOPIC
Week 1	Introduction to the Masters thesis and finding a supervisor.
Week 2	Working on the Masters thesis project. Meeting with supervisor.
Week 3	Working on the Masters thesis project. Meeting with supervisor.
Week 4	Working on the Masters thesis project. Meeting with supervisor.
Week 5	Working on the Masters thesis project. Meeting with supervisor.
Week 6	Working on the Masters thesis project. Meeting with supervisor.
Week 7	Working on the Masters thesis project. Meeting with supervisor.
Week 8	Working on the Masters thesis project. Meeting with supervisor.
Week 9	Working on the Masters thesis project. Meeting with supervisor.

Week 10	Working on the Masters thesis project. Meeting with supervisor.
Week 11	Working on the Masters thesis project. Meeting with supervisor.
Week 12	Working on the Masters thesis project. Preparation for the poster presentation.
Week 13	Working on the Masters thesis project. Meeting with supervisor.
Week 14	Poster presentation.
Week 15	Working on the Masters thesis project. Meeting with supervisor.

SVEUČILIŠTE U RIJECI
Filozofski fakultet

Sveučilišna avenija 4
51 000 Rijeka

SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Science Communication 1
Study programme	Masters in Cognitive Sciences: Cognition and the Mind
Semester	3rd
Academic year	2024/2025
ECTS credits	4
Contact hours **(Lectures + Seminars + Practical work)**	3+14+0
Time and venue of classes	TBC
Language of instruction	English
Course organiser	Dr. Ljerka Ostojić
Course instructor	**Contact details**
Dr. Ljerka Ostojić	Email: lj.ostojic@uniri.hr, Phone: 051/669-217, Office: F-344, Office Hours: TBA

I. DETAILED COURSE DESCRIPTION

COURSE OVERVIEW

In this course, students will plan and carry out a science communication project related to their Masters thesis.

EXPECTED LEARNING OUTCOMES

- to conceptualise different science communication ideas and adapt them to the topic of a research project,
- to create a plan for a science communication project according to a selected topic,
- to critically evaluate the benefits and possible problems in science communication in general and for specific projects.

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')

Lectures	Seminars	Practical work	Independent work
x	x	x	x
Fieldwork	**Laboratory work**	**Mentoring**	**Other**
x		x	x

II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
Class attendance	0.37	
Class participation	0.63	20
Project	3	80
TOTAL	4	100

To successfully pass this course, students must i) actively participate in classes/during mentoring sessions (maximum points available: 20) and ii) design and plan a science communication project (maximum points available: 80).

Final grades will be determined as follows:

GRADE	UNDEGRADUATE AND GRADUATE PROGRAMMES
5 (A)	90 – 100 % points
4 (B)	75 – 89.9 % points
3 (C)	60 – 74.9 % points
2 (D)	50 – 59.9 % points
1 (F)	0 – 49.9 % points

III. READING

MANDATORY READING

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

RECOMMENDED FURTHER READING

- 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

- 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

- 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.

IV. ADDITIONAL INFORMATION

ATTENDANCE

Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.

WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Students can talk to their course instructors in and after class, contact them over email or Moodle, and during office hours. It is recommended that students contact lecturers in advance to arrange for a meeting.

INFORMATION ABOUT THE FINAL EXAM

There is no final exam for this course.

OTHER RELEVANT INFORMATION

Academic honesty

Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.

EXAM DATES

Winter	10 February 2025 and 24 February 2025
Summer	30 June 2025 and 14 July 2025
Autumn	1 September and 15 September

V. COURSE OUTLINE

DATE	TOPIC
Week 1	
Week 2	
Week 3	Intro to the course (1L + 2S)
Week 4	Project work (2S)
Week 5	Project work (2S)
Week 6	
Week 7	Workshop 1 (1L+2S)
Week 8	
Week 9	Project work (2S)
Week 10	
Week 11	Workshop 2 (1L+2S)
Week 12	
Week 13	
Week 14	Project work (2S)
Week 15	

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
to conceptualise different science communication ideas and adapt them to the topic of a research project,	Media, Social media, Target audience, Citizen Science	Mentoring and Workshops	Class Participation, Project
to create a plan for a science communication project according to a selected topic,	Media, Social media, Target audience, Citizen Science	Mentoring and Workshops	Project
to critically evaluate the benefits and possible problems in science communication in general and for specific projects.	Ethics, Research integrity, Communication	Mentoring and Workshops	Class Participation, Project

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
To select a research question for independent scientific or scholarly work,	Masters thesis topic	Individual work, Meetings with supervisor(s)	No summative assessment during the course. Formative assessment during meetings with supervisor(s).
For empirical projects: to design an empirical study to investigate the chosen research question,	Masters thesis topic if empirical	Individual work, Meetings with supervisor(s)	No summative assessment during the course. Formative assessment during meetings with supervisor(s).
For theoretical projects, to choose adequate theoretical research methods for the chosen research question,	Masters thesis topis if theoretical	Individual work, Meetings with supervisor(s)	No summative assessment during the course. Formative assessment during meetings with supervisor(s).
Critically evaluate the possible inferences and conclusions that can be drawn based on the research project of the Masters thesis,	Masters thesis topic	Individual work, Meetings with supervisor(s)	No summative assessment during the course. Formative assessment during meetings with supervisor(s).
Plan and carry out a poster presentation of the chosen Masters thesis project.	Masters thesis topic	Individual work, Meetings with supervisor(s)	No summative assessment during the course. Formative assessment during poster presentation.

SVEUČILIŠTE U RIJECI
Filozofski fakultet

Sveučilišna avenija 4
51 000 Rijeka

SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Journal Club 1
Study programme	Masters in Cognitive Sciences: Cognition and the Mind
Semester	3rd
Academic year	2024/2025
ECTS credits	2
Contact hours (Lectures + Seminars + Practical work)	0+8+0
Time and venue of classes	TBC
Language of instruction	English
Course organisers	Dr. Edward Legg, Dr. Ljerka Ostojić
Course instructors	**Contact details**
Dr. Sandra Arbula	Email: saarbul@sissa.it (external collaborator)
Dr. Edward Legg	Email: edward.legg@uniri.hr, Phone: 051/699-217, Office: F-344, Office hours: TBA
Dr. Ljerka Ostojić	Email: lj.ostojic@uniri.hr, Phone: 051/669-217, Office: F-344, Office Hours: TBA

I. DETAILED COURSE DESCRIPTION

COURSE OVERVIEW

In this course, students will lead so-called journal clubs in which they will lead discussions about a selected paper. There is also the opportunity to invite external speakers to present their research.

EXPECTED LEARNING OUTCOMES

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

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')

Lectures	Seminars	Practical work	Independent work
	x		x
Fieldwork	Laboratory work	Mentoring	Other
		x	x

II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
Class attendance	0.27	
Class participation	1.73	100
TOTAL	2	100

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.

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.

Final grades will be determined as follows:

GRADE	UNDEGRADUATE AND GRADUATE PROGRAMMES
5 (A)	90 – 100 % points
4 (B)	75 – 89.9 % points
3 (C)	60 – 74.9 % points
2 (D)	50 – 59.9 % points
1 (F)	0 – 49.9 % points

III. READING

MANDATORY READING

- Deenadayalan, Y., Grimmer-Somers, K., Prior, M., & Kumar, S. (2008). How to run an effective journal club: a systematic review. *Journal of evaluation in clinical practice*, *14*(5), 898-911.

RECOMMENDED FURTHER READING

IV. ADDITIONAL INFORMATION

ATTENDANCE

Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.

WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Students can talk to their course instructors in and after class, contact them over email or Moodle, and during office hours. It is recommended that students contact lecturers in advance to arrange for a meeting.

INFORMATION ABOUT THE FINAL EXAM

There is no final exam for this course.

OTHER RELEVANT INFORMATION

Academic honesty

Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.

EXAM DATES

Winter	10 February 2025 and 24 February 2025
Summer	30 June 2025 and 14 July 2025
Autumn	1 September 2025 and 15 September 2025

V. COURSE OUTLINE

DATE	TOPIC
Week 1	Intro to the course (1S)
Week 2	
Week 3	Journal Club (1S) – student-led
Week 4	
Week 5	Journal Club (1S) - – student-led
Week 6	
Week 7	Journal Club (1S) - – student-led
Week 8	
Week 9	Journal Club (1S) - – student-led
Week 10	
Week 11	Journal Club (1S) - – student-led
Week 12	
Week 13	Journal Club (1S) – invited talk
Week 14	
Week 15	Journal Club (1S) – invited talk

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
to present literature (e.g., an article) in a concise form to an audience of scientists with different experiences,	Topics of the papers chosen to be presented and discussed during a journal club	Leading the journal club	Presentation and discussion leading during the journal club.
to critically evaluate and discuss methods, claims, and possible impact of research	Topics of the papers chosen to be presented and discussed during a journal club	Leading the journal club, Discussion during the journal club.	Presentation and discussion during the journal club.

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SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Elective Modules in Cognitive Sciences
Study programme	Masters in Cognitive Sciences: Cognition and the Mind
Semester	1st, 3rd
Academic year	2024/2025
ECTS credits	3
Contact hours **(Lectures + Seminars + Practical work)**	12+12+0
Time and venue of classes	TBC
Language of instruction	English
Course organiser and instructor	Dr. Zdenka Brzović, Dr. Edward Legg, Dr. Ljerka Ostojić
Course instructors	**Contact Details**
Prof. Marija Brala Vukanović	Email: marija.brala@ffri.uniri.hr, Phone: 051/265-629, Office: F-901, Office hours: TBA
Dr. Edward Legg	Email: edward.legg@uniri.hr, Phone: 051/699-217, Office: F-344, Office hours: TBA
Dr. Sandra Arbula	Email: saarbul@sissa.it (external collaborator)
Dr. Ljerka Ostojić	Email: lj.ostojic@uniri.hr, Phone: 051/699-217, Office: F-344, Office hours: TBA
Dr. Jana Jurčević	Email: jana.jurcevic@ffri.uniri.hr, Phone and Office Hours TBA
Dr. Zdenka Brzović	Email: zdenka@ffri.uniri.hr, Phone: 051/265-795, Office: F-413, Office hours: TBA
Dr. Ivan Flis	Email: ivan.flis@uniri.hr, Office: F-121, Office hours: TBA
I. DETAILED COURSE DESCRIPTION	
COURSE OVERVIEW	

The aim of this course is to familiarise you with different areas of cognitive sciences from a disciplinary, multidisplinary and interdisciplinary perspective.

Within the elective course, there are several modules from which you can choose one.

EXPECTED LEARNING OUTCOMES

Depending on the chosen module from the modules offered in this semester, students are expected to achieve a subset of the following course outcomes:

- 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,
- 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,
- to describe and analyse current topics and recent studies in social cognition research,
- to critically evaluate methods and claims of social cognition studies,
- to explain recent discussions within contemporary philosophy of science,
- to defend different philosophical positions within discussions on contemporary philosophy of science.

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')

Lectures	Seminars	Practical work	Independent work
x	x		x
Fieldwork	**Laboratory work**	**Mentoring**	**Other**
		x	x

II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
Class attendance	0.73	
Class Participation	1	50
Project	1.27	50
TOTAL	3	100

To obtain a grade on this course, students must i) actively participate in class (maximum points: 50) and ii) successfully complete a project (maximum points: 50).

Activities and class and projects will differ in their content and form based on the chosen module. Detailed information will be given by the module instructor(s) in the first module class.

Final grades will be determined as follows:

GRADE	UNDEGRADUATE AND GRADUATE PROGRAMMES
5 (A)	90 – 100 % points

4 (B)	75 – 89.9 % points
3 (C)	60 – 74.9 % points
2 (D)	50 – 59.9 % points
1 (F)	0 – 49.9 % points

III. READING

MANDATORY READING

- Smaldino, P. E. & McElreath, R. (2016). The natural selection of bad science. *Royal Society Open Science,* doi: 10.1098/rsos.160384.
- Leonelli, S. (2018). Re-thinking reproducibility as a criterion for research quality. [Pre-print]. http://philsci-archive.pitt.edu/14352/1/Reproducibility_2018_SL.pdf
- Bermúdez, J. (2016). *Cognitive science: An introduction to the science of the mind* (3rd ed.). New York: Cambridge University Press.
- Levine, D. S. (2019). *Introduction to cognitive and neural modeling* (3rd ed.). New York: Routledge
- Spelke, E. S., & Kinzler, K. D. (2007). Core knowledge. *Developmental Science*, 10(1), 89–96. doi:10.1111/j.1467-7687.2007.00569.x
- Gopnik, A. (1996). The Scientist as Child. *Philosophy of Science*, 63(4), 485–514. doi:10.1086/289970
- Tenenbaum, J. B., Kemp, C., Griffiths, T. L., & Goodman, N. D. (2011). How to Grow a Mind: Statistics, Structure, and Abstraction. *Science*, 331(6022), 1279–1285. doi:10.1126/science.1192788
- Kubricht, J. R., Holyoak, K. J., & Lu, H. (2017). Intuitive Physics: Current Research and Controversies. *Trends in Cognitive Sciences*, 21(10), 749–759. doi:10.1016/j.tics.2017.06.002
- Kuhl, P. K. (2004). Early language acquisition: cracking the speech code. *Nature Reviews Neuroscience*, 5(11), 831–843. doi:10.1038/nrn1533
- Suddendorf, T. (2017). The Emergence of Episodic Foresight and Its Consequences. *Child Development Perspectives*, 11(3), 191–195. doi:10.1111/cdep.12233
- Hamlin, J. K. (2013). Moral Judgment and Action in Preverbal Infants and Toddlers. *Current Directions in Psychological Science*, 22(3), 186–193. doi:10.1177/0963721412470687
- Poulin-Dubois, D. (2020). Theory of mind development: State of the science and future directions. *Progress in Brain Research*. doi:10.1016/bs.pbr.2020.05.021
- Bear, F. M., Connors, B. W., Paradiso, M. A. (2016). *Neuroscience exploring the brain*. Philadelphia: Wolters Kluwer.
- Byrne, R.W. & Bates, L.A. (2007). Sociality, evolution and cognition. *Current Biology*, 17(16), R714-R723. http://doi.org/10.1016/j.cub.2007.05.069
- Heyes, C. (2019). Précis of *Cognitive gadgets: The cultural evolution of thinking*. *Behavioral and Brain Sciences*, 42, E169. https://doi.org/10.1017/S0140525X18002145
- Shettleworth, S.J. (2012). Modularity, comparative cognition and human uniqueness. *Philosophical Transactions of the Royal Society B*, 367, 2794-2802. https://doi.org/10.1098/rstb.2012.0211
- Huber, L. & Wilkinson, A. (2012). Evolution of cognition: a comparative approach. In *Sensory Perception* (pp. 135-152). Vienna: Springer.
- Confer, J. C., Easton, J. A., Fleischman, D. S., Goetz, C. D., Lewis, D. M., Perilloux, C., & Buss, D. M. (2010). Evolutionary psychology: Controversies, questions, prospects, and limitations. *American Psychologist*, *65*(2), 110.
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RECOMMENDED FURTHER READING

IV. ADDITIONAL INFORMATION

ATTENDANCE

Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.

WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Students can talk to their course instructors in and after class, contact them over email or Moodle, and during office hours. It is recommended that student contact lecturers in advance to arrange for meeting, whether during office hours or at a different time.

INFORMATION ABOUT THE FINAL EXAM

There is no final exam for this course.

OTHER RELEVANT INFORMATION

Academic honesty

Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.

EXAM DATES

Winter	11 February 2025 and 25 February 2025
Summer	23 June 2025 and 7 July 2025
Autumn	25 August 2025 and 8 September 2025

V. COURSE OUTLINE

DATE	TOPIC
Week 7	Introduction to the course (2L) Instructor: Ljerka Ostojić
Week 8	Work in modules (2L + 1S) Instructors: Cognitive Linguistics: Maja Brala Vukanović, Social Cognition: Edward Legg, Sandra Arbula, Science Writing and Reviewing: Ljerka Ostojić, Sandra Arbula (second year students only), Extension to Cognitive Linguistics – Cognitive Semiotics: Jana Jurčević, Philosophy of Mind: Zdenka Brzović, Ivan Flis
Week 9	Work in modules (2L + 1S) Instructors: Cognitive Linguistics: Maja Brala Vukanović, Social Cognition: Edward Legg, Sandra Arbula, Science Writing and Reviewing: Ljerka Ostojić, Sandra Arbula (second year students only), Extension to Cognitive Linguistics – Cognitive Semiotics: Jana Jurčević, Philosophy of Mind: Zdenka Brzović, Ivan Flis
Week 10	Work in modules (2L + 1S) Instructors: Cognitive Linguistics: Maja Brala Vukanović, Social Cognition: Edward Legg, Sandra Arbula, Science Writing and Reviewing: Ljerka Ostojić, Sandra Arbula (second year students only), Extension to Cognitive Linguistics – Cognitive Semiotics: Jana Jurčević, Philosophy of Mind: Zdenka Brzović, Ivan Flis
Week 11	Work in modules (2L + 1S) Instructors: Cognitive Linguistics: Maja Brala Vukanović,

	Social Cognition: Edward Legg, Sandra Arbula, Science Writing and Reviewing: Ljerka Ostojić, Sandra Arbula (second year students only), Extension to Cognitive Linguistics – Cognitive Semiotics: Jana Jurčević, Philosophy of Mind: Zdenka Brzović, Ivan Flis
Week 12	Work in modules (2L + 1S) Instructors: Cognitive Linguistics: Maja Brala Vukanović, Social Cognition: Edward Legg, Sandra Arbula, Science Writing and Reviewing: Ljerka Ostojić, Sandra Arbula (second year students only), Extension to Cognitive Linguistics – Cognitive Semiotics: Jana Jurčević, Philosophy of Mind: Zdenka Brzović, Ivan Flis
Week 13	Work in modules (2L + 1S) Instructors: Cognitive Linguistics: Maja Brala Vukanović, Social Cognition: Edward Legg, Sandra Arbula, Science Writing and Reviewing: Ljerka Ostojić, Sandra Arbula (second year students only), Extension to Cognitive Linguistics – Cognitive Semiotics: Jana Jurčević, Philosophy of Mind: Zdenka Brzović, Ivan Flis
Week 14	Work in modules (2L + 1S) Instructors: Cognitive Linguistics: Maja Brala Vukanović, Social Cognition: Edward Legg, Sandra Arbula, Science Writing and Reviewing: Ljerka Ostojić, Sandra Arbula (second year students only), Extension to Cognitive Linguistics – Cognitive Semiotics: Jana Jurčević, Philosophy of Mind: Zdenka Brzović, Ivan Flis
Week 15	Final discussion and Wrap-up (2S) Instructor: Ljerka Ostojić

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
to write on the same topic in different ways, depending on where the text is expected to be published	Module Science Writing and Reviewing	Lectures, Seminar	Class Participation, Project
to structure a scientific text according to where the text is expected to be published	Module Science Writing and Reviewing	Lectures, Seminar	Class Participation, Project
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	Module Science Writing and Reviewing	Lectures, Seminar	Class Participation, Project
to analyse potential challenges and benefits of working with multiple co-authors	Module Science Writing and Reviewing	Lectures, Seminar	Class Participation, Project
to integrate the above-mentioned challenges and benefits in decision-making on co-authorship and organisation of work	Module Science Writing and Reviewing	Lectures, Seminar	Class Participation, Project
to analyse and evaluate others' comments on the text, and how and when to integrate them into new versions	Module Science Writing and Reviewing	Lectures, Seminar	Class Participation, Project
to analyse and evaluate the usefulness of own comments on others' writing, and how to structure own comments	Module Science Writing and Reviewing	Lectures, Seminar	Class Participation, Project
to formulate constructive comments and feedback in the role of a reviewer	Module Science Writing and Reviewing	Lectures, Seminar	Class Participation, Project
to analyse basic terminology and theoretical assumptions in cognitive linguistics	Modules Cognitive Linguistics and Extension to Cognitive Linguistics	Lectures, Seminar	Class Participation, Project
to interpret linguistic phenomena (of English	Module Cognitive Linguistics	Lectures, Seminar	Class Participation, Project

but also other languages familiar to the students)			
to interpret differences between languages regarding terminology and principles of cognitive linguistics	Module Cognitive Linguistics	Lectures, Seminar	Class Participation, Project
to compare differences between languages with universally operational elements and processes of the human mind and human language competencies	Modules Cognitive Linguistics and Extension to Cognitive Linguistics	Lectures, Seminar	Class Participation, Project
to summarise and evaluate research in cognitive linguistics	Modules Cognitive Linguistics and Extension to Cognitive Linguistics	Lectures, Seminar	Class Participation, Project
to discuss approaches and projects in cognitive linguistics	Modules Cognitive Linguistics and Extension to Cognitive Linguistics	Lectures, Seminar	Class Participation, Project
to describe and analyse current topics and recent studies in social cognition research	Module Social Cognition	Lectures, Seminar	Class Participation, Project
to critically evaluate methods and claims of social cognition studies	Module Social Cognition	Lectures, Seminar	Class Participation, Project
to explain recent discussions within contemporary philosophy of science,	Module Philosophy of Science	Lectures, Seminar	Class Participation, Project
to defend different philosophical positions within discussions on contemporary philosophy of science.	Module Philosophy of Science	Lectures, Seminar	Class Participation, Project

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SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Preparation of Masters Thesis 2
Study programme	Masters in Cognitive of Sciences: Cognition and the Mind
Semester	4th
Academic year	2024/2025
ECTS credits	20
Contact hours (Lectures + Seminars + Practical work)	NA. Students work with their supervisor(s) on a research project.
Time and venue of classes	TBC
Language of instruction	English

I. DETAILED COURSE DESCRIPTION

COURSE OVERVIEW

Students work independently and with their supervisor(s) and where applicable, advisor(s) on the plan of their Masters thesis project.

EXPECTED LEARNING OUTCOMES

- For empirical projects, to conduct data collection,
- For empirical projects to analyse and interpret collected data,
- For theoretical projects, to carry out the planned research methods,
- To write a science/scholarly text,
- To plan and carry out an oral presentation of own research project.

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')

Lectures	Seminars	Practical work	Independent work
Fieldwork	**Laboratory work**	**Mentoring**	**Other**
		x	

II. COURSE EVALUATION AND GRADING CRITERIA

TOTAL	4	100

The course outcomes are evaluated during the Masters thesis defense.

Final grades will be determined as follows:

III. READING

MANDATORY READING

The Literature for this course depends on the Masters thesis project.

RECOMMENDED FURTHER READING

IV. ADDITIONAL INFORMATION

ATTENDANCE

Students have regular meetings with their supervisor(s) and advisor(s).

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.

WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Students can talk to their supervisor(s) during meetings, contact them over email or Moodle, and during office hours.

INFORMATION ABOUT THE FINAL EXAM

There is no final exam for this course. The course outcomes are evaluated during the Masters thesis defense.

OTHER RELEVANT INFORMATION

Academic honesty

Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.

EXAM DATES

Winter	NA
Summer	30 June 2025 and 14 July 2025
Autumn	1 September 2025 and 15 September 2025

V. COURSE OUTLINE

DATE	TOPIC
Week 1	Working on the Masters thesis project. Meeting with supervisor.
Week 2	Working on the Masters thesis project. Meeting with supervisor.
Week 3	Working on the Masters thesis project. Meeting with supervisor.
Week 4	Working on the Masters thesis project. Meeting with supervisor.
Week 5	Working on the Masters thesis project. Meeting with supervisor.
Week 6	Working on the Masters thesis project. Meeting with supervisor.
Week 7	Working on the Masters thesis project. Meeting with supervisor.
Week 8	Working on the Masters thesis project. Meeting with supervisor.
Week 9	Working on the Masters thesis project. Meeting with supervisor.
Week 10	Working on the Masters thesis project. Meeting with supervisor. Preparing for student conference.
Week 11	Working on the Masters thesis project. Meeting with supervisor. Preparing for student conference.

Week 12	Working on the Masters thesis project. Meeting with supervisor. Preparing for student conference.
Week 13	Student Conference
Week 14	Working on the Masters thesis project. Meeting with supervisor.
Week 15	Working on the Masters thesis project. Meeting with supervisor.

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
For empirical projects, to conduct data collection,	Masters thesis topic	Individual work, Meetings with supervisor(s)	No summative assessment during the course. Formative assessment during meetings with supervisor(s).
For empirical projects to analyse and interpret collected data,	Masters thesis topic if empirical	Individual work, Meetings with supervisor(s)	No summative assessment during the course. Formative assessment during meetings with supervisor(s).
For theoretical projects, to carry out the planned research methods,	Masters thesis topis if theoretical	Individual work, Meetings with supervisor(s)	No summative assessment during the course. Formative assessment during meetings with supervisor(s).
To write a science/scholarly text,	Masters thesis topic	Individual work, Meetings with supervisor(s), Masters Thesis writing	No summative assessment during the course. Formative assessment during meetings with supervisor(s).
To plan and carry out an oral presentation of own research project.	Masters thesis topic	Individual work, Meetings with supervisor(s), Student Conference	No summative assessment during the course. Formative assessment during student conference.

SVEUČILIŠTE U RIJECI
Filozofski fakultet

Sveučilišna avenija 4
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SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Science Communication 2
Study programme	Masters in Cognitive Sciences: Cognition and the Mind
Semester	4th
Academic year	2024/2025
ECTS credits	4
Contact hours **(Lectures + Seminars + Practical work)**	3+8+0
Time and venue of classes	TBC
Language of instruction	English
Course organiser	Dr. Ljerka Ostojić
Course instructor	**Contact details**
Dr. Ljerka Ostojić	Email: lj.ostojic@uniri.hr, Phone: 051/669-217, Office: F-344, Office Hours: TBA

I. DETAILED COURSE DESCRIPTION

COURSE OVERVIEW

In this course, students will carry out and evaluate a science communication project related to their Masters thesis.

EXPECTED LEARNING OUTCOMES

- to adapt the content and manner of presentation to a target audience,
- to make a presentation and materials in line with the target audience

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')

Lectures	Seminars	Practical work	Independent work
x	x	x	x
Fieldwork	**Laboratory work**	**Mentoring**	**Other**
x		x	x

II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
Class attendance	0.37	
Class participation	0.63	20
Project	3	80
TOTAL	4	100

To successfully pass this course, students must i) actively participate in classes/during mentoring sessions (maximum points available: 20) and ii) design and plan a science communication project (maximum points available: 80).

Final grades will be determined as follows:

GRADE	UNDEGRADUATE AND GRADUATE PROGRAMMES
5 (A)	90 – 100 % points
4 (B)	75 – 89.9 % points
3 (C)	60 – 74.9 % points
2 (D)	50 – 59.9 % points
1 (F)	0 – 49.9 % points

III. READING

MANDATORY READING

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

RECOMMENDED FURTHER READING

- Constant, N., & Roberts, L. (2017). Narratives as a mode of research evaluation in citizen science: understanding broader science communication impacts. *Journal of science communication.*, *16*(4), A03.
- Gustafson, A., & Rice, R. E. (2020). A review of the effects of uncertainty in public science communication. *Public Understanding of Science*, *29*(6), 614-633.
- Post, S., & Ramirez, N. (2018). Politicized science communication: predicting scientists' acceptance of overstatements by their knowledge certainty, media perceptions, and presumed media effects. *Journalism & Mass Communication Quarterly*, *95*(4), 1150-1170.

IV. ADDITIONAL INFORMATION

ATTENDANCE

Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.

WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Students can talk to their course instructors in and after class, contact them over email or Moodle, and during office hours. It is recommended that students contact lecturers in advance to arrange for a meeting.

INFORMATION ABOUT THE FINAL EXAM

There is no final exam for this course.

OTHER RELEVANT INFORMATION

Academic honesty

Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.

EXAM DATES

Winter	NA
Summer	30 June 2025 and 14 July 2025
Autumn	1 September 2025 and 15 September 2025

V. COURSE OUTLINE	
DATE	TOPIC
Week 1	
Week 2	
Week 3	Intro to the course (1L)
Week 4	Project work (1S)
Week 5	Project work (1S)
Week 6	
Week 7	
Week 8	
Week 9	Project work (1S)
Week 10	
Week 11	Project work (2S)
Week 12	
Week 13	
Week 14	Project work (2S)
Week 15	

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
to adapt the content and manner of presentation to a target audience,	Target Audience, language	Mentoring and Workshops	Class Participation, Project
to make a presentation and materials in line with the target audience	Presentation, Fonts, Language	Mentoring and Workshops	Project

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SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Journal Club 2
Study programme	Masters in Cognitive Sciences: Cognition and the Mind
Semester	4th
Academic year	2024/2025
ECTS credits	2
Contact hours (Lectures + Seminars + Practical work)	0+8+0
Time and venue of classes	TBC
Language of instruction	English
Course organisers	Dr. Edward Legg, Dr. Ljerka Ostojić
Course instructors	**Contact details**
Dr. Sandra Arbula	Email: saarbul@sissa.it (external collaborator)
Dr. Edward Legg	Email: edward.legg@uniri.hr, Phone: 051/699-217, Office: F-344, Office hours: TBA
Dr. Ljerka Ostojić	Email: lj.ostojic@uniri.hr, Phone: 051/669-217, Office: F-344, Office Hours: TBA

I. DETAILED COURSE DESCRIPTION

COURSE OVERVIEW

In this course, students will lead so-called journal clubs in which they will lead discussions about a selected paper. There is also the opportunity to invite external speakers to present their research.

EXPECTED LEARNING OUTCOMES

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

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')

Lectures	Seminars	Practical work	Independent work
	x		x
Fieldwork	Laboratory work	Mentoring	Other
		x	x

II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
Class attendance	0.27	
Class participation	1.73	100
TOTAL	2	100

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.

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.

Final grades will be determined as follows:

GRADE	UNDEGRADUATE AND GRADUATE PROGRAMMES
5 (A)	90 – 100 % points
4 (B)	75 – 89.9 % points
3 (C)	60 – 74.9 % points
2 (D)	50 – 59.9 % points
1 (F)	0 – 49.9 % points

III. READING

MANDATORY READING

- Deenadayalan, Y., Grimmer-Somers, K., Prior, M., & Kumar, S. (2008). How to run an effective journal club: a systematic review. *Journal of evaluation in clinical practice*, *14*(5), 898-911.

RECOMMENDED FURTHER READING

IV. ADDITIONAL INFORMATION

ATTENDANCE

Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.

WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Students can talk to their course instructors in and after class, contact them over email or Moodle, and during office hours. It is recommended that students contact lecturers in advance to arrange for a meeting.

INFORMATION ABOUT THE FINAL EXAM

There is no final exam for this course.

OTHER RELEVANT INFORMATION

Academic honesty

Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.

EXAM DATES

Winter	NA
Summer	30 June 2025 and 14 July 2025
Autumn	1 September 2025 and 15 September 2025

V. COURSE OUTLINE

DATE	TOPIC
Week 1	Journal Club (1S) – student-led
Week 2	
Week 3	Journal Club (1S) – student-led
Week 4	
Week 5	Journal Club (1S) - – student-led
Week 6	
Week 7	Journal Club (1S) - – student-led
Week 8	
Week 9	Journal Club (1S) - – student-led
Week 10	
Week 11	Journal Club (1S) - – invited talk
Week 12	
Week 13	Journal Club (1S) – invited talk
Week 14	
Week 15	Journal Club (1S) – invited talk

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
to present literature (e.g., an article) in a concise form to an audience of scientists with different experiences,	Topics of the papers chosen to be presented and discussed during a journal club	Leading the journal club	Presentation and discussion leading during the journal club.
to critically evaluate and discuss methods, claims, and possible impact of research	Topics of the papers chosen to be presented and discussed during a journal club	Leading the journal club, Discussion during the journal club.	Presentation and discussion during the journal club.

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SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Professional Development
Study programme	Masters in Cognitive Sciences: Cognition and the Mind
Semester	4th
Academic year	2024/2025
ECTS credits	2
Contact hours **(Lectures + Seminars + Practical work)**	0+12+0
Time and venue of classes	TBC
Language of instruction	English
Course organiser	Dr. Ljerka Ostojić
Course instructor	**Contact details**
Dr. Ljerka Ostojić	Email: lj.ostojic@uniri.hr, Phone: 051/669-217, Office: F-344, Office Hours: TBA

I. DETAILED COURSE DESCRIPTION

COURSE OVERVIEW

In this course, students will work on developing tools for their professional development and receive mentoring based on their current career plans. .

EXPECTED LEARNING OUTCOMES

- 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),
- effectively use social networks and other online platforms for professional development and professional visibility.
- effectively plan the next steps in one's own professional work.
- prepare questions for people working in the field they are interested in.

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')

Lectures	Seminars	Practical work	Independent work
x	x	x	x
Fieldwork	**Laboratory work**	**Mentoring**	**Other**

x		x	x

II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
Class attendance	0.4	
Class participation	1.6	
TOTAL	2	

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

III. READING

MANDATORY READING

- 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

RECOMMENDED FURTHER READING

- Nigar, N. (2021). Networking and professional development in today's world of work. *Academia Letters*, 2.
- Hartnell-Young, E. (2021). Using a Portfolio Approach to Navigate Academia. In *Women Thriving in Academia*. Emerald Publishing Limited.
- Antwi, J. (2020). Navigating Academia Through the Eyes of a Non-Traditional Entomologist. *American Entomologist*, *66*(4), 64-64.
- MacDonald, K., Diamond, F., Wilkinson, J., Sum, N., Longmuir, F., & Kaukko, M. (2021). Creating spaces of learning in academia: fostering niches for professional learning practice. *Studies in Continuing Education*, 1-18.
- Payne, D. (2019). The professional advisers who can help you to move from academia to industry. *Nature*, *567*(7747), 135-138.
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IV. ADDITIONAL INFORMATION

ATTENDANCE

Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.

WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

Students will be notified over email, Moodle (Merlin), and any other agreed upon platforms.

WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Students can talk to their course instructors in and after class, contact them over email or Moodle, and during office hours. It is recommended that students contact lecturers in advance to arrange for a meeting.

INFORMATION ABOUT THE FINAL EXAM

There is no final exam for this course.

OTHER RELEVANT INFORMATION

Academic honesty

Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.

EXAM DATES

Winter	NA
Summer	30 June 2025 and 14 July 2025
Autumn	1 September 2025 and 15 September 2025

V. COURSE OUTLINE

DATE	TOPIC
Week 1	
Week 2	Intro to the course (1S)
Week 3	
Week 4	Preparation for meeting mentors (1S)
Week 5	Mentoring meeting (1S)
Week 6	
Week 7	Workshop 1 (3S)
Week 8	
Week 9	Workshop 2 (3S)
Week 10	
Week 11	Mentoring meeting(1S)
Week 12	
Week 13	
Week 14	Wrap up (2S)
Week 15	

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
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),	Target audience, CV, industry vs. academia	Mentoring and Workshops	Class Participation
effectively use social networks and other online platforms for professional development and professional visibility.	Social networks	Mentoring and Workshops	Class Participation
effectively plan the next steps in one's own professional work.	CV writing, applications for jobs, applications for scholarships and PhD positions	Mentoring and Workshops	Class Participation
prepare questions for people working in the field they are interested in.	Applying for jobs, work-life balance/integration, networking, career development and career plans	Mentoring	Class Participation

SVEUČILIŠTE U RIJECI
Filozofski fakultet

Sveučilišna avenija 4
51 000 Rijeka

SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Elective modules in Cognitive Sciences
Study programme	Masters in Cognitive Sciences: Cognition and the Mind
Semester	2nd, 4th
Academic year	2024/2025
ECTS credits	3
Contact hours (Lectures + Seminars + Practical work)	12+12+0
Time and venue of classes	TBC
Language of instruction	English
Course organiser and instructor	Dr. Zdenka Brzović, Dr. Edward Legg, Dr. Ljerka Ostojić
Course instructors	**Contact Details**
Dr. Edward Legg	Email: edward.legg@uniri.hr, Phone: 051/699-217, Office: F-344, Office hours: TBA
Dr. Sandra Arbula	Email: saarbul@sissa.it (external collaborator)
Dr. Ljerka Ostojić	Email: lj.ostojic@uniri.hr, Phone: 051/699-217, Office: F-344, Office hours: TBA
Dr. Mirta Zelenika	Email: mirta.zelenika@outlook.com (invited lecturer)
Dr. Asmir Gračanin	Email: agracanin@ffri.uniri.hr, Phone: 051/265-368, Office: F-361, Office Hours: TBA
Dr. Ivan Flis	Email: ivan.flis@uniri.hr, Office: F-121, Office hours: TBA

I. DETAILED COURSE DESCRIPTION

COURSE OVERVIEW

The aim of this course is to familiarise you with different areas of cognitive sciences from a disciplinary, multidisplinary, and interdisciplinary perspective.

Within the elective course, there are several modules from which you can choose one.

EXPECTED LEARNING OUTCOMES

Depending on the chosen module, students are expected to achieve a subset of the following course outcomes:

- to evaluate benefits of AI for investigating cognition and the mind,
- to identify and analyse challenges and obstacles in working with AI,
- to independently study recent literature in the field of AI
- to identify the main discussions in research on cognitive development,
- to evaluate benefits and challenges of different empirical approaches to study cognitive development,
- to critically assess results of empirical studies in cognitive development as well as their link to theories on development,
- to discuss chosen research fields within developmental psychology,
- to describe and analyse current topics and studies on the evolution of cognition,
- to critically assess methods and claims of studies on the evolution of cognition,
- 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.

WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')

Lectures	Seminars	Practical work	Independent work
x	x		x
Fieldwork	**Laboratory work**	**Mentoring**	**Other**
		x	x

II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
Class attendance	0.73	
Class Participation	1	50
Project	1.27	50
TOTAL	3	100

To obtain a grade on this course, students must i) actively participate in class (maximum points: 50) and ii) successfully complete a project (maximum points: 50).

Activities and class and projects will differ in their content and form based on the chosen module. Detailed information will be given by the module instructor(s) in the first module class.

Final grades will be determined as follows:

GRADE	UNDEGRADUATE AND GRADUATE PROGRAMMES
5 (A)	90 – 100 % points
4 (B)	75 – 89.9 % points
3 (C)	60 – 74.9 % points
2 (D)	50 – 59.9 % points
1 (F)	0 – 49.9 % points

III. READING

MANDATORY READING

- Smaldino, P. E. & McElreath, R. (2016). The natural selection of bad science. *Royal Society Open Science,* doi: 10.1098/rsos.160384.
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- Cosmides, L., & Tooby, J. (2013). Evolutionary psychology: New perspectives on cognition and motivation. *Annual review of psychology*, *64*, 201-229.
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RECOMMENDED FURTHER READING

IV. ADDITIONAL INFORMATION

ATTENDANCE

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INFORMATION ABOUT THE FINAL EXAM

There is no final exam for this course.

OTHER RELEVANT INFORMATION

Academic honesty

Any use of texts or other types of work by another author, as well as the use of ChatGPT or other tools whose function is based on AI technology, without a clear and unambiguous citation of the source is considered a violation of academic

integrity principles, and is a serious offence regulated by the Ordinance on Student Responsibilities.	
EXAM DATES	
Winter	NA
Summer	23 June 2025 and 7 July 2025
Autumn	25 August 2025 and 8 September 2025
V. COURSE OUTLINE	
DATE	TOPIC
Week 1	Introduction to the course (2L) Instructor: Ljerka Ostojić
Week 3	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula
Week 4	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula
Week 5	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula
Week 6	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula
Week 7	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula
Week 8	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula

Week 9	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula
Week 10	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula
Week 11	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula
Week 12	Work in modules (1L + 1S) Instructors: Open Science and Its Tools: Ljerka Ostojić, Ivan Flis Developing Minds: Edward Legg, Evolution of Mind: Ljerka Ostojić, Sandra Arbula, Asmir Gračanin AI and Cognition: Mirta Zelenika, Extension to Open Science and Its Tools – Cognitive Neuroscience Methods in Practice: Sandra Arbula
Week 14	Final discussion and Wrap-up (2S) Instructor: Ljerka Ostojić

VI. CONSTRUCTIVE ALIGNMENT			
LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
to evaluate benefits of AI for investigating cognition and the mind	Module Cognition and AI	Lectures, Seminar	Class Participation, Project
to identify and analyse challenges and obstacles in working with AI	Module Cognition and AI	Lectures, Seminar	Class Participation, Project
to independently study recent literature in the field of AI	Module Cognition and AI	Lectures, Seminar	Class Participation, Project
to identify the main discussions in research on cognitive development	Module Developing Minds	Lectures, Seminar	Class Participation, Project
to evaluate benefits and challenges of different empirical approaches to study cognitive development	Module Developing Minds	Lectures, Seminar	Class Participation, Project
to critically assess results of empirical studies in cognitive development as well as their link to theories on development	Module Developing Minds	Lectures, Seminar	Class Participation, Project
to discuss chosen research fields within developmental psychology	Module Developing Minds	Lectures, Seminar	Class Participation, Project
to describe and analyse current topics and studies on the evolution of cognition	Module Evolution of the Mind	Lectures, Seminar	Class Participation, Project
to critically assess methods and claims of studies on the evolution of cognition	Module Evolution of the Mind	Lectures, Seminar	Class Participation, Project
to analyse the challenges and benefits of Open Science approaches and tools	Modules Open Science and Its Tools and Extension to Open Science and its Tools	Lectures, Seminar	Class Participation, Project
to apply and adapt various Open Science tools to own research	Modules Open Science and Its Tools and Extension to Open Science and its Tools	Lectures, Seminar	Class Participation, Project
to discuss benefits and suitability of various tools for different research	Modules Open Science and Its Tools and Extension to Open Science and its Tools	Lectures, Seminar	Class Participation, Project

to discuss and make informed decisions about using Open Science approaches and tools in own work	Modules Open Science and Its Tools and Extension to Open Science and its Tools	Lectures, Seminar	Class Participation, Project