

**SYLLABUS**

<b>KEY INFORMATION ABOUT THE COURSE</b>	
<b>Course title</b>	Behaviour – a door to the mind?
<b>Study programme</b>	Psychology
<b>Semester</b>	2 <sup>nd</sup> , 4 <sup>th</sup> and 6 <sup>th</sup>
<b>Academic year</b>	2022/2023
<b>ECTS credits</b>	3
<b>Contact hours (Lectures + Seminars + Practical work)</b>	30+15+0
<b>Time and venue of classes</b>	Fridays 9.15 – 12, F-303
<b>Language of instruction</b>	English
<b>Course instructor</b>	Dr. Ljerka Ostojić
Office number	344
Office hours	Thursdays, 12-1p
Phone	051/669-217
Email	lj.ostojic@uniri.hr
<b>I. DETAILED COURSE DESCRIPTION</b>	
<b>COURSE OVERVIEW</b>	
Selected research areas using behaviour to investigate mental processes, primarily infant and non-human animal research. Challenges and constraints in such behavioural research: measurement and interpretation. Observations and experiments. Anecdotes. Language and behaviour: self-report vs. behaviour: verbal vs. behavioural responses in tasks. Behaviour and neuroscience data.	
This year's planned invited lectures are on behavioural change (Dr. Florian Lange) and theory of mind (Dr. Edward Legg). Please note that the planned invited lectures are subject to changes. Invited lectures may be online (synchronous or asynchronous) or in person.	
<b>EXPECTED LEARNING OUTCOMES</b>	
After completing the course, students are expected to be able to:	
<ul style="list-style-type: none"><li>• explain and analyse different approaches in behavioural research,</li><li>• state and discuss conceptual and methodological issues in behavioural research,</li><li>• describe and discuss different benefits and problems/limitations of different ways in which behaviour can be measured,</li></ul>	

- conduct the first steps in planning and designing behavioural observations and experiments,
- critically assess scientific behavioural literature,
- communicate about behavioural research in both an academic environment as well as to the public (science communication)

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

<b>Lectures</b>	<b>Seminars</b>	<b>Practical work</b>	<b>Independent work</b>
x	x		x
<b>Fieldwork</b>	<b>Laboratory work</b>	<b>Mentoring</b>	<b>Other</b>
x		x	

**II. COURSE EVALUATION AND GRADING CRITERIA**

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
<b>Class attendance</b>	1.5	
<b>Class participation</b>	0.6	<b>50</b>
<b>Project-based assessment</b>	0.9	<b>50</b>
<b>TOTAL</b>		<b>100</b>

To obtain a grade for this course, students need to i) actively contribute to the course, ii) participate in one group project, and iii) submit a group report and participate in the project presentation.

**Group Project:** Student will be working on the project in groups (usually 3 to 4 students per group) and will design a behavioural study based on a given hypothetical i.e., made up research question (made up hypothesis) as well as provided information about resources, constraints, etc.

Students will receive supervisions during the project to ensure continuous support during the project. Detailed information about the project will be given during the first two weeks of the course.

**Class Participation:** Students will take part in seminars during the course, which may include activities such as working through tasks and problems, literature work, short presentations, and discussions.

**Inclusivity:**

To ensure inclusivity for all students, students who anticipate that they may have problems with the requirements for this course are asked to contact the lecturer so possible adjustments can be sorted out.

**Grading:**

**Group projects:** Participation in the group project will be graded based on the following criteria: Relevance, Preparation, Effort, Argumentation. The maximum number of points that can be obtained for participating in the group project is 20. The group project reports will be graded based on the following categories: Appropriateness of the design, Clarity of the text, Control procedures; Procedures in relation to constraints, Procedures in relation to research quality, Argumentation. The maximum number of points that can be obtained for the group project report is 30.

**Class Participation:** Class participation will be graded based on the following criteria: Relevance, Preparation, Effort, Connecting content, Argumentation. The maximum number of points that can be obtained for class participation is 50.

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

1. Barrett, L. (2016). Why brains are not computers, why behaviorism is not satanism, and why dolphins are not aquatic apes. *The Behavior Analyst* 39, 9-23.
2. Mackintosh, N. J. (2002). Do not ask whether they have a cognitive map, but how they find their way about. *Psicológica* 23, 165-185.
3. Altman, J. (1974). Observational study of behavior: sampling methods. *Behaviour* 49, 227-267.
4. Heyes, C. M. (2012). Simple minds: a qualified defence of associative learning. *Philosophical Transactions of the Royal Society B* 367, 2695-2703.
5. Bates, L. A. & Byrne, R. W. (2007). Creative or created: using anecdotes to investigate animal cognition. *Methods* 42, 12-21.
6. Shettleworth, S. J. (2001). Animal cognition and animal behaviour. *Animal Behaviour* 61, 277-286.
7. Haith, M. M. (1998). Who put the cog in infant cognition? Is rich interpretation too costly? *Infant Behavior & Development* 21, 167-179.
8. Sirols, S. & Jackson, I. (2007). Social cognition in infancy: a critical review of research on higher order abilities. *European Journal of Developmental Psychology* 4, 46-64.

#### RECOMMENDED FURTHER READING

1. Heyes, C. M. (2012). What's social about social learning? *Journal of Comparative Psychology* 126, 193-202.
2. Barrett, L. (2012). Why behaviorism isn't Satanism. In *the Oxford handbook of Comparative Evolutionary Psychology*.
3. Hanus, D. (2016). Causal reasoning versus associative learning: a useful dichotomy or a strawman battle in comparative psychology? *Journal of Comparative Psychology* 130, 241-248.
4. Bekers, T., de Houwer, J., & Dwyer, D. M. (2016). Reasoning versus association in animal cognition: current controversies and possible ways forward. *Journal of Comparative Psychology* 130, 187-191.
5. Allen, C. & Bekoff, M. (2007). Animal minds, cognitive ethology, and ethics. *The Journal of Ethics* 11, 299-317.
6. Hare, B. (2001). Can competitive paradigms increase the validity of experiments on primate social cognition? *Animal Cognition* 4, 269-280.
7. Shettleworth, S. J. (2010). Clever animals and killjoy explanations in comparative psychology. *Trends in Cognitive Sciences* 24, 51-63.
8. Andrews, K. (2009). Politics or metaphysics? On attributing psychological properties to animals. *Biology & Philosophy* 24, 51-63.
9. Watanabe, S. (2007). How animal psychology contributes to animal welfare. *Applied Animal Behaviour Science* 106, 193-202.
10. Mangaliso Duncan, L. & Pillay, N. (2012). Volunteer experience influences the conclusions of behavioural experiments. *Applied Animal Behaviour Science* 140, 179-187.

### 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

During teaching, through Moodle, Teams and email.

#### WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Through email and other online platforms.

#### INFORMATION ABOUT THE FINAL EXAM

There is no final exam on 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	
Spring supplementary	
Summer	19 June, and 3 July
Autumn supplementary	31 August, and 7 September

**V. COURSE OUTLINE**

<b>DATE</b>	<b>TOPIC</b>
Week 1	Introduction to the course
Week 2	Module 1: Who researches behaviour, how, and why?
Week 3	Module 2: When behaviour is not accompanied by language: researching cognition in infants and non-human animals
Week 4	Module 2: When behaviour is not accompanied by language: researching cognition in infants and non-human animals
Week 5	Module 3: When behaviour is not always the same: ecological validity
Week 6	Module 4: When we have both behaviour and language: self-report vs. behaviour
Week 7	Module 4: Language and Behaviour: invited lecture on behavioural change (Dr. Florian Lange, University of Leuven, Belgium)
Week 8	Module 4: Language and Behaviour: invited lecture on theory of mind (Dr. Edward Legg)
Week 9	Group projects
Week 10	Module 5: When we have both behaviour and brain activity: neuroscientific methods
Week 11	Module 5: Behaviour and neuroscience
Week 12	Module 6: What influences measurement and interpretation of behaviour?
Week 13	Module 7: 'Up-linkage' approach: from animals to humans
Week 14	Group project presentations and discussions
Week 15	Final discussion and Course evaluation

**VI. CONSTRUCTIVE ALIGNMENT**

<b>LEARNING OUTCOMES</b>	<b>CONTENT</b>	<b>TEACHING AND LEARNING ACTIVITIES</b>	<b>ASSESSMENT TASKS</b>
explain and analyse different approaches in behavioural research	Psychology, ethology, behavioural economics, neuroscience. infant research	Lectures, group and individual tasks, seminar paper	Individual and group contribution, in seminars, group project
state and discuss conceptual and methodological issues in behavioural research	Variables, controls, measurement, bias, validity, reliability, constraints	Lectures, group and individual tasks	Individual and group contribution in seminars
describe and discuss different benefits and problems/limitations of different ways in which behaviour can be measured	Different behavioural measurements	Lectures, group and individual tasks, seminar paper	Individual and group contribution in seminars
conduct the first steps in planning and designing behavioural observations and experiments	experiments, quasi-experiments, controls, reliability, sample and sample size, resources	Lectures, group and individual tasks, group project	Individual and group contribution in seminars, group project
critically assess scientific behavioural literature	Conceptual and methodological challenges	Lectures, group and individual tasks, group project, seminar paper	Individual and group contribution in seminars, group project
communicate about behavioural research in both an academic environment as well as to the public (science communication)	Behavioural research, approaches and problems	Lectures, group and individual tasks	Individual and group contribution in seminars, group project.



### 3SYLLABUS

KEY INFORMATION ABOUT THE COURSE	
Course title	Behaviour – a door to the mind?
Study programme	Psychology
Semester	2 <sup>nd</sup> , 4 <sup>th</sup> and 6 <sup>th</sup>
Academic year	2022/2023
ECTS credits	6
Contact hours (Lectures + Seminars + Practical work)	30+15+0
Time and venue of classes	Fridays 9.15 – 12, F-303
Language of instruction	English
Course instructor	Dr. Ljerka Ostojić
Office number	344
Office hours	Thursdays, 12-1p
Phone	051/669-217
Email	lj.ostojic@uniri.hr
I. DETAILED COURSE DESCRIPTION	
<b>COURSE OVERVIEW</b>	
<p>Selected research areas using behaviour to investigate mental processes, primarily infant and non-human animal research. Challenges and constraints in such behavioural research: measurement and interpretation. Observations and experiments. Anecdotes. Language and behaviour: self-report vs. behaviour: verbal vs. behavioural responses in tasks. Behaviour and neuroscience data.</p> <p>This year's planned invited lectures are on behavioural change (Dr. Florian Lange) and theory of mind (Dr. Edward Legg). Please note that the planned invited lectures are subject to changes. Invited lectures may be online (synchronous or asynchronous) or in person.</p>	
<b>EXPECTED LEARNING OUTCOMES</b>	
<p>After completing the course, students are expected to be able to:</p> <ul style="list-style-type: none"><li>• explain and analyse different approaches in behavioural research,</li><li>• state and discuss conceptual and methodological issues in behavioural research,</li><li>• describe and discuss different benefits and problems/limitations of different ways in which behaviour can be measured,</li></ul>	

- conduct the first steps in planning and designing behavioural observations and experiments,
- critically assess scientific behavioural literature,
- communicate about behavioural research in both an academic environment as well as to the public (science communication)

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

<b>Lectures</b>	<b>Seminars</b>	<b>Practical work</b>	<b>Independent work</b>
x	x		x
<b>Fieldwork</b>	<b>Laboratory work</b>	<b>Mentoring</b>	<b>Other</b>
x		x	

**II. COURSE EVALUATION AND GRADING CRITERIA**

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
<b>Class attendance</b>	1.5	
<b>Class participation</b>	0.6	<b>24</b>
<b>Project-based assessment</b>	0.9	<b>50</b>
<b>Seminar paper</b>	3	<b>26</b>
<b>TOTAL</b>		<b>100</b>

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**Group Project:** Student will be working on the project in groups (usually 3 to 4 students per group) and will design a behavioural study based on a given hypothetical i.e., made up research question (made up hypothesis) as well as provided information about resources, constraints, etc.

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**Inclusivity:**

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**Grading:**

**Group projects:** Participation in the group project will be graded based on the following criteria: Relevance, Preparation, Effort, Argumentation. The maximum number of points that can be obtained for participating in the group project is 20. The group project reports will be graded based on the following categories: Appropriateness of the design, Clarity of the text, Control procedures; Procedures in relation to constraints, Procedures in relation to research quality, Argumentation. The maximum number of points that can be obtained for the group project report is 30.

**Seminar papers:** The seminar paper will be graded based on the following criteria: Structure and flow, Clarity, Argumentation. The maximum number of points that can be obtained is 26.

**Class Participation:** Class participation will be graded based on the following criteria: Relevance, Preparation, Effort, Connecting content, Argumentation. The maximum number of points that can be obtained for class participation is 24.

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

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### IV. ADDITIONAL INFORMATION

#### ATTENDANCE

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#### WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE

During teaching, through Moodle, Teams and email.

#### WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS

Through email and other online platforms.

#### INFORMATION ABOUT THE FINAL EXAM



There is no final exam on 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	
Spring supplementary	
Summer	19 June, and 3 July
Autumn supplementary	31 August, and 7 September

**V. COURSE OUTLINE**

<b>DATE</b>	<b>TOPIC</b>
Week 1	Introduction to the course
Week 2	Module 1: Who researches behaviour, how, and why?
Week 3	Module 2: When behaviour is not accompanied by language: researching cognition in infants and non-human animals
Week 4	Module 2: When behaviour is not accompanied by language: researching cognition in infants and non-human animals
Week 5	Module 3: When behaviour is not always the same: ecological validity
Week 6	Module 4: When we have both behaviour and language: self-report vs. behaviour
Week 7	Module 4: Language and Behaviour: invited lecture on behavioural change (Dr. Florian Lange, University of Leuven, Belgium)
Week 8	Module 4: Language and Behaviour: invited lecture on theory of mind (Dr. Edward Legg)
Week 9	Group projects
Week 10	Module 5: When we have both behaviour and brain activity: neuroscientific methods
Week 11	Module 5: Behaviour and neuroscience
Week 12	Module 6: What influences measurement and interpretation of behaviour?
Week 13	Module 7: 'Up-linkage' approach: from animals to humans
Week 14	Group project presentations and discussions
Week 15	Final discussion and Course evaluation

**VI. CONSTRUCTIVE ALIGNMENT**

<b>LEARNING OUTCOMES</b>	<b>CONTENT</b>	<b>TEACHING AND LEARNING ACTIVITIES</b>	<b>ASSESSMENT TASKS</b>
explain and analyse different approaches in behavioural research	Psychology, ethology, behavioural economics, neuroscience. infant research	Lectures, group and individual tasks, seminar paper	Individual and group contribution, in seminars, group project, seminar paper
state and discuss conceptual and methodological issues in behavioural research	Variables, controls, measurement, bias, validity, reliability, constraints	Lectures, group and individual tasks	Individual and group contribution in seminars
describe and discuss different benefits and problems/limitations of different ways in which behaviour can be measured	Different behavioural measurements	Lectures, group and individual tasks, seminar paper	Individual and group contribution in seminars, seminar paper
conduct the first steps in planning and designing behavioural observations and experiments	experiments, quasi-experiments, controls, reliability, sample and sample size, resources	Lectures, group and individual tasks, group project	Individual and group contribution in seminars, group project
critically assess scientific behavioural literature	Conceptual and methodological challenges	Lectures, group and individual tasks, group project, seminar paper	Individual and group contribution in seminars, group project, seminar paper
communicate about behavioural research in both an academic environment as well as to the public (science communication)	Behavioural research, approaches and problems	Lectures, group and individual tasks	Individual and group contribution in seminars, group project.

**SYLLABUS**

<b>KEY INFORMATION ABOUT THE COURSE</b>	
<b>Course title</b>	Psychology of human resource management
<b>Study programme</b>	Psychology
<b>Semester</b>	
<b>Academic year</b>	2022-2023.
<b>ECTS credits</b>	3
<b>Contact hours (Lectures + Seminars + Practical work)</b>	30+0+15
<b>Time and venue of classes</b>	on Wednesday from 17.15, classroom 107
<b>Language of instruction</b>	English
<b>Course instructor</b>	Nada Krapić
Office number	363
Office hours	
Phone	051 265763
Email	nkrapic@uniri.hr
<b>I. DETAILED COURSE DESCRIPTION</b>	
<b>COURSE OVERVIEW</b>	
<p>The aim of the course is to provide an overview of the theory and practice in the field of human resource management (HRM). That includes information about strategic HRM, information systems, planning, recruitment, selection and staff retention, performance, satisfaction and human relations management.</p> <p>Course content:</p> <ol style="list-style-type: none"><li>1. Introduction in human resource management</li><li>2. Strategic human resource management</li><li>3. Human resource information systems</li><li>4. Human resource planning</li><li>5. Recruitment, selection and staff retention</li><li>6. Individual and team performance management</li><li>7. Rewarding, learning and career development</li><li>8. Human relations management</li><li>9. Health, safety and welfare</li><li>10. Evaluation of human resource management practices</li></ol>	
<b>EXPECTED LEARNING OUTCOMES</b>	

By the end of this course, it is expected that students will be able to:

1. describe the main psychological activities in HRM
2. understand how theory and research are applied in HRM practice
3. implement one main intervention in the practice
4. discuss about the advantages and disadvantages of some interventions

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

<b>Lectures</b>	<b>Seminars</b>	<b>Practical work</b>	<b>Independent work</b>
<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>
<b>Fieldwork</b>	<b>Laboratory work</b>	<b>Mentoring</b>	<b>Other</b>

**II. COURSE EVALUATION AND GRADING CRITERIA**

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
<b>Class attendance</b>	0.3	10
<b>Independent work</b>	1.2	40
<b>Final exam</b>	1.5	50
<b>TOTAL</b>	3	100

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**

1. Torrington, D., Taylor, S., Hall, L. (2007). Human resource management. Prentice Hall.

**RECOMMENDED FURTHER READING**

1. Noe, R.A., Hollenbeck J.R., Gerhart, B. & Wright P.M. (2018). Human resource management. McGraw-Hill Education.
2. Stone R.J. (2018). Human resource management. Wiley.
3. Cascio, W.F., Aguinis, H. (2010). Applied psychology in human resource management. Pearson.
4. Dessler, G. (2004). Human resource management. NY: Prentice Hall.
5. Aguinis, H. (2008). Performance management. NY: Prentice Hall.
6. Ployhart, R.E., Schneider, B.I. & Schmitt, N. (2005). Staffing organizations: Contemporary practice and theory. Lawrence Erlbaum Associates.

**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**

**WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS**

Informing students will be done orally, via the bulletin board and via e-mail.

**INFORMATION ABOUT THE FINAL 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	
Spring supplementary	
Summer	13.06. i 27.06.
Autumn supplementary	29.08. i 5.09.

**V. COURSE OUTLINE**

DATE	TOPIC
Week 1	1. Introduction in human resource management
Week 2	2. Strategic human resource management
Week 3	3. Human resource information systems
Week 4	4. Human resource planning
Week 5	continuation of the topic
Week 6	5. Recruitment, selection and staff retention
Week 7	continuation of the topic
Week 8	6. Individual and team performance management
Week 9	continuation of the topic
Week 10	7. Rewarding, learning and career development
Week 11	continuation of the topic
Week 12	8. Human relations management
Week 13	9. Health, safety and welfare
Week 14	10. Evaluation of human resource management practices
Week 15	knowledge test

**VI. CONSTRUCTIVE ALIGNMENT**

LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
Describe and explain the core areas of the discipline.	1. Introduction in human resource management	lecture, discussion	Objective and essay type of tasks on the exam.
Describe and explain the strategic management of human resources.	2. Strategic human resource management	lecture, discussion	Objective and essay type of tasks on the exam.
Describe and explain the human resource information systems.	3. Human resource information systems	lecture, discussion, practical work	Objective and essay type of tasks on the exam and evaluation of the practical work.
Describe and explain the human resource planning.	4. Human resource planning	lecture, discussion, practical work	Objective and essay type of tasks on the exam and evaluation of the practical work.
Describe and explain the recruitment, selection and staff retention.	5. Recruitment, selection and staff retention	lecture, discussion, practical work	Objective and essay type of tasks on the exam and evaluation of the practical work.
Describe and explain the individual and team	6. Individual and team performance	lecture, discussion, practical work	Objective and essay type of tasks on the

performance management.	management		exam and evaluation of the practical work.
Describe and explain the rewarding, learning and career development.	7. Rewarding, learning and career development	lecture, discussion, practical work	Objective and essay type of tasks on the exam and evaluation of the practical work.
Describe and explain the management of human relations.	8. Human relations management	lecture, discussion	Objective and essay type of tasks on the exam.
Describe and explain the management of employee welfare.	9. Health, safety and welfare	lecture, discussion	Objective and essay type of tasks on the exam.
Describe and explain the evaluation procedures of human resource management.	10. Evaluation of human resource management practices	lecture, discussion	Objective and essay type of tasks on the exam.

**SYLLABUS**

<b>KEY INFORMATION ABOUT THE COURSE</b>	
<b>Course title</b>	Intelligence
<b>Study programme</b>	Undergraduate study programme in Psychology
<b>Semester</b>	4.
<b>Academic year</b>	2022.2023.
<b>ECTS credits</b>	3
<b>Contact hours (Lectures + Seminars + Practical work)</b>	30 + 30 + 0
<b>Time and venue of classes</b>	Tuesday 8.15 – 12.00, F-303
<b>Language of instruction</b>	Croatian (lectures) / English (consultations only)
<b>Course instructor</b>	Doc. dr. sc. Tamara Mohorić
Office number	F-335
Office hours	Monday 12.15-13.00
Phone	265-774
Email	tmohoric@ffri.uniri.hr
<b>I. DETAILED COURSE DESCRIPTION</b>	
<b>COURSE OVERVIEW</b>	
The objective is to familiarize students with relevant theories in the field of the intelligence construct: Historical and cultural perspectives; The origins of the scientific approach; Psychometric approach - general intelligence – the g-factor – Multifactor theories of intelligence; Psychometric Approach – measuring individual differences - Intelligence test construction – Laboratory research on the speed factor; Information processing; Biological approach – a variety of biological approaches – the genetic influences on intelligence; Cognitive approach –cognitive revolution - modeling intelligence processes; Newer theories of intelligence (Sternberg's triarchic theory; Gardner's theory of multiple intelligences; social and emotional intelligence); The future of the intelligence construct.	
<b>EXPECTED LEARNING OUTCOMES</b>	
By the end of the course, students will be able to:	
<ul style="list-style-type: none"><li>- define the concept of intelligence, as well as describe and compare the main theories;</li><li>- compare different approaches to the intelligence construct;</li><li>- discuss the issues concerning construct research and measurement;</li><li>- draw a comparison between classical and contemporary theories of intelligence;</li></ul>	

- predict and discuss the future of the intelligence construct			
<b>WAYS IN WHICH THE COURSE IS DELIVERED (mark with 'X')</b>			
<b>Lectures</b>	<b>Seminars</b>	<b>Practical work</b>	<b>Independent work</b>
x	x		x
<b>Fieldwork</b>	<b>Laboratory work</b>	<b>Mentoring</b>	<b>Other</b>
		x	
<b>II. COURSE EVALUATION AND GRADING CRITERIA</b>			
<b>ASSESSMENT COMPONENT</b>	<b>ECTS CREDIT ALLOCATION</b>	<b>MAXIMUM POINTS (% OF TOTAL)</b>	
<b>Class attendance</b>	2	/	
<b>Class participation</b>	/	/	
<b>Project-based assessment</b>	0,25	<b>30</b>	
<b>Continuous assessment</b>	0,50	<b>40</b>	
<b>Final exam</b>	0,25	<b>30</b>	
<b>Other</b>	/	/	
<b>TOTAL</b>	3	<b>100</b>	
Final grades will be determined as follows:			
<b>GRADE</b>	<b>UNDEGRADUATE AND GRADUATE PROGRAMMES</b>		
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		
<b>III. READING</b>			
<b>MANDATORY READING</b>			
1. Hunt, E. (2011). <i>Human intelligence</i> . Cambridge University Press.			
2. Zarevski, P. (2012). <i>Struktura i priroda inteligencije</i> . Naklada Slap. Jastrebarsko.			
3. Gardner, H., Kornhaber, M.L. & Wake, W.K. (1999.) <i>Inteligencija: Različita gledišta</i> . Naklada Slap. Jastrebarsko.			
<b>RECOMMENDED FURTHER READING</b>			
1. Sternberg. R.J (Ur.) (2020). <i>The Cambridge handbook of human intelligence</i> . Cambridge University Press.			
<b>IV. ADDITIONAL INFORMATION</b>			
<b>ATTENDANCE</b>			
Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.			
<b>WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE</b>			
All relevant information regarding classes and student obligations will be announced on the e-class in the Merlin system and via e-mail.			
<b>WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS</b>			
The teacher can be contacted in the office during the office hours or by e-mail.			
<b>INFORMATION ABOUT THE FINAL EXAM</b>			
Oral exam.			
<b>OTHER RELEVANT INFORMATION</b>			
<b>Academic honesty</b>			
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.			
<b>EXAM DATES</b>			



Winter	
Spring supplementary	
Summer	16.6. at 9.00 ; 28.6. at 9.00
Autumn supplementary	30.8. and 5.9., 9.00
<b>V. COURSE OUTLINE</b>	
<b>DATE</b>	<b>TOPIC</b>
Week 1	Introduction and presentation of course content; Presentation of seminars
Week 2	Historical and cultural points of view, origin of scientific point of view; proposals for seminar topics
Week 3	The beginning of scientific research on intelligence; Scientific research on intelligence in psychology
Week 4	Psychometric approach: general intelligence; g-factor
Week 5	Multifactor theories of intelligence; (Non)hierarchical theories of intelligence
Week 6	Presentation of seminar papers 1
Week 7	Presentation of seminar papers 2
Week 8	Psychometric approach: examination of individual differences - construction of intelligence tests; laboratory studies of information processing speed
Week 9	Presentation of seminar papers 3
Week 10	Biological and cognitive approach
Week 11	Newer theories of intelligence; Predictive value of intelligence; The future of the construct of intelligence
Week 12	Presentation of seminar papers 4
Week 13	Mid-term exam
Week 14	<i>National holiday</i>
Week 15	Integration of course material

<b>VI. CONSTRUCTIVE ALIGNMENT</b>			
<b>LEARNING OUTCOMES</b>	<b>CONTENT</b>	<b>TEACHING AND LEARNING ACTIVITIES</b>	<b>ASSESSMENT TASKS</b>
Define the term intelligence and describe and compare the main theories	Historical and cultural viewpoints, Origins of the scientific viewpoint, Psychometric approach - General intelligence - g-factor - Multifactor theories of intelligence	Lectures, seminar papers	evaluation of seminar papers, objective and essay-type questions on the written exam
Compare different approaches to the study of intelligence	Psychometric approach - Examination of individual differences - Laboratory studies of information processing speed, Biological approach - Diversity of biological approaches - Genetic influences on intelligence, Cognitive approach	Lectures, seminar papers	evaluation of seminar papers, objective-type questions on the exam, essay-type questions on the oral exam
Explain problems in research and measurement of the construct	Construction of intelligence tests	Lectures, seminar papers, analysis of scientific work	evaluation of seminar papers, evaluation of the analysis of scientific work,

			essay-type questions on the exam
Compare classic and recent theories of intelligence	General intelligence - g-factor - Multifactor theories of intelligence, Newer theories of intelligence - Sternberg's triarchic theory, Gardner's theory of multiple intelligences	Lectures, seminar papers	evaluation of seminar papers, objective and essay-type assignments on the exam
Assess and comment on the future of the construct of intelligence	The future of the construct of intelligence	Lectures, discussion	essay-type questions on the exam

**SYLLABUS**

<b>KEY INFORMATION ABOUT THE COURSE</b>	
<b>Course title</b>	Psychological schools and systems
<b>Study programme</b>	Psychology
<b>Semester</b>	
<b>Academic year</b>	2022-2023.
<b>ECTS credits</b>	3
<b>Contact hours (Lectures + Seminars + Practical work)</b>	30+0+0
<b>Time and venue of classes</b>	on Tuesday from 14.15, classroom 206
<b>Language of instruction</b>	English
<b>Course instructor</b>	Nada Krapić
Office number	363
Office hours	
Phone	051 265763
Email	nkrapic@uniri.hr
<b>I. DETAILED COURSE DESCRIPTION</b>	
<b>COURSE OVERVIEW</b>	
<p>The aim of the course is to provide an overview of the main psychological schools and systems. We will trace roots since the founding of psychology as a scientific discipline to the present day. We will also present the work and contributions of influential psychologists.</p> <p>Course content:</p> <ol style="list-style-type: none"><li>1 Introduction: voluntarism, structuralism, and other early approaches to psychology</li><li>2 Gestalt psychology</li><li>3 Psychoanalysis</li><li>4 Functionalism</li><li>5 Behaviorism</li><li>6 Neobehaviorism</li><li>7 Humanistic psychology</li><li>8 Psychobiology</li><li>9 Cognitive psychology</li><li>10 Contemporary psychology</li></ol>	
<b>EXPECTED LEARNING OUTCOMES</b>	

By the end of this course, it is expected that students will be able to:

1. describe and compare the major psychological schools and systems
2. describe and compare psychological ideas and contributions of the scientists influential within each psychological system
3. describe how the ideas of different systems influenced on the development of psychology

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

<b>Lectures</b>	<b>Seminars</b>	<b>Practical work</b>	<b>Independent work</b>
<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>
<b>Fieldwork</b>	<b>Laboratory work</b>	<b>Mentoring</b>	<b>Other</b>

**II. COURSE EVALUATION AND GRADING CRITERIA**

<b>ASSESSMENT COMPONENT</b>	<b>ECTS CREDIT ALLOCATION</b>	<b>MAXIMUM POINTS (% OF TOTAL)</b>
<b>Class attendance</b>	1.0	34
<b>Continuous assessment 1</b>	0.7	23
<b>Continuous assessment 2</b>	0.7	23
<b>Independent work and seminars</b>	0.6	20
<b>TOTAL</b>	3.0	100

Final grades will be determined as follows:

<b>GRADE</b>	<b>UNDEGRADUATE AND GRADUATE PROGRAMMES</b>
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**

1. Hergenhahn, B.R. (2013). *An introduction to the history of psychology*. Belmont, CA: Wadsworth./Thomson Learning.

**RECOMMENDED FURTHER READING**

- 1 Thorne, B.M., Henley, T.B. (2013). *Connections in the history and systems of psychology*. New York: Houghton Mifflin Company.
- 2 Madsen, K.B. (1988). *A history of psychology in metascientific perspective*. Amsterdam: Nort-Holland.
- 3 Benjamin, L.T. (2008). *A history of psychology: Original sources and contemporary research*. 3.rd edition, Hoboken: Wiley.
- 4 Smith, N.W. (2001). *Current systems in Psychology: History, theory, research and applications*. Belmont, CA: Wadsworth./Thomson Learning.

**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**

**WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS**

Students will be informed orally, through the bulletin board and via e-mail.

**INFORMATION ABOUT THE FINAL 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	
Spring supplementary	
Summer	13.06. i 27.06.
Autumn supplementary	29.08. i 5.09.

**V. COURSE OUTLINE**

DATE	TOPIC
Week 1	Introduction: voluntarism, structuralism, and other early approaches to psychology
Week 2	Gestalt psychology
Week 3	Psychoanalysis
Week 4	Functionalism
Week 5	Behaviorism
Week 6	Neobehaviorism
Week 7	knowledge test
Week 8	Humanistic psychology
Week 9	Psychobiology
Week 10	Cognitive psychology
Week 11	Contemporary psychology
Week 12	BBC documentary film - <i>The Brain: A secret history</i>
Week 13	presentation of independent works and seminars
Week 14	presentation of independent works and seminars
Week 15	knowledge test

**VI. CONSTRUCTIVE ALIGNMENT**

LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
Describe and explain the metatheoretical sheme to compare different psychological systems.	1. Introduction: voluntarism, structuralism, and other early approaches to psychology	lecture, discussion	Objective and essay type of tasks on the knowledge test.
Describe the system and contribution of its representatives, explain the influence and compare with other systems.	2. Gestalt psychology	lecture, discussion	Objective and essay type of tasks on the knowledge test.
Describe the system and contribution of its representatives, explain the influence and compare with other systems.	3. Psychoanalysis	lecture, discussion	Objective and essay type of tasks on the knowledge test.
Describe the system and contribution of its representatives, explain	4. Functionalism	lecture, discussion	Objective and essay type of tasks on the knowledge test.

the influence and compare with other systems.			
Describe the system and contribution of its representatives, explain the influence and compare with other systems.	5. Behaviorism	lecture, discussion	Objective and essay type of tasks on the knowledge test.
Describe the system and contribution of its representatives, explain the influence and compare with other systems.	6. Neobehaviorism	lecture, discussion	Objective and essay type of tasks on the knowledge test.
Describe the system and contribution of its representatives, explain the influence and compare with other systems.	7. Humanistic psychology	lecture, discussion	Objective and essay type of tasks on the knowledge test.
Describe the system and contribution of its representatives, explain the influence and compare with other systems.	8. Psychobiology	lecture, discussion	Objective and essay type of tasks on the knowledge test.
Describe the system and contribution of its representatives, explain the influence and compare with other systems.	9. Cognitive psychology	lecture, discussion	Objective and essay type of tasks on the knowledge test.
Describe the system and contribution of its representatives, explain the influence and compare with other systems.	10. Contemporary psychology	lecture, discussion	Objective and essay type of tasks on the knowledge test.
Describe some of the ethical problems and specify possible forms of prevention.	11. Documentary film - The Brain: A secret history	demonstration, discussion	Objective and essay type of tasks on the knowledge test.
Development of critical thinking.	12. Presentation of independent works and seminars	independent work, seminar	Evaluation of the independent work and seminars.

**3SYLLABUS**

<b>KEY INFORMATION ABOUT THE COURSE</b>	
<b>Course title</b>	Science in Crisis?
<b>Study programme</b>	Psychology
<b>Semester</b>	4 <sup>th</sup> and 6 <sup>th</sup>
<b>Academic year</b>	2022/2023
<b>ECTS credits</b>	3
<b>Contact hours (Lectures + Seminars + Practical work)</b>	30+15+0
<b>Time and venue of classes</b>	Thursdays 3.15 – 6 pm, F-405
<b>Language of instruction</b>	English
<b>Course instructor</b>	Dr. Ljerka Ostojić
Office number	344
Office hours	Thursdays, 12-1p
Phone	051/669-217
Email	lj.ostojic@uniri.hr
<b>I. DETAILED COURSE DESCRIPTION</b>	
<b>COURSE OVERVIEW</b>	
Principles of science; Replicability crisis: claims, evidence, counter-arguments, Replications: types, value to science, challenges, Questionable Research Practices; contemporary issues with validity and generalisation of scientific results; 'Credibility' movements: Meta-science, large-scale collaborations, Open Science tools; Pre-registrations and registered reports; science as a situated activity within academia, science as a situated activity within society, science communication; fraud and error detection, dangers of a 'crisis' narrative at the individual level and at a societal level	
<b>EXPECTED LEARNING OUTCOMES</b>	
After completing the course, students are expected to be able to:	
<ul style="list-style-type: none"><li>describe and critically evaluate what has become known as the 'credibility revolution' within psychological and related biological sciences. This includes questions and issues about replicability, reproducibility, validity, and generalisability of empirical findings as well as recent movements that have formed as a result of these issues (e.g., metascience as a new research area; Open Science tools, multi-lab collaborations),</li></ul>	

- discuss science as a situated endeavour (incl. academic structure, hiring and promotion, publishing systems, funding bodies),
- argue about claims of science in crisis from a multi-disciplinary and interdisciplinary perspective,
- analyse how outcomes of science are perceived by the public and which factors influence these processes,
- critically evaluate claims in scientific articles,
- analyse examples of science communication,

evaluate different Open Science tools, and discuss their benefits and challenges.

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

<b>Lectures</b>	<b>Seminars</b>	<b>Practical work</b>	<b>Independent work</b>
x	x		x
<b>Fieldwork</b>	<b>Laboratory work</b>	<b>Mentoring</b>	<b>Other</b>
		x	

## II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
<b>Class attendance</b>	1.5	
<b>Class participation</b>	0.6	50
<b>Project-based assessment</b>	0.9	50
<b>TOTAL</b>		<b>100</b>

To obtain a grade for this course, students need to i) actively contribute to the course, ii) participate in one group project, and iii) submit a group report and participate in the project presentation.

**Group Project:** Student will be working on the project in groups (usually 4 students per group). Each group will choose a project among the offered topics (e.g., a meta-scientific investigation of publication bias in a selected research area or an analysis of differences of claims in scientific literature and reports of it for the public). The group project will include a short analyses and literature review, a short empirical research project, descriptive analysis and visualisation of data, as well as a presentation for other students and a final report.

Students will receive detailed written feedback for their group project report, and - if they want - additional oral feedback.

**Class Participation:** Students will take part in seminars during the course, which may include activities such as working through tasks and problems, literature work, short presentations, and discussions.

**Inclusivity:** To ensure inclusivity for all students, students who anticipate that they may have problems with the requirements for this course are asked to contact the lecturer so possible adjustments can be sorted out.

#### Grading:

**Group projects:** Group project reports will be graded basen on the following categories: Structure and flow, Clarity, Accuracy of arguments, Methodological aspects of the work, Description and visualisation of results, Appropriateness of claims. The maximum number of points that can be obtained for the group project report is 50.

**Class Participation:** Class participation will be graded based on the following criteria: Relevance, Preparation, Effort, Connecting content, Argumentation. The maximum number of points that can be obtained for the group project report is 50.

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
<b>III. READING</b>	
<b>MANDATORY READING</b>	
<ol style="list-style-type: none"> <li>Podcast by BBC Radio 4, <i>Analysis: The Replication Crisis</i>, 12 November 2018, <a href="https://www.bbc.co.uk/sounds/play/m00013p9">https://www.bbc.co.uk/sounds/play/m00013p9</a></li> <li>Open Science Collaboration (2015). Estimating the reproducibility of psychological science. <i>Science</i> 349, doi: 10.1126/science.aac4716.</li> <li>Smaldino, P. E. &amp; McElreath, R. (2016). The natural selection of bad science. <i>Royal Society Open Science</i>, doi: 10.1098/rsos.160384.</li> <li>Asendorpf, J. B., Conner, M., Fruyt, F. D., Houwer, J. D., Denissen, J. J. A., Fiedler, K., &amp; Wicherts, J. M. (2013). Recommendations for increasing replicability in psychology. <i>European Journal of Personality</i> 27, 108-119.</li> <li>Munafò, M. R. et al. (2017). A manifesto for reproducible science. <i>Nature Human Behaviour</i> 1, 0021.</li> <li>Fanelli, D. (2018). Is science really facing a reproducibility crisis, and do we need it to? <i>Proceedings of the National Academy of Science</i> 115, doi: 10.1073/pnas.1782721114.</li> <li>Lewandowsky, S. &amp; Oberauer, K. (2020). Low replicability can support robust and efficient science. <i>Nature Communications</i> 11, doi: 10.1038/s41467-019-14203-0.</li> <li>Leonelli, S. (2018). Re-thinking reproducibility as a criterion for research quality. [Pre-print]. <a href="http://philsci-archive.pitt.edu/14352/1/Reproducibility_2018_SL.pdf">http://philsci-archive.pitt.edu/14352/1/Reproducibility_2018_SL.pdf</a></li> </ol> <p>Peterson, D. (2016). The baby factory: difficult research objects, disciplinary standards, and the production of statistical significance. <i>Socius</i> 2, 2378023115625071.</p>	
<b>RECOMMENDED FURTHER READING</b>	
<ol style="list-style-type: none"> <li>Button, K. S., A., Ionnadis, J. P., Mukrysz, C., Nosek, B. A., Flint, J. J., Robinson, E. S. &amp; Munafò, M. R. (2013). Power failure: why small sample size undermines the reliability of neuroscience. <i>Nature Publishing Group</i> 14, <a href="https://doi.org/10.1038/nrn3475">https://doi.org/10.1038/nrn3475</a>.</li> <li>Fanelli, D. (2012). Negative results are disappearing from most disciplines and countries. <i>Scientometrics</i> 90, 891-904.</li> <li>John, L. K., Loewenstein, G. &amp; Prelec, D. (2012). Measuring the prevalence of questionable research practices with incentives for truth telling. <i>Psychological Science</i> 23, 524-532.</li> <li>Chapman, C. A., Bizza/Marques, J. C., Calvignac-Spencer, S., Fan, P., Fashing, P. J., Gogarten, J., Gup, S., Hemingway, C. A., Leendertz, F., Li, B., Matsuda, I., Hou, R., Serio-Silva, J. C., Stenseth, N. Chr. (2019). Games academics play and their consequences: how authorship, <i>h</i>-index and journal impact factors are shaping the future of academia. <i>Proceedings of the Royal Society B</i> 186, doi: 10.1098/rspb.2019.2047.</li> <li>Ionnadis, J. P. A. (2005). Why most published research findings are false. <i>PLoS Medicine</i> 2, e124.</li> <li>Flis, I. (2019). Psychologists psychologising scientific psychology: an epistemological reading of the replication crisis. <i>Theory &amp; Psychology</i> 29, 158-181.</li> <li>Sumner, P., Vivian-Griffith, S., Boivin, J., Williams, A., Bott, L., Adams, R., Venetis, C. A., Whelan, L., Hughes, B., &amp; Chambers, C. D. (2016). Exaggerations and caveats in press releases and health-related science news. <i>PLoS ONE</i> 11, e0168217.</li> <li>Figdor, C. (2017). (When) Is science reporting ethical? The case for recognizing shared epistemic responsibility in science journalism. <i>Frontiers in Communication</i> 2, doi: 10.3389/fcomm.2017.00003.</li> <li>Zwaan, E. A., Etz, A., Lucas, E. R., &amp; Donnellan, M. B. (2017). Making replication mainstream. <i>Behavioural and Brain Sciences</i> 41, e120.</li> <li>Podcast by <i>ReproducibiliTea: Episode 11: Ivan Flis</i>. <a href="https://soundcloud.com/reproducibilitea/episode-11-ivan-flis">https://soundcloud.com/reproducibilitea/episode-11-ivan-flis</a>.</li> </ol> <p>Podcast by Two Psychologists Four Beers: The replication crisis gets personal. 4 July 2018; <a href="https://fourbeers.fireside.fm/4">https://fourbeers.fireside.fm/4</a>.</p>	
<b>IV. ADDITIONAL INFORMATION</b>	
<b>ATTENDANCE</b>	
Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.	
<b>WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE</b>	
During teaching, through Moodle, Teams and email.	
<b>WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS</b>	

Through email and other online platforms.

#### **INFORMATION ABOUT THE FINAL EXAM**

There is no final exam on 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	
Spring supplementary	
Summer	19 June, and 3 July
Autumn supplementary	31 August, and 7 September

#### **V. COURSE OUTLINE**

<b>DATE</b>	<b>TOPIC</b>
Week 1	Introduction to the course
Week 2	Module 1: Lack of theory – we can predict the future?
Week 3	Module 2: Replication crisis - introduction
Week 4	Module 2: Replication crisis: How do we replicate?
Week 5	Module 2: Replication crisis – how do we get the results that we want?
Week 6	Module 2: Replication crisis. what, how, and when to replicate]
Week 7	Module 3L After the first shock due to the replication crisis – what now?
Week 8	Group projects
Week 9	Module 4: Scientists vs. science – what benefits the former, what the latter?
Week 10	Module 5: Fraud and error detection
Week 11	Module 6: Open Science offers solutions? Part 1
Week 12	Module 6: Open Science offers solutions? Part 2
Week 13	Module 7: Dangers of the Crisis narrative
Week 14	Group project presentations and discussions
Week 15	Final discussion and Course evaluation

**VI. CONSTRUCTIVE ALIGNMENT**

<b>LEARNING OUTCOMES</b>	<b>CONTENT</b>	<b>TEACHING AND LEARNING ACTIVITIES</b>	<b>ASSESSMENT TASKS</b>
describe and critically evaluate what has become known as the 'credibility revolution' within psychological and related biological sciences. This includes questions and issues about replicability, reproducibility, validity and generalisability of empirical findings as well as recent movements that have formed as a result of these issues (e.g. metascience as a new research area; Open Science tools, multi-lab collaborations)	Methodological reform movement in psychology and related biological disciplines, replicability and validity, generalisation	Lectures, group and individual tasks	Individual and group contribution in seminars, group project
discuss science as a situated endeavour (incl. academic structure, hiring and promotion, publishing systems, funding bodies)	Academic structure, publishing, science funding	Lectures, group and individual tasks	Individual and group contribution in seminars, group project
argue about claims of science in crisis from a multi-disciplinary and interdisciplinary	Relationship between methodological reforms and philosophy of science and individual notions of what science is and how it should work	Lectures, group and individual tasks	Individual and group contribution in seminars, group project
analyse how outcomes of science are perceived by the public and which factors influence these	Scientific literature, science communication, status of experts	Lectures, group and individual tasks, group project	Individual and group contribution in seminars, group project
critically evaluate claims in scientific articles	Replicability, generalisation, validity, questionable research practices, publication bias	Lectures, group and individual tasks, group project	Individual and group contribution in seminars, group project

analyse examples of science communication	Science communication, different media	Lectures, group and individual tasks, group project	Individual and group contribution in seminars, group project
evaluate different Open Science tools, and discuss their benefits and challenges	Open data, open code, preregistrations, multi lab collaborations	Lectures, group and individual tasks	Individual and group contribution in seminars

**3SYLLABUS**

<b>KEY INFORMATION ABOUT THE COURSE</b>	
<b>Course title</b>	Science in Crisis?
<b>Study programme</b>	Psychology
<b>Semester</b>	4 <sup>th</sup> and 6 <sup>th</sup>
<b>Academic year</b>	2022/2023
<b>ECTS credits</b>	6
<b>Contact hours (Lectures + Seminars + Practical work)</b>	30+15+0
<b>Time and venue of classes</b>	Thursdays 3.15 – 6 pm, F-405
<b>Language of instruction</b>	English
<b>Course instructor</b>	Dr. Ljerka Ostojić
Office number	344
Office hours	Thursdays, 12-1p
Phone	051/669-217
Email	lj.ostojic@uniri.hr
<b>I. DETAILED COURSE DESCRIPTION</b>	
<b>COURSE OVERVIEW</b>	
Principles of science; Replicability crisis: claims, evidence, counter-arguments, Replications: types, value to science, challenges, Questionable Research Practices; contemporary issues with validity and generalisation of scientific results; 'Credibility' movements: Meta-science, large-scale collaborations, Open Science tools; Pre-registrations and registered reports; science as a situated activity within academia, science as a situated activity within society, science communication; fraud and error detection, dangers of a 'crisis' narrative at the individual level and at a societal level	
<b>EXPECTED LEARNING OUTCOMES</b>	
After completing the course, students are expected to be able to:	
<ul style="list-style-type: none"><li>describe and critically evaluate what has become known as the 'credibility revolution' within psychological and related biological sciences. This includes questions and issues about replicability, reproducibility, validity, and generalisability of empirical findings as well as recent movements that have formed as a result of these issues (e.g., metascience as a new research area; Open Science tools, multi-lab collaborations),</li></ul>	

- discuss science as a situated endeavour (incl. academic structure, hiring and promotion, publishing systems, funding bodies),
- argue about claims of science in crisis from a multi-disciplinary and interdisciplinary perspective,
- analyse how outcomes of science are perceived by the public and which factors influence these processes,
- critically evaluate claims in scientific articles,
- analyse examples of science communication,

evaluate different Open Science tools, and discuss their benefits and challenges.

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

<b>Lectures</b>	<b>Seminars</b>	<b>Practical work</b>	<b>Independent work</b>
x	x		x
<b>Fieldwork</b>	<b>Laboratory work</b>	<b>Mentoring</b>	<b>Other</b>
		x	

## II. COURSE EVALUATION AND GRADING CRITERIA

ASSESSMENT COMPONENT	ECTS CREDIT ALLOCATION	MAXIMUM POINTS (% OF TOTAL)
<b>Class attendance</b>	1.5	
<b>Class participation</b>	0.6	24
<b>Project-based assessment</b>	0.9	50
<b>Seminar paper</b>	3	26
<b>TOTAL</b>		<b>100</b>

To obtain a grade for this course, students need to i) actively contribute to the course, ii) participate in one group project, and iii) submit a group report and participate in the project presentation.

**Group Project:** Student will be working on the project in groups (usually 4 students per group). Each group will choose a project among the offered topics (e.g., a meta-scientific investigation of publication bias in a selected research area or an analysis of differences of claims in scientific literature and reports of it for the public). The group project will include a short analyses and literature review, a short empirical research project, descriptive analysis and visualisation of data, as well as a presentation for other students and a final report.

Students will receive detailed written feedback for their group project report, and - if they want - additional oral feedback.

**Class Participation:** Students will take part in seminars during the course, which may include activities such as working through tasks and problems, literature work, short presentations, and discussions.

**Inclusivity:** To ensure inclusivity for all students, students who anticipate that they may have problems with the requirements for this course are asked to contact the lecturer so possible adjustments can be sorted out.

#### Grading:

**Group projects:** Group project reports will be graded based on the following categories: Structure and flow, Clarity, Accuracy of arguments, Methodological aspects of the work, Description and visualisation of results, Appropriateness of claims. The maximum number of points that can be obtained for the group project report is 50.

**Class Participation:** Class participation will be graded based on the following criteria: Relevance, Preparation, Effort, Connecting content, Argumentation. The maximum number of points that can be obtained for the group project report is 24.

**Seminar paper:** The paper will be graded according to the following criteria: Structure and flow, Clarity, Argumentation. The maximum number of points that can be obtained is 26.

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

1. Podcast by BBC Radio 4, *Analysis: The Replication Crisis*, 12 November 2018, <https://www.bbc.co.uk/sounds/play/m00013p9>
2. Open Science Collaboration (2015). Estimating the reproducibility of psychological science. *Science* 349, doi: 10.1126/science.aac4716.
3. Smaldino, P. E. & McElreath, R. (2016). The natural selection of bad science. *Royal Society Open Science*, doi: 10.1098/rsos.160384.
4. Asendorpf, J. B., Conner, M., Fruyt, F. D., Houwer, J. D., Denissen, J. J. A., Fiedler, K., & Wicherts, J. M. (2013). Recommendations for increasing replicability in psychology. *European Journal of Personality* 27, 108-119.
5. Munafò, M. R. et al. (2017). A manifesto for reproducible science. *Nature Human Behaviour* 1, 0021.
6. Fanelli, D. (2018). Is science really facing a reproducibility crisis, and do we need it to? *Proceedings of the National Academy of Science* 115, doi: 10.1073/pnas.1782721114.
7. Lewandowsky, S. & Oberauer, K. (2020). Low replicability can support robust and efficient science. *Nature Communications* 11, doi: 10.1038/s41467-019-14203-0.
8. 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](http://philsci-archive.pitt.edu/14352/1/Reproducibility_2018_SL.pdf)
9. Peterson, D. (2016). The baby factory: difficult research objects, disciplinary standards, and the production of statistical significance. *Socius* 2, 2378023115625071.

#### RECOMMENDED FURTHER READING

1. Button, K. S., A., Ionnadis, J. P., Mukrysz, C., Nosek, B. A., Flint, J. J., Robinson, E. S. & Munafò, M. R. (2013). Power failure: why small sample size undermines the reliability of neuroscience. *Nature Publishing Group* 14, <https://doi.org/10.1038/nrn3475>.
2. Fanelli, D. (2012). Negative results are disappearing from most disciplines and countries. *Scientometrics* 90, 891-904.
3. John, L. K., Loewenstein, G. & Prelec, D. (2012). Measuring the prevalence of questionable research practices with incentives for truth telling. *Psychological Science* 23, 524-532.
4. Chapman, C. A., Bizza/Marques, J. C., Calvignac-Spencer, S., Fan, P., Fashing, P. J., Gogarten, J., Gup, S., Hemingway, C. A., Leendertz, F., Li, B., Matsuda, I., Hou, R., Serio-Silva, J. C., Stenseth, N. Chr. (2019). Games academics play and their consequences: how authorship, h-index and journal impact factors are shaping the future of academia. *Proceedings of the Royal Society B* 186, doi: 10.1098/rspb.2019.2047.
5. Ioannidis, J. P. A. (2005). Why most published research findings are false. *PLoS Medicine* 2, e124.
6. Flis, I. (2019). Psychologists psychologising scientific psychology: an epistemological reading of the replication crisis. *Theory & Psychology* 29, 158-181.
7. Sumner, P., Vivian-Griffith, S., Boivin, J., Williams, A., Bott, L., Adams, R., Venetis, C. A., Whelan, L., Hughes, B., & Chambers, C. D. (2016). Exaggerations and caveats in press releases and health-related science news. *PLoS ONE* 11, e0168217.
8. Figdor, C. (2017). (When) Is science reporting ethical? The case for recognizing shared epistemic responsibility in science journalism. *Frontiers in Communication* 2, doi: 10.3389/fcomm.2017.00003.
9. Zwaan, E. A., Etz, A., Lucas, E. R., & Donnellan, M. B. (2017). Making replication mainstream. *Behavioural and Brain Sciences* 41, e120.
10. Podcast by *ReproducibiliTea: Episode 11: Ivan Flis*. <https://soundcloud.com/reproducibilitea/episode-11-ivan-flis>.
11. Podcast by Two Psychologists Four Beers: The replication crisis gets personal. 4 July 2018; <https://fourbeers.fireside.fm/4>.

### IV. ADDITIONAL INFORMATION

#### ATTENDANCE

Attendance is mandatory. Students are allowed to miss no more than 30% of all classes without penalty.	
<b>WAYS IN WHICH STUDENTS WILL BE NOTIFIED ABOUT THIS COURSE</b>	
During teaching, through Moodle, Teams and email.	
<b>WAYS IN WHICH STUDENTS CAN COMMUNICATE WITH COURSE INSTRUCTORS</b>	
Through email and other online platforms.	
<b>INFORMATION ABOUT THE FINAL EXAM</b>	
There is no final exam on this course.	
<b>OTHER RELEVANT INFORMATION</b>	
<b>Academic honesty</b> 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.	
<b>EXAM DATES</b>	
Winter	
Spring supplementary	
Summer	19 June, and 3 July
Autumn supplementary	31 August, and 7 September
<b>V. COURSE OUTLINE</b>	
<b>DATE</b>	<b>TOPIC</b>
Week 1	Introduction to the course
Week 2	Module 1: Lack of theory – we can predict the future?
Week 3	Module 2: Replication crisis - introduction
Week 4	Module 2: Replication crisis: How do we replicate?
Week 5	Module 2: Replication crisis – how do we get the results that we want?
Week 6	Module 2: Replication crisis. what, how, and when to replicate]
Week 7	Module 3L After the first shock due to the replication crisis – what now?
Week 8	Group projects
Week 9	Module 4: Scientists vs. science – what benefits the former, what the latter?
Week 10	Module 5: Fraud and error detection
Week 11	Module 6: Open Science offers solutions? Part 1
Week 12	Module 6: Open Science offers solutions? Part 2
Week 13	Module 7: Dangers of the Crisis narrative
Week 14	Group project presentations and discussions
Week 15	Final discussion and Course evaluation



## VI. CONSTRUCTIVE ALIGNMENT

LEARNING OUTCOMES	CONTENT	TEACHING AND LEARNING ACTIVITIES	ASSESSMENT TASKS
describe and critically evaluate what has become known as the 'credibility revolution' within psychological and related biological sciences. This includes questions and issues about replicability, reproducibility, validity and generalisability of empirical findings as well as recent movements that have formed as a result of these issues (e.g. metascience as a new research area; Open Science tools, multi-lab collaborations)	Methodological reform movement in psychology and related biological disciplines, replicability and validity, generalisation	Lectures, group and individual tasks	Individual and group contribution in seminars, group project
discuss science as a situated endeavour (incl. academic structure, hiring and promotion, publishing systems, funding bodies)	Academic structure, publishing, science funding	Lectures, group and individual tasks	Individual and group contribution in seminars, group project
argue about claims of science in crisis from a multi-disciplinary and interdisciplinary	Relationship between methodological reforms and philosophy of science and individual notions of what science is and how it should work	Lectures, group and individual tasks	Individual and group contribution in seminars, group project
analyse how outcomes of science are perceived by the public and which factors influence these	Scientific literature, science communication, status of experts	Lectures, group and individual tasks, group project	Individual and group contribution in seminars, group project
critically evaluate claims in scientific articles	Replicability, generalisation, validity, questionable research practices, publication bias	Lectures, group and individual tasks, group project	Individual and group contribution in seminars, group project

analyse examples of science communication	Science communication, different media	Lectures, group and individual tasks, group project	Individual and group contribution in seminars, group project
evaluate different Open Science tools, and discuss their benefits and challenges	Open data, open code, preregistrations, multi lab collaborations	Lectures, group and individual tasks	Individual and group contribution in seminars