Fakultet biotehnologije i razvoja lijekova
Faculty of Biotechnology and Drug Development

Sveučilište u Rijeci
University of Rijeka

Syllabus
Advanced topics in neuroscience

Academic year: 2026/2027

Study program: Graduate programs: Biotechnology in medicine, Biotechnology and drug research, and Medicinal chemistry

Course code: EBIL183

ECTS points: 3

Laugange: English and Croatian

Teaching load (in hours): 20 Lecture + 10 Seminar + 0 Lab = 30 hours

Prerequisite: passing grade in Basic Physiology and Pathophysiology course

Course instructor:
Titula i ime: Assoc. prof. Željka Minić
Adresa: Sveučilište u Rijeci, Fakultet za biotehnologiju i razvoj lijekova, R. Matejčić 2, Rijeka
e-mail: zeljka.minic@uniri.hr

Consultation hours: electronically and per appointment

Instructors:
Assoc. prof. Željka Minić (ŽM): 20 (Lecture) + 10 (Seminar)

Required literature:
1. Lecture notes

Recommended literature:
1. Selected scientific papers

Course objectives:
The aim of the course is to understand the interplay between cognition and visceral physiological processes both in health and disease states. The course will focus on understanding cognition from the neuroscience perspective by exploring literature published in scientific journals. The students will explore the distinction between the brain and the mind to understand how cognitive processing drives human behavior and motivation. The materials will be explored both intellectually and experientially to gain comprehensive insight into neurocircuits influencing cognitive function.

Learning outcomes:
By the end of the course, the students will be able to:

- Understand higher brain functions and specifically, the role of the frontal cortex
- Understand neurobiological responses to stress

- Describe the difference between the brain and the mind
- Understand how the brain controls cognitive processes
- Critically discuss the role of mindfulness practice in cognition
- Explore their own cognition
- Explore the effects of exercises of focused attention on cognition

Competences gained during the course:
A1, A2, A3, A5, A7, B1, B3, B4; C1, C2, C3, C4.

Detailed course content:

Lectures: As listed below.

Seminars: As listed below.

Requirements, methods of assessment and evaluation:
Students are required to attend all classes.

Grading (according to Pravilnik o studijima Sveučilišta u Rijeci):

Class participation (**10%): –** active participation in class--class discussions, asking questions etc.

Reflection report (40%): – summarize experiential findings from cognitive exercises

Student presentations (30%) – presentations on the topic of student's choice

Final exam (**20%) –** final exam will be written and/or oral

Eligibility for final exam:
• Students scoring between 0 and 24.9% will not be allowed to approach the final exam
• Students scoring between 25% and 50% will be allowed to approach the final exam
If no points are earned, the exam will be graded FX.

** A1-Osnovno znanje profesije; A2-Komunikacijske vještine (oralna, pisana, poznavanje drugog jezika); A3-Učenje novih vještina i procedura; A5-Rješavanje problema; A8-Korištenje informatičkih tehnologija; B1-Rad u grupi – timski rad; B3-Shvaćanje etičkih i socijalno-kulturoloških implikacija donesenih odluka; B4-Propitivanje vlastitog znanja; B5- Organizacija planiranje i upravljanje vlastitim vemenom i mogućnostima; C1-Rješavanje problema; C2-Logično mišljenje i zaključivanje; C3-Kreativno razmišljanje; C4-Sposobnost analize*

Exam deadlines:
1. The final exam will be on 02/07/27 at 10 am in O-339.
2. Make-up exam time and day will be determined later.
3. Additional make-up exam possibilities will be discussed on a case by case basis.

Final grades
The following grades will be awarded based on the final score:

Percentage score	ECTS grade	Numerical grade
90% do 100%	A	Excellent (5)
75% do 89,9%	B	Very good (4)
60% do 74,9%	C	Good (3)
50% do 59,9%	D	Satisfactory (2)
0% do 49,9%	F	Unsatisfactory (1)

The final grade is based on the sum of percentage points accumulated during the course and on the final exam. Passing grades are excellent (5), very good (4), good (3) and satisfactory (2).

To complete the course students must attain a passing mark for the entire course (50% or higher) as well as achieving at least 50% at the final exam.

Additional information:
Academic integrity
Students are required to respect the principles of academic integrity, and refer to the following documents: Ethical rules of the University of Rijeka and Ethical rules for students.

Schedule of classes:

Date	Time	Duration (hours)	Location	Topic	Instructor
WEEK 1					
21.06.	13.00-16.00	1 2	O-030	P1 Course overview Frontal lobe functions Neuroplasticity of the brain What is mindfulness? 2 minute exercise Frontal lobe development and criminal sentencing of adolescents	Assoc. prof. ŽM
22.06.				Praznik	
23.06.	9.00-12.00	3	O-030	P2 Interoception and neurobiology of stress Body scan exercise	Assoc. prof. ŽM
24.06.	14.00 – 17.00	3	O-030	P3 Neuronal networks involved in emotion regulation The rain practice	Assoc. prof. ŽM
25.06.	13.00 – 16.00	3	O-030	P4 Brain vs. Mind The origin of consciousness and the illusion of choice Noticing the content of the undercurrent	Assoc. prof. ŽM
WEEK 2					
28.06.	14.00-17.00	3	O-339	P5 Kritika upotrebe fenomenalnog pojma svijesti u neuroznanosti	gost i Assoc. prof. ŽM
29.06.	13.00-16.00	3	O-030	P6 Psihoedukacija, mindfulness prakse	gost i Assoc. prof. ŽM
30.06.	9.00 – 12.00	3	O-030	P7 Mindfulness u medicini i znanosti	gost i Assoc. prof. ŽM
01.07.	12.00-15.00	3	O-030	Student presentations	Assoc. prof. ŽM
02.07.	10.00	3	O-339	Final exam	Assoc. prof. ŽM