



Module name: **Neurochemistry and Neuropharmacology**

Academic year: **2019/2020** Code: **CIMT-2-420-s** ECTS credits: **3**

Faculty of: **Materials Science and Ceramics**

Field of study: **Materials Science** Specialty: **—**

Study level: **Second-cycle studies** Form and type of study: **Full-time studies**

Lecture language: **English** Profile of education: **Academic (A)** Semester: **4**

Course homepage: **<http://www.neuro.agh.edu.pl>**

Responsible teacher: **prof. dr hab. Silberring Jerzy (jerzy.silberring@agh.edu.pl)**

Module summary

Student gains basic knowledge about the nervous system and analytical techniques used in neurobiological research

Description of learning outcomes for module

MLO code	Student after module completion has the knowledge/ knows how to/is able to	Connections with FLO	Method of learning outcomes verification (form of completion)
Social competence: is able to			
M_K001	Student gain a sufficient knowledge about the central nervous system and is able to discuss neurobiological subjects with nonprofessionals		Participation in a discussion
Knowledge: he knows and understands			
M_W001	Student knows analytical techniques used in neurobiology	IMT2A_W01	Test results
M_W002	Student gains knowledge about neurotransmitters and their influence on human behavior		Test results
M_W003	Student knows the role of receptors in central nervous system and their interactions with neurotransmitters and drugs		Test results

Number of hours for each form of classes

Suma	Form of classes										
	Lectures	Auditorium classes	Laboratory classes	Project classes	Conversation seminar	Seminar classes	Practical classes	Fieldwork classes	Workshops	Prace kontrolne i przejściowe	Lektorat
30	0	0	0	0	0	30	0	0	0	0	0

FLO matrix in relation to forms of classes

MLO code	Student after module completion has the knowledge/ knows how to/is able to	Form of classes										
		Lectures	Auditorium classes	Laboratory classes	Project classes	Conversation seminar	Seminar classes	Practical classes	Fieldwork classes	Workshops	Prace kontrolne i przejściowe	Lektorat
Social competence: is able to												
M_K001	Student gain a sufficient knowledge about the central nervous system and is able to discuss neurobiological subjects with nonprofessionals	-	-	-	-	-	+	-	-	-	-	-
Knowledge: he knows and understands												
M_W001	Student knows analytical techniques used in neurobiology	-	-	-	-	-	-	-	-	-	-	-
M_W002	Student gains knowledge about neurotransmitters and their influence on human behavior	-	-	-	-	-	-	-	-	-	-	-
M_W003	Student knows the role of receptors in central nervous system and their interactions with neurotransmitters and drugs	-	-	-	-	-	-	-	-	-	-	-

Student workload (ECTS credits balance)

Student activity form	Student workload
Udział w zajęciach dydaktycznych/praktyka	30 h
Realization of independently performed tasks	38 h
Examination or Final test	2 h
Contact hours	5 h
Summary student workload	75 h
Module ECTS credits	3 ECTS

Additional information

Module content

Seminar classes

Student gains basic knowledge about the nervous system and analytical techniques used in neurobiological research

Discussed topics:

1. Analytical methods used for the purpose of the neuropharmacological studies.
2. Analytical methods used for the purpose of the neurochemical studies.
3. Basis of neurochemistry.
4. Neurotransmission.
5. Neurogenesis, apoptosis, and necrosis mechanism.
6. Neurodegenerative diseases.
7. Pain mechanism.
8. Types and role of receptors.
9. Neurobiology of behavior.
10. Basis of addiction.
11. Pharmacological methods.
12. Test

Teaching methods and techniques:

Seminar classes: Na zajęciach seminaryjnych podstawą jest prezentacja multimedialna oraz ustna prowadzona przez studentów. Kolejnym ważnym elementem kształcenia są odpowiedzi na powstałe pytania, a także dyskusja studentów nad prezentowanymi treściami.

Warunki i sposób zaliczenia poszczególnych form zajęć, w tym zasady zaliczeń poprawkowych, a także warunki dopuszczenia do egzaminu:

Nie określono

Zasady udziału w poszczególnych zajęciach, ze wskazaniem, czy obecność studenta na zajęciach jest obowiązkowa:

Seminar classes:

- Attendance is mandatory: Yes
- Participation rules in classes: Studenci prezentują na forum grupy temat wskazany przez prowadzącego oraz uczestniczą w dyskusji nad tym tematem. Ocenie podlega zarówno wartość merytoryczna prezentacji, jak i tzw. kompetencje miękkie.

Method of calculating the final grade

Participation in classes min. 80% of lecture hours - 60%

Written test - 40%

Sposób i tryb wyrównywania zaległości powstałych wskutek nieobecności studenta na zajęciach:

Nie określono

Prerequisites and additional requirements

No additional requirements

Recommended literature and teaching resources

All teaching materials will be uploaded on the server neuro.agh.edu.pl

Scientific publications of module course instructors related to the topic of the module

Additional scientific publications not specified

Additional information

None