COURSE SYLLABUS

Academic year 2025 - 2026

1. Programme Information

1.1. Higher Education Institution	**„Lucian Blaga" University of Sibiu**
1.2. Faculty	Faculty of Sciences
1.3. Department	Environmental Sciences, Physics, Physical Education and Sports
1.4. Field of study	Biology
1.5. Level of study [1]	Bachelor
1.6. Programme of study	Biology (in english)

2. Details about the course

2.1. Name of course	Neurobiology	Code	FSTI.MFE.BIOEN.L.SA.3.1100.C-5.10		
2.2. Course coordinator	Senior lecturer Claudiu Matei, PhD				
2.3. Seminar / laboratory coordinator	Senior lecturer Claudiu Matei, PhD				
2.4. Year of study[2]	2	**2.5.** Semester[3]	3	**2.6.** Evaluation form [4]	C
2.7. Course type [5]	R	**2.8.** The formative category of the course [6]			S

3. Estimated total time

3.1. Course Extension within the Curriculum – Number of Hours per Week					
3.1.a.Lecture	3.1.b. Seminar	3.1.c. Laboratory	3.1.d. Project	3.1.e Other	Total
2		1			**3**
3.2. Course Extension within the Curriculum – Total Number of Hours within the Curriculum					
3.2.a.Lecture	3.2.b. Seminar	3.2.c. Laboratory	3.2.d. Project	3.2.e Other	Total[7]
28		14			**42**

Time Distribution for Individual Study [8]	**Hours**
Learning by using course materials, references and personal notes	30
Additional learning by using library facilities, electronic databases and on-site information	20
Preparing seminars / laboratories, homework, portfolios and essays	25
Tutorial activities [9]	4
Exams[10]	4

3.3. Total Individual Study Hours [11] ***(NOSI$_{sem}$)***	**83**
3.4. Total Hours in the Curriculum (*NOAD$_{sem}$*)	**42**
3.5. Total Hours per Semester [12] **(*NOAD$_{sem}$* + *NOSI$_{sem}$*)**	**125**
3.6. No. of hours / ECTS	**25**
3.7. Number of credits[13]	**5**

4. Prerequisites (if needed)

4.1. Courses that must be successfully completed first (from the curriculum) [14]	
4.2. Competencies	

5. Conditions (wherever applicable)

5.1. For course/lectures [15]	
5.2. For practical activities (lab/sem/pr/other) [16]	

6. Learning outcomes [17]

Number of credits assigned to the discipline:				
Learning outcomes				Credit allocation based on learning outcomes
No.	Knowledge	Aptitudes	Responsibility and autonomy	
LO 1	The student/graduate describes, defines, and discusses fundamental principles in the field of biology, as well as interdisciplinary aspects (e.g., evolutionism, general ecology, plant physiology, animal physiology).	The student/graduate applies working methods using modern instruments/equipment and classical laboratory techniques to perform, design experiments, record and analyze appropriately the results obtained.	The student/graduate uses their own knowledge and experience to develop the scientific community and society in general by participating in professional and/or community activities	2
LO 2	The student/graduate correctly uses and explains the specific terminology used in the field of Biology, the main concepts and laws, the characteristics of biological systems from the perspective of the principles of organization and functioning of living matter.	The student/graduate defines, describes, discusses/presents the major concepts in the field of Biology.	The student/graduate demonstrates responsibility and autonomy in the use of scientific knowledge in the field of Biology, by conducting research, developing or improving concepts, theories, operational methods or biotechnological products, making ethical and professional decisions within the scientific process.	2

7. Course objectives (resulted from developed competencies)

7.1. Main course objective	Introduction to the biology of the nervous system in animals

7.2. Specific course objectives	Knowledge of the structure and functions of the nervous system, the mechanisms and physiology of higher nervous activity, and the functions of the central nervous system. Knowledge of the structure, functions, and physiology of analyzers, nerve centers, the cerebral cortex, effectors, and vegetative reflexes.

8. Course description

8.1. Lecture[18]		**Teaching methods** [19]	**Hours**
Lecture 1	Neuroanatomy, Development of the nervous system	Lecture, explanation, heuristic conversation, catechetical conversation	4
Lecture 2	Nervous system cells, interneuronal communication, synaptic mechanisms	Lecture, explanation, heuristic conversation, catechetical conversation	4
Lecture 3	Physiology of the nervous system – reflex function, conduction function, perception, and sensation	Lecture, explanation, heuristic conversation, catechetical conversation	4
Lecture 4	Higher nervous activity, cognitive, volitional, affective compartment	Lecture, explanation, heuristic conversation, catechetical conversation	4
Lecture 5	Nervous structures involved in attention, sleep-wakefulness, circadian rhythm, seasonal rhythm, migration orientation, hibernation, aggression, defense	Lecture, explanation, heuristic conversation, catechetical conversation	6
Lecture 6	Motor and vegetative functions of the central nervous system, emotions, and the vegetative nervous system	Lecture, explanation, heuristic conversation, catechetical conversation	6
		Total lecture hours:	**28**

8.2. Practical activities

8.2.b. Laboratory		**Teaching methods** [20]	**Hours**
Laboratory 1	Physiology of analyzers	Case study, debate, interactive dialogue	2
Laboratory 2	General physiology of nerve centers	Case study, debate, interactive dialogue	2
Laboratory 3	Physiology of the cerebral cortex	Case study, debate, interactive dialogue	4
Laboratory 4	Physiology of effectors	Case study, debate, interactive dialogue	4
Laboratory 5	Vegetative reflexes	Case study, debate, interactive dialogue	2
		Total laboratory hours	14

9. Bibliography

9.1. Recommended references	Georg F. Striedter, Neurobiology: A Functional Approach 1st Edition, Oxford University Press; 1st edition (2015)
	Liqun Luo, Principles of Neurobiology 2nd Edition, Garland Science; 2nd edition (2020)
9.2. Additional references	Marie T. Banich, Cognitive Neuroscience 4th Edition, Cambridge University Press; 4th edition (2018)
	Darcia Narvaez, Neurobiology and the Development of Human Morality: Evolution, Culture, and Wisdom (Norton Series on Interpersonal Neurobiology), W. W. Norton & Company; Illustrated edition (2014)

10. Conjunction of the discipline's content with the expectations of the epistemic community, professional associations and significant employers of the specific study program [21]

Periodic interaction with the concerned organizations in order to correlate the course professional competencies and objectives with what is required in the work force.

11. Evaluation

Activity Type	11.1 Evaluation Criteria	11.2 Evaluation Methods		11.3 Percentage in the Final Grade	Notes.[22]
11.4a Exam / Coloquium	• Theoretical and practical knowledge acquired (quantity, correctness, accuracy)	Tests during the semester [23]:	10%	70% (minimum 5)	
		Homework:	%		
		Other activities[24]:	%		
		Final evaluation:	60% (min. 5)		
11.4c Laboratory	• Knowledge of the equipment, how to use specific tools; evaluation of tools, processing and interpretation of results	• Oral response • Written questionnaire • Laboratory notebook, experimental works, reports, etc. • Practical demonstration		70% (minimum 5)	
11.5 Minimum performance standard[25]					

The Course Syllabus will encompass components adapted to persons with special educational needs (SEN – people with disabilities and people with high potential), depending on their type and degree, at the level of all curricular elements (skills, objectives, contents, teaching methods, alternative assessment), in order to ensure fair opportunities in the academic training of all students, paying close attention to individual learning needs.

Filling Date: |_1_|_1_| / |_0_|_9_| / |_2_|_0_|_2_|_5_|

Department Acceptance Date: |_1_|_7_| / |_0_|_9_| / |_2_|_0_|_2_|_5_|

	Academic Rank, Title, First Name, Last Name	Signature
Course Teacher	Senior lecturer Claudiu Matei, PhD	
Study Program Coordinator	Assoc. Prof. Ana-Maria Benedek-Sîrbu, PhD	
Head of Department	Lecturer Ioan Tăușan, PhD	

[1] *Bachelor / Master*
[2] *1-4 for bachelor, 1-2 for master*
[3] *1-8 for bachelor, 1-4 for master*
[4] *Exam, colloquium or VP A/R - from the curriculum*
[5] *Course type: R = Compulsory course; E = Elective course; O = Optional course*
[6] *Formative category: S = Specialty; F = Fundamental; C = Complementary; I = Fully assisted; P = Partially assisted; N = Unassisted*
[7] *Equal to 14 weeks x number of hours from point 3.1 (similar to 3.2.a.b.c.)*
[8] *The following lines refer to individual study; the total is completed at point 3.7.*
[9] *Between 7 and 14 hours*
[10] *Between 2 and 6 hours*
[11] *The sum of the values from the previous lines, which refer to individual study.*
[12] *The sum (3.5.) between the number of hours of direct teaching activity (NOAD) and the number of hours of individual study (NOSI) must be equal to the number of credits assigned to the discipline (point 3.7) x no. hours per credit (3.6.)*
[13] *The credit number is computed according to the following formula, being rounded to whole neighbouring values (either by subtraction or addition*

$$No.credits = \frac{NOCpSpD \times C_C + NOApSpD \times C_A}{TOCpSdP \times C_C + TOApSdP \times C_A} \times 30\ credits$$

Where:

- NOCpSpD = Number of lecture hours / week / discipline for which the credits are calculated
- NOApSpD = Number of application hours (sem./lab./pro.) / week / discipline for which the credits are calculated
- TOCpSdP = Total number of course hours / week in the Curriculum
- TOApSdP = Total number of application hours (sem./lab./pro.) / week in the Curriculum
- C_C/C_A = Course coefficients / applications calculated according to the table

Coefficients	**Course**	**Applications (S/L/P)**
Bachelor	2	1
Master	2,5	1,5
Bachelor - foreign language	2,5	1,25

[14] *The courses that should have been previously completed or equivalent will be mentioned*
[15] *Board, video projector, flipchart, specific teaching materials, online platforms, etc.*
[16] *Computing technology, software packages, experimental stands, online platforms, etc.*
[17] *The learning outcomes will be stated in accordance with the specific standards of the ARACIS expert commissions (https://www.aracis.ro/ghiduri/)*
[18] *Chapter and paragraph titles*
[19] *Exposition, lecture, board presentation of the studied topic, use of video projector, discussions with students (for each chapter, if applicable)*
[20] *Practical demonstration, exercise, experiment*
[21] *The relationship with other disciplines, the usefulness of the discipline on the labour market*
[22] *CPE – Conditions Exam Participation; nCPE – Does Not Condition Exam Participation; CEF - Conditions Final Evaluation; N/A – not applicable*
[23] *The number of tests and the weeks in which they will be taken will be specified*
[24] *Scientific circles, professional competitions, etc.*
[25] *The minimum performance standard in the competence grid of the study program is customized to the specifics of the discipline, if applicable*