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	**Invertebrate Biology 2**			Code	FSTI.MFE.BIOEN.L.FO.2.2020.E-4.2
2.2. Course coordinator	Lecturer Daniela Ilie, PhD				
2.3. Seminar / laboratory coordinator	Lecturer Daniela Ilie, PhD				
2.4. Year of study[2]	1	**2.5.** Semester[3]	2	**2.6.** Evaluation form [4]	E
2.7. Course type[5]	O	**2.8.** The formative category of the course[6]			F

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		2			**4**
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		28			**56**

Time Distribution for Individual Study [8]	**Hours**
Learning by using course materials, references and personal notes	13
Additional learning by using library facilities, electronic databases and on-site information	10
Preparing seminars / laboratories, homework, portfolios and essays	10
Tutorial activities [9]	7
Exams[10]	4

3.3. Total Individual Study Hours [11] ***(NOSI$_{sem}$)***	**44**
3.4. Total Hours in the Curriculum (*NOAD$_{sem}$*)	**56**
3.5. Total Hours per Semester [12] **(*NOAD$_{sem}$* + *NOSI$_{sem}$*)**	**100**
3.6. No. of hours / ECTS	**25**
3.7. Number of credits[13]	**4**

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: 4				
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.	The student/graduate applies working methods using modern instruments/equipment and classical laboratory techniques to perform, design experiments, record and appropriately analyze the results obtained.	The student/graduate uses his/her own knowledge and experiences 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 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, assuming ethical and professional decisions within the scientific process.	2

7. Course objectives (resulted from developed competencies)

7.1. Main course objective	Presentation and knowledge of invertebrate groups of eu metazoan coelomate invertebrate animals, morpho anatomical, systemic, zoo geographical, phylogenetic and ecological approaches.
7.2. Specific course objectives	Emphasis on the importance of these animals in biological processes and human life. A practical study of presented animals during courses through micro and macroscopic observation, mastering methods of identification and harvesting.

8. Course description

8.1. Lecture[18]	Teaching methods[19]	Hours
Lecture 1-3. Phylum Annelida: external morphology, internal organization, reproduction and development, ecology, classification, phylogeny, importance.	Interactive lecture, explanation, conversation, problematisation	6
Lecture 4. Phylum Sipuncula, Phylum Echiura: general characterization.	Interactive lecture, explanation, conversation, problematisation	2
Lecture 5. Phylum Onycophora, Phylum Tardigrada, Phylum Linguatulida: general characterization	Interactive lecture, explanation, conversation, problematisation	2
Lecture 6-10. Phylum Arthropoda: external morphology, internal organization, reproduction and development, ecology, classification, phylogeny, importance	Interactive lecture, explanation, conversation, problematisation	10
Lecture 11. Phylum Pogonophora, Phylum Tentaculata: general characterization	Interactive lecture, explanation, conversation, problematisation	2
Lecture 12-13. Phylum Echinodermata: external morphology, internal organization, reproduction and development, ecology, classification, phylogeny, importance	Interactive lecture, explanation, conversation, problematisation	4
Lecture 14. Phylum Chaetognatha, Phylum Stomocordata : general characterization	Interactive lecture, explanation, conversation, problematisation	2
	Total lecture hours:	**28**

8.2. Practical activities

8.2.b. Laboratory	Teaching methods	Hours
Lab 1-2. Annelida - elements of morphology; representatives; ecology and importance of annelids	Explanation of working methods, material examination, discusion	4
Lab 3-4. Arthropoda - Arachnida, - elements of morphology; representatives; ecology and importance of arahnids	Explanation of working methods, material examination, discusion	4
Lab 5-6. Arthropoda - Crustacea, - elements of morphology; representatives; ecology and importance of crustaceous	Explanation of working methods, material examination, discusion	4
Lab 7. Arthropoda: Miriapoda - elements of morphology; representatives; ecology and importance of myriapods	Explanation of working methods, material examination, discusion	2
Lab 8-12. Arthropoda: Insecta - elements of morphology; representatives; ecology and importance of insects	Explanation of working methods, material examination, discusion	10
Lab 13. Echinodermata – elements of morphology, representatives	Explanation of working methods, material examination, discusion	2
Lab 14. Examination		2
	Total laboratory hours	**28**

9. Bibliography

9.1. Recommended references	Hickman, C. P., Roberts, L. S., Larson, A., 2002, *Animal Diversity*, third edition, The McGraw−Hill Companies
9.2. Additional references	***, 2003, *Grzimek's animal life encyclopedia*., 2nd ed., Volume 1, *Lower Metazoans and Lesser Deuterostomes,* edited by Michael Hutchins, Dennis A. Thoney, and Neil Schlager. Farmington Hills, MI: Gale Group.
	***, 2003, *Grzimek's Animal Life Encyclopedia,* 2nd edition. Volume 2, *Protostomes,* edited by Michael Hutchins, Sean F. Craig, Dennis A. Thoney, and Neil Schlager. Farmington Hills, MI: Gale Group
	***, 2003, *Grzimek's Animal Life Encyclopedia,* 2nd edition. Volume 3, *Insects,* edited by Michael Hutchins, Arthur V. Evans, Rosser W. Garrison, and Neil Schlager. Farmington Hills, MI: Gale Group.

10. Conjunction of the discipline's content with the expectations of the epistemic community, professional associations and significant employers of the specific study program [20]

The course content enables students to obtain skills of understanding and reproduction of the terms, concepts and principles of invertebrate biology, gives them the ability to communicate using the specific scientific language.

11. Evaluation

Activity Type	11.1 Evaluation Criteria	11.2 Evaluation Methods		11.3 Percentage in the Final Grade	Notes.[21]
11.4a Exam / Coloquium	• Theoretical and practical knowledge acquired (quantity, correctness, accuracy)	Tests during the semester [22]:	25%	75% (minimum 5)	
		Homework:	-		
		Other activities[23]:	-		
		Final evaluation:	50%		
11.4b Seminar	• Frequency/relevance of participation or responses	Evidence of participation, portfolio of papers (reports, scientific summaries)		% (minimum 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		25% (minimum 5)	
11.4d Project	• The quality of the project, the correctness of the project documentation, the appropriate justification of the chosen solutions	• Self-evaluation, project presentation Critical evaluation of a project		% (minimum 5)-	
11.5 Minimum performance standard[24]					

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: 16 / 09 / 2025

Department Acceptance Date: 17 / 09 / 2025

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