SYLLABUS

Academic year 2024 - 2025

1. Details about the program

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. Study cycle[1]	BACHELOR
1.6. Specialization	BIOLOGY

2. Details about the course

2.1. Course name	**Invertebrate Systematics**			Code	FSTI.MFE.BIOEN.L.FO.2.2020.E-5.2
2.2. Course coordinator	Lecturer Daniela Ilie PhD				
2.3. Practical activity coordinator	Lecturer Daniela Ilie PhD				
2.4. Year of study[2]	1	2.5. Semester[3]	2	2.6. Type of assessment[4]	E
2.7. Type of discipline[5]	O	2.8. Formative category of the discipline[6]			F

3. Estimated total time

3.1. Proportion of the discipline within the curriculum – *number of hours / 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. Proportion of the discipline within the curriculum – *number of hours / week*					
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**

Allocation of time budget for individual study [8]	**No. hours**
Study based on textbook, lecture notes, bibliography and course notes	20
Additional research: library, specialized electronic platforms and field or on-site investigation and documentation	20
Preparing for the seminar / laboratorires, home assignments, reports, portfolios and essays	20
Tutoring[9]	5
Examinations[10]	4

3.3. Total number of hours for individual study [11] ***(NOSI$_{sem}$)***	**69**
3.4. Total number of hours in the curriculum (*NOAD$_{sem}$*)	**56**
3.5. Total number of 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 applicable)

4.1. Prerequisite courses for enrollment to this subject (from the curriculum) [14]	
4.2. Competencies	

5. Requirements (wherever applicable)

5.1. Lecture organization and structure[15]	
5.2. Organization and structure of practical activities (lab/sem/pr/other) [16]	

6. Specific competencies[17]

Number of credits assigned to the discipline[18]			Distribution of credits according to competencies[19]
6.1. Professional competencies	CP1	Appropriate knowledge and understanding of the basic scientific terms and their proper use in zoology	1
	CP2	Knowledge regarding the complexity and diversity of animals, their evolution and their importance in ecological systems and human life	1
	CP3	Recognition of the characteristic representatives of different groups	1
	CP4	Explaining and interpreting the theoretical and practical elements of the course	0,5
6.2. Transversal competencies	CT1	Implementation of effective and responsible work strategies, punctuality, reliability and personal responsibility, based on principles, norms and values of professional ethics code.	0,5
	CT2	Efficient work in multidisciplinary team on different hierarchical levels	0,5
	CT3	Documentation in English language for professional and personal development through training and effective adaptation to new scientific discoveries	0,5

7. Course objectives (reflected by the framework of specific competencies)

7.1. General 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 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[20]	**Teaching methods[21]**	**No. of 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 number of lecture hours:		**28**

8.2. Practical activities (8.2.a. Seminar[22]/ 8.2.b. Laboratory[23]/ 8.2.c. Project[24] / 8.2.d. Other practical activities[25])	**Teaching methods**	**No. of 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 number of hours: seminar/laboratory		**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. Correlating the course description with the expectations and requirements of representatives of the epistemic community, professional associations and significant employers and stakeholders related to the study program and the specific area[26]

The course content enables students to obtain skills of understanding and reproduction of the terms, concepts and principles of ethology, gives them the ability to communicate using the specific scientific language and to interpret the observations on animal and human behaviour.

11. Evaluare

Type of activity	11.1 Assessment criteria	11.2 Assessment methods		11.3 Percentage of the final grade	Notes.[27]
11.4a Exam / Coloquium	• Theoretical and practical knowledge (quantity, correctness,accuracy)	Midterm / ongoing assignments[28]:	25%	75% (minimum 5)	
		Home assignments:	-		
		Other activities[29]:	-		
		Final assessment:	50%		
11.4b Seminar	• Frequency/relevance of contributions or answers	-		-	
11.4c Laboratory	• Knowledge of equipment, methods of using specific instruments and tools; assessment of tools or achievements, processing and interpretation of results	• Oral examination • Written questionnaire • Laboratory notebook, experimental work, scientific papers, etc. • Practical demonstrations		25% (minimum 5)	
11.4d Project	• Quality of achieved project, accuracy of project documentation, rationale and evidence of selected solutions	-		-	
11.5 Minimum performance standard[30]					

The course description includes components adapted to SEN (Special Educational Needs) persons, according to their type and degree, at all curricular elements and dimensions (competencies, objectives, course description, teaching methods, alternative assessment), in view of providing and ensuring equitable and fair opportunities to academic education for all students, with special attention to special educational needs.

Date of submission: 09 / 09 / 2024

Date of approval in the Department: 17 / 09 / 2024

	Degree, titlle, first name, surname	Signature
Course coordinator	Lecturer Daniela Ilie PhD	
Study program coordinator	Assoc. prof. Ana-Maria Benedek-Sîrbu, PhD	
Director Department	Lecturer Ioan Tăușan PhD	

[1] *Licență / Master*
[2] *1-4 pentru licență, 1-2 pentru master*
[3] *1-8 pentru licență, 1-3 pentru master*
[4] *Examen, colocviu sau VP A/R – din planul de învățământ*
[5] *Regim disciplină: O=Disciplină obligatorie; A=Disciplină opțională; U=Facultativă*
[6] *Categoria formativă: S=Specialitate; F=Fundamentală; C=Complementară; I=Asistată integral; P=Asistată parțial; N=Neasistată*
[7] *Este egal cu 14 săptămâni x numărul de ore de la punctul 3.1 (similar pentru 3.2.a.b.c.d.e.)*
[8] *Liniile de mai jos se referă la studiul individual; totalul se completează la punctul 3.37.*
[9] *Între 7 și 14 ore*
[10] *Între 2 și 6 ore*
[11] *Suma valorilor de pe liniile anterioare, care se referă la studiul individual.*
[12] *Suma (3.5.) dintre numărul de ore de activitate didactică directă (NOAD) și numărul de ore de studiu individual (NOSI) trebuie să fie egală cu numărul de credite alocat disciplinei (punctul 3.7) x nr. ore pe credit (3.6.)*
[13] *Numărul de credit se calculează după formula următoare și se rotunjește la valori vecine întregi (fie prin micșorare fie prin majorare*

$$Nr.credite = \frac{NOCpSpD \times C_C + NOApSpD \times C_A}{TOCpSdP \times C_C + TOApSdP \times C_A} \times 30\ credite$$

Unde:

- NOCpSpD = Număr ore curs/săptămână/disciplina pentru care se calculează creditele
- NOApSpD = Număr ore aplicații (sem./lab./pro.)/săptămână/disciplina pentru care se calculează creditele
- TOCpSdP = Număr total ore curs/săptămână din plan
- TOApSdP = Număr total ore aplicații (sem./lab./pro.)/săptămână din plan
- C_C/C_A = Coeficienți curs/aplicații calculate conform tabelului

Coeficienți	Curs	Aplicații (S/L/P)
Licență	2	1
Master	2,5	1,5
Licență lb. străină	2,5	1,25

[14] *Se menționează disciplinele obligatoriu a fi promovate anterior sau echivalente*
[15] *Tablă, videoproiector, flipchart, materiale didactice specifice, platforme on-line etc.*
[16] *Tehnică de calcul, pachete software, standuri experimentale, platforme on-line etc.*
[17] *Competențele din Grilele aferente descrierii programului de studii, adaptate la specificul disciplinei*
[18] *Din planul de învățământ*
[19] *Creditele alocate disciplinei se distribuie pe competențe profesionale și transversale în funcție de specificul disciplinei*
[20] *Titluri de capitole și paragrafe*
[21] *Expunere, prelegere, prezentare la tablă a problematicii studiate, utilizare videoproiector, discuții cu studenții (pentru fiecare capitol, dacă este cazul)*
[22] *Discuții, dezbateri, prezentare și/sau analiză de lucrări, rezolvare de exerciții și probleme etc.*
[23] *Demonstrație practică, exercițiu, experiment etc.*
[24] *Studiu de caz, demonstrație, exercițiu, analiza erorilor etc.*
[25] *Alte tipuri de activități practice specifice*
[26] *Legătura cu alte discipline, utilitatea disciplinei pe piața muncii*
[27] *CPE – condiționează participarea la examen; nCPE – nu condiționează participarea la examen; CEF - condiționează evaluarea finală; N/A – nu se aplică*
[28] *Se va preciza numărul de teste și săptămânile în care vor fi susținute.*
[29] *Cercuri științifice, concursuri profesionale etc.*
[30] *Se particularizează la specificul disciplinei standardul minim de performanță din grila de competențe a programului de studii, dacă este cazul.*