SYLLABUS

Academic year 2023 - 2024

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	**Practical training 2**		Code	FSTI.MFE.BIOEN.L.SO.4.P84.C-4.7	
2.2. Course coordinator					
2.3. Practical activity coordinator	Teaching assistant Mihai Crăciunaș, PhD				
2.4. Year of study[2]	2	2.5. Semester[3]	4	2.6. Type of assessment[4]	C
2.7. Type of discipline[5]	O	2.8. Formative category of the discipline[6]			S

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
	-	42	-	-	**42**
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]
	-	84	-	-	**84**

Allocation of time budget for individual study[8]	**No. hours**
Study based on textbook, lecture notes, bibliography and course notes	4
Additional research: library, specialized electronic platforms and field or on-site investigation and documentation	4
Preparing for the seminar / laboratorires, home assignments, reports, portfolios and essays	4
Tutoring[9]	2
Examinations[10]	2

3.3. Total number of hours for individual study[11] ***(NOSI$_{sem}$)***	**16**
3.4. Total number of hours in the curriculum (*NOAD$_{sem}$*)	**84**
3.5. Total number of 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 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]		4	Distribution of credits according to competencies[19]
6.1. Professional competencies	CP1	Knowledge and appropriate use of specialist terms; knowledge and correct interpretation of ideas, principles, processes specific to biology.	1
	CP2	Ability to explore the living world using methods and techniques specific to the field, to use various techniques for collecting and preserving biological material.	1
	CP3	Ability to recognise representative species of fauna and flora, to interpret the biological and/or ecological significance of plant and animal species.	0.5
6.2. Transversal competencies	CT1	Ability to collaborate with specialists from other fields.	0.5
	CT2	Displaying positive and responsible attitudes towards science.	0.5
	CT3	Participation in own professional development; involvement in scientific activities related to the discipline.	0.5

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

7.1. General objective	Acquisition of practical skills specific for the chosen domain.
7.2. Specific objectives	Familiarize students with the organizational structure and activity of companies in the field of study. Knowledge and appropriate use of concepts specific to the field. Knowledge and interpretation of terms, ideas or processes specific to the field. Design, conduct and evaluate laboratory activities or a field study.

8. Course description

8.1. **Laboratory[22]**	**Teaching methods**	**No. of hours**
Module 1		
Methods of collection, capture and preservation of biological material	Explanation, conversation, problematisation, dialogue, brainstorming, case studies, field trips	4
Methods to assess biodiversity in aquatic and terrestrial ecosystems	Explanation, conversation, problematisation, dialogue, brainstorming, case studies, field trips	20

Application of methods for investigating the structure of communities characteristic of mountain ecosystems	Explanation, conversation, problematisation, dialogue, brainstorming, case studies, field trips	20
Study of protected natural areas in the investigated area	Explanation, conversation, problematisation, dialogue, brainstorming, case studies, field trips	20
Identification of habitats and representative plant and animal species of conservation interest	Explanation, conversation, problematisation, dialogue, brainstorming, case studies, field trips	20
Module 2		
Organisation and operation of biological laboratories/institutions	Explanation, conversation, problematisation, dialogue, brainstorming, case studies	6
Laboratory apparatus - principles of operation; methods and techniques used in specialist laboratories	Explanation, conversation, problematisation, dialogue, brainstorming, case studies	18
Application of specific laboratory methods and techniques, performing analyses, reading and interpreting results	Explanation, conversation, problematisation, dialogue, brainstorming, case studies	42
Integrating the information obtained and identifying its potential for use in basic and applied research studies	Explanation, conversation, problematisation, dialogue, brainstorming, case studies	18
	Total number of hours: laboratory	**84**

9. Bibliography

9.1. Recommended references	Ralph, C. John; Geupel, Geoffrey R.; Pyle, Peter; Martin, Thomas E.; DeSante, David F. 1993. Handbook of field methods for monitoring landbirds. Gen. Tech. Rep. PSW-GTR-144-www. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture; 41 p.
	Svensson, L., 2010. Birds of Europe. Princeton University Press, London, UK.
	Chinery, M., 1987. Field Guide to the Plant Life of Britain and Europe, Pan Macmillan, London, UK.
	Carson, S., Miller, H.B., Witherow, D.S., Srougi, M.C., 2020. Molecular Biology Techniques. Academic Press, Elsevier Inc., US.
9.2. Additional references	Doniţă, N., Paucă-Comănescu, M., Popescu, A., Mihăilescu, S., & Biriş, I. A. (2005). *Habitatele din România*. Bucureşti: Editura Tehnică Silvică.
	Godeanu, S. P., Müller, G. I., & Ardelean, A. (Eds.). (2010). *Diversitatea Lumii VII: determinatorul ilustrat al florei şi faunei României*. Bucura Mond.
	Sîrbu, I., & Benedek, A. M. (2012). *Ecologie practică*. Editura Universităţii" Lucian Blaga.
	Ghid sintetic pentru monitorizarea speciilor de nevertebrate de interes comunitar din România.2014 EU, Guvernul României, Instrum. structurale
	Homorodean, D., Moldovan, O., Stoian, M., Brojboiu, M., Chiriac, G., Muntean, I. S., ... & Galie, N. (2008). Organizarea şi managementul laboratorului de micobacteriologie.
	ORDIN Nr. 1301 din 20 iulie 2007 pentru aprobarea Normelor privind funcţionarea laboratoarelor de analize medicale
	Georgescu, S. E., Dudu, A., & Costache, M. (2016). *Tehnici de biologie moleculară-principii şi aplicaţii practice*. Editura Universităţii Bucureşti.

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[20]

The content of the subject allows students to obtain practical skills in working in the field or in biology laboratories, operating specific equipment, analysing data and interpreting results.

11. Evaluation

Type of activity	11.1 Assessment criteria	11.2 Assessment methods	11.3 Percentage of the final grade	Notes.[21]
11.4. Laboratory	• Student's performance in practical activities carried out in the field/lab	Direct evaluation of student activity	50%	
	• Evaluation of theoretical knowledge through tests, reports, etc.	Written and oral evaluation	50%	
11.5 Minimum performance standard[22] Knowledge of field/laboratory work methods				

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: |_2_|_1_| / |_0_|_7_| / |_2_|_0_|_2_|_3_|

Date of approval in the Department: |_1_|_9_| / |_1_|_0_| / |_2_|_0_|_2_|_3_|

	Degree, titlle, first name, surname	Signature
Course coordinator	Teaching assistant Mihai Crăciunaș, PhD	
Study program coordinator	Assoc. Prof. Ana-Maria Benedek-Sîrbu, PhD	
Director Departament	Lecturer PhD. Voichița GHEOCA	

[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] *Legătura cu alte discipline, utilitatea disciplinei pe piața muncii*
[21] *CPE – condiționează participarea la examen; nCPE – nu condiționează participarea la examen; CEF - condiționează evaluarea finală; N/A – nu se aplică*
[22] *Se particularizează la specificul disciplinei standardul minim de performanță din grila de competențe a programului de studii, dacă este cazul.*