

# SYLLABUS

## *Development and implementation of projects in ecology*

University year 2025-2026

### 1. Information regarding the programme

1.1. Higher education institution	Babeş-Bolyai University of Cluj-Napoca
1.2. Faculty	Faculty of Biology and Geology
1.3. Department	Doctoral School of Integrative Biology
1.4. Field of study	Biology
1.5. Study cycle	PhD, 4 years
1.6. Study programme/Qualification	PhD in Biology / Biologist
1.7. Form of education	Regular attendance

### 2. Information regarding the discipline

2.1. Name of the discipline	<i>Development and implementation of projects in ecology</i>			Discipline code	BDR1113		
2.2. Course coordinator	CS II Dr. <i>Habil.</i> Ioana-Nicoleta Meleg						
2.3. Seminar coordinator	CS II Dr. <i>Habil.</i> Ioana-Nicoleta Meleg						
2.4. Year of study	1	2.5. Semester	1	2.6. Type of evaluation	C	2.7. Discipline regime	O (Elective) 5 mandatory lectures

### 3. Total estimated time (hours/semester of didactic activities)

3.1. Hours per week	<b>4</b>	of which: 3.2 course	<b>2</b>	3.3 seminar/laboratory	<b>2</b>
3.4. Total hours in the curriculum	<b>154</b>	of which: 3.5 course	<b>28</b>	3.6 seminar/laboratory	<b>28</b>
<b>Time allotment for individual study (ID) and self-study activities (SA)</b>					<b>hours</b>
3.5.1. Learning using manual, course support, bibliography, course notes (SA)					14
3.5.2. Additional documentation (in libraries, on electronic platforms, field documentation)					21
3.5.3. Preparation for seminars/labs, homework, papers, portfolios and essays					42
3.5.4. Tutorship					12
3.5.5. Evaluations					9
3.5.6. Other activities					0
<b>3.7. Total individual study hours</b>					<b>98</b>
<b>3.8. Total hours per semester</b>					<b>154</b>
<b>3.9. Number of ECTS credits</b>					<b>6</b>

### 4. Prerequisites (if necessary)

4.1. curriculum	Not applicable.
4.2. competencies	Ability to use a computer and Microsoft 365 applications.

### 5. Conditions (if necessary)

5.1. for the course	<i>Onsite (with the possibility of transitioning up to 40% of activities online if necessary). Requires a projector and internet connection.</i>
5.2. for the seminar /lab activities	<i>Onsite (with the possibility of transitioning up to 40% of activities online if necessary). Requires projectors, internet connection, and computers.</i>

### 6.1. Specific competencies acquired

<b>Professional/essential competencies</b>	<ul style="list-style-type: none"> <li>• Acquiring professional competencies aimed at the ability to develop and implement projects in ecology and scientific research within the context of national and European public policies regarding the environment, water, and forests, as well as research, development, and innovation.</li> <li>• Acquiring and developing the competencies necessary for drafting projects specific to the field of biology/ecology.</li> <li>• Acquiring and developing the competencies necessary for managing projects specific to the field of biology/ecology.</li> </ul>
<b>Transversal competencies</b>	<ul style="list-style-type: none"> <li>• Developing the ability to synthesize scientific and administrative information related to the creation and implementation of projects.</li> <li>• Forming responsible and positive attitudinal competencies necessary for project management.</li> <li>• Acquiring teamwork and communication skills that facilitate solving domain-specific problems and making decisions to mitigate identified risks.</li> <li>• Developing the ability to argue and present the elaborated projects.</li> </ul>

## 6.2. Learning outcomes

<b>Knowledge</b>	<ul style="list-style-type: none"> <li>• The student/graduate knows how to construct a project summary based on the established topic and identified needs.</li> <li>• The student/graduate knows how to search funding platforms to identify open calls that correspond to their developed project summary.</li> <li>• The student/graduate knows how to define the necessary steps in the development and management of ecological projects.</li> <li>• The student/graduate knows how to define the stages in the life cycle of ecological projects.</li> </ul>
<b>Skills</b>	<ul style="list-style-type: none"> <li>• The student is able to apply the acquired knowledge in project development to complete a funding application based on the constructed project outline and the requirements of potential funders.</li> <li>• The student is able to apply best practices in project administration based on knowledge of the code of ethics and professional conduct.</li> <li>• The student is able to contribute to the success of a project by assuming a transformative leadership role.</li> </ul>

<b>Responsibility and autonomy:</b>	<ul style="list-style-type: none"> <li>• The student has the ability to work independently on the creation of the project outline and the corresponding funding application.</li> <li>• The student has the ability to carry out professional tasks responsibly, respecting the values and ethics of the profession, and to efficiently perform specific actions.</li> <li>• The student has the ability to apply effective communication techniques in teamwork activities in order to assume and fulfill a role within the team (as leader or member) and to respect the principles of division of labor.</li> <li>• The student has the ability to objectively self-assess the need for continuous professional development, with the goal of adapting and consistently responding to the demands of competitiveness in the field of biology and the need to obtain funding for ecological projects in both academic and non-academic settings (NGOs, public institutions).</li> </ul>
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### 7. Objectives of the discipline (outcome of the acquired competencies)

<b>7.1 General objective of the discipline</b>	<ul style="list-style-type: none"> <li>• Acquisition by students of the knowledge necessary for the development and management of projects specific to the field of biology/ecology.</li> </ul>
<b>7.2 Specific objective of the discipline</b>	<ul style="list-style-type: none"> <li>• Understanding the principles of national and European strategies regarding environmental policies, as well as research, development, and innovation.</li> <li>• Developing a project in the field of biology/ecology in accordance with the funder's guidelines and the characteristics and life cycle of the project.</li> <li>• Presenting a project in the field of biology/ecology by highlighting the proposed managerial and leadership measures to ensure the project's success.</li> </ul>

### 8. Content

8.1 Course	Teaching methods	Remarks	
1. Introduction to the course and its theme	Lecture  Interactive and heuristic methods		
2. National and European public policies regarding the environment, research, development, and innovation			
3. From idea to project: project development/design – project characteristics and project life cycle			
4. Project implementation and coordination – research management and leadership			
5. Project implementation and coordination – budget management			
6. Project implementation and coordination – team management: team formation (role definition, responsibilities)			
7. Project implementation and coordination – team management: team building and sustainability (team development, personal development)			
8. Project implementation and coordination – risk management			
9. Project implementation and coordination – ethics in projects			
10–11. Dissemination and valorization of project results – in academic and public outreach contexts (civic dimension)			The topic includes 4 hours of lectures over 2 weeks.
12. Project administration – contracting and reporting			
13. Evaluation and monitoring of project performance			
14. Recap – what makes a successful project		Lecture, open discussions	
Bibliography			
1. Lee, A. (2020) Successful Research Projects, A Guide for Postgraduates, Routledge, 210 pages, ISBN 9780815376750,			

<a href="https://www.routledge.com/Successful-Research-Projects-A-Guide-for-Postgraduates/Lee/p/book/9780815376750">https://www.routledge.com/Successful-Research-Projects-A-Guide-for-Postgraduates/Lee/p/book/9780815376750</a>		
2. Kennet, B. (2014) Planning and Managing Scientific Research, A guide for the beginning researcher, The Australian National University Press, 93 pages, ISBN: 9781925021585 (paperback) 9781925021592 (ebook)		
3. <a href="https://www.elsevier.com/connect/3-tips-for-writing-a-successful-funding-application">https://www.elsevier.com/connect/3-tips-for-writing-a-successful-funding-application</a>		
4. <a href="https://uefiscdi.gov.ro">https://uefiscdi.gov.ro</a>		
5. <a href="https://ec.europa.eu/info/research-and-innovation_en">https://ec.europa.eu/info/research-and-innovation_en</a>		
6. <a href="https://www.research.gov.ro/ro/articol/5628/programe-europene-planul-na-ional-de-redresare-i-rezilien-a-pnrr-componenta-9-suport-pentru-sectorul-privat-cercetare-dezvoltare-i-inovare">https://www.research.gov.ro/ro/articol/5628/programe-europene-planul-na-ional-de-redresare-i-rezilien-a-pnrr-componenta-9-suport-pentru-sectorul-privat-cercetare-dezvoltare-i-inovare</a>		
7. <a href="https://www.europarl.europa.eu/factsheets/ro/sheet/71/politica-de-mediu-principii-generale-si-cadrul-de-baza">https://www.europarl.europa.eu/factsheets/ro/sheet/71/politica-de-mediu-principii-generale-si-cadrul-de-baza</a>		
8. <a href="https://environment.ec.europa.eu/funding_en">https://environment.ec.europa.eu/funding_en</a>		
9. <a href="http://www.mmediu.ro/categorie/programe-de-finantare/9">http://www.mmediu.ro/categorie/programe-de-finantare/9</a>		
10.		
8.2 Seminar / laboratory	Teaching methods	Remarks
1. Types of funders and funding opportunities	Lecture	
2. Reviewing funder guidelines (using examples from previous funding calls)	Interactive and heuristic methods	
	Group discussion	
3. Presentation and analysis of a (research) project: defining the project concept, SWOT analysis for context assessment, formulating the goal, setting SMART objectives, work packages, activities, deliverables, risk factor assessment and mitigation strategies.	Lecture	
	Interactive and heuristic methods	
	Team-based work	
4. Creating the GANTT chart and the project implementation plan	Interactive and heuristic methods	
	Group discussion	
5. Creating and monitoring the project budget	Lecture	
6. Creating the data management plan	Interactive and heuristic methods	
	Team-based work	
7. Examples of integrated software for project management. Assignment of individual projects.	Interactive and heuristic methods	
	Group discussion	
8.-10. Development of individual research projects	Project-based method	The seminar includes 6 hours of instruction over 3 weeks.
	Case study	
	Analysis	
11.-14. Presentation of the individual research project	Lecture	The seminar includes 8 hours over 3 weeks.
	Project-based method	
	Case study	
	Analysis	
Bibliography: Please refer to the course bibliography.		

**9. Corroborating the content of the discipline with the expectations of the epistemic community, professional associations and representative employers within the field of the program**

<ul style="list-style-type: none"> <li>Graduates of this course will be able to apply their knowledge and skills to the development and implementation of projects in the fields of biology and ecology, as well as to their continued professional development (for example, in applying for a doctoral scholarship). The professional and transversal competencies specific to this discipline are essential for any applicant in the field of ecology, both theoretical and applied, including researchers, custodians of protected areas, employees of environmental consulting firms, staff at environmental agencies (such as the Environmental Protection Agencies, Romanian Waters Administration, Environmental Guard), teachers in pre-university education and academic staff in higher education, environmental NGO volunteers, and even public servants in relevant ministries.</li> </ul>
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**10. Evaluation**

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade
10.4 Course	The level of understanding of the complexity involved in developing and implementing a research project.	Oral examination	30%
10.5 Seminar/laboratory	Project – individual presentation	Individual project proposal	70%
10.6 Minimum standard of performance			
<ul style="list-style-type: none"> <li>Knowledge of fundamental theoretical concepts</li> <li>Ability to apply the presented theoretical elements</li> <li>Ability to develop a project or a funding application in the field of biology/ecology and to justify the proposed measures for the successful implementation of the project</li> </ul>			

**11. Labels ODD (Sustainable Development Goals)**

	General label for Sustainable Development						

Date:

Signature of course coordinator

Signature of seminar coordinator

CS II Dr. *Habil.* Ioana-Nicoleta Meleg

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Date of approval:

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Signature of the head of department

