

## COURSE SYLLABUS

### 1. Data about the program

1.1 Higher education institution	Babeş-Bolyai University
1.2 Faculty	Faculty of Environmental Science and Engineering
1.3 Doctoral school	Doctoral School of Environmental Science
1.4 Field of study	Environmental Science
1.5 Study cycle	Doctorate
1.6 Study program / Qualification	Doctoral training / PhD in Environmental Science

### 2. Course data

2.1 Name of discipline	The specificity of environmental research. Elements of ethics and academic integrity						
2.2 Teacher responsible for lectures	Professor Călin Baci						
2.3 Teacher responsible for seminars	Professor Călin Baci						
2.4 Year of study	1	2.5 Semester	1	2.6. Type of evaluation	E	2.7 Course framework	Optional

### 3. Estimated total time of teaching activities (hours per semester)

3.1 Hours per week	3	Out of which: 3.2 Lectures	2	3.3 Seminars / Laboratory classes	1
3.4 Total hours in the curriculum	36	Out of which: 3.5 Lectures	24	3.6 Seminars / Laboratory classes	12
Allocation of study time:					h
Study supported by textbooks, other course materials, recommended bibliography and personal student notes					24
Additional learning activities in the library, on specialized online platforms and in the field					20
Preparation of seminars / laboratory classes, topics, papers, portfolios and essays					24
Tutoring					6
Examinations					4
Other activities: -					
3.7 Individual study (total hours)					78
3.8 Total hours per semester					114
3.9 Number of credits					10

### 4. Preconditions (where applicable)

4.1 Curriculum	•
4.2 Competences	•

### 5. Conditions (where applicable)

5.1 Conducting lectures	•
5.2 Conducting seminars / laboratory classes	•

### 6. Specific competences acquired

<b>Professional competences</b>	<ul style="list-style-type: none"> <li>• Knowledge of ethical principles in scientific research</li> <li>• Knowledge of national and international legislation and regulations regarding the ethics in scientific research</li> </ul>
<b>Transversal competences</b>	<ul style="list-style-type: none"> <li>• Knowledge of documentation techniques</li> <li>• Ability to write a scientific material</li> <li>• Recognition of risk situations for ethics</li> </ul>

### 7. Course objectives (based on the acquired competencies grid)

7.1 The general objective of the course	<ul style="list-style-type: none"> <li>• Understanding of the complexity of interdisciplinary scientific research in the field of environmental science, the ways of approaching a study, the principles of ethics</li> </ul>
7.2 Specific objectives	<ul style="list-style-type: none"> <li>• Understanding how to plan and implement an individual scientific research project</li> <li>• Understanding and learning the principles of research ethics</li> <li>• Understanding the principles of academic writing</li> </ul>

### 8. Content

8.1 Lectures	Teaching methods	Comments
1. Environmental study - interdisciplinary field of knowledge.	Interactive lecture	
2. Development of a research project independently, research flow (research planning, documentation, experimental stage, data processing, interpretation, writing)	Interactive lecture	
3. Documentation of scientific research	Interactive lecture	
4. Planning the field study and/or the experimental study in the laboratory	Interactive lecture	
5. Use of research infrastructure, ways to interconnect data	Interactive lecture	
6. The fundamentals and historical development of academic and research ethics	Interactive lecture	
7. Individual and collective responsibility. Ethical aspects in a research project, collaboration in a research group	Interactive lecture	
8. Authorship of a scientific paper: first author, co-authors, corresponding author, criteria for establishing the authors	Interactive lecture	
9. Similarity, plagiarism, anti-plagiarism, intellectual property. Avoiding the situations of ethical rules violation.	Interactive lecture	

10. Writing scientific papers. The evolution of a manuscript, from the formulation of the main ideas to its publication	Interactive lecture	
11. IMRaD structure. Writing techniques, scientific vocabulary, text citation, references	Interactive lecture	
12. The publishing process. Selection of journals, submission of manuscripts, revision.	Interactive lecture	
<b>8.2 Seminars / laboratory classes</b>		
	<b>Teaching methods</b>	<b>Comments</b>
1. Planning a research project, objectives, activities, Gantt chart	Discussions with students	
2. Classic bibliographic sources, online information sources, databases	Practical activity with students	
3. Research ethics, principles and practical application	Discussions with students. Case studies	
4. Respecting the rules of ethics when writing a scientific article	Discussions with students. Case studies	
5. The stages of writing an article	Practical exercises	
6. Individual example of writing the parts of an article	Practical exercises	
<b>Bibliography:</b> - Legea Nr. 206 din 27 mai 2004, privind buna conduită în cercetarea științifică, dezvoltarea tehnologică și inovare - European Commission, 2010, European Textbook on Ethics in Research, Directorate-General for Research, Science, Economy and Society. - A guide to research ethics. Univ. of Minnesota, 2003. - CDR Authorship Guidelines, <a href="http://www.boku.ac.at/fileadmin/data/H04000/H16900/CDR_Authorship_Guidelines_20100614.pdf">http://www.boku.ac.at/fileadmin/data/H04000/H16900/CDR_Authorship_Guidelines_20100614.pdf</a> - Singapore Statement on Research Integrity, <a href="http://www.singaporestatement.org">www.singaporestatement.org</a> - Vancouver Protocol, 1997. Uniform Requirements for Manuscripts Submitted to Biomedical Journals. <a href="http://research.ntu.edu.sg/rieo/Documents/Foundational%20Documents/Vancouver%20Protocol.pdf">http://research.ntu.edu.sg/rieo/Documents/Foundational%20Documents/Vancouver%20Protocol.pdf</a>		

**9. Aligning the contents of the discipline with the expectations of the epistemic community representatives, professional associations and standard employers operating in the program field**

<ul style="list-style-type: none"> <li>• Knowledge of the ethics notions of research</li> <li>• Ability to write a scientific paper</li> </ul>
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**10. Examination**

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Weight in the final grade
10.4 Lectures	Mastering the principles and notions	Individual discussion	30%
	Understanding of the concepts	Individual discussion	30%
10.5 Seminars / laboratory classes	Abilities to work with the presented notions	Individual discussion	20%
	Article writing	Manuscript verification	20%
10.6 Minimum performance standard			
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Date of issue

Signature of the teacher  
responsible for lectures

Signature of the teacher  
responsible for seminars

01.10.2022



Date of approval by the doctoral school council

Signature of the doctoral school director

03.10.2022

