

SYLLABUS

1. Information regarding the programme

1.1 Higher education institution	Babeş-Bolyai University of Cluj-Napoca
1.2 Faculty	Faculty of Environmental Science and Engineering
1.3 Department	Department of Environmental Analysis and Engineering
1.4 Field of study	Environmental Engineering
1.5 Study cycle	Bachelor
1.6 Study programme / Qualification	Environmental Engineering

2. Information regarding the discipline

2.1 Name of the discipline	Ethics in environmental research						
2.2 Course coordinator	-						
2.3 Seminar coordinator	CS III Dr. Lucrina Ștefănescu						
2.4. Year of study	3	2.5 Semester	1	2.6. Type of evaluation	C	2.7 Type of discipline	Optional

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

3.1 Hours per week	4	Of which: 3.2 course	2	3.3 seminar/laboratory	2
3.4 Total hours in the curriculum	56	Of which: 3.5 course	28	3.6 seminar/laboratory	28
Time allotment:					hours
Learning using manual, course support, bibliography, course notes					12
Additional documentation (in libraries, on electronic platforms, field documentation)					10
Preparation for seminars/labs, homework, papers, portfolios and essays					12
Tutorship					6
Evaluations					2
Other activities:					0
3.7 Total individual study hours	42				
3.8 Total hours per semester	98				
3.9 Number of ECTS credits	4				

4. Prerequisites (if necessary)

4.1. curriculum	Basics of environmental ethics and research methodology
4.2. competencies	use of computer software and specialized literature platforms

5. Conditions (if necessary)

5.1. for the course	-
5.2. for the seminar /lab activities	Necessity of digital projector and computer (laptop)

6. Specific competencies acquired

Professional competencies	• Skills for designing and conducting scientific research • Preparation for applying scientific research methodologies • Analysis of scientific databases • Understanding of ethical principles applied in scientific research conduct
Transversal competencies	• Acquiring knowledge on drafting a scientific research paper; • Teamwork; • Capacity for resuming and synthetizing analyzed scientific works; • Critical thinking.

7. Objectives of the discipline (outcome of the acquired competencies)

7.1 General objective of the discipline	• Building the skills for conducting scientific research in compliance with ethical principles and scientific methodology norms.
7.2 Specific objective of the discipline	• Acquiring general knowledge related to the professional ethics principles in the academic environment; • Detailed understanding of the content of the university's ethics and professional deontology guide, as well as the guide for students regarding ethics and academic honesty; • Studying the necessary elements for drafting a scientific research paper for publication in a prestigious scientific journal.

8. Content

8.1 Course	Teaching methods	Remarks
1. Introduction. Ethics in society and in science.	Lecture	
2. Ethical norms and values included in the scientific process	Lecture	

3. Violations of ethical principles in science	Lecture	
4. Ethical principles in environmental research	Lecture	
5. Responsible conduct in environmental risk assessment	Lecture	
6. Fundamental principles of ethics and professional deontology at Babeş-Bolyai University	Lecture	
7. Objectives, stages and methodology of scientific research	Lecture	
Bibliography: 1. Aldo L. (1990). Means and Ends in Wildlife Management. <i>Environmental Ethics</i> 12:329-32. 2. Bairagi V., Munot M.V. (2019). Research methodology : a practical and scientific approach. CRC Press, Taylor & Francis Group. 3. Cyranoski D. (2019). The CRISPR-baby scandal: what's next for human gene-editing. <i>Nature</i>, 566, 440–442. 4. D'Angelo J.G. (2018). Ethics in Science, Ethical Misconduct in Scientific Research. Second Edition, Alfred University, Taylor & Francis Group, NY. 5. de Saille S. (2015). Innovating innovation policy: The emergence of 'responsible research and innovation'. <i>Journal of Responsible Innovation</i>, 2(2), 152–168. 6. Einstein A., (1933). Prefață la Where is science going? Max Planck, George Alen et Unwin Ltd., London. 7. Gray N. J., Campbell L. M. (2009). Science, policy advocacy, and marine protected areas. <i>Conservation Biology</i>, 23(2), 460–468. https://doi.org/10.1111/j.1523-1739.2008.01093.x 8. Guterman L. (2004). "Slippery Science, 15 Years after the Exxon Valdez Oil Spill, Researchers Debate Its Lingering Effects with \$100-million on the Line," <i>Chronicle of Higher Education</i>, September 24 (last accessed at http://chronicle.com/weekly/v51/i05/05a01201.htm). 9. Karl T.R., Arguez A., Huang B., Lawrimore J.H., McMahon J.R., Menne M.J., Peterson T.C., Vose R.S., Huai-Min Zhang H-M., (2015). Possible artifacts of data biases in the recent global surface warming hiatus. <i>Science</i> 348(6242): 1469-1472, DOI: 10.1126/science.aaa5632. 10. Mayo D. G., Hollander R.D. (Eds). 1994. Acceptable Evidence: Science and Values in Risk Management (Environmental Ethics and Science Policy Series). Oxford University Press.		
8.2 Seminar / laboratory	Teaching methods	Remarks
1. Responsible conduct in environmental risk assessment	Discussions, group exercises, case studies, scenarios	Student interaction
2. Fundamental principles of ethics and professional deontology at Babeş-Bolyai University	Examples, scenarios	Student interaction
3. Violation of university ethics and good conduct in research – sanctions, examples	Examples, scenarios	Student interaction
4. Identification of types of scientific research	Examples, group exercises	Student interaction
5. Stages of scientific research	Exercises on scientific texts	Student interaction

6. Guidance for the writing and publication of scientific works	Examples, exercises	Student interaction
7. Project – instructions and exercise	Project and presentation by students	Seminar examination
Bibliography:		
1. Medvecky F., Leach J., (2019). An Ethics of Science Communication, Palgrave Macmillan, London. 2. Milfont T.L., Duckitt J. (2010). Environmental Attitude Inventory EAI, Journal of Environmental Psychology 30(1):80-94. 3. Mukherjee S.P., (2020). A Guide to Research Methodology. An Overview of Research Problems, Tasks and Methods, Taylor & Francis Group. 4. UKCEN, C.E.N. (2018). Ethical frameworks: The four principles. From http://www.ukcen.net/ethical_issues/ethical_frameworks/the_four_principles_of_biomedical_ethics 5. Unger S. H. (1994). Controlling Technology: Ethics and the Responsible Engineer, second edition. New York: John Wiley & Sons, Inc., 194–198. 6. Universitatea Babeş-Bolyai, 2020. Codex Norme de Etică Universitară, disponibil la https://www.ubbcluj.ro/ro/despre/organizare/files/Comisia-de-etica-Codex-norme-etica-universitara.pdf 7. Whitbeck C., (2011). Ethics in Engineering Practice and Research. Cambridge University Press.		

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

• Due to the practical nature of the professional knowledge acquired, graduates can integrate into research teams or with employers in the field of scientific publications. • Graduates can work within research units (institutes, research centers).
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10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the grade (%)
10.4 Course	Correctness of the given answers	Written exam	40%
10.5 Seminar/lab activities	The active participation of the students during the seminar	Score	10%
	The correctness of the project, accuracy of the presentation, correctness of the responses.	Writing of a project and presentation	50%
10.6 Minimum performance standards			
• Successful passing of the exam is conditioned by the final grade that has to be at least 5. • Minimum 80% presence at seminar/lab activities.			

Date of completion
coordinator

Signature of course coordinator

Signature of seminar



04.12.2024

Date of approval
department

Signature of the head of