MINISTRY OF EDUCATION AND RESEARCH
"VALAHIA" UNIVERSITY OF TÂRGOVIȘTE
FACULTY OF HUMANITIES
DEPARTMENT OF GEOGRAPHY

COURSE DESCRIPTION

1. Programme Information

1.1 Higher education institution	**"Valahia" University of Târgoviște**
1.2 Faculty / Department	**Humanities**
1.3 Department	**Geography**
1.4 Field of study	**Geography**
1.5 Cycle of studies	**Master's Degree**
1.6 Programme of study / Qualification	**Geographical Risk Phenomena and Environmental Quality**

2. Course Information

2.1 Course Title				GEOMORPHOLOGICAL RISK PHENOMENA			
2.2 Course Lecturer				**Lect. univ. dr. Eduard Păunescu**			
2.3 Instructor for practical activities				**Lect. univ. dr. Eduard Păunescu**			
2.4 Year of Study	**I**	2.5 Semester	**I**	2.6 Evaluation type	**E**	2.7 Course status	**Compulsory**

3. Total Estimated Time (hours per semester of teaching activities)

3.1 Number of hours per week	**3**	of which: 3.2 Course	**2**	3.3 Seminar / Laboratory	**1**
3.4 Total hours according to the curriculum	**42**	of which: 3.5 Course	**28**	3.6 Seminar / Laboratory	**14**

Distribution of time allocation	hours
Study using textbooks, course materials, bibliography, and notes	30
Additional research (library, electronic resources, fieldwork, etc.)	25
Preparation for seminars/laboratories, assignments, reports, portfolios, and essays	30
Tutorials	9
Examinations	1
Other activities.....	30
3.7 Total hours of individual study	**83**
3.8 Total hours per semester	**125**
3.9 Number of credits (ECTS)	**5**

4. Prerequisites (where applicable)

4.1 Curriculum-related	General Geomorphology
4.2 Competency-related	General Geomorphology

5. Requirements (where applicable)

5.1 Lecture delivery requirements	Lecture hall, video projector, smart board, thematic maps / internet access, PC or laptop.
5.2 Seminar/Laboratory delivery requirements	Seminar room, flipchart, video projector, geographical atlases / internet access, PC or laptop, atlas.

6. Learning outcomes

6.1 Knowledge *The student/graduate analyses, compares and differentiates types of risk phenomena (natural and anthropic) and their manifestation mechanisms.* *The student/graduate explains, classifies and highlights environmental quality indicators and pollution sources.*
6.2 Skills *The student/graduate applies methods for assessing geographical risk phenomena in diverse territorial contexts.* *The student/graduate interprets geographical data (geomorphological, climatic, hydrological, biogeographical, socio-economic) and correlates them with geographical risk phenomena.*
6.3 Responsibility and autonomy *The student/graduate proposes solutions for managing risk situations in collaboration with local authorities and communities.* *The student/graduate elaborates environmental reports and suggestions for public policies.*

7. Objectives (derived from the framework of acquired competencies)

7.1 General objective of the course	Highlighting the role of geomorphological risk phenomena within the general morphodynamics of the relief.
7.2 Specific objectives	Understanding geomorphological risk phenomena as a dual system: morphogenetic and morphodynamic.

8. Contents

8.1 Course	Teaching methods	Remarks
1. Geomorphological risk phenomena derived from slope morphodynamics: 1.1. Sudden gravitational displacements; 1.2. Slow gravitational displacements; 1.3. Runoff; 1.4. Torrentiality	Lecture Exposition Conversation Problematization Teams and Moodle Platforms	 2 hours 2 hours 2 hours 2 hours
2. Geomorphological risk phenomena derived from channel morphodynamics: 2.1. Meandering; 2.2. Lateral erosion; 2.3. Floods	Lecture Exposition Conversation Problematization Teams and Moodle Platforms	 2 hours 2 hours 2 hours
3. Geomorphological risk phenomena derived from glacial and periglacial morphodynamics: 3.1 Glaciers; 3.2 Avalanches	Lecture Exposition Conversation Problematization Teams and Moodle Platforms	 2 hours 2 hours
4. Geomorphological risk phenomena derived from volcanic activity: 4.1 Ash and gas emissions; 4.2. Lava flows; 4.3. Lahars	Lecture Exposition Conversation Problematization Teams and Moodle Platforms	 2 hours 2 hours 2 hours
5. Geomorphological risk phenomena derived from coastal morphodynamics: 5.1. Erosion of cliffs and beaches; 5.2 Tsunami wave action	Lecture Exposition Conversation Problematization Teams and Moodle Platforms	 2 hours 2 hours
Bibliography *Davis T. (ed) (2015), Landslide Hazards, Risks and Disasters*, Elsevier Inc. *Ielenicz M, (2004), Geomorfologie, Edit. Universitară, Bucureşti.* *Păunescu E., (2007), Geomorfologie, Note de curs.* *Posea, G, (2002), Geomorfologia României, Edit. Fundaţiei România de Mâine, Bucureşti.* *Singh R., Bartlett D. (2018), Natural Hazards. Earthquakes, Volcanoes and Landslides*, CRC Press *USGS (2008), The Landslide Handbook—A Guide to Understanding Landslides, Circular 1325*		
8.2 Seminar / Laboratory	Teaching methods	Remarks
1. Presentation of the plan and bibliography for practical works	Conversation, explanation; Teams and Moodle platforms	2 hours
2. Carrying out the practical works	Conversation, explanation; Teams and Moodle platforms	5 hours

3. Presentation of the practical works	Conversation, explanation; Teams and Moodle platforms	5 hours
4. Discussions and conclusions based on the practical works	Conversation, explanation; Teams and Moodle platforms	2 hours

Bibliography

Armaș I. (2006), *Risc și vulnerabilitate. Metode de evaluare aplicate în geomorfologie*, Edit. Universității din București

Ielenicz M, (2004), Geomorfologie, Edit. Universitară, Bucureşti.

Păunescu E., (2007), Geomorfologie, Note de curs.

Posea, G, (2002), Geomorfologia României, Edit. Fundaţiei România de Mâine, Bucureşti.

Smith K., Petley D. (2009), Environmental Hazards. Assessing risk and reducing disastes, Routledge, London

9. Correlation of the course contents with the expectations of representatives of the epistemic community, professional associations, and representative employers in the field related to the study programme

There are correlations between the course contents and professional associations and employers (land improvement, hydrology, hydro-amelioration).

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade
10.4 Course	- answers in the exam/colloquium	Final evaluation	50%
10.5 Seminar / Laboratory / Project	- final answers for the laboratory practical work		40%
	- other activities		10%
10.6 Minimum performance standard			
Sudden gravitational displacements; Torrentiality; Floods			

Date 28.09.2026	Course lecturer *[Name, Surname, Signature]* *Lect.univ.dr.Păunescu Eduard*	Instructor(s) for practical activities *[Name, Surname, Signature]* *Lect.univ.dr.Păunescu Eduard*

Date of approval by the Department
29.09.2026

Department Director
Conf.univ.dr. Dănuț Tanislav

Date of approval by the Faculty Council
29.09.2026

Dean
Conf.univ.dr. Adrian-Aurel Baltălungă

MINISTRY OF EDUCATION AND RESEARCH
"VALAHIA" UNIVERSITY OF TÂRGOVIȘTE
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DEPARTMENT OF GEOGRAPHY

COURSE DESCRIPTION

1. Programme Information

1.1 Higher education institution	"Valahia" University of Târgovişte
1.2 Faculty / Department	Humanities
1.3 Department	Geography
1.4 Field of study	Geography
1.5 Cycle of studies	Master
1.6 Programme of study / Qualification	Geographical Risk Phenomena and Environmental Quality

2. Course Information

2.1 Course Title				*Extreme weather phenomena*			
2.2 Course Lecturer				Assoc. prof. phd. Ovidiu Murărescu			
2.3 Instructor for practical activities				Assoc. prof. phd. Ovidiu Murărescu			
2.4 Year of Study	**I**	2.5 Semester	**I**	2.6 Evaluation type	**E**	2.7 Course status	**Obs.**

3. Total Estimated Time (hours per semester of teaching activities)

3.1 Number of hours per week	**3**	of which: 3.2 Course	**2**	3.3 Seminar / Laboratory	**1**
3.4 Total hours according to the curriculum	**42**	of which: 3.5 Course	**28**	3.6 Seminar / Laboratory	**14**

Distribution of time allocation	hours
Study using textbooks, course materials, bibliography, and notes	28
Additional research (library, electronic resources, fieldwork, etc.)	20
Preparation for seminars/laboratories, assignments, reports, portfolios, and essays	28
Tutorials	1
Examinations	1
Other activities.....	5
3.7 Total hours of individual study	**83**
3.8 Total hours per semester	**125**
3.9 Number of credits (ECTS)	**5**

4. Prerequisites (where applicable)

4.1 Curriculum-related	
4.2 Competency-related	

5. Requirements (where applicable)

5.1 Lecture delivery requirements	Classroom, video projector, smart board, thematic maps/internet access, PC or laptop
5.2 Seminar/Laboratory delivery requirements	Seminar room, flipchart, video projector, geographical atlases/ internet access, PC or laptop

6. Objectives (derived from the framework of acquired competencies)

6.1 General objective of the course	Analysis of the main types of extreme climate phenomena – assessment, associated risks, emergency management
6.2 Specific objectives	- the mechanisms of formation extreme climatic phenomena and their impact on accidental malfunctions in the design and management of built structures, transport systems or industrial activities: their causes, their spatio-temporal distribution, the effects on the environment, including on human society; - knowledge of the methodology used in their analysis; - analysis of the possibilities of forecasting and combating the negative effects of extreme climatic phenomena.

7. Learning outcomes

7.1 Knowledge *(The result of knowledge acquisition through learning. The knowledge represents the totality of facts, principles, theories and practices for a given work or study field. They can be theoretical and/or factual.)*
7.2 Skills *(The capacity to apply the knowledge and use the know-how for completing tasks and solving problems. The skills are described as being cognitive (requiring the use of logical, intuitive and creative thinking) or practical (implying manual dexterity and the use of methods, materials, tools and instrumentation))*
7.3 Responsibility and autonomy *(The student's capacity to autonomously and responsibly apply their knowledge and skills)*

8. Contents

8.1 Course	Teaching methods	Remarks
1. Terminology, methodology of research on extreme climate phenomena, classifications.	lecture, heuristic conversation, explanation, demonstration, problematization; Teams and Moodle platforms	2 hours
2. Evolution of Earth's climates.	lecture, heuristic conversation, explanation, demonstration, problematization; Teams and Moodle platforms	2 hours
3. Short-term extreme climate phenomena associated with frontal Cumulonimbus clouds: tornadoes, storms, lightning, hail	lecture, heuristic conversation, explanation, demonstration, problematization; Teams and Moodle platforms	2 hours
4. Short-term extreme climate phenomena associated with thermal convection Cumulonimbus clouds: solid deposits and avalanches	lecture, heuristic conversation, explanation, demonstration, problematization; Teams and Moodle platforms	2 hours
5. Medium-term extreme climate phenomena induced by cyclonic activity.	lecture, heuristic conversation, explanation, demonstration, problematization; Teams and Moodle platforms	2 hours
6. Medium-term extreme climate phenomena: blizzard, intense non-periodic winds.	lecture, heuristic conversation, explanation, demonstration,	2 hours

	problematization; Teams and Moodle platforms	
7. Medium-term extreme climate phenomena: dust and sandstorms, heat and cold waves, fog.	lecture, heuristic conversation, explanation, demonstration, problematization; Teams and Moodle platforms	2 hours
8. Long-term extreme climate phenomena: periods of excess and deficit rainfall.	lecture, heuristic conversation, explanation, demonstration, problematization; Teams and Moodle platforms	2 hours
9. Very long-term extreme climate phenomena. Theoretical considerations	lecture, heuristic conversation, explanation, demonstration, problematization; Teams and Moodle platforms	2 hours
10. Very long-term extreme climate phenomena: global warming.	lecture, heuristic conversation, explanation, demonstration, problematization; Teams and Moodle platforms	2 hours
11. Extreme climatic phenomena of very long duration: associated events and consequences.	lecture, heuristic conversation, explanation, demonstration, problematization; Teams and Moodle platforms	2 hours
12. Prevention and combating the negative effects of extreme climatic phenomena.	lecture, heuristic conversation, explanation, demonstration, problematization; Teams and Moodle platforms	2 hours
13. Estimates regarding the prospective evolution of extreme climatic phenomena at a global level.	lecture, heuristic conversation, explanation, demonstration, problematization; Teams and Moodle platforms	2 hours
14. Estimates regarding the prospective evolution of extreme climatic phenomena in Romania.	lecture, heuristic conversation, explanation, demonstration, problematization; Teams and Moodle platforms	2 hours

Bibliography

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3. Ekeland I., Lécroart E. (2021) Urgence climatique Ed. Casterman
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6. Mercier D., (2021) Les impacts spatiaux du changement climatique Ed. ISTE
7. Metzger A., (2021) Catastrophes climatiques 21 idées reçues pour comprendre et agir Ed: Le Cavalier Bleu
8. Murărescu O, (2013) Meteorologie, Editura Cetatea de Scaun, Târgovişte,
9. Séchet Guillaume (2019) Météo extrême - Au coeur des phénomènes climatiques Ed. Hugo Image

10. Sorocovschi V. *Riscuri şi catastrofe*, Editura Casa Cărţii de Ştiinţă, Cluj-Napoca.- editii multianuale
11. *** (2008),Clima României, Editura Academiei Române, Bucureşti

8.2 Seminar / Laboratory	Teaching methods	Remarks
1. Short-term extreme climatic phenomena associated with Cumulonimbus clouds: tornadoes, storms, lightning, hail, solid deposits and avalanches.	heuristic conversation, explanation; Teams and Moodle platforms	2 hours
2. Medium-term extreme climatic phenomena: cyclones	lecture, heuristic conversation, explanation, comparison; Teams and Moodle platforms	2 hours
3. Medium-term extreme climatic phenomena: blizzards, intense non-periodic winds, dust and sandstorms, fog.	heuristic conversation, explanation, demonstration, problematization, case study, comparison; Teams and Moodle platforms	2 hours
4. Medium-term extreme climatic phenomena associated with heat and cold waves.	heuristic conversation, explanation, demonstration, problematization, case study, comparison; Teams and Moodle platforms	2 hours
5 Long-term extreme climatic phenomena: periods of excess and deficit rainfall.	heuristic conversation, explanation, demonstration, problematization, case study, comparison; Teams and Moodle platforms	2 hours
6. Very long-term extreme climatic phenomena associated with global warming, associated events and consequences.	heuristic conversation, explanation, demonstration, problematization, case study, comparison; Teams and Moodle platforms	2 hours
7. Case studies - climate records in Romania and around the world	comparison, case study, modeling; Teams and Moodle platforms	2 hours

Bibliography

1. Bogdan Octavia, Niculescu Elena (1999), *Riscurile climatice din România*, Editura SEGA Internaţional, Bucureşti.
2. Climate risk indicators: developing indicators of climate risk UKCP 18 to suport risk assessments and enhance resilience at https://www.ukclimateresilience.org/
3. Climte Index Risk at https://www.germanwatch.org/en/cri
4. Extreme Weather and Climate Change. *NASA Science*. Available at: https://science.nasa.gov
5. Extreme Weather. *World Meteorological Organization*. Available at: https://wmo.int
6. Global risks – a worldwide climate challenge at https://globalclimaterisks.org
7. Weather and Climate Extreme Events in a Changing Climate and the Role of Geneva at https://www.genevaenvironmentnetwork.org
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9. Correlation of the course contents with the expectations of representatives of the epistemic community, professional associations, and representative employers in the field related to the study programme

The discipline will follow the requirements of employers (National Meteorological Administration, County

School Inspectorate, National Institute of Hydrology and Water Management, Emergency Situations Inspectorat, reresearch centers) expressed in the information gathering sheet: - operating with specialized concepts; - informing, documenting and processing scientific information; - efficient communication with partners.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade
10.4 Course	- explaining the main types of hazards and associated risks; - explaining cause-effect relationships for the main categories of extreme phenomena; - locating and using geographical elements on the physical map of the world.	Oral examination	50%
10.5 Seminar / Laboratory / Project	- involvement in discussions and the relevance of taking a position; - completion of individual assignments/papers.	Oral examination	50%
10.6 Minimum performance standard			
- carrying out a project in which the principles that lead to the reduction of the impact of extreme climatic phenomena on the environment and human society in the context of sustainable development are applied, including the use of GIS techniques (e.g. Analysis of extreme climatic phenomena at regional or local level - physical - geographical unit of order II/III or administrative - territorial); - knowledge and understanding of the following topics: (1) Extreme climatic phenomena associated with Cumulonimbus clouds; (2) Extreme climatic phenomena associated with the activity of low-pressure baric systems; (3) Impact of extreme phenomena on the environment and human society; (4) Perception of extreme phenomena.			

Date 25.09.2026	Course lecturer *[Name, Surname, Signature]* **Assoc.prof.phd Ovidiu Murărescu**	Instructor(s) for practical activities *[Name, Surname, Signature]* **Assoc.prof.phd Ovidiu Murărescu**
Date of approval by the Department 29.09.2026	Department Director *[Name, Surname, Signature]* **Assoc.prof.phd Dănuţ Tanislav**	
Date of approval by the Faculty Council 29.09.2026	Dean *[Name, Surname, Signature]* **Assoc.prof.phd Adrian Aurel Baltălungă**	

MINISTRY OF EDUCATION AND RESEARCH
"VALAHIA" UNIVERSITY OF TÂRGOVIȘTE
FACULTY OF HUMANITIES
DEPARTMENT OF GEOGRAPHY

COURSE DESCRIPTION

1. Programme Information

1.1 Higher education institution	Valahia University of Targoviste
1.2 Faculty / Department	Of Humanities
1.3 Department	Geography
1.4 Field of study	Geography
1.5 Cycle of studies	Master
1.6 Programme of study / Qualification	Geographical Risk Phenomena and Environmental Quality

2. Course Information

2.1 Course Title				**WATERSHED MANAGEMENT**			
2.2 Course Lecturer				Associate professor Petre Bretcan			
2.3 Instructor for practical activities				Associate professor Petre Bretcan			
2.4 Year of Study	I	2.5 Semester	I	2.6 Evaluation type	E	2.7 Course status	M

3. Total Estimated Time (hours per semester of teaching activities)

3.1 Number of hours per week	3	of which: 3.2 Course	2	3.3 Seminar / Laboratory	1
3.4 Total hours according to the curriculum	42	of which: 3.5 Course	28	3.6 Seminar / Laboratory	14

Distribution of time allocation	hours
Study using textbooks, course materials, bibliography, and notes	28
Additional research (library, electronic resources, fieldwork, etc.)	20
Preparation for seminars/laboratories, assignments, reports, portfolios, and essays	28
Tutorials	1
Examinations	1
Other activities.....	5
3.7 Total hours of individual study	**83**
3.8 Total hours per semester	**125**
3.9 Number of credits (ECTS)	**5**

4. Prerequisites (where applicable)

4.1 Curriculum-related	
4.2 Competency-related	

5. Requirements (where applicable)

5.1 Lecture delivery requirements	Classroom, video projector, smart board, thematic maps/internet access, PC or laptop
5.2 Seminar/Laboratory delivery requirements	Classroom, video projector, smart board, thematic maps/internet access, PC or laptop

6. Objectives (derived from the framework of acquired competencies)

6.1 General objective of the course	Analysis of the main types of river basin management - assessment, associated risks, emergency management Students' knowledge of how to manage river basins and their effects on aquatic ecosystems as well as adapting requirements to resources.
6.2 Specific objectives	- knowledge of the role and importance of river basin management in modifying liquid runoff; - knowledge of the impact of hydrotechnical developments on aquatic ecosystems - exemplification and highlighting of river basin management in Romania

7. Learning outcomes

7.1 Knowledge *(The result of knowledge acquisition through learning. The knowledge represents the totality of facts, principles, theories and practices for a given work or study field. They can be theoretical and/or factual.)* The student/graduate analyzes, compares and differentiates the types of river basin management. The student/graduate identifies, selects and highlights the changes in the hydrological regime of rivers, at global and regional levels due to river basin management and their impact on aquatic ecosystems
7.2 Skills *(The capacity to apply the knowledge and use the know-how for completing tasks and solving problems. The skills are described as being cognitive (requiring the use of logical, intuitive and creative thinking) or practical (implying manual dexterity and the use of methods, materials, tools and instrumentation))* *The student/graduate applies methods for evaluating geographical risk phenomena in diverse territorial contexts.* *The student/graduate builds scenarios for the evolution of hazards and risks, using specialized software.*
7.3 Responsibility and autonomy *(The student's capacity to autonomously and responsibly apply their knowledge and skills)* *The student/graduate proposes solutions for managing risk situations in collaboration with local authorities and communities.* *The student/graduate is involved in applied research activities in the field of geographical risk phenomena.*

8. Contents

8.1 Course	Teaching methods	Remarks
L1. General considerations regarding the development of river basins	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L2. Factors influencing basin planning / Morphometric characteristics of watersheds	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L3. Factors influencing basin design / Hydrological characteristics of runoff.	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L4. Factors influencing basin design / Flow regime: average flow, high waters (floods, floods), low waters (drying of rivers)	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L5. Development of torrential watersheds / Land consolidation works; Water retention works on slopes	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L6. Development of torrential hydrographic basins / Water collection works on slopes Afforestation works on the slopes of torrential hydrographic basins	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L7. Riverbed development / History of dam construction around the world and in Romania Reservoirs (types of reservoirs)	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L8. Riverbed development / Characteristic hydrological parameters (levels, surfaces, volumes, etc.)	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L9. Riverbed development. / Other development works (diversion, dams, etc.)	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L10. River basin management in Romania (examples in the river basins: Argeş, Ialomiţa, Buzău)	lecture, demonstration, comparison; Teams and Moodle platforms	2 h

L11. Maintenance and operation of flood protection works / Maintenance and operation of dams	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L12. Maintenance and operation of flood protection works / Maintenance and operation of reservoirs	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L13. The impact of hydrotechnical developments on the environment / Development works causing impact	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L14. The impact of hydrotechnical developments on the environment / Effects of developments on the human habitat	lecture, demonstration, comparison; Teams and Moodle platforms	2 h

Bibliography

1. Chang, H. H. (2008). River morphology and river channel changes. *Transactions of Tianjin University*, *14*(4), 254-262.
2. Chang, M. 2006. Forest hydrology—An introduction to water and forests. Boca Raton, CRC Press.
3. Chow, V.T., D.R. Maidment and L.W. Mays. 1988. Applied hydrology. Int. Edition, McGraw-Hill Book Co., New York.
4. Diaconu C., Şerban P. (1994), *Sinteze şi regionalizări hidrologice*, Edit. Tehnică, Bucureşti, 388 p.
5. Diaconu, D. C. (2023). *Force Majeure in the Hydropower Industry: Concepts and Case Studies*. Springer Nature.
6. Diaconu, S. (1999), *Cursuri de apă. Amenajare, impact, reabilitare*, Edit. HGA, Bucureşti, 190 p.
7. Giurma, I. (1997), *Colmatarea lacurilor de acumulare*, Edit. HGA, Bucureşti, 124 p.
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18. Prasad, V., Yousuf, A., & Sharma, N. (2020). Hydrological modeling for watershed management. *Journal of Natural Resource Conservation and Management*, *1*(1), 29-34.
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20. Roşu, Corina, Creţu, Gh. (1998), *Inundaţii accidentale*, Edit. HGA, Bucureşti, 189 p.
21. Stănescu, V.A., Corbuş, C., Simota, Marinela (1999), *Modelarea schimbărilor climatice asupra resurselor de apă*, Edit. HGA, Bucureşti, 277 p.
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23. Tockner, K., Uehlinger, U., & Robinson, C. T. (2009). *Rivers of Europe*. Academic Press.
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8.2 Seminar / Laboratory	Teaching methods	Remarks
PW1. Romanian and European legislative framework in the field of river basin management	heuristic conversation, explanation; Teams and Moodle platforms	2 h
PW2. Development of torrential hydrographic basins (measures, examples, etc.)	heuristic conversation, explanation; Teams and Moodle platforms	2 h
PW3. Prioritizing the intervention for the development of sub-basins (creation of the database)	heuristic conversation, explanation; Teams and Moodle platforms	2 h
PW4. Evaluation of the morphometric characteristics of the basins (surface area, water level, slope, etc.)	heuristic conversation, explanation; Teams and Moodle platforms	2 h
PW5. Evaluating the shape of watersheds	heuristic conversation, explanation; Teams and Moodle platforms	2 h
PW6. Evaluation of the morphometric characteristics of the hydrographic network (network length, drainage density,	heuristic conversation, explanation; Teams and	2 h

etc.)	Moodle platforms	
PW7. Evaluation of prioritization methods/models (types, advantages, limitations)	heuristic conversation, explanation; Teams and Moodle platforms	2 h

Bibliography

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27. Chang, M. 2006. Forest hydrology—An introduction to water and forests. Boca Raton, CRC Press.
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30. Diaconu, D. C. (2023). *Force Majeure in the Hydropower Industry: Concepts and Case Studies*. Springer Nature.
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9. Correlation of the course contents with the expectations of representatives of the epistemic community, professional associations, and representative employers in the field related to the study programme

The discipline will follow the requirements of employers (ISJ, INHGA, ISU, research centers) expressed in the information gathering form:

- operating with specialized concepts;
- informing, documenting and processing scientific information;
- efficient communication with partners.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade
10.4 Course	- explaining the main types of development in river basins; - explaining cause-effect relationships (basin development/environmental impact);	Oral evaluation	50%
10.5 Seminar / Laboratory / Project	- Elaboration of a project to highlight the hydrotechnical arrangements in a river basin	homework (uploaded to Moodle platform)	50%
10.6 Minimum performance standard			
- carrying out a project in which to apply models for prioritizing sub-basins according to morphometric characteristics - knowledge and understanding of the following topics: (1) Development of torrential hydrographic basins (2) Development of riverbeds (3) Impact of hydrotechnical developments on the environment.			

Date	Course lecturer	Instructor(s) for practical activities
28.09.2026	*[Name, Surname, Signature]* *Assoc.prof.PhD. Petre Brețcan*	*[Name, Surname, Signature]* *Assoc.prof.PhD. Petre Brețcan*

Date of approval by the Department
29.09.2026

Department Director
Assoc.prof.PhD. Dănuț Tanislav

Date of approval by the Faculty Council
29.09.2026

Dean
Assoc.prof.PhD. Adrian-Aurel Baltălungă

MINISTRY OF EDUCATION AND RESEARCH
"VALAHIA" UNIVERSITY OF TÂRGOVIȘTE
FACULTY OF HUMANITIES
DEPARTMENT - GEOGRAPHY

COURSE DESCRIPTION

1. Programme Information

1.1 Higher education institution	**Valahia University of Târgoviște**
1.2 Faculty / Department	Faculty of Humanities
1.3 Department	Geography
1.4 Field of study	Geography
1.5 Cycle of studies	Master's Programme
1.6 Programme of study / Qualification	**Geographical Risk Phenomena and Environmental Quality**

2. Course Information

2.1 Course Title				**Scientific Research Methodology**			
2.2 Course Lecturer				Lect. univ. dr. Mădălina Nicoleta Frînculeasa			
2.3 Instructor for practical activities				Lect. univ. dr. Mădălina Nicoleta Frînculeasa			
2.4 Year of Study	I	2.5 Semester	I	2.6 Evaluation type	E	2.7 Course status	Ob

3. Total Estimated Time (hours per semester of teaching activities)

3.1 Number of hours per week	3	of which: 3.2 Course	1	3.3 Seminar / Laboratory	2
3.4 Total hours according to the curriculum	42	of which: 3.5 Course	14	3.6 Seminar / Laboratory	28

Distribution of time allocation	hours
Study using textbooks, course materials, bibliography, and notes	28
Additional research (library, electronic resources, fieldwork, etc.)	20
Preparation for seminars/laboratories, assignments, reports, portfolios, and essays	28
Tutorials	1
Examinations	1
Other activities.....	5
3.7 Total hours of individual study	**83**
3.8 Total hours per semester	**125**
3.9 Number of credits (ECTS)	**5**

4. Prerequisites (where applicable)

4.1 Curriculum-related	
4.2 Competency-related	

5. Requirements (where applicable)

5.1 Lecture delivery requirements	Interactive whiteboard, video projector, computer, internet access, Moodle platform.
5.2 Seminar/Laboratory delivery requirements	Interactive whiteboard, video projector, computer, internet access, Moodle platform.

6. Objectives (derived from the framework of acquired competencies)

6.1 General objective of the course	Deciphering the scientific research process and its purpose.
6.2 Specific objectives	Development of research projects that demonstrate an understanding of the mechanisms involved in designing a scientific paper/research study, the methods of presentation and dissemination, and the acquisition of the ability to operationalise a concept. Performance of professional tasks requiring the use of tools and methods specific to scientific research in the analysis of geographical risk phenomena.

7. Learning outcomes

7.1 Knowledge *The student/graduate creates, tests, and adapts research methods specific to environmental analysis and associated risks.* *The student/graduate identifies, selects, and presents theoretical and computational models for the simulation of hazards and risks.*
7.2 Skills *The student/graduate designs and conducts field studies and interdisciplinary analyses.* *The student/graduate develops scenarios of hazard and risk evolution using specialised software.*
7.3 Responsibility and autonomy *The student/graduate publishes scientific results and participates in specialised symposia and conferences.* *The student/graduate engages in applied research activities in the field of geographical risk phenomena.*

8. Contents

8.1 Course	Teaching methods	Remarks
Introductory elements. Basic concepts and the semantics of fundamental terms in scientific research. Historical landmarks. Contemporary realities and trends in scientific research methodology.	Lecture, heuristic conversation	2 hours
Objectives and functions of scientific research. Types and forms of scientific research.	Lecture, heuristic conversation	2 hours
Methods and tools in scientific research.	Lecture, heuristic conversation	2 hours
Operational scientific techniques and strategies.	Lecture, heuristic conversation	2 hours
The research algorithm: stages and dynamics of the scientific research process.	Lecture, heuristic conversation	2 hours
Scientific research in the field of natural sciences (with particular reference to geographical risk phenomena and environmental protection).	Lecture, heuristic conversation, problem-based learning	2 hours
Applied–practical and theoretical valorisation of scientific research in the field of natural sciences (with particular reference to geographical risk phenomena and environmental protection).	Lecture, heuristic conversation, problem-based learning	2 hours

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8.2 Seminar / Laboratory	Teaching methods	Remarks
The role and specific characteristics of scientific papers/studies.	Heuristic conversation, explanation	2 hours
Classification of studies (descriptive vs. analytical, observational vs. experimental, cross-sectional vs. experimental).	Heuristic conversation, problem-based learning	2 hours
Ethics in the scientific research process – plagiarism and the use of falsified data.	Heuristic conversation, problem-based learning	2 hours
Case study. The research team. Topic selection. Definition of the research subject.	Guided activity: exemplification, exercise	2 hours
Research design – purpose, objectives, hypotheses.	Guided activity: exemplification, exercise	2 hours
Establishing the research methodology. Methods and techniques.	Guided activity: exemplification, exercise	2 hours
Documentation – classical and modern bibliographic research techniques for a given topic; searching for and selecting documentation sources; evaluation and ranking of documentation sources.	Guided activity: exemplification, exercise	2 hours
Documentation – types of data collection sources; storage and use of scientific data in the context of plagiarism prevention and the avoidance of falsified data.	Guided activity: exemplification, exercise	2 hours
Analysis of research data – considerations in selecting the method of analysis; main directions of statistical analysis; presentation of statistical analysis results (text, tables, graphs).	Guided activity: exemplification, exercise	2 hours
Definition of study variables. Sampling. Systematic errors	Guided activity: exemplification, exercise	2 hours
Study results. Hypothesis validation.	Guided activity: exemplification, exercise	2 hours
Scientific paper writing.	Guided activity: exemplification, exercise	2 hours
Methods of presentation and dissemination of scientific research.	Guided activity: exemplification, exercise	2 hours
Sustainable strategies for continuing research conducted during the semester.	Heuristic conversation, problem-based learning	2 hours

Bibliography

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14.Strijker, D., Bosworth, G., Bouter, G. (2020) Research methods in rural studies: Qualitative, quantitative and mixed methods, Journal of Rural Studies, 78:262-270.
***LEGEA Nr. 206/2004 privind buna conduită în cercetarea ştiinţifică, dezvoltarea tehnologică şi inovare.

9. Correlation of the course contents with the expectations of representatives of the epistemic community, professional associations, and representative employers in the field related to the study programme

The course is aligned with labour market requirements identified by employers (County School Inspectorates, the National Institute of Hydrology and Water Management, the Inspectorate for Emergency Situations, research centres), as reflected in the information collection form, and aims to develop the following competencies:

- use of specialised terminology;
- retrieval, documentation, and processing of scientific information;
- effective communication with institutional and professional partners.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade
10.4 Course	Accuracy of the knowledge presented during the course;	Continuous assessment	30%
	Completion of the required bibliography.		
10.5.Seminar/Laboratory/Project	Preparation and presentation of a research project (six topics are provided at the beginning of the semester);	Portfolio assessment 80%	70%
	Active involvement in discussions and relevance of contributions; Completion of the required bibliography; Completion of assignments within the agreed terms.	Continuous assessment 20%	
10.6 Minimum performance standard			
Course: Semantics of fundamental terms in scientific research. Types of scientific research. Scientific research methods specific to the field of natural sciences. Seminar: Active involvement in teamwork and in activities required for project completion.			

Date
20.09.2026

Course lecturer
Lect. univ. dr. Mădălina Nicoleta FRÎNCULEASA

Instructor(s) for practical activities
Lect. univ.dr. Mădălina Nicoleta FRÎNCULEASA

Date of approval by the Department
29.09.2026

Department Director,
Conf. univ. dr. Dănuț TANISLAV

Date of approval by the Faculty Council
29.09.2026

Dean,
Conf. univ. dr. Adrian-Aurel BALTĂLUNGĂ

MINISTRY OF EDUCATION AND RESEARCH
"VALAHIA" UNIVERSITY OF TÂRGOVIŞTE
FACULTY OF HUMANITIES
DEPARTMENT OF GEOGRAPHY

COURSE DESCRIPTION

1. About the program

1.1 Higher education institution	"VALAHIA" UNIVERSITY OF TÂRGOVIŞTE
1.2 Faculty/Department	FACULTY OF HUMANITIES
1.3 Department	Geography
1.4 Field of study	Geography
1.5 Study cycle	Master
1.6 Study program / Qualification	Geographycal Risk Phenomena and Environmental Quality/Master's Degree

2. Discipline data

2.1 Discipline name				**Academic Ethics and Integrity**			
2.2 Holder of course activities				*Assoc. prof. Phd. Steluța IONESCU*			
2.3 Holder of laboratory activities				*Assoc. prof. Phd. Steluța IONESCU*			
2.4 Year of study	I	2.5 Semester	1	2.6 Evaluation type	C	2.7 Discipline regime	Ob

3. Total estimated time (hours per semester of teaching activities)

3.1 Numbers of hours per Week	2	of which: 3.2 course	1C	3.3 seminar/laboratory	1S
3.4 Total hours of the curriculum	**28**	Of which: 3.5 course	**14**	3.6 seminar/laboratory	**14**

Time found distribution	hours
Study from the books, course supports, bibliography and notes	35
Additional documentation in the library or on dedicated electronic platforms	30
Preparation of seminars/workshops, homework, reports, portfolios and essays	30
Tutorial	-
Exam	2
Other activities	-
3.7 Total hours individual study	**97**
3.9 Total hours per semester	125
3.10 Number of credits	5

4. Pre-requirements (where applicable)

4.1 curriculum	-
4.2 skills	-

5. Conditions (where relevant)

5.1 Course	*Teaching materials:* course support (pdf, ppt), bibliography; *Teaching/digital resources:* video projector, laptop, digital interactive board, computers, internet.
5.2 Seminar	*Seminar resources:* - video projector, laptop, digital interactive, *Digital resources:* internet.

6. Learning outcomes

C6. Environmental communication and education

Knowledge (The result of acquiring information through learning. Knowledge represents the set of facts, principles, theories, and practices related to a specific field of work or study. It can be theoretical and/or factual)
The student/graduate highlights and demonstrates the role of communication in risk and disaster prevention and in

promoting environmental quality.
Skills (The ability to apply knowledge and utilise know-how to accomplish tasks and solve problems. Skills are described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments) *The student/graduate develops educational materials and awareness campaign content.*
Responsibility and autonomy (The learner's ability to apply their knowledge and skills in an autonomous and responsible manner). *The student/graduate participates in and organizes ecological information and education activities within communities.*

7. The objectives of the subject (based on the grid of specifically accumulated competences)

7.1 General objective of the subject	Master's students' familiarity with the main regulations on ethics, academic integrity and professional deontology, facilitating their understanding and use in academic conduct in general, in planning and carrying out study and research activities, as well as in writing scientific papers.
7.2 Specific objectives	- knowledge of theoretical aspects regarding the concepts of ethics and academic integrity; - knowledge of the norms regulating academic ethics and integrity; - knowledge of the jurisdiction regarding ethics and academic integrity; - use of ethically correct practices in organizing and conducting legal research, writing scientific papers and in academic communication; - understanding the forms and manifestations of plagiarism in academic life; - formation of appropriate behavior to avoid and counteract plagiarism.

8. Contents

8.1. Cours	**Teaching methods**	**Observations (hours)**
C.1. General aspects of ethics, morality and law.	Exposition, demonstration, problematization, dialog, case study and interactive lessons	2
C.2. Code of Ethics and Professional Deontology of Valahia University of Târgoviște		2
C.3 Scientific Research - Deontological Aspects		2
C.4. Types of Scientific Research		2
C.5. Correct Writing of an Academic Paper		2
C.6. Plagiarism and Self-Plagiarism		2
C.7. Use of Computer Programs for the Purpose of Plagiarism Detection		2
TOTAL		**14**

References

1. ALEXANDRU, Pompiliu; MILOIU Silviu; MĂTUȘESCU, Constanța; IONESCU, Steluța; MIHĂLĂCHIOIU, Marius, BULEA, Emilian, *Despre antiplagiat. Scurt manual pentru studenți,* Tritonic Publishing House, București, 2025.
2. CHELCEA, Septimiu, *Cum sa redactam o lucrare de licenta, o teza de doctorat, un articol ştiintific in domeniul stiintelor socioumane*, Comunicare.ro Publishing House, Bucureşti, 2010.
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7. PAPADIMA, Liviu, (Coord.) *Deontologie academică. Curriculum-cadru,* University of Bucharest Publishing House, 2017.
8. POTINCU Laura, *Etica si integritate academica Aspecte de natură etică și juridică în activitatea studenților, masteranzilor și doctoranzilor, fundament al responsabilității sociale a instituției de învățământ și cercetare,* C.H. Beck Publishing House, București, 2021.
9. ŞERCAN, Emilia, *Deontologie academică. Ghid Practic,* University of Bucharest Publishing House, 2017.
10. SOCACIU, Emanuel; VICĂ, Constantin; MIHAILOV, Emilian; GIBEA, Toni; MUREȘAN, Valentin; CONSTANTINESCU; Mihaela, *Etică și integritate academică,* University of Bucharest Publishing House, 2018.
11. ȘTEFAN, Elena Emilia, *Etică şi antegritate academică,* ProUniversitaria Publishing House, Bucureşti, 2018.

8.2 Laboratory/Seminar	**Teaching methods**	**Observations (hours)**
S1. Ethics. Morality. Professional ethics. Terminological boundaries and interferences.		1
S2. Ethical values included in the Code of Ethics and Professional Deontology of the Valahia University of Târgoviște		4

S3. Disciplinary procedure provided for by the Code of Ethics and Professional Deontology of the Valahia University of Târgoviște	The exercise, discussion, experiment, case study	2
S4. Sources of documentation and their highlighting		1
S5. Writing a dissertation		2
S.6. How to plagiarize? Ways to avoid plagiarism		2
S.7. Protection of scientific works		2
TOTAL		**14**

References

1. ALEXANDRU, Pompiliu; MILOIU Silviu; MĂTUȘESCU, Constanța; IONESCU, Steluța; MIHĂLĂCHIOIU, Marius, BULEA, Emilian, *Despre antiplagiat. Scurt manual pentru studenți,* Tritonic Publishing House, București, 2025.
2. CHELCEA, Septimiu, *Cum sa redactam o lucrare de licenta, o teza de doctorat, un articol ştiintific in domeniul stiintelor socioumane*, Comunicare.ro Publishing House, Bucureşti, 2010.
3. PAPADIMA, Liviu, (Coord.) *Deontologie academică. Curriculum-cadru,* University of Bucharest Publishing House, 2017.
4. ŞERCAN, Emilia, *Deontologie academică. Ghid Practic,* University of Bucharest Publishing House, 2017.
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6. Law No. 183 of June 10, 2024, regarding the status of research, development, and innovation personnel, published in the Official Gazette No. 546 of June 12, 2024.

9. Correlating the content of the discipline with the expectations of representatives of the epistemic community, professional associations and representative employers in the field related to the program

The course ensures the formation and development of the cognitive and functional competencies of future master's program graduates, enabling them to successfully adapt to the specific demands of the profession, as well as to the changes and dynamics inherent in contemporary social phenomena—a context in which ethics and integrity play a particularly important role.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Weight of the final grade
10.4 Cours	correctness and completeness of knowledge; - logical coherence; - degree of assimilation of European and international specialized language;	Final assessment (knowledge test) in the colloquium session	70%
10.5 Seminar	Constant participation in teaching activity. Relevant interventions. Application of knowledge, skills/abilities in the development and presentation of homework	Systematic observation/Continuous evaluation during the activities	30%
10.6 Minimum performance standards			
Upon completing the course material, students should gain an understanding of the discipline's fundamental concepts and specialized terminology. To pass the exam (achieving a grade of 5.00), the following requirements must be met: - achieving at least 35% of the maximum possible score on the final test; - achieving at least 15% of the maximum possible score for the in-semester assessment. The minimum performance standard validates the achievement of the learning outcomes defined in point 6.			

Date
25.09.2026

Cours holder
Assoc. Prof. Phd. Steluța IONESCU

Laboratory owner's signature
Assoc. Prof. Phd. Steluța IONESCU

Date of approval by the Departament
29.09.2026

Signature of the Head Department,
Assoc. Prof. Phd. Dumitru-Dănuț TANISLAV

Date of approval by the Faculty Council
29.09.2026

Dean's signature,
Assoc. Prof. Phd. Adrian-Aurel BALTĂLUNGĂ

MINISTRY OF EDUCATION AND RESEARCH
"VALAHIA" UNIVERSITY OF TÂRGOVIȘTE
FACULTY OF HUMANITIES
DEPARTMENT OF GEOGRAPHY

COURSE DESCRIPTION

1. Programme Information

1.1 Higher education institution	Valahia University of Târgoviște
1.2 Faculty / Department	Humanities
1.3 Department	Geography
1.4 Field of study	Geography
1.5 Cycle of studies	Master
1.6 Programme of study / Qualification	Geographical Risk Phenomena and Environmental Quality

2. Course Information

2.1 Course Title				**PRACTICAL TRAINING 1**			
2.2 Course Lecturer							
2.3 Instructor for practical activities				Assoc. Prof. PhD Dănuț Tanislav			
2.4 Year of Study	I	2.5 Semester	1	2.6 Evaluation type	C	2.7 Course status	C

3. Total Estimated Time (hours per semester of teaching activities)

3.1 Number of hours per week	3	of which: 3.2 Course		3.3 Seminar / Laboratory	3
3.4 Total hours according to the curriculum	42	of which: 3.5 Course		3.6 Seminar / Laboratory	42

Distribution of time allocation	hours
Study using textbooks, course materials, bibliography, and notes	10
Additional research (library, electronic resources, fieldwork, etc.)	28
Preparation for seminars/laboratories, assignments, reports, portfolios, and essays	28
Tutorials	1
Examinations	1
Other activities.....	15
3.7 Total hours of individual study	**83**
3.8 Total hours per semester	**125**
3.9 Number of credits (ECTS)	**5**

4. Prerequisites (where applicable)

4.1 Curriculum-related	
4.2 Competency-related	

5. Requirements (where applicable)

5.1 Lecture delivery requirements	
5.2 Seminar/Laboratory delivery requirements	Multidisciplinary Scientific and Technological Research Institute (ICSTM) of the "Valahia" University of Târgoviște

6. Objectives (derived from the framework of acquired competencies)

6.1 General objective of the course	Monitoring air and water quality by using modern methods of data sampling, analysis and interpretation, in order to assess the impact on the environment and public health.
6.2 Specific objectives	- identification and application of methods for taking and analyzing air and water samples; - use of modern equipment and technologies (sensors, drones, chromatography, automatic analyzers) for monitoring quality parameters; - interpretation of the data obtained and assessment of the impact of pollutants on the environment and health.

7. Learning outcomes

7.1. Knowledge The student/graduate creates, tests and adapts research methods specific to the analysis of the environment and associated risks.
7.2. Skills The student/graduate designs and conducts field studies and interdisciplinary analyses.
7.3. Responsibility and autonomy The student/graduate publishes scientific results and participates in symposiums and specialized conferences.

8. Contents

8.1 Course	Teaching methods	Remarks
Bibliography		
8.2 Seminar / Laboratory	Teaching methods	Remarks
1. Air sampling with mobile and stationary equipment	practical demonstration; project-based learning, workshop	3 hours
2. Determination of the concentration of polluting gases	case study; laboratory work; interactive presentation	3 hours
3. Monitoring volatile organic compounds (VOCs)	laboratory simulation; inquiry learning; guided discussions	3 hours
4. Mapping air pollution using drones	workshop with equipment; problem-based learning; video presentation + analysis	3 hours
5. Installing sensors for continuous monitoring	technology-assisted learning; collaborative project; practical demonstration	3 hours
6. Modeling the dispersion of atmospheric pollutants	computer simulation; case study; exploratory learning	3 hours
7. Indoor air quality assessment	direct observation; reflective journal; group discussions	3 hours
8. Sampling from natural and artificial water sources	field trip; practical demonstration; experiential learning	3 hours
9. Physico-chemical analyses of water	laboratory work; learning through experimentation; guided discussions	3 hours
10. Determination of heavy metal concentration	case study; data analysis; interactive presentation	3 hours
11. Monitoring nutrient content	project-based learning; laboratory simulation; brainstorming	3 hours
12. Microbiological analyses	practical workshop; learning through inquiry; pair discussions	3 hours
13. Use of submersible multiparametric sensors	demonstration with equipment; technology-assisted learning; application project	3 hours
14. Assessment of the impact of anthropogenic activities on water quality	interdisciplinary case study; debate; inquiry-based learning	3 hours
Bibliography Amza G. (2011), *Ecotehnologie*, Edit. AGIR, Bucureşti		

Apostol T. (2011), *Tehnici de determinare a calităţii aerului*, Edit. Academiei Oamenilor de Ştiinţă, Bucureşti
Canter L. (2017), *River Water Quality Monitoring*, CRC Press
Dunea D., Bretcan P., Tanislav D., Serban G., Teodorescu R., Iordache S., Petrescu N., Tuchiu E. (2020), *Evaluation of Water Quality in Ialomita River Basin in Relationship with Land Cover Patterns*, Water, 12 (3), 735 https://www.mdpi.com/2073-4441/12/3/735
Mitchell M., Stapp W. (2000), *Field Manual for Water Quality Monitoring: An Environmental Education Program for Schools*, Kendall Hunt Publishing
Munteanu C., Dumitraşcu M., Iliuță A. (2011), *Ecologie şi protecția calității mediului*, Edit. Balneară, Bucureşti
Ragazzi M. (2016), *Air Quality: Monitoring, Measuring and Modeling Environmental Hazards*, Apple Academic Press
Simion G.C. (2012), *Monitorizarea şi controlul factorilor de mediu*, Edit. Matrix Rom

9. Correlation of the course contents with the expectations of representatives of the epistemic community, professional associations, and representative employers in the field related to the study programme

The discipline will follow the requirements of employers (ISJ, INHGA, ISU, research centers) expressed in the information gathering form:
operating with specialized concepts;
informing, documenting and processing scientific information;
efficient communication with partners.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade
10.4 Course			
10.5 Seminar / Laboratory / Project	- correctness and precision of the application of sampling and analysis methods; - ability to interpret the data obtained	Portfolio of practical activity	100%
10.6 Minimum performance standard			
The student must demonstrate the ability to correctly perform air and water sampling, apply at least one physicochemical or microbiological analysis method, and interpret the results obtained in an elementary manner, in accordance with the basic requirements of the practical activity.			

Date
28.09.2026

Course lecturer

Instructor(s) for practical activities
Assoc.prof.PhD. Dănuț Tanislav

Date of approval by the Department
29.09.2026

Department Director
Assoc.prof.PhD. Dănuț Tanislav

Date of approval by the Faculty Council
29.09.2026

Dean
Assoc.prof.PhD. Adrian Aurel Baltălungă

MINISTRY OF EDUCATION AND RESEARCH
"VALAHIA" UNIVERSITY OF TÂRGOVIȘTE
FACULTY OF HUMANITIES
DEPARTMENT OF GEOGRAPHY

COURSE DESCRIPTION

1. Programme Information

1.1 Higher education institution	Valahia University of Targoviste
1.2 Faculty / Department	Of Humanities
1.3 Department	Geography
1.4 Field of study	Geography
1.5 Cycle of studies	Master
1.6 Programme of study / Qualification	Geographical Risk Phenomena and Environmental Quality

2. Course Information

2.1 Course Title				**WATER RESOURCES MANAGEMENT**			
2.2 Course Lecturer				Associate professor Petre Bretcan			
2.3 Instructor for practical activities				Associate professor Petre Bretcan			
2.4 Year of Study	I	2.5 Semester	II	2.6 Evaluation type	E	2.7 Course status	M

3. Total Estimated Time (hours per semester of teaching activities)

3.1 Number of hours per week	3	of which: 3.2 Course	2	3.3 Seminar / Laboratory	1
3.4 Total hours according to the curriculum	42	of which: 3.5 Course	28	3.6 Seminar / Laboratory	14

Distribution of time allocation	hours
Study using textbooks, course materials, bibliography, and notes	28
Additional research (library, electronic resources, fieldwork, etc.)	20
Preparation for seminars/laboratories, assignments, reports, portfolios, and essays	28
Tutorials	1
Examinations	1
Other activities.....	5
3.7 Total hours of individual study	**83**
3.8 Total hours per semester	**125**
3.9 Number of credits (ECTS)	**5**

4. Prerequisites (where applicable)

4.1 Curriculum-related	
4.2 Competency-related	

5. Requirements (where applicable)

5.1 Lecture delivery requirements	Classroom, video projector, smart board, thematic maps/internet access, PC or laptop
5.2 Seminar/Laboratory delivery requirements	Sală de seminar, flipchart, videoproiector, atlase geografice/ acces internet, PC sau laptop, atlas

6. Objectives (derived from the framework of acquired competencies)

6.1 General objective of the course	Transmission and acquisition by students of the properties, formation and manifestation of water flow in a watershed in extreme situations: floods Students' knowledge of the impact of climate change on water resources.
6.2 Specific objectives	Exemplifying and highlighting the way floods are formed and their effects Developing a specialized language

7. Learning outcomes

7.1 Knowledge *(The result of knowledge acquisition through learning. The knowledge represents the totality of facts, principles, theories and practices for a given work or study field. They can be theoretical and/or factual.)* The student/graduate creates, tests and adapts research methods specific to the analysis of the environment and associated risks.
7.2 Skills *(The capacity to apply the knowledge and use the know-how for completing tasks and solving problems. The skills are described as being cognitive (requiring the use of logical, intuitive and creative thinking) or practical (implying manual dexterity and the use of methods, materials, tools and instrumentation))* *The student/graduate designs and conducts field studies and interdisciplinary analyses.* *The student/graduate builds scenarios for the evolution of hazards and risks, using specialized software.*
7.3 Responsibility and autonomy *(The student's capacity to autonomously and responsibly apply their knowledge and skills)* *The student/graduate publishes scientific results and participates in symposiums and specialized conferences.*

8. Contents

8.1 Course	Teaching methods	Remarks
L1. The Romanian legislative framework in the field of flood protection	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L2. European legislative framework in the field of flood protection	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L3. Hydrological characteristics of the runoff	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L4. Flow regime: average flow, high waters (floods, floods), low waters (drying of rivers)	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L5. Flow regime: high waters (floods, floods)	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L6. Flow regime: low water (drying of rivers)	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L7. Changes in the flow regime as a result of dams	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L8. Information and decision-making system in case of floods / Information-decision flow for emergency situations in case of floods	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L9. Flash floods and floods in Romania. Genesis-effects	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L10. Flash floods and inundations in Romania Case study - 2005-2006	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L11. Scenarios regarding the failure of hydrotechnical structures and systems	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L12. The impact of climate change on water runoff and resources / Consequences of changes in hydrological resources as a	lecture, demonstration, comparison; Teams and Moodle platforms	2 h

result of climate change		
L13. The impact of climate change on water runoff and resources / Determining the vulnerability of water resources under climate change conditions	lecture, demonstration, comparison; Teams and Moodle platforms	2 h
L14. Climate change impacts on water runoff and resources / Water resource adaptations Water demand adaptations	lecture, demonstration, comparison; Teams and Moodle platforms	2 h

Bibliography

1. Chow, V.T., D.R. Maidment and L.W. Mays. 1988. Applied hydrology. Int. Edition, McGraw-Hill Book Co., New York.
2. Diaconu C., Şerban P. (1994), *Sinteze şi regionalizări hidrologice*, Edit. Tehnică, Bucureşti, 388 p.
3. Diaconu, S. (1999), *Cursuri de apă. Amenajare, impact, reabilitare*, Edit. HGA, Bucureşti, 190 p.
4. Giurma, I. (1997), *Colmatarea lacurilor de acumulare*, Edit. HGA, Bucureşti, 124 p.
5. Giurma, I. (2003), *Viituri şi măsuri de apărare,* Edit. Gheorghe Asachi, Iaşi, 135p.
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7. Gulbenkian Think Tank (GTT). (2014). Water and the future of humanity. Revaluating Water Security, Calouste Gulbenkian Foundation, New York: Springer. ISBN: 978-3-319-01456-2. doi:10.1007/ 978-3-319-01457-9_1
8. GWP (Global Water Partnership). (2000). Integrated water resources management. TAC Background Papers No. 4. Stockholm, Sweden: GWP.
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18. Sorocovschi V. (2002), *Riscurile hidrice*, în „Riscuri şi catastrofe” (ed. V.Sorocovschi), I, Edit. Casa Cărţii de Ştiinţă, Cluj Napoca, p. 55-65
19. Stănescu, V.A., Corbuş, C., Simota, Marinela (1999), *Modelarea schimbărilor climatice asupra resurselor de apă*, Edit. HGA, Bucureşti, 277 p.
20. Stematiu, D., Ionescu, Şt. (1999), *Siguranţă şi risc în construcţii hidrotehnice*, Edit. Didactică şi Pedagogică, Bucureşti, 532 p.
21. Tockner, K., Uehlinger, U., & Robinson, C. T. (2009). *Rivers of Europe*. Academic Press.
22. Yousuf, A., & Singh, M. (Eds.). (2019). *Watershed hydrology, management and modeling* (pp. 77-97). Boca Raton, FL, USA: CRC Press.

8.2 Seminar / Laboratory	Teaching methods	Remarks
PW1. Romanian legislative framework in the field of flood protection	heuristic conversation, explanation; Teams and Moodle platforms	2 h
PW2. European legislative framework in the field of flood protection	heuristic conversation, explanation; Teams and Moodle platforms	2 h
PW3. Factors influencing liquid leakage	heuristic conversation, explanation; Teams and Moodle platforms	2 h
PW4. Floods in Romanian river basins: causes and effects	heuristic conversation, explanation; Teams and Moodle platforms	2 h
PW5. Accidental floods: causes and effects	heuristic conversation, explanation; Teams and Moodle platforms	2 h
PW6. The impact of river basin management on the hydrological regime of rivers	heuristic conversation, explanation; Teams and Moodle platforms	2 h
PW7. The impact of climate change on the hydrological regime of rivers	heuristic conversation, explanation; Teams and Moodle platforms	2 h

Bibliography

1. Chow, V.T., D.R. Maidment and L.W. Mays. 1988. Applied hydrology. Int. Edition, McGraw-Hill Book Co., New York.
2. Diaconu C., Şerban P. (1994), *Sinteze şi regionalizări hidrologice*, Edit. Tehnică, Bucureşti, 388 p.
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4. Giurma, I. (1997), *Colmatarea lacurilor de acumulare*, Edit. HGA, Bucureşti, 124 p.
5. Giurma, I. (2003), *Viituri şi măsuri de apărare,* Edit. Gheorghe Asachi, Iaşi, 135p.
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20. Stematiu, D., Ionescu, Şt. (1999), *Siguranţă şi risc în construcţii hidrotehnice*, Edit. Didactică şi Pedagogică, Bucureşti, 532 p.
21. Tockner, K., Uehlinger, U., & Robinson, C. T. (2009). *Rivers of Europe*. Academic Press.
22. Yousuf, A., & Singh, M. (Eds.). (2019). *Watershed hydrology, management and modeling* (pp. 77-97). Boca Raton, FL, USA: CRC Press.

9. Correlation of the course contents with the expectations of representatives of the epistemic community, professional associations, and representative employers in the field related to the study programme

The discipline will follow the requirements of employers (ISJ, INHGA, ISU, research centers) expressed in the information gathering form:

- operating with specialized concepts;
- informing, documenting and processing scientific information;
- efficient communication with partners.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade
10.4 Course	Knowledge acquisition	Oral or written exam - face to face or using the https://moodle.valahia.ro/ platform and the Microsoft Teams application	50%
10.5 Seminar / Laboratory / Project	Developing a project to highlight hydrotechnical developments in a river basin	Test and conversation or writing - face to face or using the https://moodle.valahia.ro/ platform and the Microsoft Teams application	50%
10.6 Minimum performance standard			

Assimilation of concepts and problems in a declarative manner A satisfactory spatial-temporal representation of hydrological elements and processes

Date	Course lecturer	Instructor(s) for practical activities
28.09.2026	*[Name, Surname, Signature]* *Assoc.prof.PhD. Petre Brețcan*	*[Name, Surname, Signature]* *Assoc.prof.PhD. Petre Brețcan*

Date of approval by the Department
29.09.2026

Department Director
Assoc.prof.PhD. Dănuț Tanislav

Date of approval by the Faculty Council
29.09.2026

Dean
Assoc.prof.PhD. Adrian-Aurel Baltălungă

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1.1 Higher education institution	Valahia University of Târgoviște
1.2 Faculty / Department	Humanities
1.3 Department	Geography
1.4 Field of study	Geography
1.5 Cycle of studies	Master
1.6 Programme of study / Qualification	Geographical Risk Phenomena and Environmental Quality

2. Course Information

2.1 Course Title				SOIL PROTECTION AND RECLAMATION			
2.2 Course Lecturer				Lecturer PhD George Murătoreanu			
2.3 Instructor for practical activities				Lecturer PhD George Murătoreanu			
2.4 Year of Study	I	2.5 Semester	2	2.6 Evaluation type	E	2.7 Course status	Ob

3. Total Estimated Time (hours per semester of teaching activities)

3.1 Number of hours per week	3	of which: 3.2 Course	1	3.3 Seminar / Laboratory	2
3.4 Total hours according to the curriculum	42	of which: 3.5 Course	14	3.6 Seminar / Laboratory	28

Distribution of time allocation	hours
Study using textbooks, course materials, bibliography, and notes	28
Additional research (library, electronic resources, fieldwork, etc.)	20
Preparation for seminars/laboratories, assignments, reports, portfolios, and essays	28
Tutorials	1
Examinations	1
Other activities.....	5
3.7 Total hours of individual study	**83**
3.8 Total hours per semester	**125**
3.9 Number of credits (ECTS)	**5**

4. Prerequisites (where applicable)

4.1 Curriculum-related	Cartography–Topography; Physical Geography; Climatology; Hydrology; Soil Geography
4.2 Competency-related	Knowledge and skills appropriate to the year of study

5. Requirements (where applicable)

5.1 Lecture delivery requirements	Lecture hall, projector, smart board, internet access
5.2 Seminar/Laboratory delivery requirements	Seminar room, GIS software, atlases, internet access

6. Objectives (derived from the framework of acquired competencies)

6.1 General objective of the course	Development of professional competencies in soil protection and improvement.
6.2 Specific objectives	Understanding pedological concepts and applying soil remediation techniques.

7. Learning outcomes

7.1 Knowledge *Students analyze and classify soil types (accordiong to SRTS) in relation to productivity and improvement needs.*
7.2 Skills *Students use GIS and statistical methods to evaluate soil quality*
7.3 Responsibility and autonomy *Students propose soil remediation solutions and participate in applied research.*

8. Contents

8.1 Course	Teaching methods	Remarks
1. Introductory concepts	Lecture	2 hours
2. Soil degradation by erosion and landslides	Lecture	2 hours
3. Soil acidification and salinization	Lecture	2 hours
4. Excess soil moisture	Lecture	2 hours
5. Desertification and irrigation impact	Lecture	2 hours
6. Soil pollution	Lecture	2 hours
7. Other degradation forms	Lecture	2 hours

Bibliography

Dornik A., Cheţan M.A., Crişan T.A., Heciko R., Gora A., Drăguţ L., Panagos P, (2024), Geospatial evaluation of the agricultural suitability and land use compatibility in Europe's temperate continental climate region, International Soil and Water Conservation Research, Volume 12, Issue 4, 2024, Pages 908-919, ISSN 2095-6339, https://doi.org/10.1016/j.iswcr.2024.01.002. (https://www.sciencedirect.com/science/article/pii/S2095633924000029)

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Ispas Ș., Stănilă A.L., (2015), *Solurile României*, Ed. Valahia University Press, Târgoviște

Loghin V., (1996), *Degradarea reliefului şi a solului*, Ed. Univ. din Bucureşti;

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Soil Science Society of America (SSSA) - https://www.soils.org/

https://esdac.jrc.ec.europa.eu/DocumentsPublications

8.2 Seminar / Laboratory	Teaching methods	Remarks
1. Protection and improvement of soils affected by rainfall erosion and torrential runoff	Explanation, individual and team work, synchronous computer-based work	2 hours
2. Protection and improvement of soils affected by landslides	Explanation, individual and team work, synchronous computer-based work	2 hours
3. Identification of soils degraded by erosion using satellite imagery	Explanation, individual and team work, synchronous computer-based work	2 hours
4. GIS applications in the assessment of degraded lands	Explanation, individual and team work, synchronous computer-based work	2 hours
5. The RUSLE model for land degradation assessment	Explanation, individual and team work, synchronous computer-based work	2 hours
6. Cartographic representations in pedology and soil improvement	Explanation, individual and team work, synchronous computer-based work	2 hours
7. Calculation of soil amendments for acidic soils, saline soils, and alkaline soils	Explanation, individual and team work, synchronous	2 hours

	computer-based work	
8. Land reclamation and improvement works	Explanation, individual and team work, synchronous computer-based work	2 hours
9. Indices for estimating soils affected by aridization and their importance for agriculture	Explanation, individual and team work, synchronous computer-based work	2 hours
10. Indices for estimating soils affected by excess moisture (NDWI)	Explanation, individual and team work, synchronous computer-based work	2 hours
11. Improvement of eroded soils	Explanation, individual and team work, synchronous computer-based work	2 hours
12. Improvement of polluted soils	Explanation, individual and team work, synchronous computer-based work	2 hours
13. Agricultural land evaluation (land grading)	Explanation, individual and team work, synchronous computer-based work	2 hours
14. Soil protection policies in Europe and Romania	Explanation, individual and team work, synchronous computer-based work	2 hours

Bibliography

Dornik A., Cheţan M.A., Crişan T.A., Heciko R., Gora A., Drăguţ L., Panagos P, (2024), Geospatial evaluation of the agricultural suitability and land use compatibility in Europe's temperate continental climate region, International Soil and Water Conservation Research, Volume 12, Issue 4, 2024, Pages 908-919, ISSN 2095-6339, https://doi.org/10.1016/j.iswcr.2024.01.002. (https://www.sciencedirect.com/science/article/pii/S2095633924000029)

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***, (2003), *Sistemul român de taxonomie a solurilor*, I.C.P.A., Bucureşti

***, (2013), *Sistemul român de taxonomie a solurilor*, I.C.P.A., Bucureşti

Soil Science Society of America (SSSA) - https://www.soils.org/

https://esdac.jrc.ec.europa.eu/DocumentsPublications

9. Correlation of the course contents with the expectations of representatives of the epistemic community, professional associations, and representative employers in the field related to the study programme

Representative employers: County Offices for Pedological and Agrochemical Studies, I.C.P.A., Cadastral Offices, County School Inspectorates, research institutes.

The course content has been primarily aligned with the following requirements of these institutions:

- the use of specialized terminology;
- information retrieval, documentation, and processing of scientific data in the field of specialization.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade
10.4 Course	- explanation of the characteristics of the main soil types in Romania; - explanation of the main processes of soil degradation; - explanation of the main methods of soil improvement.	Oral examination	50%
10.5 Seminar / Laboratory / Project	- active participation in discussions and relevance of expressed viewpoints; - completion of individual assignments.	Homeworks	50%
10.6 Minimum performance standard			
- knowledge and explanation of basic theoretical concepts; - completion of laboratory work and homework assignments.			

Date
28.09.2026

Course lecturer
Lect.PhD. George Murătoreanu

Instructor(s) for practical activities
Lect.PhD. George Murătoreanu

Date of approval by the Department
29.09.2026

Department Director
Assoc.prof.PhD. Dănuț Tanislav

Date of approval by the Faculty Council
29.09.2026

Dean
Assoc.prof.PhD. Adrian Aurel Baltălungă

MINISTRY OF EDUCATION AND RESEARCH
"VALAHIA" UNIVERSITY OF TÂRGOVIȘTE
FACULTY OF HUMANITIES
DEPARTMENT OF GEOGRAPHY

COURSE DESCRIPTION

1. Programme Information

1.1 Higher education institution	Valahia University of Târgoviște
1.2 Faculty / Department	Humanities
1.3 Department	Geography
1.4 Field of study	Geography
1.5 Cycle of studies	Master
1.6 Programme of study / Qualification	Geographical Risk Phenomena and Environmental Quality

2. Course Information

2.1 Course Title				**TECHNOLOGICAL HAZARDS AND RISKS**			
2.2 Course Lecturer				Assoc. Prof. PhD Dănuț Tanislav			
2.3 Instructor for practical activities				Assoc. Prof. PhD Dănuț Tanislav			
2.4 Year of Study	I	2.5 Semester	2	2.6 Evaluation type	E	2.7 Course status	Ob

3. Total Estimated Time (hours per semester of teaching activities)

3.1 Number of hours per week	3	of which: 3.2 Course	2	3.3 Seminar / Laboratory	1
3.4 Total hours according to the curriculum	42	of which: 3.5 Course	28	3.6 Seminar / Laboratory	14

Distribution of time allocation	hours
Study using textbooks, course materials, bibliography, and notes	28
Additional research (library, electronic resources, fieldwork, etc.)	20
Preparation for seminars/laboratories, assignments, reports, portfolios, and essays	28
Tutorials	1
Examinations	1
Other activities.....	5
3.7 Total hours of individual study	**83**
3.8 Total hours per semester	**125**
3.9 Number of credits (ECTS)	**5**

4. Prerequisites (where applicable)

4.1 Curriculum-related	
4.2 Competency-related	

5. Requirements (where applicable)

5.1 Lecture delivery requirements	Lecture room, video projector, smart board, thematic maps, internet access, PC or laptop.
5.2 Seminar/Laboratory delivery requirements	Seminar room, flipchart, video projector, geographic atlases, internet access, PC or laptop

6. Objectives (derived from the framework of acquired competencies)

6.1 General objective of the course	Analysis of the main types of technological hazards – assessment, associated risks, and emergency management.
6.2 Specific objectives	- understanding accidental malfunctions in the design and management of built structures, transportation systems, or industrial activities: their causes, spatial and temporal distribution, and effects on the environment, including human society; - knowledge of the methodology used in their analysis; - analysis of possibilities for forecasting and mitigating the negative effects of technological hazards.

7. Learning outcomes

7.1 Knowledge *The student/graduate analyzes, compares, and differentiates types of risk phenomena (natural and anthropogenic) and their mechanisms of occurrence. The student/graduate identifies, selects, and presents theoretical and computational models for the simulation of hazards and risks.*
7.2 Skills *The student/graduate applies methods for assessing geographical risk phenomena in diverse territorial contexts. The student/graduate develops scenarios for the evolution of hazards and risks using specialized software.*
7.3 Responsibility and autonomy *The student/graduate proposes solutions for managing risk situations in collaboration with authorities and local communities. The student/graduate engages in applied research activities in the field of geographical risk phenomena.*

8. Contents

8.1 Course	Teaching methods	Remarks
1. Introductory concepts (terminology, classification)	Lecture, heuristic discussion, explanation, demonstration, problem-based learning; Teams and Moodle platforms.	2 hours
2. Industrial pollution	Lecture, heuristic discussion, explanation, demonstration, problem-based learning; Teams and Moodle platforms.	2 hours
3. Nuclear radiation	Lecture, heuristic discussion, explanation, demonstration, problem-based learning; Teams and Moodle platforms.	2 hours
4. Toxic waste	Lecture, heuristic discussion, explanation, demonstration, problem-based learning; Teams and Moodle platforms.	2 hours
5. Dam failures	Lecture, heuristic discussion, explanation, demonstration, problem-based learning; Teams and Moodle platforms.	2 hours
6. Transportation accidents	Lecture, heuristic discussion, explanation, demonstration, problem-based learning; Teams and Moodle platforms.	2 hours
7. Factory explosions	Lecture, heuristic discussion, explanation, demonstration, problem-based learning; Teams and Moodle platforms.	2 hours
8. Fires	Lecture, heuristic discussion, explanation, demonstration, problem-based learning; Teams and Moodle platforms.	2 hours
9. Chemical spills	Lecture, problem-based learning; Teams and Moodle platforms.	2 hours
10. Technological hazards in Romania	Lecture, demonstration, problem-based learning; Teams and Moodle platforms.	2 hours
11. Perception of technological hazards	Lecture, demonstration, problem-based learning; Teams and Moodle platforms.	2 hours

12. Assessment of technological hazards	Lecture, demonstration, problem-based learning; Teams and Moodle platforms.	2 hours
13. Estimation of associated risk	Lecture, demonstration, problem-based learning; Teams and Moodle platforms.	2 hours
14. Emergency management	Lecture, demonstration, problem-based learning; Teams and Moodle platforms.	2 hours

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Mărunţeanu C. (1994), *Urbanism şi protecţia mediului geologic*, Edit. Universităţii Bucureşti
Pigeon P. (2005), *Geographie critique des risques*, Ed. Economica, Paris
Prunache D., Nemeş L., Trandafir P., Genată Şt. (2003), *Accidentul nuclear*, Protecţia Civilă, Bucureşti
Smith K. (2001), *Environmental Hazards: Assessing Risk and Reducing Disaster*, Routledge, London
Tanislav D., Costache Andra (2007), *Geografia hazardelor naturale şi antropice*, Edit. Transversal, Târgovişte
Zăvoianu I., Dragomirescu Ş. (1994), *Asupra terminologiei folosite în studiul fenomenelor naturale extreme*, St. cerc. geogr., XLI
* * * (2002), *Encyclopedia of global change. Environmental change and human society*, Oxford University Press
* * * (2005), *România. Spaţiu, societate, mediu*, Edit. Academiei, Bucureşti

8.2 Seminar / Laboratory	Teaching methods	Remarks
1. Diversity and classification of technological hazards. Data sources used in the analysis of technological hazards	Heuristic discussion, explanation, demonstration, problem-based learning, case study, comparison; Teams and Moodle platforms.	2 hours
2. Vulnerability assessment. Risk analysis and assessment	Heuristic discussion, explanation, demonstration, problem-based learning, case study, comparison; Teams and Moodle platforms.	2 hours
3. Assessment of the risk of industrial hazards. Applications at local, national, and regional scales	Heuristic discussion, explanation, demonstration, problem-based learning, case study, comparison; Teams and Moodle platforms.	2 hours
4. Assessment of the risk of transportation-related hazards. Applications at local, national, and regional scales	Heuristic discussion, explanation, demonstration, problem-based learning, case study, comparison; Teams and Moodle platforms.	2 hours
5. Assessment of the risk of nuclear accidents. Applications at local, national, and regional scales	Heuristic discussion, explanation, demonstration, problem-based learning, case study, comparison; Teams and Moodle platforms.	2 hours
6. Dam risk assessment	Heuristic discussion, explanation, demonstration, problem-based learning, case study, comparison; Teams and Moodle platforms.	2 hours
7. Management of crisis situations generated by technological hazards	Heuristic discussion, explanation, demonstration, problem-based learning, case study, comparison; Teams and Moodle platforms.	2 hours

Bibliography

Bălteanu D., Şerban Mihaela (2005), *Modificările globale ale mediului. O evaluare interdisciplinară a incertitudinilor*, Edit. CNI Coresi, Bucureşti
Fărcaş I., Croitoru Adina (2003), *Poluarea atmosferei şi schimbările climatice. Cauze, efecte, măsuri de protecţie*, Edit. Casa Cărţii de Ştiinţă, Cluj Napoca
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Mărunţeanu C. (1994), *Urbanism şi protecţia mediului geologic*, Edit. Universităţii Bucureşti

Prunache D., Nemeş L., Trandafir P., Genată Şt. (2003), *Accidentul nuclear*, Protecţia Civilă, Bucureşti
Smith K. (2001), *Environmental Hazards: Assessing Risk and Reducing Disaster*, Routledge, London
Tanislav D., Costache Andra (2007), *Geografia hazardelor naturale şi antropice*, Edit. Transversal, Târgovişte
Zăvoianu I., Dragomirescu Ş. (1994), *Asupra terminologiei folosite în studiul fenomenelor naturale extreme*, St. cerc. geogr., XLI
* * * (2005), *România. Spaţiu, societate, mediu*, Edit. Academiei, Bucureşti

9. Correlation of the course contents with the expectations of representatives of the epistemic community, professional associations, and representative employers in the field related to the study programme

The course will address the requirements of employers (County School Inspectorates – ISJ, the National Institute of Hydrology and Water Management – INHGA

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade
10.4 Course	- explanation of the main types of hazards and their associated risks; - explanation of cause–effect relationships for the main categories of extreme phenomena; - identification and use of geographical elements on the physical map of the world.	Oral examination	50%
10.5 Seminar / Laboratory / Project	- active participation in discussions and relevance of expressed viewpoints; - completion of individual assignments.	Methods specific to continuous assessment Methods specific to continuous assessment	50%
10.6 Minimum performance standard			
- completion of a project applying principles aimed at reducing environmental impact in the context of sustainable development, including the use of GIS techniques (e.g., analysis of technological hazards at the county level – industrial units listed in the E-PRTR register; dams; transportation accidents); - knowledge and understanding of the following topics: (1) Nuclear radiation; (2) Dam failures; (3) Transportation accidents; (4) Perception of technological hazards.			

Date
28.09.2026

Course lecturer
Assoc.prof.PhD. Dănuț Tanislav

Instructor(s) for practical activities
Assoc.prof.PhD. Dănuț Tanislav

Date of approval by the Department
29.09.2026

Department Director
Assoc.prof.PhD. Dănuț Tanislav

Date of approval by the Faculty Council
29.09.2026

Dean
Assoc.prof.PhD. Adrian Aurel Baltălungă

MINISTRY OF EDUCATION AND RESEARCH
"VALAHIA" UNIVERSITY OF TÂRGOVIȘTE
FACULTY OF HUMANITIES
DEPARTMENT OF GEOGRAPHY

COURSE DESCRIPTION

1. Programme Information

1.1 Higher education institution	Valahia University of Târgoviște
1.2 Faculty / Department	Humanities
1.3 Department	Geography
1.4 Field of study	Geography
1.5 Cycle of studies	Master
1.6 Programme of study / Qualification	Geographical Risk Phenomena and Environmental Quality

2. Course Information

2.1 Course Title				ADVANCED ENVIRONMENTAL MONITORING SYSTEMS			
2.2 Course Lecturer				Prof. Dr. Eng., Habil. Daniel Emil Constantin Dunea			
2.3 Instructor for practical activities				Lecturer PhD George Murătoreanu			
2.4 Year of Study	I	2.5 Semester	2	2.6 Evaluation type	E	2.7 Course status	Ob

3. Total Estimated Time (hours per semester of teaching activities)

3.1 Number of hours per week	3	of which: 3.2 Course	1	3.3 Seminar / Laboratory	2
3.4 Total hours according to the curriculum	42	of which: 3.5 Course	14	3.6 Seminar / Laboratory	28

Distribution of time allocation	hours
Study using textbooks, course materials, bibliography, and notes	28
Additional research (library, electronic resources, fieldwork, etc.)	20
Preparation for seminars/laboratories, assignments, reports, portfolios, and essays	28
Tutorials	-
Examinations	4
Other activities.....	3
3.7 Total hours of individual study	**83**
3.8 Total hours per semester	**125**
3.9 Number of credits (ECTS)	**5**

4. Prerequisites (where applicable)

4.1 Curriculum-related	
4.2 Competency-related	

5. Requirements (where applicable)

5.1 Lecture delivery requirements	Availability of a lecture hall for oral lectures; Availability of a board for drawing diagrams and sketches specific to the discipline; Availability of a multimedia projection system.
5.2 Seminar/Laboratory delivery requirements	Internet connection, computers, and the ArcSWAT watershed-scale water quality assessment model.

6. Objectives (derived from the framework of acquired competencies)

6.1 General objective of the course	Acquisition of knowledge specific to the development of an environmental monitoring program based on the informational and decision-making components that constitute advanced systems for different environmental elements. Use of hydrological modeling at the watershed scale.
6.2 Specific objectives	Knowledge and application of advanced environmental monitoring systems, sensor-based hardware technologies, and dedicated software applications; Estimation of water quality along different sections of a receiving river using hydrological modeling; Acquisition of specialized terminology.

7. Learning outcomes

7.1 Knowledge *The student/graduate explains, classifies, and highlights environmental quality indicators and sources of pollution. The student/graduate identifies, selects, and highlights environmental changes at global and regional levels, as well as their impacts on society and the environment.*
7.2 Skills *The student/graduate uses GIS tools and statistical methods to assess environmental quality. The student/graduate interprets geographical data (geomorphological, climatic, hydrological, biogeographical, and socio-economic) and correlates them with geographical risk phenomena.*
7.3 Responsibility and autonomy *The student/graduate prepares environmental reports and proposes recommendations for public policies. The student/graduate actively participates in research and educational projects addressing environmental issues.*

8. Contents

8.1 Course	Teaching methods	Remarks
1. Current solutions in environmental monitoring instrumentation. Infrastructure of informational and decision-support systems.	Free lecture Teaching aids: multimedia tools	2 hours
2. The informational and decision-support system for monitoring environmental parameters	Free lecture Teaching aids: multimedia tools	2 hours
3. The software component of the informational and decision-support system for environmental monitoring	Free lecture Teaching aids: multimedia tools	2 hours
4. Criteria for the implementation of an automatic monitoring network for environmental elements	Free lecture Teaching aids: multimedia tools	2 hours
5. Advanced environmental monitoring systems – Case studies 5.1 The National Integrated Meteorological Information System (SIMIN) 5.2 The air quality monitoring information system	Free lecture Teaching aids: multimedia tools	3 hours
6. Advanced environmental monitoring systems – Case studies 6.1 The hydrological monitoring information system 6.2 The water quality monitoring information system 6.3 SCADA-type applications in the field of environmental protection	Free lecture Teaching aids: multimedia tools	3 hours

Bibliography

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Siegel F.A. – Statistics and Data Analysis - John Wiley & Sons, 1988.

portaluri de profil

8.2 Seminar / Laboratory	Teaching methods	Remarks
1. L1, L2 Introduction to the use of the ArcGIS software 4 hours	Discussion of theoretical concepts; Individual work.	Teaching aids: multimedia tools the ArcSWAT model
2. L2, L3 Use of ArcGIS functions for editing thematic layers. Operation of the Hydrology module 4 hours	Discussion of theoretical concepts; Individual work.	Teaching aids: multimedia tools the ArcSWAT model
3. L3, L4 Numerical modeling of water quality in a watershed. Use of the ArcSWAT model – watershed delineation 4 hours	Discussion of theoretical concepts; Individual work.	Teaching aids: multimedia tools the ArcSWAT model
4. L5, L6 Numerical modeling of water quality in a watershed using the ArcSWAT model – analysis of hydrological response units 4 hours	Discussion of theoretical concepts; Individual work.	Teaching aids: multimedia tools the ArcSWAT model
5. L7, L8 Input of meteorological data required for ArcSWAT modeling. Running the ArcSWAT model 4 hours	Discussion of theoretical concepts; Individual work.	Teaching aids: multimedia tools the ArcSWAT model
6. L9, L10 Interpretation of ArcSWAT modeling results – pollutant loading 4 hours	Discussion of theoretical concepts; Individual work.	Teaching aids: multimedia tools the ArcSWAT model
7. L11 Interpretation of ArcSWAT modeling results – hydrological parameters 2 hours	Discussion of theoretical concepts; Individual work.	Teaching aids: multimedia tools the ArcSWAT model
8. Knowledge assessment 2 hours	Discussion of theoretical concepts; Individual work.	Teaching aids: multimedia tools the ArcSWAT model

Bibliography

Ştefania Iordache, Dunea D., 2012 – Sisteme avansate de monitorizare a mediului, Ed. Valahia University Press, Târgovişte, ISBN 978-606-603-032-8.

Dunea Daniel, Petre Bretcan, Danut Tanislav, Gheorghe Serban, Razvan Teodorescu, Stefania Iordache, Nicolae Petrescu, Elena Tuchiu, 2020. Evaluation of Water Quality in Ialomita River Basin in Relationship with Land Cover Patterns, Water 12 (3), 735, FI2019 = 2.544, https://www.mdpi.com/2073-4441/12/3/735

Dunea D., Iordache S. – 2014. An analysis of high flows from stream hydrographs of Ialomita River at Targoviste gauge station, Annals Food Science and Technology, 14(1):154-161.

Dunea D., Iordache S., Pohoata A., Cosmin M. – 2013. Prediction of nutrient loads from wastewater effluents on Ialomița river water quality using SWAT model support. Annals Food Science and Technology 14 (2), 356-365.

Gassman P. W., Reyes M. R., Green C. H., Arnold J. G., The Soil and Water Assessment Tool: historical development, applications, and future research directions, Transactions of the ASABE, Vol. 50(4): 1211-1250, 2007.

Iordache Ş., Dunea D., Ivan C., Characterisation of the upper Teleajen river basin using model-based indicators to improve water resources management, Annals. Food Science and Technology, 2012

Neitsch, S. L., Arnold J. G., Kiniry J. R., Williams J. R., Soil and Water Assessment Tool Theoretical Documentation, Version 2005. Temple, Tex.: USDA-ARS Grassland, Soil and Water Research Laboratory, 2005, Available at: http://swat.tamu.edu/media/1292/SWAT2005theory.pdf

9. Correlation of the course contents with the expectations of representatives of the epistemic community, professional associations, and representative employers in the field related to the study programme

Continuous adaptation to the requirements of the economic environment, professional associations, and representative employers in the fields of Geography and Environmental Engineering.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade
10.4 Course	Examination of the theoretical knowledge acquired during the course and from the recommended bibliography.	Oral examination	40%
	Homework, reports	Continuous assessment	20%
10.5 Seminar / Laboratory /	Final answers to practical	Practical presentation of the	40%

Project	laboratory assignments.	individual laboratory assignment	
10.6 Minimum performance standard			
Passing the colloquium for the assessment of applied knowledge; Obtaining a minimum grade of 5 for all topics in the oral examination; Submission of all required homework assignments and obtaining a minimum average grade of 5 across all assignment assessments.			

Date 28.09.2026	Course lecturer Prof.PhD.habil. Daniel Emil Constantin Dunea	Instructor(s) for practical activities *Lect.PhD. George Murătoreanu*
Date of approval by the Department 29.09.2026	Department Director *Assoc.prof.PhD. Dănuț Tanislav*	
Date of approval by the Faculty Council 29.09.2026	Dean *Assoc.prof.PhD. Adrian Aurel Baltălungă*	

MINISTRY OF EDUCATION AND RESEARCH
"VALAHIA" UNIVERSITY OF TÂRGOVIȘTE
FACULTY OF HUMANITIES
DEPARTMENT - GEOGRAPHY

COURSE DESCRIPTION

1. Programme Information

1.1 Higher education institution	**Valahia University of Târgoviște**
1.2 Faculty / Department	Faculty of Humanities
1.3 Department	Geography
1.4 Field of study	Geography
1.5 Cycle of studies	Master's Programme
1.6 Programme of study / Qualification	**Geographical Risk Phenomena and Environmental Quality**

2. Course Information

2.1 Course Title				**Environmental Geology**			
2.2 Course Lecturer				Lect. univ. dr. Mădălina Nicoleta Frînculeasa			
2.3 Instructor for practical activities				Lect. univ. dr. Mădălina Nicoleta Frînculeasa			
2.4 Year of Study	I	2.5 Semester	II	2.6 Evaluation type	E	2.7 Course status	Ob

3. Total Estimated Time (hours per semester of teaching activities)

3.1 Number of hours per week	2	of which: 3.2 Course	1	3.3 Seminar / Laboratory	1
3.4 Total hours according to the curriculum	28	of which: 3.5 Course	14	3.6 Seminar / Laboratory	14

Distribution of time allocation	hours
Study using textbooks, course materials, bibliography, and notes	28
Additional research (library, electronic resources, fieldwork, etc.)	28
Preparation for seminars/laboratories, assignments, reports, portfolios, and essays	28
Tutorials	1
Examinations	1
Other activities.....	11
3.7 Total hours of individual study	**97**
3.8 Total hours per semester	**125**
3.9 Number of credits (ECTS)	**5**

4. Prerequisites (where applicable)

4.1 Curriculum-related	General Geology. Geomorphology. Geography of Natural and Anthropogenic Hazards and Risks.
4.2 Competency-related	

5. Requirements (where applicable)

5.1 Lecture delivery requirements	Interactive whiteboard, video projector, computer, internet access, Moodle platform, video materials
5.2 Seminar/Laboratory delivery requirements	Interactive whiteboard, video projector, computer, internet access, Moodle platform, mineral and rock collection, maps, video materials.

6. Objectives (derived from the framework of acquired competencies)

6.1 General objective of the course	The student/graduate will be able to integrate knowledge of ambient geology to analyse, assess, and manage geological and geophysical hazards and risks, environmental changes, and their impacts on society and the built environment.
6.2 Specific objectives	The student/graduate will be able to actively participate in research and educational projects addressing the impact of geological factors on the environment and human health; to identify and apply the main laws, principles, notions, and concepts specific to the field of ambient geology and to establish connections with related disciplines; to acquire theoretical knowledge and practical skills in environmental management (particularly of vulnerable environments), with a primary focus on environmental protection as a prerequisite for ensuring the safety of human communities and sustainable development.

7. Learning outcomes

7.1 Knowledge *The student/graduate analyses, compares, and differentiates types of risk phenomena (natural and anthropogenic) and their mechanisms of occurrence.* *The student/graduate identifies, selects, and highlights environmental changes at global and regional levels, as well as their impacts on society and the environment.*
7.2 Skills *The student/graduate applies methods for assessing geographical risk phenomena in diverse territorial contexts.* *The student/graduate interprets geographical data (geomorphological, climatic, hydrological, biogeographical, and socio-economic) and correlates them with geographical risk phenomena.*
7.3 Responsibility and autonomy *The student/graduate proposes risk management solutions in collaboration with authorities and local communities.* *The student/graduate actively participates in research and educational projects addressing environmental issues.*

8. Contents

8.1 Course	Teaching methods	Remarks
The conceptual framework of Ambient Geology. Categories of monitored parameters in geological and geophysical hazards. Quality standards of the geological environment.	Lecture, heuristic conversation	2 hours
Paleoclimate and current climate change.	Lecture, heuristic conversation	2 hours
Mining activities and their environmental impact. Mineral resources of the future.	Lecture, heuristic conversation	2 hours
Risk engineering in major infrastructure projects.	Lecture, heuristic conversation	2 hours
The effects of minerals and rocks on human health.	Lecture, heuristic conversation	2 hours
Waste: storage, processing, recycling, and impacts on the social–geological environment.	Lecture, heuristic conversation, problem-based learning	2 hours
Urban geology and the built environment	Lecture, heuristic conversation, problem-based learning	2 hours

Bibliography

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2.Benhammam, K., AlHosani, K.A. 2021, Geological hazards and their effect on infrastructure. Sixth International Conference on Engineering Geophysics, Virtual, 25–28 October 2021. December 2021, 328-331.
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8.2 Seminar / Laboratory	Teaching methods	Remarks
Minerals and rocks. Typology. Characteristics. Identification.	Heuristic conversation, explanation	2 hours
Climate change. Case studies: volcanism and cosmic impact phenomena.	Heuristic conversation, problem-based learning, group project	2 hours
Mining activities. Case studies: shale gas extraction and cyanide leaching.	Heuristic conversation, problem-based learning, group project	2 hours
Risk engineering. Case studies: transport infrastructure (metro systems, high-altitude roads, bridges).	Heuristic conversation, problem-based learning, group project	2 hours
Medical geology. Case studies: radon and asbestos.	Heuristic conversation, problem-based learning, group project	2 hours
Waste. Case studies: tailings ponds, waste rock dumps, radioactive waste disposal sites.	Heuristic conversation, problem-based learning, group project	2 hours
Urban geology. Case studies: Mexico City, Jakarta, Venice, Tokyo, San Francisco, Naples	Heuristic conversation, problem-based learning, group project	2 hours

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9. Correlation of the course contents with the expectations of representatives of the epistemic community, professional associations, and representative employers in the field related to the study programme

The course content strictly complies with the specializations listed in the national occupational classification, ensuring that graduates acquire the competencies required for employment in positions corresponding to their certified qualifications.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade
10.4 Course	Accuracy of the knowledge presented during the course;	Oral examination	50%
	Completion of the recommended bibliography.		
10.5.Seminar/Laboratory/Project	Preparation and presentation of a research project.	Portfolio assessment	50%
10.6 Minimum performance standard			
1.Course: Explanation of terms defining the conceptual framework of Ambient Geology. The impact of waste, minerals, and rocks on human health and the social–geological environment. Justification of the role of urban geology in the sustainable planning of the built environment. 2.Seminar: Active involvement in teamwork and in activities required for project completion. Discussion of a relevant national or international case study on the impact of waste on the geological environment. Presentation of two types of geological or geotechnical risks to be considered in construction			

Date
20.09.2026

Course lecturer
Lect. univ. dr. Mădălina Nicoleta FRÎNCULEASA

Instructor(s) for practical activities
Lect. univ.dr. Mădălina Nicoleta FRÎNCULEASA

Date of approval by the Department
29.09.2026

Department Director,
Conf. univ. dr. Dănuț TANISLAV

Date of approval by the Faculty Council
29.09.2026

Dean,
Conf. univ. dr. Adrian-Aurel BALTĂLUNGĂ

MINISTRY OF EDUCATION AND RESEARCH
"VALAHIA" UNIVERSITY OF TÂRGOVIȘTE
FACULTY OF HUMANITIES
DEPARTMENT OF GEOGRAPHY

COURSE DESCRIPTION

1. Programme Information

1.1 Higher education institution	Valahia University of Târgoviște
1.2 Faculty / Department	Humanities
1.3 Department	Geography
1.4 Field of study	Geography
1.5 Cycle of studies	Master
1.6 Programme of study / Qualification	Geographical Risk Phenomena and Environmental Quality

2. Course Information

2.1 Course Title				**PRACTICAL TRAINING 2**			
2.2 Course Lecturer							
2.3 Instructor for practical activities				Assoc. Prof. PhD Dănuț Tanislav			
2.4 Year of Study	I	2.5 Semester	2	2.6 Evaluation type	C	2.7 Course status	C

3. Total Estimated Time (hours per semester of teaching activities)

3.1 Number of hours per week	3	of which: 3.2 Course		3.3 Seminar / Laboratory	4
3.4 Total hours according to the curriculum	40	of which: 3.5 Course		3.6 Seminar / Laboratory	40

Distribution of time allocation	hours
Study using textbooks, course materials, bibliography, and notes	10
Additional research (library, electronic resources, fieldwork, etc.)	28
Preparation for seminars/laboratories, assignments, reports, portfolios, and essays	28
Tutorials	1
Examinations	1
Other activities.....	17
3.7 Total hours of individual study	**85**
3.8 Total hours per semester	**125**
3.9 Number of credits (ECTS)	**5**

4. Prerequisites (where applicable)

4.1 Curriculum-related	
4.2 Competency-related	

5. Requirements (where applicable)

5.1 Lecture delivery requirements	
5.2 Seminar/Laboratory delivery requirements	Practical activities are carried out outside the institution, through collaboration with socio-economic partners, based on collaboration conventions.

6. Objectives (derived from the framework of acquired competencies)

6.1 General objective of the course	Developing applied skills and civic responsibility through the direct involvement of students in field activities carried out in collaboration with public institutions and relevant organizations, with the aim of understanding environmental risks and promoting sustainable solutions.
6.2 Specific objectives	- applying theoretical knowledge in real contexts (through activities carried out in partnership with institutions in the field of environment and civil protection); - developing observation, analysis and communication skills (through field activities and interaction with local communities); - developing a proactive and responsible attitude towards environmental problems and natural risks (through direct involvement in prevention and education actions).

7 Learning outcomes

7.1. Knowledge The student/graduate creates, tests and adapts research methods specific to the analysis of the environment and associated risks.
7.2. Skills The student/graduate designs and conducts field studies and interdisciplinary analyses.
7.3. Responsibility and autonomy The student/graduate publishes scientific results and participates in symposiums and specialized conferences.

8 Contents

8.1 Course	Teaching methods	Remarks
Bibliography		
8.2 Seminar / Laboratory	Teaching methods	Remarks
1. Mapping of flood risk areas (SGA Dâmbovița)	field observation; project-based learning; use of GIS software	4 hours
2. Monitoring of landslides in rural areas (ISU Dâmbovița)	topographic measurements; field interviews; case study	4 hours
3. Air quality assessment in industrial areas (APM Dâmbovița)	sampling; practical workshop with sensors; guided discussions	4 hours
4. Study on the population's perception of environmental risks (Târgoviște City Hall)	questionnaire application; semi-structured interviews; research learning	4 hours
5. Ecological education campaign in schools (ISJ Dâmbovița)	interactive workshops; educational games; visual presentations	4 hours
6. Earthquake evacuation simulation (ISU Dâmbovița)	practical exercise; role play; post-simulation discussions	4 hours
7. Monitoring water quality in wells and rivers (DSP Dâmbovița)	sampling and physico-chemical analysis; mobile laboratory work; learning through experimentation	4 hours
8. Environmental Impact Assessment of Waste (Environmental Guard)	direct observation; photo documentation; interviews with locals	4 hours
9. Planting trees in areas affected by erosion (Forestry District)	volunteering; experiential learning; discussions about ecosystem restoration	4 hours
10. Development of a local risk management guide (CJ Dâmbovița)	project-based learning; collaborative writing; public presentation	4 hours

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9 Correlation of the course contents with the expectations of representatives of the epistemic community, professional associations, and representative employers in the field related to the study programme

The discipline will follow the requirements of employers (ISJ, INHGA, ISU, research centers) expressed in the information gathering form:
operating with specialized concepts;
informing, documenting and processing scientific information;
efficient communication with partners.

10 Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade
10.4 Course			
10.5 Seminar / Laboratory / Project	- correct application of field methods and compliance with institutional procedures; - ability to analyze and interpret data collected during practical activities.	Portfolio of practical activity (sheets, photos, reflections, results).	100%
10.6 Minimum performance standard			
The student must actively participate in at least 80% of the activities carried out outside the institution, correctly complete at least one complete practical activity (sampling, analysis, interpretation) and present a portfolio that reflects the understanding of the work process.			

Date
28.09.2026

Course lecturer

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