UNIVERSITY OF PETROŞANI
FACULTY OF MINES

CURRICULUM

(valid starting with the academic year **2026-2027**)

Field: **Civil Engineering**

Study programme: **Mining Construction**

Graduate title: **Engineer**

Duration of studies: **8 semesters**

Form of education: **full-time (IF)**

I. Requirements for obtaining the diploma

240 credits, of which:

- credits for compulsory subjects: **219**
- credits for optional subjects: **21**

4 credits for the subject Physical Education

10 credits for passing the diploma examination

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II. Course of studies (in number of weeks)

Year	Teaching activities		Exam sessions			Holiday		
	Sem. I	Sem. II	I	V	R	Winter	Inter-semester	Summer
Year I	14	14	3	3	3	3	1	12
Year II	14	14	3	3	3	3	1	12
Year III	14	14	3	3	3	3	1	12
Year IV	14	14	3	3	3	3	1	-

III. Number of hours per week

	Sem. I	Sem. II
Year I	26	26
Year II	28	28
Year III	28	28
Year IV	28	28

IV. Diploma examination

Period for the diploma examination: **June-July session, September session**
Content of the diploma examination:

- Test 1: Assessment of fundamental and specialist knowledge - **5 credits**
- Test 2: Presentation and defence of the diploma project - **5 credits**

V. Method of choosing the optional subjects

One subject is chosen from the package of optional subjects for each semester.

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Mission of the Mining Construction study programme

The bachelor's degree programme **"Mining Construction"**, organised by the **Faculty of Mines of the University of Petroşani**, fits coherently and strategically into the institutional mission of training highly qualified specialists in the field of **civil engineering, with applicability in underground construction**. The programme capitalises on the academic tradition and recognised expertise of the university, while adapting to the current and future requirements of the labour market, the economic environment and society, in full accordance with the principles and requirements of the European Higher Education Area (EHEA).

The mission of the programme is oriented towards training engineers able to respond to complex technical challenges arising from the construction, operation and rehabilitation of civil structures and underground infrastructure. Graduates acquire solid competences for the design, execution, monitoring and operation of underground mining works, such as galleries, shafts, chambers, tunnels and underground communication routes, as well as for surface civil structures, special foundations, reinforced concrete and steel structures, hydrotechnical works, roads and other infrastructure elements.

The curriculum, applicable starting with the academic year 2026–2027, explicitly reflects the **consolidation of the civil engineering dimension** of the programme, through a balanced and coherent curricular structure that ensures a high weight of fundamental and field subjects. The subjects of mathematics, physics, mechanics, strength of materials, structural statics and stability, geotechnics, foundations, reinforced and prestressed concrete, steel structures, civil construction, communication routes and construction works management provide students with the theoretical and applied basis needed to understand structural behaviour and to make well-founded engineering decisions. These are complemented by specialisation subjects that give the programme its specific identity, such as mining construction, rock mechanics, tunnels, mine ventilation and occupational safety, demolition with explosives, use of underground space and special methods in construction.

Students acquire the ability to apply the technical regulations and standards in force, to prepare technical documentation and feasibility studies, to use modern numerical calculation and modelling methods, and to integrate safety, environmental protection and economic efficiency requirements into design and execution solutions. Particular attention is paid to the use of computer-aided design, simulation and planning software, which are indispensable tools in contemporary engineering practice.

The programme gives an important role to applied activities, through laboratory work, projects, internships and activities carried out in collaboration with economic operators, public institutions and professional organisations. These activities facilitate students' direct contact with the realities of the professional environment, contributing to the development of practical competences, teamwork ability and professional communication skills. Moreover,

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essential transversal competences are cultivated, such as critical thinking, project management, leadership, learning autonomy and professional responsibility.

The research dimension is naturally integrated into the structure of the programme, by involving students in applied research activities, scientific projects and the preparation of the diploma thesis on topics relevant to civil engineering and mining construction. This approach stimulates innovation, the capacity for analysis and synthesis, as well as interest in continuous professional development and in master's and doctoral studies.

Through its content, the "**Mining Construction**" programme responds directly to Romania's current economic and industrial needs.

In conclusion, the bachelor's degree programme **"Mining Construction"** is a mature, competitive academic programme, well anchored in the current realities of civil engineering and underground construction, which trains specialists with solid competences in demand on the labour market, able to respond responsibly to the technical, economic and environmental challenges of contemporary society and to contribute actively to the sustainable and safe development of infrastructure.

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No. crt.	YEAR I	Subject	Subj.	Semester 1				Semester 2				Credit points		Ei, Ci, Vi		No. of teaching hours per subject			Total individual study hours	Total subject hours
	Subject	code	type	C	S	L	P	C	S	L	P	Sem. 1	Sem. 2	Sem. 1	Sem. 2	Lect.	Appl.	Total		
1	Mathematical Analysis	ICCMFO101	F	2	2							5		E1		28	28	56	69	125
2	Linear Algebra, Analytic and Differential Geometry	ICCMFO102	F	2	2							5		E1		28	28	56	69	125
3	Chemistry	ICCMFO103	F	2		2						4		E1		28	28	56	69	125
4	Applied Computer Science I	ICCMFO104	F	2		2						5		E1		28	28	56	44	100
5	Descriptive Geometry	ICCMFO105	F	2		3						5		E1		28	42	70	55	125
6	Foreign Language I	ICCMCO106	C		2							3		C1		0	28	28	47	75
7	Physical Education and Sport I	ICCMCO107	C		1							1		V1		0	14	14	11	25
8	Ethics and academic integrity	ICCMCO108	C	1	1							2		C1		14	14	28	22	50
9	Optional subject OP11	ICCMFO109	F					2	2				4		E2	28	28	56	44	100
10	Physics	ICCMFO110	F					2		2			5		E2	28	28	56	69	125
11	Mechanics I	ICCMSO111	S					2	1				4		E2	28	14	42	58	100
12	Optional subject OP12	ICCMSO112	S					2		2			4		E2	28	28	56	44	100
13	Applied Computer Science II	ICCMFO113	F					2		2			5		E2	28	28	56	69	125
14	Technical Drawing and Computer Graphics	ICCMFO114	F					2		2			5		C2	28	28	56	69	125
15	Physical Education and Sport II	ICCMCO115	C						1				1		V2	0	14	14	11	25
16	Foreign Language II	ICCMCO116	C						2				2		C2	0	28	28	22	50
TOTAL YEAR I				11	8	7	0	12	6	8	0	30	30	10E + 4C+2V		322	406	728	772	1500
												60								
17	Mathematics Components	ICCMCF117	DFA	2	1							3		C3		28	14	42	33	75

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Nr. No.	YEAR II Subject	Subject code	Subj. type	Semester 3				Semester 4				Credit points		Ei, Ci, Vi		No. of teaching hours per subject			Total individual study hours	Total subject hours
				C	S	L	P	C	S	L	P	Sem. 1	Sem. 2	Sem. 1	Sem. 2	Lect.	Appl.	Total		
18	Strength of Materials I	ICCMSO218	S	2		2						5		E3		28	28	56	69	125
19	Computer-Aided Design	ICCMSO219	S	2		2						4		E3		28	28	56	44	100
20	Optional subject OP21	ICCMSO220	S	2	1							3		E3		28	14	42	33	75
21	Mechanics II	ICCMSO221	S	2		1						3		C3		28	14	42	33	75
22	Structural Statics and Stability I	ICCMSO222	S	2	2							4		C3		28	28	56	44	100
23	Engineering Geology	ICCMSO223	S	2		1						3		E3		28	14	42	33	75
24	Construction Materials	ICCMSO224	S	3		1						5		E3		42	14	56	69	125
25	Physical Education and Sport III	ICCMCO225	C		1							1		V3		0	14	14	11	25
26	Foreign Language III	ICCMCO226	C		2							2		C3		0	28	28	22	50
27	Strength of Materials II	ICCMSO227	S					2		1			3		C4	28	14	42	33	75
28	Surveying	ICCMSO228	S					2		2			3		E4	28	28	56	19	75
29	Geotechnics	ICCMSO229	S					3		2			5		E4	42	28	70	55	125
30	Structural Statics and Stability II	ICCMSO230	S					2	2				4		E4	28	28	56	44	100
31	Reinforced and Prestressed Concrete I	ICCMSO231	S					3		2			5		E4	42	28	70	55	125
32	Industrial Explosives	ICCMSO232	S					2		2			3		E4	28	28	56	19	75
33	Foreign Language IV	ICCMCO233	C						2				2		C4	0	28	28	22	50
34	Physical Education and Sport IV	ICCMCO234	C						1				1		V4	0	14	14	11	25
35	Field internship (3 weeks x 30 hours/ week)	ICCMSO235	S								90		4		C4	0	90	90	10	100
TOTAL year II				15	6	7	0	14	5	9	0	30	30	10E + 6C+2V		406	468	874	626	1500
												60								
36	Sustainable Development	ICCMCF236	DFA	2	1							3		C3		33	75	56	6	50

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No. crt.	YEAR III Subject	Subject code	Subj. type	Semester 5				Semester 6				Credit points		Ei, Ci, Vi		No. of teaching hours per subject			Total individual study hours	Total hours subject
				C	S	L	P	C	S	L	P	Sem. 1	Sem .2	Sem .1	Sem.2	Lect.	Appl.	Total		
37	Mining Construction I	ICCMSO337	S	3	2							5		E5		42	28	70	55	125
38	Rock Mechanics	ICCMSO338	S	2		2						3		E5		28	28	56	19	75
39	Dynamics and Elements of Earthquake Engineering	ICCMSO339	S	2	1							3		C5		28	14	42	33	75
40	Foundations I	ICCMSO340	S	3	2							5		E5		42	28	70	55	125
41	Foundations II	ICCMSO341	S				2					4		C5		0	28	28	72	100
42	Reinforced and Prestressed Concrete II	ICCMSO342	S	2	2							4		E5		28	28	56	44	100
43	Optional subject OP 31	ICCMSO343	S	2	1							3		C5		28	14	42	33	75
44	Construction Legislation	ICCMSO344		1	1							3				14	14	28	47	75
45	Reinforced Concrete Structures I	ICCMSO345	S					2		1			3		E6	28	14	42	33	75
46	Mining Construction II	ICCMSO346	S					2	1				3		E6	28	14	42	33	75
47	Mining Construction III	ICCMSO347	S								2		2		C6	0	28	28	22	50
48	Engineering Surveying	ICCMSO348	S					2		2			3		E6	28	28	56	19	75
49	Steel Structures	ICCMSO349	S					3			2		3		C6	42	28	70	55	125
50	Construction Machinery and Equipment	ICCMSO350	S					2		2			4		E6	28	28	56	19	75
51	Civil Construction I	ICCMSO351	S					2		1			3		E6	28	14	42	33	75
52	Optional subject OP 32	ICCMSO352	S					2		2			4		E6	28	28	56	44	100
53	Specialised internship (3 weeks x 30 hours/week)	ICCMSF353	S								90		4		C6	0	90	90	10	100
TOTAL year III				15	9	2	2	15	1	8	4	30 60	30	10E + 6C		406	468	874	668	1500
54	Geodetic Instruments and Measurement Methods	ICCMSF354	DFA	1		1						2		C3		14	14	28	22	50
55	Mine Surveying	ICCMSF355	DFA	2		2						3		C3		28	28	56	19	75

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No. crt.	YEAR IV	Subject	Subj.	Semester 7				Semester 8				Credit points		Ei, Ci, Vi		No. of teaching hours per subject			Total study hours	Total hours
	Subject	code	type	C	S	L	P	C	S	L	P	Sem.1	Sem.2	Sem.1	Sem.2	Lect.	Appl.	Total	individual	subject
56	Environmental Impact of Construction	ICCMSO456	S	2	2							4		E7		28	28	56	44	100
57	Demolition of Structures with Explosives	ICCMSO457	S	2		1						4		E7		28	14	42	58	100
58	Civil Construction I	ICCMSO458	S	2			2					4		E7		28	28	56	44	100
59	Communication Routes I	ICCMSO459	S	2		1	2					5		E7		28	42	70	55	125
60	Special Methods in Construction I	ICCMSO460	S	2	2							4		E7		28	28	56	44	100
61	Reinforced Concrete Structures II	ICCMSO461	S				2					2		C7		0	28	28	22	50
62	Construction Works Management	ICCMSO462	S	1	1							3		C7		14	14	28	47	75
63	Optional subject OP 41	ICCMSO463	S	2	2							4		C7		28	28	56	44	100
64	Tunnels	ICCMSO465	S					2			2		5		E8	28	28	56	69	125
65	Communication Routes II	ICCMSO466	S					2		2			4		E8	28	28	56	44	100
66	Mine Ventilation and Occupational Safety	ICCMSO467	S					2			1		4		E8	28	14	42	58	100
67	Hydraulic Developments and Structures	ICCMSO468	S					2	1				4		E8	28	14	42	58	100
68	Use of Underground Space	ICCMSO468	S					2		1			4		E8	28	14	42	58	100
69	Optional subject OP 42	ICCMSO469	S					1		1			3		C8	14	14	28	47	75
70	Preparation of the diploma project	ICCMSO472	S								9		6		C8	0	126	126	24	150
TOTAL year IV				15	1	7	5	11	1	4	12	30 60	30	10E + 5C		336	448	784	716	1500
75	Cadastre I	ICCMSF474	DFA	1		1						2		C3		14	14	28	22	50
76	Cadastre II	ICCMSF475	DFA					1		1			2	C4		14	14	28	22	50
76	Territorial Organisation and Planning	ICCMSF476	DFA	1		1						2		C3		14	14	28	22	50

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OPTIONAL SUBJECTS				
No.	Subject code	Year of study	Subject names	
9	OP 11	I	Differential Equations	Probability Theory, Databases and Mathematical Statistics
12	OP12	I	Hydraulics of Structures	Fluid Mechanics
20	OP 21	II	Building Thermal Engineering	Thermal Engineering
47	OP 31	III	Fundamentals of Fire Safety in Construction	Risk Assessment
51	OP32	III	Finite Element Method	Numerical Methods in Structural Analysis
63	OP 41	IV	Elements of Architecture and Planning	Urbanism and Territorial Planning
70	OP 42	IV	Fundamentals of Structural Design	Plate Analysis

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DISTRIBUTION OF HOURS BY SUBJECT GROUPS						
Total lecture hours :			**1512**			
Total application hours :			**1568**			
Total hours :			**3080**			
Total lecture hours / Total hours (%) :	1512	/	0,461584997	x 100		46,16
Total application hours / Total hours (%) :	1568	/	0,538415003	x 100		53,84
Total lecture hours / Total application hours (%) :	1526	/	0,857303371	x 100		85,73

SUBJECT GROUPS	No. hours	No. hours/Total hours (%)
Fundamental subjects DF	**490**	**14,82**
Specialist subjects DS	**2648**	**80,10**
Optional subjects (by choice) DO	**350**	**10,59**
Complementary subjects DC	**252**	**7,62**
Mandatory subjects DI	**3390**	**89.97**
Elective subjects DFac	**378**	**10.03**

REMARKS: Hours of subjects marked with (*) are not counted
For one credit point, 25 teaching and individual study hours are allocated

LEGEND: F - fundamental subject, D - field subject, S - specialisation subject, X - complementary subject
DOB - compulsory subject, DOP - optional subject (by choice), DFA - elective subject (free)
C - lecture, S - seminar, L - laboratory, P - project, Apl - application hours
Ei, Ci, Vi - exam, colloquium, verification respectively in semester i, i =1 ÷ 8

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Basic group from COR/ISCO-08/ESCO representative of the Mining Engineering study programme

2142 Civil engineers

Target occupations from the representative COR basic group

214226 - Research engineer in mining construction
214211 - Specialist inspector, construction engineer
214240 - Geotechnical engineer in mining
construction 214214 - Site manager (higher education)

Professional competences

CP1. Manages personal professional development
CP2. Synthesises information
CP3. Interacts professionally in research and professional environments
CP4. Uses different communication channels
CP5. Gives instructions to staff
CP6. Supervises work environment safety
CP7. Complies with legal regulations
CP8. Ensures compliance with environmental legislation
CP9. Meets specific technical requirements
CP10. Applies occupational health and safety standards
CP11. Prepares work reports
CP12. Draws technical sketches
CP13. Performs sample analysis
CP14. Approaches problems critically
CP15. Manages geotechnical staff
CP16. Advises on construction materials
CP17. Advises on geology for mineral extraction
CP18. Plans geotechnical field investigations
CP19. Prepares scientific reports
CP20. Designs infrastructure for surface mines
CP21. Supervises staff
CP22. Uses mine planning software
CP23. Writes technical reports
CP24. Performs scientific research
CP25. Prepares the feasibility study
CP26. Manages engineering projects
CP27. Manages research data
CP28. Uses technical drawing software (CAD, GIS etc.)
CP29. Ensures compliance with safety legislation
CP30. Communicates with construction teams
CP31. Monitors the construction site

Transversal competences

CT1 Thinks analytically
CT2 Applies scientific, technological and engineering knowledge
CT3 Works in teams
CT4 Complies with regulations
CT5 Complies with workplace safety rules

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Learning outcomes for the Mining Construction study programme

Knowledge generated by the learning outcomes for the Mining Construction study programme

C1. the student/graduate describes basic concepts, principles and methods of higher mathematics (mathematical analysis, linear algebra, differential equations) needed for modelling physical and mechanical phenomena in mining construction.

C2. the student/graduate explains fundamental notions of physics and mechanics (statics, kinematics and dynamics of systems) relevant to the analysis of the behaviour of structures and equipment.

C3. the student/graduate identifies, evaluates and explains the structural configuration of different categories of construction and their sites, in order to prepare and use the specific technical documentation.

C4. the student/graduate describes the physical and mechanical properties of soils, as well as their behaviour under loads, for the design of infrastructure elements.

C5. the student/graduate describes the physical and mechanical properties of rocks and rock masses relevant to underground and surface mining construction.

C6. the student/graduate explains the principles of strength of materials, structural statics and stability used in structural analysis and design.

C7. the student/graduate describes the types of actions and loads (permanent, variable, seismic, accidental) and how they are combined for the analysis of load-bearing structures.

C8. the student/graduate explains the principles of design and detailing of reinforced concrete, prestressed concrete and steel elements used in civil and mining construction.

C9. the student/graduate describes construction materials (concrete, steel, masonry, composite materials, mortars, special materials) and the selection criteria from a mechanical, technological and durability standpoint.

C10. the student/graduate explains elements of electrical engineering, thermal engineering and building services (including aspects of energy efficiency and comfort).

C11. the student/graduate describes the types of surface and underground mining construction (galleries, chambers, shafts, caverns, slopes, special foundations) and their role in the exploitation of deposits.

C12. the student/graduate explains the operating principles and fields of use of machinery and equipment for construction and mining works.

C13. the student/graduate describes the properties, classification and fields of use of industrial explosives and the principles of designing works with explosives, including demolitions.

C14. the student/graduate explains the principles of mine ventilation and the basic notions of occupational health and safety in underground and surface environments.

C15. the student/graduate describes elements of hydrology and hydrogeology, as well as the principles of designing hydrotechnical structures and drainage and dewatering works.

C16. the student/graduate explains the principles of engineering surveying and the methods of setting out and monitoring surface and underground structures over time.

C17. the student/graduate describes the methods and indicators for assessing the anthropic impact on the environment in the case of mining construction and related works.

C18. the student/graduate explains the structure of the system of technical and legal regulations (norms, standards, specific legislation) applicable to mining construction and related fields.

C19. the student/graduate describes principles of management of construction and mining works, including site organisation, resource planning and quality control.

C20. the student/graduate explains elements of economics, cost estimates and cost–benefit analysis needed to prepare and evaluate feasibility studies.

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C21. the student/graduate describes basic concepts of numerical modelling and simulation (numerical methods, finite element method) applicable to the analysis of structures and rock masses.
C22. the student/graduate explains the principles of using technical drawing (CAD) and mine planning software, as well as basic GIS notions for mining works.
C23. the student/graduate describes scientific research methods, the steps for preparing a specialist study and the structure of a scientific report.
C24. the student/graduate uses the technical terminology specific to mining construction, including in at least one foreign language of international circulation.

Skills generated by the learning outcomes for the Mining Construction study programme

A1. the student/graduate graphically represents construction elements and types (civil, industrial, mining) in order to produce the drawings of technical projects.
A2. the student/graduate interprets and uses plans, sections, details and technological diagrams from technical documentation.
A3. the student/graduate collects and manages information on the construction site (topographic, geotechnical, geological, urban planning data) in order to use and understand it in technical projects.
A4. the student/graduate properly identifies notions on the physical and mechanical properties of soils and rocks, in order to design infrastructure elements and mining works.
A5. the student/graduate determines, uses and compares the physical and mechanical characteristics of the main construction materials, in order to use them in the design and verification of structural elements.
A6. the student/graduate describes actions and evaluates loads, in correlation with site factors, in order to analyse load-bearing structures.
A7. the student/graduate selects and applies concepts, principles and methods for the structural analysis of civil and mining construction elements and structures.
A8. the student/graduate designs and verifies construction elements (foundations, columns, beams, slabs, special elements) in order to produce the written parts of technical projects.
A9. the student/graduate plans and interprets field and laboratory geotechnical investigation programmes, depending on the type of work and the geological conditions.
A10. the student/graduate analyses the stability of slopes and hillsides and proposes appropriate consolidation and protection solutions.
A11. the student/graduate designs and verifies shallow and deep foundation works for mining and civil construction, depending on the geotechnical and loading conditions.
A12. the student/graduate designs structural and support elements for underground mining construction (rock bolts, supports, linings), taking into account rock mechanics and operating conditions.
A13. the student/graduate uses technical drawing software (CAD) to produce and modify plans and details of surface and underground structures.

A14. the student/graduate uses mine planning and/or 3D modelling software for the design and optimisation of mining works.
A15. the student/graduate prepares correct and coherent work reports and technical documentation (technical reports, specifications, assessments).
A16. the student/graduate writes scientific reports and synthesis papers (projects, case studies, the diploma thesis) based on the data and analyses carried out.
A17. the student/graduate advises on the selection and use of construction materials according to technical, economic and environmental requirements.
A18. the student/graduate advises on the geology and structure of deposits for the choice of mining methods and the design of mining works.

A19. the student/graduate plans and coordinates site activities (surface and underground), integrating material, human and technological resources.

A20. the student/graduate gives instructions to execution and geotechnical staff, adapted to their level of training and working conditions.
A21. the student/graduate supervises work environment safety, applying occupational health and safety standards and risk prevention measures.
A22. the student/graduate ensures compliance with environmental legislation and develops measures to reduce the anthropic impact of mining construction works.
A23. the student/graduate develops and evaluates feasibility studies for construction and mining works, integrating technical, economic and environmental aspects.
A24. the student/graduate manages research and design data (databases, digital files, models), ensuring their accuracy and traceability.

A25. the student/graduate performs applied scientific research in the field of mining construction, using appropriate methods of data collection, processing and interpretation.
A26. the student/graduate uses different communication channels (oral, written, digital) to convey technical information to specialists and non-specialists.
A27. the student/graduate interacts professionally in research and professional environments, taking part in meetings, presentations and technical debates.
A28. the student/graduate uses the foreign language in professional contexts, to consult specialist literature and communicate with external partners.
A29. the student/graduate uses IT tools (office applications, databases, specialised software) to support design, execution and research activities.

A30. the student/graduate applies numerical calculation and modelling methods (including the finite element method and numerical methods in construction) for the analysis of structures and rock masses.
A31. the student/graduate plans and monitors works with explosives (drilling–charging–blasting, demolitions), complying with technical and safety regulations.
A32. the student/graduate analyses and selects execution technologies in civil and mining construction (special methods in construction, excavation techniques, use of underground space).
A33. the student/graduate designs and verifies tunnels, communication routes and hydrotechnical developments in the specific context of mining construction.
A34. the student/graduate monitors the site (surface and underground) from the technical, schedule and safety standpoints.
A35. the student/graduate prepares and delivers technical presentations for projects, studies and reports, adapted to the target audience (management, authorities, community).
A36. the student/graduate manages and coordinates the activity of the geotechnical and technical staff involved in mining construction projects.

Responsibilities generated by the learning outcomes for the Mining Construction study programme

RA1. the student/graduate selects and analyses bibliographic sources and technical documents relevant to solving design and research problems.
RA2. the student/graduate demonstrates learning autonomy, updates his/her knowledge and plans his/her personal professional development.
RA3. the student/graduate approaches problems critically, compares alternative solutions and justifies the technical decisions adopted.
RA4. the student/graduate complies with the legal and technical regulations applicable to mining construction and takes responsibility for the proposed solutions.
RA5. the student/graduate complies with workplace safety rules and promotes a safety culture in the teams in which he/she works.
RA6. the student/graduate takes responsibility for the environmental impact of design and execution activities and promotes sustainable solutions.
RA7. the student/graduate takes responsibility for coordinating and supervising staff, ensuring effective communication and compliance with work procedures.
RA8. the student/graduate plans and manages engineering projects of medium complexity (time, costs, resources), monitoring the achievement of objectives.
RA9. the student/graduate works effectively in multidisciplinary teams, contributing to common objectives and managing any conflicts.
RA10. the student/graduate ensures the quality of technical documentation, checks and corrects information before submission to clients or authorities.
RA11. the student/graduate manages sensitive data and information (technical, economic) respecting confidentiality and ethical rules.
RA12. the student/graduate makes responsible decisions in high-risk contexts (underground works, works with explosives, works on unstable slopes), taking into account the safety of people and installations.

Rector,
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Dean,
Assoc. Prof. Habil. PhD Eng., Ec. LORINȚ Csaba

RA13. the student/graduate takes on coordination roles in internship activities and projects, modelling through his/her own behaviour compliance with rules and quality.
RA14. the student/graduate applies principles of academic and professional integrity (avoiding plagiarism, acknowledging contributions, correct reporting of results).
RA15. the student/graduate communicates transparently with stakeholders (clients, authorities, community), clearly presenting the risks and benefits of the proposed solutions.
RA16. the student/graduate identifies needs for improving processes and technologies in mining construction and proposes innovative solutions.
RA17. the student/graduate reflects on his/her own performance and adjusts professional behaviour based on feedback and results.
RA18. the student/graduate participates in research and innovation activities, contributing to the development of the field of mining construction.
RA19. the student/graduate takes responsibility for continuous training and for maintaining a high level of professional competence.
RA20. the student/graduate demonstrates a professional and ethical attitude towards colleagues, collaborators and society, aware of the social role of the mining construction engineer.

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