UNIVERSITY OF PETROȘANI
FACULTY OF MINES

CURRICULUM

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

Field of study: **Engineering and Management**

Master's study programme: **Project Engineering and Management**

Duration of studies: **2 years (4 semesters)**

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

Location: **Petroșani**

I. Mandatory requirements for obtaining the master's diploma

120 credits, of which:

- credits for compulsory subjects: **108**
- credits for optional subjects: **12**

10 credits for passing the dissertation examination

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II. Course of studies (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	2	3	1	12
Year II	14	14	3	3	2	3	1	-

III. Number of hours per week

	Sem. I	Sem. II
Year I	22	26
Year II	26	26

IV. Dissertation examination

Period for the dissertation examination: June-July session, September session

Content of the dissertation examination:

- Presentation and defence of the dissertation - **10 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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PROJECT ENGINEERING AND MANAGEMENT

Mission of the master's study programme Project Engineering and Management

The mission of the master's study programme is to train highly qualified and well-prepared specialists in the field of Engineering and Management, engineers with technical, engineering and managerial competences, capable on the current and future labour market.
The mission of the IMP master's studies is in accordance with the educational and scientific research objectives of the University of Petroşani, the national nomenclature of qualifications and the requirements of the labour market, to train specialists able to work professionally in various fields and project-oriented organisations.

Objectives of the master's study programme Project Engineering and Management

General objective
Training and preparing graduates as specialists in the field of Engineering and Management, with a mix of engineering, managerial-economic and socio-human knowledge, competences and skills, so that they are able to manage complex problems and projects in various companies and organisations.

Specific objectives
The specific objectives of the master's programme consist in providing an educational process that develops in students the professional and transversal competences (including civic responsibility and professional deontology) related to the qualification, according to the RNCIS framework and the employability requirements of the labour market.
The specific objectives of this master's programme aim for graduates to become engineers with a managerial vision, an entrepreneurial spirit and a broad interdisciplinary perspective on the various problems of leading and managing technical, engineering, economic, legal and managerial projects, which condition the effective and efficient activity of organisations in the current and future economic environment.

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Master's study programme: **PROJECT ENGINEERING AND MANAGEMENT**

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No.	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
crt.	Subject	code	type	C	S	L	P	C	S	L	P	Sem.1	Sem.2	Sem.1	Sem.2	Lect.*	Appl.**	Total		
1	Project Engineering and Management	UPFMIMP101	DF	2	2							6		E1		28	28	56	94	150
2	Optional subject OP 11	UPFMIMP102	DF	3		3						6		E1		42	42	84	66	150
3	Innovative Projects and Businesses in Industry	UPFMIMP103	DF	2	2							6		E1		28	28	56	94	150
4	Substantiation and Evaluation of Project Proposals	UPFMIMP104	DS	2	2							6		E1		28	28	56	94	150
5	Management of European Projects	UPFMIMP105	DS	2			2					6		C1		28	28	56	94	150
6	Strategic Management in Projects	UPFMIMP106	DS					3	2				6		E2	42	28	70	80	150
7	Advanced Technologies	UPFMIMP107	DF					2		1			5		E2	28	14	42	83	125
8	IT Applications for Project Management	UPFMIMP1108	DS					2		2			6		E2	28	28	56	94	150
9	Communication in Projects	UPFMIMP109	DS					2	2				5		E2	28	28	56	69	125
10	Professional internship	UPFMIMP110	DS								10		8		C2	0	140	140	60	200
TOTAL COMPULSORY AND OPTIONAL YEAR I				11	6	3	2	9	4	3	10	30	30	8E + 2C		280	392	672	828	1500
												60								
11	Project Management by Field of Activity (elective)	UPFMIMP111	DFA					2	1				5		C2	28	14	42	83	125

* - Delivery mode: 50% Face to face (FF) and 50% Synchronous online (OS)
** - Delivery mode: 65% Face to face (FF) and 35% Synchronous online (OS)

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CURRICULUM

No. crt.	YEAR II	Subject	Subj.	Semester 3				Semester 4				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		
12	Procurement Systems and Procedures in Projects	UPFMIMP212	DS	2	3							5		E3		28	42	70	55	125
13	Technical and Economic Evaluation of Projects	UPFMIMP213	DS	2			3					5		E3		28	42	70	55	125
14	Human Resources Management in Projects	UPFMIMP214	DS	2	2							5		E3		28	28	56	69	125
15	Project Audit	UPFMIMP215	DS	2	2							5		E3		28	28	56	69	125
16	Methods and Techniques for Risk Assessment in Projects	UPFMIMP216	DS	2			2					5		E3		28	28	56	69	125
17	Leadership in Projects	UPFMIMP217	DS	2	2							5		E3		28	28	56	69	125
18	Optional subject OP 21	UPFMIMP218	DF					2	1				6		E4	28	14	42	108	150
19	Ethics and academic integrity	UPFMIMP219	DC					1	2				4		C4	14	28	42	58	100
20	Internship for dissertation preparation	UPFMIMP220	DS								12		10		C4	0	168	168	82	250
21	Preparation of the dissertation thesis	UPFMIMP221	DS								8		10		C4		112	112	138	250
TOTAL COMPULSORY AND OPTIONAL year II				12	9	0	5	3	3	0	20	30	30	7E + 3C		210	518	728	772	1500
												60								
22	Planning Models and Techniques in Projects (elective)	UPFMIMP222	DFA	2	1							5		C3		28	14	42	83	125

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DISTRIBUTION OF HOURS BY SUBJECT GROUPS						
Total lecture hours:	**490**					
Total application hours:	**490**					
Total hours:	**1400**					
Total lecture hours / Total hours (%):	490	/	1400	x100	=	35%
Total application hours / Total hours (%):	490	/	1400	x100	=	35%
Total application hours / Total lecture hours (%):	490	/	490	=		1
SUBJECT GROUPS	**No. hours**			**No. hours/Total hours (%)**		
Fundamental subjects DF	**280**			**20,00**		
Specialisation subjects DS	**1078**			**77,00**		
Complementary subjects DC	**42**			**3,00**		
Optional subjects DOP	**126**			**9,14**		
Elective subjects DFA	**84**			**6,00**		

REMARKS : For one credit point, 25 teaching and individual study hours are allocated
LEGEND : DF – fundamental subject, DS- specialisation subject, DC - complementary subject
DOP - optional subject, DFA – elective subject
C - lecture, S - seminar, L - laboratory, P - project, Apl - application hours
Ei, Ci, Vi - exam, colloquium, verification respectively in semester i, i =1 ÷ 4

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OPTIONAL SUBJECTS				
No. crt.	Subject code	Year of study	Subject names	
2	OP 11	I	Decision Optimisation in Projects	Network Modelling of Projects
18	OP 21	II	Methods and Techniques of Quality Engineering and Management in Projects	Project Budgeting, Prioritisation and Controlling

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The ESCO competences belong to the basic group: 21411 Industrial and production engineers
(Industrial and production engineers)

Target occupations from the representative COR/ESCO basic group

COR code 214112 Study documentation specialist
COR code 214115 Business manager
COR code 214131 Quality analyst

Competences for the master's study programme Project Engineering and Management

Professional competences

CP1. Performs project management.
CP2. Manages engineering projects.
CP3. Manages budgets.
CP4. Manages staff.
CP5. Exercises results-oriented leadership towards colleagues.
CP7. Pursues innovation in current practices.
CP8. Uses communication techniques.
CP9. Liaises with colleagues.
CP10. Meets deadlines.
CP11. Adapts to changing situations.
CP12. Uses IT tools.
CP13. Presents the results of analyses.
CP14. Negotiates with stakeholders.
CP15. Evaluates financial viability.
CP16. Analyses production processes for improvement.
CP17. Optimises production.
CP18. Controls production.
CP19. Manages all process engineering activities.
CP20. Keeps up to date with regulations.
CP21. Advises on efficiency improvements.
CP22 Maintains relationships with customers.
CP23. Maintains relationships with suppliers.
CP24. Performs quality control.
CP25. Performs quality standards assessment.
CP26. Ensures continuous preparation for audits.
CP27. Identifies legal requirements.

Transversal competences

CT1. Uses communication and collaboration software.
CT2. Processes information, ideas and concepts.
CT3. Solves problems.
CT4. Collaborates in teams and networks.
CT5. Complies with the code of ethical conduct.

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Learning outcomes for the master's study programme Project Engineering and Management

KNOWLEDGE

C1. The graduate can **identify** the basic concepts, theories, methods and techniques of project engineering and management.
C2. The graduate can **identify** the specific elements of a project.
C3. The graduate can **identify** the components of the process of substantiating and evaluating projects.
C4. The graduate can **identify** the standard stages in managing a project.
C5. The graduate can **explain** the need for and relevance of using advanced technologies and information technology in managing a project.
C6. The graduate can **describe** the basic processes of strategic management, risk management, quality management and human resources management of a project.
C7. The graduate can **know** and can **explain** the role, functions, competences and skills of the project manager and the project team.
C8. The graduate can **explain** the link between the organisation and the external environment in managing a project.
C9. The graduate can **identify** the national and international regulatory organisations and institutions in project management.
C10. The graduate can **argue** the need for innovation and digitalisation in projects.
C11. The graduate can **identify** the documentation, procedures and regulations of all activities involved in project implementation.
C12. The graduate can **know** aspects of communication and leadership in projects.
C13. The graduate can **explain** the relevance of mathematical methods, economic-financial and budgeting methods in the engineering and management of a project.
C14. The graduate can **explain** the monitoring, reporting and audit processes in project management.

SKILLS

A1. The graduate is able **to design and prepare** documentation substantiating project proposals.
A2. The graduate knows how **to process and interpret** economic-financial and technical data for the substantiation and implementation of projects.
A3. The graduate can **develop** a portfolio of practical applications for quality assessment and assurance to optimise the results of a project.
A4. The graduate can **develop** a risk management register, including risk identification.
A5. The graduate knows how **to manage** official documents and information within a project optimally.
A6. The graduate knows how **to communicate** the results of analyses clearly and professionally, in internal communication and external communication with stakeholders.
A7. The graduate knows how **to use** human resources planning, recruitment, selection and training techniques within a project.
A8. The graduate knows how **to build and manage** effective project teams based on cooperation, communication and complementary competences.
A9. The graduate is able **to prepare** project budgets and cost estimate calculations in projects.
A10. The graduate is able **to analyse** project financial reports, cost diagrams and budget execution charts.

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A11. The graduate can **use** software and IT platforms for decision modelling in projects.
A12. The graduate can **perform** calculations to determine economic and technical efficiency indicators in project management.
A13. The graduate knows how **to use** effective communication methods optimally in managing a project
A14. The graduate can **carry out** studies and research papers and disseminate the results of scientific knowledge in the field of project management.

RESPONSIBILITY AND AUTONOMY
RA1. The graduate can **apply** the rules and values of professional ethics for decision-making and for carrying out tasks independently or in a team.
RA2. The graduate can **achieve** coherent communication and take on professional, social and ethical responsibilities.
RA3. The graduate can **take on** professional, social and ethical roles and responsibilities in professional activity.
RA4 The graduate can **acknowledge** the need for continuous training for personal and professional development.
RA5. The graduate can **apply** relationship-building and cooperation techniques at work within the project team or as project manager.
RA6. The graduate can **solve** complex problems, creatively adapting to the changing contexts of the work environment.

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