UNIVERSITY OF PETROȘANI
FACULTY OF MINES

CURRICULUM

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

Field: **Engineering and Management**

Study programme: **Business Engineering and Management**

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: **212**
- credits for optional subjects: **28**

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	2	3	1	12
Year II	14	14	3	3	2	3	1	12
Year III	14	14	3	3	2	3	1	12
Year IV	14	14	3	3	2	3	1	-

III. Number of hours per week

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

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 Business Engineering and Management study programme

The Business Engineering and Management study programme has a mission and objectives consistent with the declared mission of the University of Petroşani. The study programme has, on the one hand, an educational mission, training specialists in the field of engineering and management, specialisation Business Engineering and Management, so that they contribute to improving the scientific, professional and cultural environment of the public or private institutions in which they work and to making them more efficient, and, on the other hand, a research mission, through initiating, implementing and capitalising on fundamental and applied engineering research activities carried out in compliance with the highest professional and ethical standards.

Objectives of the Business Engineering and Management study programme

Training specialists in the field of business engineering and management, covering the western region of Romania, is in accordance with the national qualifications framework and the requirements of the labour market. The process of training future specialists is designed to achieve the following objectives:

- deepening knowledge in the field of engineering sciences;
- using a specialised scientific language based on modern, up-to-date concepts, notions and theories;
- improving the methodological approach specific to understanding issues in the field of engineering and management;
- acquiring the main paradigms of the field of study;
- developing practical intervention skills and abilities;
- using the latest methods and techniques in management, based on advanced statistical models, on the use of software for processing and analysing databases, as well as on qualitative methods;
- training specialists open to dialogue and concerned with their civic responsibilities

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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	Mathematical Analysis	IMMAFO101	F	2	2							5		E1		28	28	56	69	125
2	Linear Algebra, Analytic and Differential Geometry	IMMAFO102	F	2	2							5		E1		28	28	56	69	125
3	Chemistry	IMMAFO103	F	2		1						4		E1		28	14	42	58	100
4	Applied Computer Science I	IMMAFO104	F	2	2	2						6		E1		28	56	84	66	150
5	Fundamentals of Economics	IMMAFO105	F	2	2							5		E1		28	28	56	69	125
6	Foreign Language I	IMMACO106	C		2							2		C1		0	28	28	22	50
7	Physical Education and Sport I	IMMACO107			1							1		A/R		0	14	14	11	25
8	**Optional subject OP 11**	IMMACA108	C	1	1							3		C1		14	14	28	47	75
9	Probability Theory and Mathematical Statistics	IMMAFO109	F					2	2				5		E2	28	28	56	69	125
10	Physics	IMMAFO110	F					2		2			5		E2	28	28	56	69	125
11	Fundamentals of Management I	IMMADO111	D					3	1				6		E2	42	14	56	94	150
12	Applied Computer Science II	IMMAFO112	F					2	2	2			6		E2	28	56	84	66	150
13	Computer-Aided Graphics	IMMAFO113	F					3		2			6		C2	42	28	70	80	150
14	Foreign Language II	IMMACO114	C						2				2		C2	0	28	28	22	50
15	Physical Education and Sport II	IMMACO115	C						1				1		A/R	0	14	14	11	25
TOTAL YEAR I				11	12	3	0	12	8	6	0	30	30	9E + 4C		322	406	728	822	1550
												60								
16	Industrial Logistics (elective)	IMMADL116	F	2	2							4		C1		28	28	56	0	56
17	Environmental Protection (elective)	IMMADL117	F					2	2				4	C2		28	28	56	0	56

Physical Education and Sport - credits in addition to the total of 60

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No.	**YEAR II**	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		
18	Feasibility and Efficiency of Investments	IMMADO218	D	2	1		2					6		E3		28	42	70	80	150
19	Biotechnologies	IMMADO219	D	3		2						6		E3		42	28	70	80	150
20	Business Engineering and Management	IMMADO220	D	3			2					6		E3		42	28	70	80	150
21	Fundamentals of Management II	IMMADO221	D	2	2							5		E3		28	28	56	69	125
22	Foreign Language III	IMMACO222	C		2							2		C3		0	28	28	22	50
23	Physical Education and Sport III	IMMACO223	C		1							1		A/R		0	14	14	11	25
24	**Optional subject OP 21**	IMMADA224	D	2	2							5		E3		28	28	56	69	125
25	Sustainable Development	IMMADO225	D					2	2				5		E4	28	28	56	69	125
26	Managerial Communication	IMMADO226	D					2	1				4		E4	28	14	42	58	100
27	Business Diagnosis and Valuation	IMMADO227	D					2	2				4		E4	28	28	56	44	100
28	Human Resources Management	IMMADO228	D					2	2				4		E4	28	28	56	44	100
29	Production Management	IMMADO229	D					2	2				4		E4	28	28	56	44	100
30	Foreign Language IV	IMMACO230	C						2				2		C4	0	28	28	22	50
31	Physical Education and Sport IV	IMMACO231	C						1				1		A/R	0	14	14	11	25
32	**Optional subject OP 22**	IMMADA232	D					2	2				3		C4	28	28	56	19	75
33	Internship	IMMADO233	D								90		4		C4	0	90	90	10	100
TOTAL YEAR II				12	8	2	4	12	14	0	90	30	30	10E + 6C		336	482	818	732	1550
												60								
34	Management Information Systems	IMMADL233	F	2	2							4		C1		28	28	56	0	56
35	e-Commerce	IMMADL234	F					2	2				4	C2		28	28	56	0	56

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No.	**YEAR III**	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		
36	Environmental Engineering and Management	IMMADO335	D	3		2						5		E5		42	28	70	55	125
37	Business Development in Services	IMMADO336	D	2	2							4		E5		28	28	56	44	100
38	Industrial Marketing	IMMADO337	D	2	2							5		E5		28	28	56	69	125
39	Strategic Management	IMMADO338	D	2	2							5		E5		28	28	56	69	125
40	Business Risk Management	IMMASO339	S	2	1							4		C5		28	14	42	58	100
41	Business Statistics	IMMASO340	S	2	1							3		C5		28	14	42	33	75
42	**Optional subject OP 31**	IMMASO341	S	2	1							4		C5		28	14	42	58	100
43	Selection of Materials and Semi-finished Products	IMMADO342	D					3		2			5		E6	42	28	70	55	125
44	Quality Management	IMMADO343	D					2	2				4		E6	28	28	56	44	100
45	Quality Engineering	IMMASO344	S					3			2		4		E6	42	28	70	30	100
46	Business with Innovative Products	IMMASO345	S					3	2				5		E6	42	28	70	55	125
47	Technological Entrepreneurship	IMMASO346	S					2	1				4		C6	28	14	42	58	100
48	**Optional subject OP 32**	IMMADA347	D					2	2				4		C6	28	28	56	44	100
49	Internship	IMMASO348	S								90		4		C6	0	90	90	10	100
TOTAL YEAR III				15	9	2	0	15	7	2	92	30	30	8E + 6C		420	398	818	682	1500
												60								

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No. crt.	**YEAR IV** Subject	Subject code	Subj. type	Semester 1				Semester 2				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		
50	International Trade	IMMASO449	S	2	2							5		E7		28	28	56	69	125
51	Production Systems Engineering	IMMASO450	S	3		2						5		E7		42	28	70	55	125
52	Company Audit	IMMASO451	S	3	2							5		E7		42	28	70	55	125
53	Simulation of Production Processes	IMMASO452	S	3	2							5		E7		42	28	70	55	125
54	Economic Forecasting	IMMASO453	S				4					5		C7		0	56	56	69	125
55	**Optional subject OP 41**	IMMASO454	S				3					5		C7		0	42	42	83	125
56	Computer-Aided Product Design	IMMASO455	S					3			2		5		E8	42	28	70	55	125
57	Technological Innovation	IMMASO456	D					3	2				5		E8	42	28	70	55	125
58	Technology Management	IMMASO457	S					2	2				4		E8	28	28	56	44	100
59	Fundamentals of Product Manufacturing	IMMASO458	S					2	2				4		E8	28	28	56	44	100
60	**Optional subject OP 42**	IMMASA459	S					2	2				4		C8	28	14	42	58	100
61	Internship for diploma project preparation	IMMASO460	S								60		4		C8	0	60	60	40	100
62	Preparation of the diploma project	IMMASO461	S								4		4		C8	0	56	56	44	100
TOTAL YEAR IV				11	6	2	7	12	8	0	66	30	30	8E + 5C		322	452	774	726	1500
												60								

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OPTIONAL SUBJECTS				
No. crt.	Subject code	Year of study	Subject names	
8	OP 11	I	Communication	Ethics and academic integrity
24	OP21	II	Energy Production, Transport and Use	Business Negotiation and Ethics
32	OP 22	II	Economic Legislation	Labour Legislation
42	OP31	III	Business Law	Legal Framework of Organisational Behaviour
48	OP32	III	Financial Management	Accounting
55	OP 41	IV	Project Management in Business	Innovation Management
60	OP 42	IV	Marketing Research	International Economic Transactions

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Basic group from COR/ISCO-08/ESCO representative of the Business Engineering and Management study programme

2141 Industrial and production engineers

Target occupations from the representative COR/ESCO basic group of the study programme Business Engineering and Management

214112 Study documentation specialist 214115 Business manager
2141.4.1 Manufacturing process engineer

Competences for the Business Engineering and Management study programme

Professional competences

CP1. Manages engineering projects
CP2. Approves engineering designs
CP3. Performs project management
CP4. Provides technical documentation
CP5. Writes technical reports
CP6. Applies advanced manufacturing systems
CP7. Manages all process engineering activities
CP8. Schedules production
CP9. Manages production systems
CP10. Coordinates production activities
CP11. Interprets technical requirements
CP12. Defines technical requirements
CP13. Monitors manufacturing quality standards
CP14. Ensures equipment maintenance
CP15. Uses IT tools
CP16. Uses technical drawing software
CP17. Designs prototypes
CP18. Manages budgets
CP19. Evaluates financial viability
CP20. Understands financial and banking terminology
CP21. Analyses supply chain strategies
CP22. Maintains relationships with customers
CP23. Maintains relationships with suppliers
CP24. Complies with legal regulations
CP25. Manages staff
CP26. Adapts to changing situations
CP27. Communicates commercial and technical issues in foreign languages
CP28. Uses communication techniques
CP29. Ensures compliance with specifications
CP30. Synthesises information

Transversal competences

CT1. Demonstrates entrepreneurial spirit
CT2. Makes decisions
CT3. Manages financial and material resources
CT4. Adapts to change
CT5. Thinks innovatively
CT6. Organises information, objects and resources

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Learning outcomes for the Business Engineering and Management study programme

Knowledge generated by the learning outcomes for the Business Engineering and Management study programme

C1.Identifies and describes basic concepts, principles and methods of mathematics, physics, chemistry, technical drawing, economics and computer science.

C2.Explains and interprets theoretical and experimental results in mathematics, physics, chemistry, economics, technical drawing and computer science.

C3.Identifies and describes technical, economic and managerial representations and features of software packages supporting activities in the field.

C4.Explains and interprets technical, economic and managerial documentation for the development of projects and processes specific to the field.

Skills generated by the learning outcomes for the Business Engineering and Management study programme

A1. Applies assessment criteria and methods for the identification, modelling, experimentation, analysis and qualitative and quantitative appraisal of phenomena and processes specific to the fundamental field, including by using digital technologies.

A2. Acquires and processes data, interprets theoretical and experimental results.

A3. Devises solutions, in compliance with relevant standards, for engineering problems of medium complexity that meet specified needs, respecting requirements of public health, safety, welfare, environment, sustainability and economic factors, as well as other specific constraints.

A4. Applies modern project management techniques, economic and decision-making techniques, including in a multidisciplinary framework.

A5. Selects and applies concepts, principles and methods for solving particular problems in preparing technical, economic and managerial documentation.

A6. Evaluates the advantages and limitations of software applications for solving tasks specific to engineering and management.

A7. Prepares the technical, economic and managerial documentation associated with projects specific to engineering and management.

A8. Applies software programming techniques and methods, creates and operates databases.

A9. Models and simulates concepts and processes in solving specific tasks, in computer-aided mode.

A10. Develops computer-aided technical-economic and/or managerial projects using software applications specific to engineering and management.

Responsibilities generated by the learning outcomes for the study programme Business Engineering and Management

RA1. Documents, describes and manages processes specific to the management of engineering projects, taking on different roles in the team and presenting the results.

RA2. Develops working and communication skills for effective collaboration in carrying out tasks specific to engineering and management.

RA 3.Initiates and manages actions for updating professional knowledge specific to the field.

RA 4.Evaluates and capitalises on business and entrepreneurial development opportunities.

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