COURSE SYLLABUS

1. Program information

1.1. Institution	Petroleum – Gas University of Ploiești
1.2. Faculty	Petroleum Technology and Petrochemistry
1.3. Department	Petroleum Processing Engineering and Environmental Protection
1.4. Field of study	Chemical Engineering
1.5. Study cycle	Master
1.6. Study program	Chemical Engineering for Refineries and Petrochemistry

2. Course information

2.1. Course title	Project management in the chemical industry
2.2. Course coordinator	Prof. Dragoș Ciuparu
2.3. Laboratory / seminar / coordinator	Prof. Dragoș Ciuparu
2.4. Project coordinator	Prof. Dragoș Ciuparu
2.5. Year of study	2
2.6. Semester *	3
2.7. Evaluation type	E
2.8. Course type - formative category **/ Type of subject matter ***	DC

* The semester number is according to the curriculum.

** FC – Fundamental courses; SC – Specialization courses; CC – Complementary courses.

*** Mandatory/imposed = MND; Optional = OPT; Elective = ELE.

3. Total estimated time (teaching hours per semester)

3.1. Number of hours per week	4	of which: 3.2. course	2	3.3.Seminar/laboratory	1	3.4.Project	1
3.5. Total hours from curriculum	56	of which: 3.6. course	28	3.7. Seminar/laboratory	14	3.8. Project	14
3.9. Total hours of individual study (Study of textbook, course support, bibliography, study of textbook, course support, further reading in the library, on online platforms, preparing seminars/laboratories, homework, portfolios and essays)							124
3.10. Total hours per semester							180
3.11. Number of credits							6

4. Requirements (where applicable)

4.1. Curriculum requirements	➢ General knowledge of economy and management ➢ General knowledge of chemical engineering
4.2. Course requirements:	➢
4.3.Seminar/Laboratory requirements:	➢

5. Specific competences acquired and learning achievements* outcomes

Professional competences	**Learning achievements***
1. Integrates principles of sustainable development and circular economy	**K1** - The student describes advanced concepts of sustainable development applicable in chemical engineering. **K2** - The student identifies strategies for reducing, reusing, and valorizing resources. **K3** - The student defines performance indicators for sustainable processes. **S1** - The student evaluates the environmental impact of chemical processes. **S2** - The student proposes technological solutions for pollution reduction and energy efficiency. **LO1** - The student makes decisions in accordance with environmental legislation and sustainability principles. **LO2** - The student promotes ethical conduct in resource use.
2. Leads and manages activities in the chemical industry	**K1** - The student explains modern methods of process and project management. **K2** - The student describes the legal framework and occupational health and safety standards. **K3** - The student identifies mechanisms for project economic evaluation. **S1** - The student applies management tools for coordinating resources and teams. **S2** - The student uses economic and financial analysis methods for processes. **LO1** - The student makes strategic decisions regarding project development and implementation. **LO2** - The student demonstrates autonomy and leadership in coordinating multidisciplinary teams.
Transversal competences	**Learning achievements***
1. Develops critical thinking and the ability to solve complex problems	**K1** - The student identifies reasoning models applicable in interdisciplinary contexts. **S1** - The student applies methods of analysis and synthesis to solve complex problems. **S2** - The student uses modern tools for decision evaluation and substantiation. **LO1** - The student takes responsibility for the proposed solutions and their impact. **LO2** - The student demonstrates autonomy in the critical approach of complex situations.
2. Manages projects and resources in a complex socio-economic context	**K1** - The student explains methods of project planning and evaluation. **S1** - The student applies project management tools and techniques. **S2** - The student develops plans and reports for the efficient use of resources. **LO1** - The student takes responsibility for decisions regarding project implementation. **LO2** - The student demonstrates autonomy and leadership in managing resources and teams.

* K – knowledge; S – skills; LO – responsibility and autonomy.

6. Course objectives (derived from the list of specific competences acquired)

6.1. General objective	Students are able to plan project activities and organize a project team, allocate resources, control and monitor implementation and elaborate project documents.
6.2. Specific objectives	➢ Learn how to organize and lead a project team; ➢ Learn how to allocate financial and time resources for project implementation; ➢ Learn how to use project management software; ➢ Learn how to analyse risks and develop contingency plans.

7. Contents

7.1. Course	Time	Teaching methods	Comments
1. Introduction	1		
2. Types of projects in the chemical industry	4		

3. Project management and managerial models	8	Multimedia techniques	
4. Project management processes	9		
5. Project management information platforms	6		
Bibliography ➢ A guide to the project management body of knowledge (PMBOK® guide). -- Fifth edition, Project Management Institute ➢ Oracle Primavera® P6™ Project Management Reference Manual			
7.2. Seminar / laboratory	Time	Teaching methods	Comments
1. Enterprise Project Portfolio;	1	Hans-on interactive	
2. Organizational Breakdown Structure;	3		
3. Project Work Breakdown Structure;	4		
4. Project resources;	2		
5. Project implementation, control and monitoring.	4		
Bibliography ➢ A guide to the project management body of knowledge (PMBOK® guide). -- Fifth edition, Project Management Institute ➢ Oracle Primavera® P6™ Project Management Reference Manual			
7.3 Project	Time	Teaching methods	Comments
1. Defining project statement of work and work breakdown structure;	3	Hands-on interactive	
2. Building project implementation graphic;	2		
3. Allocating project resources;	3		
4. Project implementation, control and monitoring;	4		
5. Project documents.	2		
Bibliography ➢ A guide to the project management body of knowledge (PMBOK® guide). -- Fifth edition, Project Management Institute ➢ Oracle Primavera® P6™ Project Management Reference Manual			

8. Correlation of the course contents with the demands of the epistemic community representatives, professional associations, and representative employers in the field of the program

The course syllabus was developed in cooperation with representatives of engineering companies in Ploiești and Bucharest that have hired graduates of similar master programs

9. Evaluation

Activity	9.1. Evaluation criteria	9.2. Evaluation methods	9.3. Percentage of final grade
9.4. Course	Quality of a project management plan developed	Practical	75%
9.5. Seminar/laboratory	Degree of completion of lab assignments	Practical	5%
9.6. Project	Completion of project	Practical	20%
9.7. Minimum performance standard			

- Students complete their project work with satisfactory results;
- Students are capable to elaborate an original project implementation plan and implement the project in an information system for project management.

Signature/date	Course coordinator	Laboratory coordinator	Project coordinator
22.09.2025	Prof. Dragoș Ciuparu	Prof. Dragoș Ciuparu	Prof. Dragoș Ciuparu

Date of approval in the department	Head of department	Dean
26.09.2025		