

SYLLABUS

1. Information regarding the programme

1.1 Higher education institution	Babeş–Bolyai University of Cluj–Napoca
1.2 Faculty	Chemistry and Chemical Engineering
1.3 Department	Chemical Engineering
1.4 Field of study	Chemical Engineering
1.5 Study cycle	Master
1.6 Study programme / Qualification	Advanced Chemical Process Engineering

2. Information regarding the discipline

2.1 Name of the discipline								Quality and Process Design Management – CME7341							
2.2 Course coordinator				Lecturer Dr. Eng. Timis Elisabeta Cristina											
2.3 Laboratory coordinator				Lecturer Dr. Eng. Timis Elisabeta Cristina											
2.4. Year of study		II		2.5 Semester		3		2.6. Type of evaluation		VP		2.7 Type of discipline		DS/Opt	

3. Total estimated time (hours/semester of didactic activities)

3.1 Hours per week	4	Of which: 3.2 course	2	3.3 seminar	2
3.4 Total hours in the curriculum	56	Of which: 3.5 course	28	3.6 seminar	28
Time allotment:					hours
Learning using course support, bibliography, course notes, references					25
Additional documentation (in libraries, on electronic platforms, field documentation)					10
Preparation for seminar, homework, papers, portfolios, and essays					28
Tutorship					3
Evaluations					3
3.7 Total individual study hours	69				
3.8 Total hours per semester	125				
3.9 Number of ECTS credits	5				

4. Prerequisites (if necessary)

4.1. curriculum	Basic management in engineering
4.2. competencies	Basic computer using skills (Microsoft Office)

5. Conditions (if necessary)

5.1. for the course	<ul style="list-style-type: none"> The course room must facilitate video-projection. The course could take place online as well, employing Microsoft Teams. Students must switch off the mobile phones during courses. Audio and/or video recording during the course is not allowed. Students are allowed to enter and exit at the courses anytime according to their needs; the active participation in courses contributes to the final evaluation.
5.2. for the laboratory activities	<ul style="list-style-type: none"> The laboratory room must facilitate video-projection and workstations featuring Microsoft Office . The laboratory activities could take place online as well, employing Microsoft Teams. Students should switch off the mobile phones during courses. Audio and/or video recording during the laboratory is not allowed. Students should be present at the seminars, as they are compulsory according to Art. 29 of “Statutul Studentului din Universitatea Babeş-Bolyai”, revised at 13.01.2013. The deadline for presenting the homework/projects will be agreed between the lecturer and the students and tasks will be posted as Microsoft Teams Assignments. Delays are accepted in the cases when well-founded reasons are proven before the deadline.

- In case of presenting the homework with delay, the grade will be penalized (0.5p/week).

6. Specific competencies acquired

Professional competencies	<ul style="list-style-type: none"> • Define the language and identification of concepts. • Developing and implementing projects. Identifying the main characteristics of a project. • Planning the project while constructing the next elements: the scope and the objectives of the project, project work breakdown, project's activities details, activities' flow, project's Gantt chart, project's budget, risks management, human resources management. • Building a Standard Operating Procedure (SOP). • Acknowledging the continuous improvement related concepts.
Transversal competencies	<ul style="list-style-type: none"> • Performing research and design activities in working groups or independently, using specific techniques and conforming to ethical rules. • The development of skills for self-evaluation of performance and self-assessment of needs for continuous professional improvement based on permanent knowledge update related to the activity field and connected fields. • The correlation of own capabilities with the labour market needs. • Communicating own points of view clear and concisely using conventional and non-conventional information technology instruments. • Giving and receiving feedback with respect to professional activity. • Identifying opportunities for continual learning and efficient usage of learning resources and techniques for individual development.

7. Objectives of the discipline (outcome of the acquired competencies)

7.1 General objective of the discipline	The development of competencies related to project management, process quality and management.
7.2 Specific objective of the discipline	The development of students' capabilities (1) to understand key concepts concerning project management, process management and quality management; (2) to plan and implement low complexity projects; (3) to develop process and quality management tools, such as process maps and SOPs; (4) to identify opportunities of continuous improvements; and (5) to search for research projects funding sources.

8. Content

8.1 Course	Teaching methods	Remarks
<ol style="list-style-type: none"> 1 Project management, process management and quality management. Introduction and key elements. 2 The project concept and specific elements of a project. The project charter / roadmap / project proposal (Project objectives and constraints. Key stakeholders. Timeline. Benefits of the project. Risks identified. General overview of the budget). 3 Industrial projects vs. academic research projects. 4 The innovation ecosystem. Company ecosystem. 5 Stakeholders' relation to projects. Stakeholders' communication management. 6 Research project funding. Technology transfer projects. 7 Project management tools. Project phases overview. 8 Planning phase: the project scope, establishing objectives, building the work breakdown structure, developing activities details, milestones, deliverables, the Gantt diagram, project budget, risks management, human resources management. 9 Implementing phase: main elements concerning coordination, assessment, quality assurance, and ending the project. 10 Standardisation and certification authorities: international and national. 	Lecture, explanation, conversation, exemplification, debate	Teaching materials: PowerPoint presentations; application examples

11	Building a quality management system: the international standards for quality management, the ISO 9000 family.		
12	The ISO documentation: quality manual, specific standards, SOPs, process maps.		
13	Process management: the process concept, process maps, Standard Operating Procedures (SOP's).		
14	Quality improvement instruments and continuous improvement methodologies: World Class Manufacturing (WCM), 5S, Six Sigma, Kaizen, Lean.		

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- 2 Ferguson, C., 2011. PRINCE2 for small-scale projects, The Stationery Office, <https://www.qrpinternational.be/wp-content/uploads/sites/7/2017/06/PRINCE2-for-Small-Scale-Projects.pdf> (accessed on 9.04.2024)
- 3 Guvernul României, 1998. Manualul de management al proiectelor. <http://reteformare-aplvs.ro/wp-content/uploads/2015/07/Manual-Managementul-de-proiect.pdf> (accessed on 9.04.2024)
- 4 Heagney, J., 2016. Fundamentals of project management 5th Edition, Amacom, American Management Association. <https://vuthedudotorg.files.wordpress.com/2015/10/fundamentals-of-project-management-0814437362.pdf>
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- Note:** titles of the bibliography items may be found at one of the following: (1) the “Lucian Blaga” Central Library of Babes-Bolyai University; (2) online on the scientific databases available from the intranet of Babes-Bolyai University and “Lucian Blaga” Central Library; (3) online using specified links.

8.2 Laboratory	Teaching methods	Remarks
<p>Developing the elements related to project planning, according to the details provided at the course:</p> <ol style="list-style-type: none"> 1 Project charter 2 Work breakdown structure, detailing activities 3 Human resources management 4 Gantt chart 5 Activities conditionality, milestones, deliverables 6 Project budget 7 Risks management plan 8 Project coordination 9 Assessment, quality assurance 10 Search for research project funding <p>Implement elements related to quality and process management, according to the details provided at the course:</p> <ol style="list-style-type: none"> 1 Standards understanding and implementation 2 Standard Operating Procedures (SOP's) 3 Process maps development 4 Continuous improvement methodology implementation 	<p>Implementation of case studies, coaching via dialog, application building, learning by discovery, teamwork</p>	<p>Evaluation of students' level in using the elements provided at the course to implement the practical work.</p>

Bibliography

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9. Corroborating the content of the discipline with the expectations of the epistemic community, professional associations, and representative employers within the field of the program


- The course content preparation was initially performed by referring to elements presented in similar courses at national and international universities.
- Feedback from industry (Emerson) has been used to comply with expected competencies desired by potential employers.
- Later changes regard newer developments in the economic sector and/or are related to the sustainable development.
- By assimilating the theoretical and methodological concepts and by approaching the practical aspects included in the *Quality and Process Design Management* discipline, the students acquire consistent knowledge in accordance with the competences of the Diploma Supplement and qualifications in the ANC

10. Evaluation

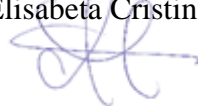
10. Evaluation			
Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the grade (%)
10.4 Course	Examination consisting in verification along the semester (VP). It will evaluate the way knowledge of the course has been acquired, the way of thinking, correctness, and argumentation for the solutions to a problem implemented as a project proposal. The project proposal will be presented following the instructions provided at the beginning of the semester.	VP: verification along the semester. Oral examination	50%
10.5 Laboratory activities	Correctness of answers as proof of understanding and applying the knowledge taught during laboratory and the active participation to laboratory activities.	The results of homework and projects started in class and finished at home must be presented according to the specific agreed schedule.	25%
	The quality and accuracy of solving the laboratory projects/ problems/ exercises, including homework.		25%
10.6 Minimum performance standards			
<ul style="list-style-type: none">• The capacity to understand key project, process and quality management elements, and the ability to use it in developing specific case studies.• Capability to present and critically analyse own approach related to solving tasks related to project, process, and quality management.• The use of computer and English language for continuous learning.• 5 is the minimum grade accepted to pass the evaluation.• The consequence of the attempted fraud and / or plagiarism are followed by the exclusion of the student from the exam.			

Date
09.04.2024

Signature of course coordinator
Timis Elisabeta Cristina



Signature of laboratory coordinator
Timis Elisabeta Cristina



Date of approval

12.04.2024

Signature of the Department Director


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