

SYLLABUS

1. Information about the program

1.1 University	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 Program level (bachelor or master)	Master
1.6 Study program / Qualification	Advanced Chemical Process Engineering

2. Information about the discipline

2.1 Subject title	Quality and Process Design Management – CME7341						
2.2 Course activities professor	Conf. dr. Emil Lucian Crişan						
2.3 Seminar activities professor	Conf. dr. Emil Lucian Crişan						
2.4 Year of study	II	2.5 Semester	3	2.6 Type of assessment	VP	2.7 Subject regime	SD/Opt

3. Total estimated time (teaching hours per semester)

3.1 Number of hours per week	4	out of which: 3.2 course	2	3.3 seminar/laboratory	2
3.4 Total number of hours in the curriculum	56	out of which: 3.5 course	28	3.6 seminar/laboratory	28
Time distribution					Hours
Study based on textbook, course support, references and notes					25
Additional documentation in the library, through specialized databases and field activities					10
Preparing seminars/laboratories, essays, portfolios and reports					20
Tutoring					9
Assessment (examinations)					5
Others activities					0
3.7 Total hours for individual study	69				
3.8 Total hours per semester	125				
3.9 Number of credits	5				

4. Preconditions (if necessary)

4.1 Curriculum	General management Strategic management
4.2 Skills	The usage of Microsoft Word at an average level The usage of internet at an average level

5. Conditions (if necessary)

5.1. For course development	<ul style="list-style-type: none"> The students shall participate to the classes with their mobile phones switched off; The delay of student to the classes shall not be tolerated.
5.2. For seminar / laboratory development	<ul style="list-style-type: none"> The students shall participate to the classes with their mobile phones switched off; The delay of student to the classes shall not be tolerated.

6. Acquired specific competences

Professional competences	<ol style="list-style-type: none"> 1. Recognizing the main elements related to firm management: <ul style="list-style-type: none"> • Defining management; • Identifying management's functions; • Performing the hierarchical analysis of firm's strategy. 2. Developing and implementing projects: <ul style="list-style-type: none"> • Identifying the main differences between classical and project management; • Identifying the main characteristics of a project; • Defining the project through stakeholders' analysis and building the project charter; • Planning the project while constructing the next elements: the scope and the objectives of the project, project work break down, project's activities details, activities' flow, project's Gantt chart, project's budget; • Planning the additional elements of a project: risks management, human resources management; • Acknowledging the main elements related to management, coordination, reporting, and assessment. 3. Recognizing the main elements related to process management: <ul style="list-style-type: none"> • Defining a process and process management; • Building a process map; • Building an SOP; • Acknowledging the Six Sigma and Process Reengineering concepts.
Transversal competences	<p>Identifying opportunities for continual learning and efficient usage of learning resources and techniques for individual development, in detail:</p> <ol style="list-style-type: none"> 1. Identifying alternatives for professional training of managers; 2. Using modern techniques while teaching managers; 3. Identifying professional alternatives for managers' personal development.

7. Subject objectives (arising from the acquired specific competences)

7.1 Subject's general objective	Introducing students in project management and process management.
7.2 Specific objectives	<ol style="list-style-type: none"> 1. Developing a detailed view concerning project management; 2. Developing students' capabilities for planning and implementing projects; 3. Bringing into light a view concerning the process approach; 4. Acknowledging the main elements related to process management: process maps and SOPs.

8. Contents

8.1 Course	Teaching methods	Observations
General management – defining management, content, functions	Lecturing, exercises	2 meetings
<p>Project management – the project concept, defining, planning and implementing projects:</p> <ul style="list-style-type: none"> • The specific elements of a project and its differences in comparison to classical management; • Project's cycle and project's management cycle; • Define phase: stakeholders' analysis, project charter; • Planning phase: the scope of the project – using the Ishikawa diagram, building the product structure, establishing the main objective, establishing detailed objectives, establishing project's boundaries; • Planning phase: planning project's activities and budget – building the work breakdown structure, developing activities details, building the diagram concerning activities' conditionality, building the Gantt diagram, building project's budget; • Planning phase: additional elements – risks management, human resources management, stakeholders' communication management; • Implementing phase: main elements concerning coordination, assessment, and ending the project. 	Lecturing, exercises	7 meetings

Process management – the process concept, process maps, SOP's, Six Sigma; <ul style="list-style-type: none"> • The link between process management and quality management; • The link between process management and Six Sigma; • Building a quality management system – the international standards for quality management, the ISO 9000 family; • The ISO documentation: quality manual, SOPs, process maps; • Instruments for improving quality: histograms, cause and effect analysis, correlation diagrams, process maps etc. 	Lecturing, exercises	5 meetings
References: <ol style="list-style-type: none"> 1. Beckford J. Quality: a critical introduction: Taylor & Francis; 2009. 2. Brassard, M., Finn, L. and Ginn, D., The Six SIGMA Memory Jogger II: A Pocketguide of Tools for Six SIGMA Improvement Teams, Goal QPC Inc, 2002. 3. Breyfogle FW, Cupello JM, Meadows B. Managing Six Sigma: a practical guide to understanding, assessing, and implementing the strategy that yields bottom line success: Wiley-Interscience; 2001. 4. Breyfogle FW. Implementing Six Sigma: smarter solutions using statistical methods: Productivity Press; 2003. 5. Dahlgaard JJ, Kristensen K, Kanji GK. Fundamentals of total quality management: process analysis and improvement: Routledge; 2005. 6. Evans JR, Lindsay WM. The management and control of quality: South-Western College Publishing, 1999. 7. Hoyle, D. and J. Thompson, ISO 9000: 2000: auditing using the process approach, Butterworth-Heinemann, 2002. 8. Ilieș, L., Crișan, E., Managementul calității totale, Editura Risoprint, Cluj-Napoca, 2011. 9. Kemp, S., Quality management demystified, McGraw-Hill, 2006. 10. McCarty, T., Daniels, L., Bremer, M. and Gupta, P., The Six Sigma black belt handbook, McGraw-Hill New York, 2005. 11. Association for Project Management (2006), The APM Body of Knowledge 5th Edition – Definitions; 12. British Standards Institute (2000), BS6079-1: Guide to Project Management; 13. Ferguson, C. (2011), PRINCE2 for small-scale projects, The Stationery Office, www.axelos.com/gempdf/PRINCE2_Small_Scale_Projects_White_Paper.pdf, accesat 06.06.2014; 14. Gareis, R. (2005), Happy Projects, Manz Verlag, Vienna; 15. Guvernul României (1998), Manualul de management al proiectelor; 16. Maylor, H. (2010), Project Management, 4th Edition, Harlow, Pearson Education; 17. Office of Government Commerce (2009), An introduction to PRINCE2: Managing and Directing Successful Projects, UK; 18. Project Management Institute (2004), Project Management Body of Knowledge; 19. Project Management Institute (2008), The Standard for Program Management, 2nd Edition, USA; 20. James, P. L., Ed. (2007). Fundamentals of Project Management 3rd edition, Amacom. 21. Lock, D., Ed. (2007). Project Management - 9th edition, Gower Publishing Company. 22. Turner, R., Ed. (2009). The handbook of project-based management, leading strategic change in organizations, McGraw Hill. 		
8.2 Seminar/laboratory	Teaching methods	Observations
Developing the elements related to project planning (according to the details provided at the course: stakeholders' analysis, project charter, project objectives, work breakdown structure, detailing activities, Gantt chart and activities conditionality, project's budget, the plan for risks management)	Exercises	7 meetings
Developing the elements related to process management (the documents associated with the ISO 9000 family standards: process maps, SOPs, correlation diagram, histograms etc.)	Exercises	7 meetings

References:

1. Beckford J. Quality: a critical introduction: Taylor & Francis; 2009.
2. Brassard, M., Finn, L. and Ginn, D., The Six SIGMA Memory Jogger II: A Pocketguide of Tools for Six SIGMA Improvement Teams, Goal QPC Inc, 2002.
3. Breyfogle FW, Cupello JM, Meadows B. Managing Six Sigma: a practical guide to understanding, assessing, and implementing the strategy that yields bottom line success: Wiley-Interscience; 2001.
4. Breyfogle FW. Implementing Six Sigma: smarter solutions using statistical methods: Productivity Press; 2003.
5. Dahlgaard JJ, Kristensen K, Kanji GK. Fundamentals of total quality management: process analysis and improvement: Routledge; 2005.
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7. Hoyle, D. and J. Thompson, ISO 9000: 2000: auditing using the process approach, Butterworth-Heinemann, 2002.
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9. Kemp, S., Quality management demystified, McGraw-Hill, 2006.
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14. Gareis, R. (2005), Happy Projects, Manz Verlag, Vienna;
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21. Lock, D., Ed. (2007). Project Management - 9th edition, Gower Publishing Company.
22. Turner, R., Ed. (2009). The handbook of project-based management, leading strategic change in organizations, McGraw Hill.

9. Corroboration / validation of the subject's content in relation to the expectations coming from representatives of the epistemic community, of the professional associations and of the representative employers in the program's field.

The content of the discipline is in accordance to the elements presented at national and international universities. For being closer to the needs of the real-world economy, the content has been adapted to the needs imposed by the pre-university education, but also to those provided by the business area.

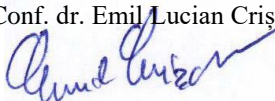
10. Assessment (examination)

Type of activity	10.1 Assessment criteria	10.2 Assessment methods	10.3 Weight in the final grade
10.4 Course	Theoretical knowledge regarding project management and process management	Written examination (online via Moodle or offline, according to university regulations). The grade for the theoretical examination should be higher than five (5).	30%
	Performing a more detailed analysis on specific topics related to the course subjects	Oral presentations within the next course	20%
10.5 Seminar/ laboratory	Developing the elements related to project planning	A project for each student, containing: Stakeholders' analysis, project charter, project objectives, work breakdown structure, detailing activities, Gantt chart and activities conditionality, project's budget, the plan for risks management	30%

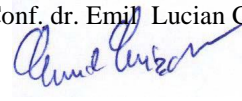
	Developing the elements related to process management	A project for each student, containing: a process map, an SOP, a correlation diagram, histograms etc.	20%
10.6 Minimum standard of performance			
In order to pass the final exam, it is necessary to obtain at least 5 (five); The grading is made between 1 (one) and 10 (ten);			

Date of filling
18.04.2023

Signature of the course professor
Conf. dr. Emil Lucian Crişan



Signature of the seminar professor
Conf. dr. Emil Lucian Crişan



Date of approval by the department

21.04.2023

Head of department's signature

Prof. dr. eng. Turdean Graziella

