



UNIVERSITATEA BABES-BOLYAI
BABES-BOLYAI TUDOMÁNYEGYETEM
BABES-BOLYAI UNIVERSITÄT
BABES-BOLYAI UNIVERSITY
TRADITIO ET EXCELLENTIA

Tradiție și Excelență prin
Cultură - Știință - Inovație din 1581



Facultatea de Chimie și Inginerie Chimică

Str. Arany János nr. 11
Cluj-Napoca, cod poștal 400028
Tel.: 0264-59.38.33
Fax: 0264-59.08.18

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www.chem.ubbcluj.ro

SYLLABUS

Speciality Practice

University year 2025 - 2026

1. Information regarding the programme

1.1. Higher education institution	"Babes-Bolyai" University
1.2. Faculty	Faculty of Chemistry and Chemical Engineering
1.3. Department	Department of Chemical Engineering
1.4. Field of study	Chemical Engineering
1.5. Study cycle	Master
1.6. Study programme/Qualification	Advanced Chemical Process Engineering
1.7. Form of education	Full time education

2. Information regarding the discipline

2.1. Name of the discipline		Speciality Practice					Discipline code		CME7348		
2.2. Course coordinator					Scientific advisor of the dissertation paper						
2.3. Seminar coordinator					Scientific advisor of the dissertation paper						
2.4. Year of study		II	2.5. Semester		4	2.6. Type of evaluation		VP	2.7. Discipline regime		DS/Ob

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

3.1. Hours per week	7	of which: 3.2 course	-	3.3 seminar/laboratory	7
3.4. Total hours in the curriculum	98	of which: 3.5 course	-	3.6 seminar/laborator	98
Time allotment for individual study (ID) and self-study activities (SA)					hours
Learning using manual, course support, bibliography, course notes (SA)					-
Additional documentation (in libraries, on electronic platforms, field documentation)					-
Preparation for seminars/labs, homework, papers, portfolios and essays					24
Tutorship					-
Evaluations					3
Other activities:					-
3.7. Total individual study hours	27				
3.8. Total hours per semester	125				
3.9. Number of ECTS credits	5				

4. Prerequisites (if necessary)

4.1. curriculum	Not applicable
4.2. competencies	Not applicable

5. Conditions (if necessary)

5.1. for the course	Not applicable
5.2. for the seminar /lab activities	<ul style="list-style-type: none"> The students will attend the program of the internship specialized activities



	<p>set up by the supervisor of the internship/ /laboratory/ scientific advisor of the dissertation.</p> <ul style="list-style-type: none"> • The students will realize the documentation using the existing sources in the specialized libraries, in both the international electronic databases, and those provided by the scientific advisor of the dissertation. • The students will know the goals, means, instrumentation, and stages of the laboratory works that they are going to do/attend. • The students will comply with the work safety and conduct norms in force with the laboratory/institution where they perform their internship. • The students will attend the laboratory with safety equipment (overall, gloves, goggles). • The students cannot perform their activities unattended in the internship site and cannot leave the premises unless the consent is given by the internship/laboratory supervisor /scientific advisor of the dissertation. • The papers will be delivered and defended to the scientific advisor of the dissertation
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6. Specific competencies acquired ¹

Professional/essential competencies	<ul style="list-style-type: none"> • Ability to recognize the types of technologies in the chemical process engineering and the practical applications thereof. • Ability to use the modelling, simulation, and conduct of the pilot/industrial software applications. • Ability to build the functional laboratory/pilot installations for various chemical processes. • Ability to select the most adequate synthesis way for a certain product. • Capacity to use the parameters of a pilot installation/technological process for the monitoring, automation, and optimization thereof. • Capacity of correct interpretation of the achieved data (output calculus, analysis of the spectral data). • Ability to manipulate toxic and flammable solvents, to work with flammable or very toxic substances. • Knowledge of the measures of prevention and first aid in case of laboratory accidents. • Ability to work in a team.
Transversal competencies	<ul style="list-style-type: none"> • Executing the required tasks in accordance with the exigencies stipulated in the imposed terms, in compliance of the professional ethics and moral conduct norms, following a pre-set work plan. • Resolving the required tasks in accordance with the general goals set out by integrating in a work group. • Permanent information and documentation in their field of activity, in Romanian. • Concern for the improvement of the professional activity results by getting involved in the developed activities. Resolving the required tasks in accordance with the objectives. • Permanent information and documentation in their field of activity

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

7.1 General objective of the discipline	<ul style="list-style-type: none"> • Acquiring the needed knowledge for the achievement of the various experimental activities in the master field, including the use and development of software applications for monitoring, stimulating, and conducting chemical processes.
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¹ One can choose either competences or learning outcomes, or both. If only one option is chosen, the row related to the other option will be deleted, and the kept one will be numbered 6.



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7.2 Specific objective of the discipline	<ul style="list-style-type: none"> Capitalizing the competences acquired by the student at the disciplines stipulated in the curriculum and studied during the master and bachelor program. Thoroughness of the knowledge needed for performing the experimental activities. Acquisition of the needed knowledge for collecting, interpreting, analyzing and systematizing the experimental data.
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8. Content

8.1 Course	Teaching methods	Remarks
-		
8.2 Laboratory - Specialized internship. The activity will be organized on 3 modules, in three different laboratories at the Faculty of Chemistry and Chemical Engineering, or in a research institute of the "Babeș-Bolyai" University.	Teaching methods	Remarks
I. Active attendance to experiments developed in the profile laboratories in the area of the master program	Laboratory 1	
8.2.1. Active attendance to the preparation of the experimental activities (devices, glassware, reagents, computing systems and programs)	Explanation; Conversation; Description; Conceptualization	6
8.2.2. Active attendance to the achievement of the experimental activities specific to the laboratory where they are performed.	Explanation; Conversation; Description; Conceptualization	22
8. 2.3. Active attendance to the analysis of the experimental data, processing the results and drawing up the conclusions.	Explanation; Conversation; Description; Conceptualization	4
II. Active attendance to experiments developed in the profile laboratories in the area of the master program	Laboratory 2	
8.2.4. Active attendance to the preparation of the experimental activities (devices, glassware, reagents, computing systems and programs)	Explanation; Conversation; Description; Conceptualization	6
8.2.5. Active attendance to the achievement of the experimental activities specific to the laboratory where they are performed.	Explanation; Conversation; Description; Conceptualization	23
8. 2.6. Active attendance to the analysis of the experimental data, processing the results and drawing up the conclusions.	Explanation; Conversation; Description; Conceptualization	4
III. Active attendance to experiments developed in the profile laboratories in the area of the master program	Laboratory 3	
8. 2.7. Active attendance to the analysis of the experimental data, processing the results and drawing up the conclusions.	Explanation; Conversation; Description; Conceptualization	6



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8.2.8. Active attendance to the preparation of the experimental activities (devices, glassware, reagents, computing systems and programs)	Explanation; Conversation; Description; Conceptualization	23
8.2.9. Active attendance to the achievement of the experimental activities specific to the laboratory where they are performed.	Explanation; Conversation; Description; Conceptualization	4
Bibliography Indicated by the scientific advisor of the dissertation (in accordance with the master program attended by the student).		

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 content of the discipline is in agreement with the partial competences required for the possible occupations and the competences and qualifications have been established in accordance with the competences in the Diploma Supplement and the qualifications of the NCA

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade
10.4 Course	-	-	-
10.5 Seminar/laboratory	Preparing a paper/book of the internship activity.	Oral exam	20 %
	Activity during the internship – the mark will be granted by the supervisor of the laboratory where the internship is performed		30 %
	Defending the exam		50 %
10.6 Minimum standard of performance			
<ul style="list-style-type: none">• The attendance to the 98 hours, the presentation of the internship activity, and the defense of the exam.• The mark 5 (five) for the exam			



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11. Labels ODD (Sustainable Development Goals)²



Date:
...17.04.2025

Signature of course coordinator

Signature of seminar coordinator

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Date of approval:
...24.04.2025

Signature of the head of department

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² Keep only the labels that, according to the [Procedure for applying ODD labels in the academic process](#), suit the discipline and delete the others, including the general one for *Sustainable Development* – if not applicable. If no label describes the discipline, delete them all and write „Not applicable.”.