



## 1. General information

Course: PROFESSIONAL TRAINING

Type: PRACTICUM-RELATED COURSE

Degree: 2336 - MASTER DEGREE PROGRAM IN CHEMICAL ENGINEERING

Center: 1 - FACULTY OF SCIENCE AND CHEMICAL TECHNOLOGY

Year: 2

Main language: Spanish

Use of additional languages: English

Web site:

Code: 310747

ECTS credits: 6

Academic year: 2023-24

Group(s): 20

Duration: First semester

Second language: English

English Friendly: Y

Bilingual: N

Lecturer: ANA MARIA BORREGUERO SIMON - Group(s): 20				
Building/Office	Department	Phone number	Email	Office hours
Enrique Costa Novella/Despacho 12	INGENIERÍA QUÍMICA	6353	anamaria.borreguero@uclm.es	
Lecturer: PABLO CAÑIZARES CAÑIZARES - Group(s): 20				
Building/Office	Department	Phone number	Email	Office hours
Edificio Enrique Costa / Despacho 9	INGENIERÍA QUÍMICA	3412	pablo.canizares@uclm.es	
Lecturer: FERNANDO DORADO FERNANDEZ - Group(s): 20				
Building/Office	Department	Phone number	Email	Office hours
Enrique Costa. Despacho 2	INGENIERÍA QUÍMICA	3516	fernando.dorado@uclm.es	
Lecturer: CARMEN MARIA FERNANDEZ MARCHANTE - Group(s): 20				
Building/Office	Department	Phone number	Email	Office hours
Enrique Costa Novella/Despacho 14	INGENIERÍA QUÍMICA	6351	carmenm.fmarchante@uclm.es	Monday, Wednesday and Tuesday (12:30-13:30)
Lecturer: FRANCISCO JESUS FERNANDEZ MORALES - Group(s): 20				
Building/Office	Department	Phone number	Email	Office hours
ITQUIMA / 1	INGENIERÍA QUÍMICA	926 05 21 79	fcojesus.fmorales@uclm.es	
Lecturer: JESUS MANUEL GARCIA VARGAS - Group(s): 20				
Building/Office	Department	Phone number	Email	Office hours
Enrique Costa Novella	INGENIERÍA QUÍMICA	3502	JesusManuel.Garcia@uclm.es	
Lecturer: MARIA TERESA GARCIA GONZALEZ - Group(s): 20				
Building/Office	Department	Phone number	Email	Office hours
Edificio Enrique Costa / Despacho 14	INGENIERÍA QUÍMICA	926052851	teresa.garcia@uclm.es	Monday, Tuesday and Friday (11:30 to 12:30)
Lecturer: IGNACIO GRACIA FERNANDEZ - Group(s): 20				
Building/Office	Department	Phone number	Email	Office hours
Enrique Costa Novella	INGENIERÍA QUÍMICA	3419	ignacio.gracia@uclm.es	
Lecturer: JAVIER LLANOS LOPEZ - Group(s): 20				
Building/Office	Department	Phone number	Email	Office hours
Enrique Costa/Despacho 7	INGENIERÍA QUÍMICA	3508	javier.llanos@uclm.es	
Lecturer: JUSTO LOBATO BAJO - Group(s): 20				
Building/Office	Department	Phone number	Email	Office hours
Enrique Costa/Desp. 6	INGENIERÍA QUÍMICA	6707	justo.lobato@uclm.es	Monday and Wednesday from 11:00 h to 12:30 h
Lecturer: ANA RAQUEL DE LA OSA PUEBLA - Group(s): 20				
Building/Office	Department	Phone number	Email	Office hours
Enrique Costa. Despacho 16	INGENIERÍA QUÍMICA	+34926051963	anaraquel.osa@uclm.es	
Lecturer: MANUEL ANDRES RODRIGO RODRIGO - Group(s): 20				
Building/Office	Department	Phone number	Email	Office hours
Enrique Costa. Despacho 01	INGENIERÍA QUÍMICA	3411	manuel.rodrigo@uclm.es	
Lecturer: JUAN FRANCISCO RODRIGUEZ ROMERO - Group(s): 20				
Building/Office	Department	Phone number	Email	Office hours
ITQUIMA/Enrique Costa	INGENIERÍA QUÍMICA	6345	juan.rromero@uclm.es	

Lecturer: <b>CRISTINA SAEZ JIMENEZ</b> - Group(s): <b>20</b>				
Building/Office	Department	Phone number	Email	Office hours
Enrique Costa Novella/ Despacho 4	INGENIERÍA QUÍMICA	6708	cristina.saez@uclm.es	
Lecturer: <b>PAULA SANCHEZ PAREDES</b> - Group(s): <b>20</b>				
Building/Office	Department	Phone number	Email	Office hours
Enrique Costa Novella. Ingeniería Química.Despacho 8.	INGENIERÍA QUÍMICA	3418	paula.sanchez@uclm.es	
Lecturer: <b>MARIA LUZ SANCHEZ SILVA</b> - Group(s): <b>20</b>				
Building/Office	Department	Phone number	Email	Office hours
Enrique Costa. Despacho 12	INGENIERÍA QUÍMICA	6307	marialuz.sanchez@uclm.es	
Lecturer: <b>JUAN RAMON TRAPERO ARENAS</b> - Group(s): <b>20</b>				
Building/Office	Department	Phone number	Email	Office hours
Margarita Salas/ 304	ADMINISTRACIÓN DE EMPRESAS	926052446	juanramon.trapero@uclm.es	
Lecturer: <b>JOSE LUIS VALVERDE PALOMINO</b> - Group(s): <b>20</b>				
Building/Office	Department	Phone number	Email	Office hours
Enrique Costa. Despacho 11	INGENIERÍA QUÍMICA	926295300	joseluis.valverde@uclm.es	
Lecturer: <b>JOSE VILLASEÑOR CAMACHO</b> - Group(s): <b>20</b>				
Building/Office	Department	Phone number	Email	Office hours
ITQUIMA	INGENIERÍA QUÍMICA	6358	jose.villasenor@uclm.es	

## 2. Pre-Requisites

Not established

## 3. Justification in the curriculum, relation to other subjects and to the profession

Not established

## 4. Degree competences achieved in this course

Course competences	
Code	Description
CB07	To be able to apply acquired knowledge and problem-solving skills in new or unknown environments within broader (or multidisciplinary) contexts related to their area of study
CB08	To be able to integrate knowledge and deal with the complexity of making judgements on the basis of incomplete or limited information, including reflections on the social and ethical responsibilities linked to the application of their knowledge and judgements
CB09	To be able to communicate their findings, and the ultimate knowledge and reasons behind them, to specialist and non-specialist audiences in a clear and unambiguous manner
CB10	To possess the learning skills to continue studying in a largely self-directed or autonomous manner.
E01	To apply knowledge of mathematics, physics, chemistry, biology and other natural sciences, obtained through study, experience, and practice, with critical reasoning to establish economically viable solutions to technical problems.
E02	To design products, processes, systems and services of the chemical industry, as well as the optimization of others already developed, taking as technological base the diverse areas of the chemical engineering, comprehensive of processes and transport phenomena, separation processes and engineering of the chemical, nuclear, electrochemical and biochemical reactions.
E03	To conceptualize engineering models, apply innovative methods in problem solving and appropriate software applications, for the design, simulation, optimization and control of processes and systems.
E04	To have the ability to solve problems that are unknown, incompletely defined, and have competing specifications, considering the possible solution methods, including the most innovative ones, selecting the most appropriate one, and being able to correct the implementation, evaluating the different design solutions.
E05	To direct and supervise all types of installations, processes, systems and services of the different industrial areas related to chemical engineering.
E06	Design, build and implement methods, processes and facilities for the integrated management of supplies and waste, solid, liquid and gaseous, in industries, with the capacity to evaluate their impacts and risks.
G01	To have adequate knowledge to apply the scientific method and the principles of engineering and economics, to formulate and solve complex problems in processes, equipment, facilities and services, in which matter undergoes changes in its composition, state or energy content, characteristic of the chemical industry and other related sectors including the pharmaceutical, biotechnological, materials, energy, food or environmental sectors.
G02	To conceive, project, calculate and design processes, equipment, industrial facilities and services, in the field of chemical engineering and related industrial sectors, in terms of quality, safety, economy, rational and efficient use of natural resources and environmental conservation.
G03	To direct and manage technically and economically projects, installations, plants, companies and technology centres in the field of chemical engineering and related industrial sectors.
G06	To have the capacity of analysis and synthesis for the continuous progress of products, processes, systems and services using criteria of safety, economic viability, quality and environmental management.
G07	To integrate knowledge and deal with the complexity of making judgments and decisions, based on incomplete or limited information, including reflections on the social and ethical responsibilities of professional practice
G08	To lead and define multidisciplinary teams capable of solving technical changes and management needs in national and international

G09	contexts To communicate and discuss proposals and conclusions in multilingual forums, specialized and non-specialized, in a clear and unambiguous way
G10	To adapt to changes, being able to apply new and advanced technologies and other relevant developments, with initiative and entrepreneurial spirit
G11	To possess the skills of autonomous learning in order to maintain and improve the competences of chemical engineering that allow the continuous development of the profession
MC1	To have acquired advanced knowledge and demonstrated an understanding of the theoretical and practical aspects and of the working methodology in the field of Chemical Engineering with a depth that reaches the forefront of knowledge
MC2	To be able, through arguments or procedures developed and supported by themselves, to apply their knowledge, understanding and problem-solving skills in complex or professional and specialized work environments that require the use of creative or innovative ideas
MC3	To have the ability to collect and interpret data and information on which to base their conclusions including, where necessary and relevant, reflection on social, scientific or ethical issues in the field of chemical engineering
MC4	To be able to deal with complex situations or those that require the development of new solutions in the academic, work or professional field of study of Chemical Engineering
MC5	To know how to communicate to all types of audiences (specialized or not) in a clear and precise way, knowledge, methodologies, ideas, problems and solutions in the field of the study of Chemical Engineering
MC6	To be able to identify their own training needs in the field of study of Chemical Engineering and work or professional environment and to organize their own learning with a high degree of autonomy in all kinds of contexts (structured or unstructured).

## 5. Objectives or Learning Outcomes

### Course learning outcomes

#### Description

To know the real applications of chemical engineering in process engineering, energy and environment.

To acquire training in the way the professional works in organisations (companies, institutions, laboratories, etc.) where the profession can potentially be exercised.

To have the ability to work as a team, responsibility in performance and responsible management and leadership strategies

To have the skills for practical work, being able to develop it in coordination with other professionals

To acquire the capacity for the ethical exercise of the profession, and to become socially aware of its reports and the impact of its decisions

To know some of the main professional activities in the chemical industry sector.

## 6. Units / Contents

No units added

## 7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Class Attendance (practical) [ON-SITE]	Other Methodologies	CB07 CB08 CB09 CB10 E01 E02 E03 E04 E05 E06 G01 G02 G03 G06 G07 G08 G09 G10 G11 MC1 MC2 MC3 MC4 MC5 MC6	4.8	120	Y	Y	
Individual tutoring sessions [ON-SITE]	Guided or supervised work	CB07 CB08 CB09 CB10 E01 E02 E03 E04 E05 E06 G01 G02 G03 G06 G07 G08 G09 G10 G11 MC1 MC2 MC3 MC4 MC5 MC6	1.12	28	Y	Y	
Final test [ON-SITE]	Assessment tests	CB07 CB08 CB09 CB10 E01 E02 E03 E04 E05 E06 G01 G02 G03 G06 G07 G08 G09 G10 G11 MC1 MC2 MC3 MC4 MC5 MC6	0.08	2	Y	Y	
<b>Total:</b>			<b>6</b>	<b>150</b>			
<b>Total credits of in-class work: 6</b>			<b>Total class time hours: 150</b>				
<b>Total credits of out of class work: 0</b>			<b>Total hours of out of class work: 0</b>				

As: Assessable training activity

Com: Training activity of compulsory overcoming (It will be essential to overcome both continuous and non-continuous assessment).

## 8. Evaluation criteria and Grading System

Evaluation System	Continuous assessment	Non-continuous evaluation*	Description
Practicum and practical activities reports assessment	50.00%	50.00%	
Final test	50.00%	50.00%	
<b>Total:</b>	<b>100.00%</b>	<b>100.00%</b>	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject, an ordinary and an extraordinary one (evaluating 100% of the competences).

## 9. Assignments, course calendar and important dates

