

**COURSE DATA****Data Subject**

Code	44430
Name	External internships
Cycle	Master's degree
ECTS Credits	6.0
Academic year	2020 - 2021

Study (s)

Degree	Center	Acad. Period year
2209 - M.D. in Chemical Engineering	School of Engineering	1 Annual

Subject-matter

Degree	Subject-matter	Character
2209 - M.D. in Chemical Engineering	3 - External internships	External Practice

Coordination

Name	Department
MARTINEZ SORIA, VICENTE	245 - Chemical Engineering

SUMMARY

The University of Valencia considered the external practices as an important and necessary methodology in learning and preparing students, while linking with society. The external practice aims to strengthen the training of university students in the operational areas of Institutions or Companies for professionals with a real insight into the problems and their interrelation, preparing future incorporation into productive work or research. The University may establish agreements with institutions or companies, practical cooperation programs in which arrange their participation in specialized training and practical training required for students

Monitoring and development of the practices will be held according to the normative of the University of Valencia, taking his foundation ADEIT as an manager tool that organizes, coordinates and arranges.

Related to the professional activity of chemical engineering companies, government agencies or research activities will take place.



Given the large variety of possible activities, the contents vary according to the organization and the work done on it. This matter will deepen at least some of the powers of the management module and production optimization and sustainability (CE7-CE11).

The commitment under this subject is: work in the organism where the practice is carried out 110 hours; meetings with university tutor 10 hours; conducting a sufficiently detailed report 30 hours.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

OUTCOMES

2209 - M.D. in Chemical Engineering

- Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.
- Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.
- Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.
- Students should demonstrate self-directed learning skills for continued academic growth.
- Students should possess and understand foundational knowledge that enables original thinking and research in the field.
- Lead and define multidisciplinary teams which can make technical changes and address managerial needs in both national and international contexts.
- Be able 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 changes its composition, state or energy content, these changes being characteristic of the chemical industry and of other related sectors such as pharmacology, biotechnology, materials science, energy, food or the environment.
- Conceive, plan, calculate and design processes, equipment, industrial facilities and services in the field of chemical engineering and other related industrial sectors in terms of quality, safety, economics, rational and efficient use of natural resources and environmental conservation.



- Lead and manage, both technically and economically, projects, facilities, plants, companies and technological centres in the field of chemical engineering and related industrial sectors.
- Conduct proper research, undertake the design and lead the development of engineering solutions in new or unfamiliar environments by linking creativity, originality, innovation and technology transfer.
- Know how to establish and develop mathematical models by using appropriate software in order to provide the scientific and technological basis for the design of new products, processes, systems and services and for the optimisation of others already developed.
- Be able to analyse and synthesise for the continued progress of products, processes, systems and services while applying criteria of safety, affordability, quality and environmental management.
- Integrate knowledge and handle the complexity of formulating judgments and decisions, based on incomplete or limited information, which take account of the social and ethical responsibilities of professional practice.
- Communicate and discuss proposals and conclusions in specialised and non-specialised multilingual forums, in a clear and unambiguous manner.
- Adapt to changes and be able to apply new and advanced technologies and other relevant developments with initiative and entrepreneurship.
- Have skills for independent learning in order to maintain and enhance the specific competences of chemical engineering which enable continuous professional development.
- Be able to access information tools in different areas of knowledge and use them properly.
- Be able to assess the need to complete their technical, scientific, language, computer, literary, ethical, social and human education, and to organise their own learning with a high degree of autonomy.
- Be able to defend criteria with rigor and arguments and to present them properly and accurately.
- Be able to take responsibility for their own professional development and specialisation in one or more fields of study.
- Lead and organise companies and production and service systems by applying knowledge and skills of industrial organisation, business strategy, planning and logistics, mercantile and labour regulations, and financial and cost accounting.
- Lead and manage the organisation of work and human resources by applying criteria of industrial safety, quality management, risk prevention, sustainability and environmental management.
- Manage research, development and technological innovation taking into account the transfer of technology and the property and patent rights.
- Manage and perform verification and control of facilities, processes and products, as well as certifications, audits, inspections, tests and reports.
- Adapt to structural changes in society caused by economic, energy or natural factors or phenomena in order to solve resulting problems and provide technological solutions with a high commitment to sustainability.



LEARNING OUTCOMES

Applying the knowledge and skills acquired in a professional environment.

Being able to integrate into a working environment and teamwork.

DESCRIPTION OF CONTENTS

1. Externships

The contents of the course will be different depending on the specific practice that is to be carried out.

The following activities are generic and it can be performed during external practices:

Design, simulation, planning, scheduling and optimization of industrial processes

Production and control of chemical processes

Exploitation and industrialization of natural resources

Technologies prevention and correction of pollution

Environmental Laboratory

WWTP: Wastewater Treatment Plants

Aspects of legal, economic and financial Engineering

Quality control, hygiene and safety

Transformation, arbitration, expertise, pricing, application and manufacturing of chemical products.

WORKLOAD

ACTIVITY	Hours	% To be attended
Internship		100
Study and independent work	30,00	0
Internship	120,00	0
TOTAL	150,00	

TEACHING METHODOLOGY

Work carried out in companies or research centers and developed on facilities, processes, systems and / or industrial services related to the professional activity of chemical engineer. These tasks are carried out under the supervision of a tutor in the company, and subsequently be an academic tutor (tutorials).

The student will perform a stay on the premises of the company or center, and he/she will integrate into the designated work place.

One memory work developed, where the results will be presented will be developed. This activity does not have to be carried out in the workplace.



EVALUATION

The evaluation will be based on:

1) Report on the student tutor of the company or institution where internships are developed. This report will be based on the most relevant aspects related to the degree of compliance with practice, training aspects and skills acquired by the student. (40%).

2) Evaluation of practical activities from the preparation of papers / reports and interview / oral presentation (60%):

- The final report of the activities in the company, which objectively determine the difficulty of the tasks and the relation to matters of degree. Contain at least the following:

- Relationship of practical training with studies
- Providing the student at the center of practice
- New knowledge and skills acquired
- Relationship with center personnel practices and working methods

- Interview with student tutor practices in academy.

The recognition of this subject by crediting a work or professional experience of at least 6 months (or 960 hours) in the development of activities related to the profession of Chemical Engineer can be requested. In this case, recognized credits have not qualification and they will not compute for average qualification of the student of this Master.

ADDENDUM COVID-19

This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council

English version is not available

En el establecimiento de la Adenda de esta asignatura se han tenido en cuenta las instrucciones de la UV para las practicas externas del curso 20/21.

http://www.adeituv.es/download/2020.12.09_Flexibilidad%20pra%CC%81cticas%20externas-Crue-Asuntos%20Estudiantiles_Docencia-1.pdf



Contenidos

Se mantienen los contenidos inicialmente recogidos en la guía docente.

Volumen de trabajo y planificación temporal de la docencia

Respecto al volumen de trabajo:

Se mantienen las distintas actividades descritas en la Guía Docente con la dedicación prevista.

Respecto a la planificación temporal de la docencia

Se mantiene la planificación incluida la estancia presencial en las instalaciones en la empresa, que incluye todo el curso académico. Si se produce un cierre de las instalaciones de la empresa/organización por razones sanitarias y no es posible retomar la práctica asignada, ni optar por otra presencial, se podrá autorizar prácticas en modalidad a distancia o semipresencial.

Metodología docente

El desarrollo de la asignatura se articula como se ha establecido para el segundo cuatrimestre.

Tal como se establecen en las instrucciones de la UV, cuando las prácticas no se puedan cursar en su totalidad durante el curso académico, la dirección del máster deberá arbitrar soluciones alternativas que garanticen su desarrollo, supervisión y evaluación numérica, en función del grado de realización alcanzado y competencias a desarrollar. Como ejemplo de actividades competenciales equivalentes cabe mencionar: i) trabajos dirigidos por los/as tutores/as; ii) programas formativos desde el aula virtual, con la participación de profesionales de empresas/instituciones, estructurados mediante cursos, talleres u otras herramientas. Cada estudiante deberá incluir en la Memoria que debe presentar las tareas, actividades, o trabajos complementarios realizados.

Evaluación

Se mantiene el sistema de evaluación descrito en la Guía Docente de la asignatura en la que se han especificado las distintas actividades evaluables, así como su contribución a la calificación final de la asignatura.

Si por razón de la situación sanitaria la práctica no se ha podido realizar en su totalidad mediante la modalidad presencial se establecerá un sistema de evaluación por parte del tutor (o tutores) adaptado a la solución alternativa para cada caso, que tenga en cuenta las actividades desarrolladas y teniendo en cuenta la memoria desarrollada por el estudiante, y si se dispone de él, el informe del tutor.