

Escuela Técnica Superior de Ingenieros Industriales y de Telecomunicación

## GUÍA DOCENTE DE LA ASIGNATURA

G1636 - European Project Semester EPS

Grado en Ingeniería Química  
Optativa. Curso 4

Curso Académico 2024-2025

### 1. DATOS IDENTIFICATIVOS

Título/s	Grado en Ingeniería Química		Tipología y Curso	Optativa. Curso 4	
Centro	Escuela Técnica Superior de Ingenieros Industriales y de Telecomunicación				
Módulo / materia	MATERIA OPCIÓN D: EUROPEAN PROJECT SEMESTER MÓDULO OPTATIVO				
Código y denominación	G1636 - European Project Semester EPS				
Créditos ECTS	30	Cuatrimestre	Cuatrimestral (2)		
Web					
Idioma de impartición	Inglés	English friendly	No	Forma de impartición	Presencial

Departamento	DPTO. INGENIERIAS QUIMICA Y BIOMOLECULAR				
Profesor responsable	INMACULADA ORTIZ URIBE				
E-mail	inmaculada.ortiz@unican.es				
Número despacho	E.T.S. de Ingenieros Industriales y de Telecomunicación. Planta: - 2. DESPACHO INMACULADA ORTIZ URIBE (S2065A)				
Otros profesores	RAQUEL IBAÑEZ MENDIZABAL CLARA CASADO COTERILLO EUGENIO BRINGAS ELIZALDE ANTONIO DOMINGUEZ RAMOS JONATHAN ALBO SANCHEZ				

### 2. CONOCIMIENTOS PREVIOS

For the students who have followed the first semester at UC the following topics are advised, G131, Optimización y control avanzado de Procesos Químicos  
G1632, Ingeniería del Reactor Químico Avanzado G788 , Biotecnología de Procesos  
G130, Integración de Procesos Químicos CG788 Ingeniería de la polimerización

**3. COMPETENCIAS GENÉRICAS Y ESPECÍFICAS DEL PLAN DE ESTUDIOS TRABAJADAS**

**Competencias Genéricas**

Capacidad de resolver problemas con iniciativa, toma de decisiones, creatividad, razonamiento crítico y de comunicar y transmitir conocimientos, habilidades y destrezas en el campo de la Ingeniería Química.

Capacidad de trabajar en un entorno multilingüe y multidisciplinar

**Competencias Específicas**

Conocimientos básicos y aplicación de tecnologías medioambientales y sostenibilidad. Conocimientos y capacidades para organizar y gestionar proyectos. Conocer la estructura organizativa y las funciones de una oficina de proyectos.

Conocimientos sobre balances de materia y energía, biotecnología, transferencia de materia, operaciones de separación, ingeniería de la reacción química, diseño de reactores, y valorización y transformación de materias primas y recursos energéticos.

**Competencias Básicas**

Que los estudiantes sepan aplicar sus conocimientos a su trabajo o vocación de una forma profesional y posean las competencias que suelen demostrarse por medio de la elaboración y defensa de argumentos y la resolución de problemas dentro de su área de estudio

Que los estudiantes puedan transmitir información, ideas, problemas y soluciones a un público tanto especializado como no especializado

**Competencias Transversales**

Conocimiento de una lengua extranjera

Habilidades en las relaciones interpersonales

### 3.1 RESULTADOS DE APRENDIZAJE

-- Those corresponding to the following matters,  
 G787 Advanced Separation processes  
 G795 Wastewater Treatment  
 G799 Life Cycle Assessment

- Development of a group project where chemical engineering fundamentals (mass balances, energy balances, process kinetics...) are integrated for the optimum design of one of the following topics
  - \* CO2 capture and recovery. Impact on climate change
  - \*New water sources: Wastewater regeneration and reuse
  - \*Desalination processes: source of water and chemicals "
  - "Application of biotechnology to environmental and industrial processes" "Polymers and new materials"
  - "Renewable energy sources: Photovoltaic, Fuel cels... "Industrial effluents as a source of value added products"
  - "Chemical and biomolecular engineering: purification of biomolecules, tissue engineering" etc
- Development of an individual project where chemical engineering fundamentals (mass balances, energy balances, process kinetics...) are integrated for the optimum design of one of the following topics
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#### 4. OBJETIVOS

Integrate the fundamentals of chemical engineering disciplines for the optimum design of environmental, energy, chemical and biomedical processes. Along the course students will take part in team projects working on selected topics and they will develop an individual project as well.

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5. MODALIDADES ORGANIZATIVAS Y MÉTODOS DOCENTES	
ACTIVIDADES	HORAS DE LA ASIGNATURA
<b>ACTIVIDADES PRESENCIALES</b>	
HORAS DE CLASE (A)	
- Teoría (TE)	
- Prácticas en Aula (PA)	
- Prácticas de Laboratorio Experimental(PLE)	
- Prácticas de Laboratorio en Ordenador (PLO)	
- Prácticas Clínicas (CL)	
Subtotal horas de clase	
<b>ACTIVIDADES DE SEGUIMIENTO (B)</b>	
- Tutorías (TU)	
- Evaluación (EV)	
Subtotal actividades de seguimiento	
<b>Total actividades presenciales (A+B)</b>	
<b>ACTIVIDADES NO PRESENCIALES</b>	
Trabajo en grupo (TG)	
Trabajo autónomo (TA)	
Tutorías No Presenciales (TU-NP)	
Evaluación No Presencial (EV-NP)	
<b>Total actividades no presenciales</b>	
<b>HORAS TOTALES</b>	

6. ORGANIZACIÓN DOCENTE													
CONTENIDOS		TE	PA	PLE	PLO	CL	TU	EV	TG	TA	TU-NP	EV-NP	Semana
1	G787 ADVANCED SEPARATION PROCESSES G795 WASTEWATER TREATMENT G799 LIFE CYCLE ASSESSMENT	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	16-30
1	G787 ADVANCED SEPARATION PROCESSES G795 WASTEWATER TREATMENT G799 LIFE CYCLE ASSESSMENT	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	16-30
2	G787 ADVANCED SEPARATION PROCESSES G795 WASTEWATER TREATMENT G799 LIFE CYCLE ASSESSMENT	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	16-30
TOTAL DE HORAS		0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	
Esta organización tiene carácter orientativo.													

TE	Horas de teoría
PA	Horas de prácticas en aula
PLE	Horas de prácticas de laboratorio experimental
PLO	Horas de prácticas de laboratorio en ordenador
CL	Horas de prácticas clínicas
TU	Horas de tutoría
EV	Horas de evaluación
TG	Horas de trabajo en grupo
TA	Horas de trabajo autónomo
TU-NP	Tutorías No Presenciales
EV-NP	Evaluación No Presencial

**7. MÉTODOS DE LA EVALUACIÓN**

Descripción	Tipología	Eval. Final	Recuper.	%
G787	Otros	No	Sí	20,00
Calif. mínima	0,00			
Duración				
Fecha realización	week 30			
Condiciones recuperación	Minimum grade 2.0			
Observaciones	The assessment and evaluation will follow the guide of the discipline G787			
G795	Otros	No	Sí	20,00
Calif. mínima	0,00			
Duración				
Fecha realización	week 30			
Condiciones recuperación	Minimum grade 2.0			
Observaciones	The assessment and evaluation will follow the guide of the discipline G795			
G799	Otros	No	Sí	20,00
Calif. mínima	0,00			
Duración				
Fecha realización	week 30			
Condiciones recuperación	Minimum grade 2.0			
Observaciones	The assessment and evaluation will follow the guide of the discipline G799			
G811	Otros	No	No	40,00
Calif. mínima	0,00			
Duración				
Fecha realización	week 30			
Condiciones recuperación				
Observaciones	The assessment and evaluation will follow the guide of the discipline G811			
<b>TOTAL</b>				<b>100,00</b>
<b>Observaciones</b>				
The final grade will be obtained as the weighted average of the grades of individual disciplines.				
In case of a health emergency, in which it is advised not to make the face-to-face defense of the Final Degree Project, online evaluation will be allowed.				
<b>Criterios de evaluación para estudiantes a tiempo parcial</b>				
Part-time students will have an exam of the contents of the different courses that constitute the EPS program.				

**8. BIBLIOGRAFÍA Y MATERIALES DIDÁCTICOS**
**BÁSICA**

For the reference list please go to the individual guides of the disciplines G787, G795, G799 and G811

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Complementaria
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9. SOFTWARE				
PROGRAMA / APLICACIÓN	CENTRO	PLANTA	SALA	HORARIO
For the reference list please go to the individual guides of the disciplines G787, G795, G799 and G811				
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10. COMPETENCIAS LINGÜÍSTICAS	
<input type="checkbox"/> Comprensión escrita	<input type="checkbox"/> Comprensión oral
<input type="checkbox"/> Expresión escrita	<input type="checkbox"/> Expresión oral
<input checked="" type="checkbox"/> Asignatura íntegramente desarrollada en inglés	
<b>Observaciones</b>	