

## **Heat Transmission and Thermotechnics**

Code: 106047 ECTS Credits: 9

2024/2025

Degree	Туре	Year
2500897 Chemical Engineering	ОВ	2

#### Contact

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**Teachers** 

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## **Teaching groups languages**

You can view this information at the <u>end</u> of this document.

## **Prerequisites**

Refer to the Guide in catalan for details

## **Objectives and Contextualisation**

Refer to the Guide in catalan for details

### Competences

- Communication
- Demonstrate knowledge of the different reaction, separation and processing operations for materials, and transport and circulation of fluids involved in the industrial processes of chemical engineering.
- Develop personal work habits.
- Display knowledge of the principles of machines and mechanisms.
- Objectively compare and select different technical options for chemical processes.
- Show an understanding of the role of chemical engineering in the prevention and resolution of environmental and energy problems, in accordance with the principles of sustainable development.
- Understand and apply the basic principles on which chemical engineering is founded, and more
  precisely: balances of matter, energy and thermodynamic momentum, phase equilibrium and kinetic
  chemical equilibrium of the physical processes of matter, energy and momentum transfer, and kinetics
  of chemical reactions

## **Learning Outcomes**

- 1. Apply matter and energy balance to energy systems.
- 2. Apply the principles of machines and mechanisms in power plants.
- 3. Communicate efficiently, orally and in writing, knowledge, results and skills, both professionally and to non-expert audiences.
- 4. Enumerate, describe and compare the different options for applications used in energy systems.
- 5. Evaluate the energy consumption of systems.
- 6. Identify and evaluate energy systems and their energetic efficiency.
- 7. Identify the fluid circulation operations involved in the design of heat transmission systems.
- 8. Objectively compare and select the different technical options for heat transmission systems.
- 9. Work autonomously.

#### Content

Refer to the Guide in catalan for details

## **Activities and Methodology**

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Practical lectures	23	0.92	1, 2, 3, 4, 5, 6, 7, 8, 9
Seminars	7	0.28	1, 2, 3, 4, 5, 6, 7, 8, 9
Theoretical lectures	45	1.8	1, 2, 4, 5, 6, 7, 8
Type: Autonomous			
Homework	25	1	1, 2, 3, 4, 5, 6, 7, 8, 9
Solving practical exercises	65	2.6	1, 2, 3, 4, 5, 6, 7, 8, 9
Study	50	2	1, 2, 4, 5, 6, 7, 8, 9

Refer to the Guide in catalan for details

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

## **Assessment**

#### **Continous Assessment Activities**

Title	Weighting	Hours	ECTS	Learning Outcomes

Activity A	20	2	0.08	1, 2, 3, 4, 5, 6, 9
Activity B	17,5	2	0.08	1, 2, 3, 4, 5, 6, 9
Activity C	7,5	0	0	1, 2, 3, 4, 5, 6, 9
Activity D	5	1	0.04	1, 2, 3, 4, 5, 6, 9
Activity E	18,75	2	0.08	3, 7, 8, 9
Activity F	18,75	2	0.08	1, 3, 4, 8, 9
Activity G	5	1	0.04	3, 7, 8, 9
Activity H	7,5	0	0	3, 7, 8, 9

Refer to the Guide in catalan for details

# Bibliography

Refer to the Guide in catalan for details

# **Software**

Refer to the Guide in catalan for details

# Language list

	All the same of th	la.		
Name	Group	Language	Semester	Turn
(PAUL) Classroom practices	211	Catalan	second semester	morning-mixed
(PAUL) Classroom practices	212	Catalan	second semester	morning-mixed
(SEM) Seminars	211	Catalan	second semester	morning-mixed
(SEM) Seminars	212	Catalan	second semester	morning-mixed
(TE) Theory	21	Catalan	second semester	morning-mixed