ChE-430

Nanomaterials for chemical engineering application

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Cursus	Sem.	Type
Ing.-chim.	MA2, MA4	Opt.

Language of teaching	English
Credits	3
Session	Summer
Semester	Spring
Exam	Oral
Workload	90h
Weeks	14
Hours	**3 weekly**
Courses	2 weekly
TP	1 weekly
Number of positions	

Summary

This course aims at understanding classical and non-classical nucleation theory, at reviewing different techniques for the synthesis of nanomaterials (mainly nanoparticles and thin films) and at learning about some key applications of these nanomaterials in chemical engineering.

Learning Outcomes

By the end of the course, the student must be able to:

- Describe the differences between properties of bulk and properties of nanomaterials
- Discuss classical and non-classical nucleation theory
- Identify the most suitable synthesis technique to prepare the nanomaterial of choice
- Design a synthetic route based on the expected effect of the different parameters involved
- Elaborate the benefits of nanomaterials in energy applications and catalysis.

Assessment methods

Oral exam