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