

Course Syllabus for  
*Smart and Sustainable Industry PhD Program*  
 (years 2024-25/2025-26)

<b>Course title</b>	<b>Nanotechnologies for energy transition</b>
<b>Scientific Discipline Sector</b>	ING-IND/11
<b>Hours of instruction</b>	20
<b>CFU</b>	2
<b>Semester</b>	Second
<b>Goal</b>	This course gives a comprehensive overview of nanotechnology for design engineers working in the energy transition.
<b>Syllabus</b>	This course gives a comprehensive overview of nanotechnology for design engineers. It introduces students to how materials' fundamental physical, electrical, and optical properties change on the nanoscale compared to their bulk counterparts. The methods used to fabricate nanomaterials will be discussed with the physics and chemistry underpinning their extraordinary complexities, empowering students to tailor nanomaterial properties and deduce design principles guiding nanotechnology applications.
<b>Bibliography</b>	Nanotechnology and Nanomaterials for Energy Authors: Pierre Camille Lacaze, Jean-Christophe Lacroix ISBN:9781786304971
<b>Examination method</b>	Written