

**Course Syllabus for
Smart and Sustainable Industry PhD
(2023-24)**

Course title	<i>Physical Layer Security for wireless communication</i>
Scientific Discipline Sector	ING-INF/02
Hours of instruction	20
CFU	2
Semester	Second semester
Goal	<p>The course will address different security techniques based on the physical layer, which are suitable to improve data security in wireless networks and in IoT (Internet of Things) applications.</p> <p>The course participants will achieve knowledge of Physical Layer Security techniques.</p> <p>The course will consist in theoretical lectures and numerical hands-on examples.</p>
Syllabus	<ul style="list-style-type: none"> - Introduction to Physical Layer Security (PLS) and applications - Secrecy notions - Secure array synthesis, beam forming and beam steering - Electromagnetic propagation models in indoor and outdoor environments - PLS keyless approaches - PLS key-based approaches
Bibliography	Scientific papers, slides and support material from lecturer.
Examination method	Final examination in class