

## Course Syllabus for Industry 4.0 PhD (XXXVII Cycle)

<b>Course title</b>	Photonics for Industry 4.0
<b>Scientific Discipline Sector</b>	ING-INF/02
<b>CFU (Hours)</b>	2 (20)
<b>Objective</b>	<p>The course will address different photonic technologies that find application in advanced manufacturing and high performance communication.</p> <p>The course participants will achieve knowledge of on recent photonic technologies for Industry 4.0.</p> <p>The course will consist in theoretical lectures and numerical hands-on examples.</p>
<b>Programme</b>	<ul style="list-style-type: none"> <li>- Introduction to Photonic applications in Industry 4.0.</li> <li>- Light-based advanced manufacturing, Material welding and material treatments for Laser Additive and Subtractive advanced fabrication.</li> <li>- Light Detection and ranging principles, LIDAR technologies for autonomous vehicles</li> <li>- Optical wireless communication for low latency and high-performance data transmission. High-Speed Optical Wireless technologies, LiFi, hybrid wired/wireless, technologies.</li> </ul>