

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

Course title	<i>Electronic, Information and Industrial Bioengineering</i>
Scientific Discipline Sector	ING-INF/06
Hours of instruction	20 hours
CFU	2 CFU
Semester	Second semester
Goal	<p>The course shall address the intelligent diagnostic frameworks and systems based on image and signal processing with particular focus on precision medicine and bioengineering industry scenario and enabling technologies like Virtual and Augmented Reality.</p> <p>The course participants will be able to process and understand medical and industrial images and signals, to design innovative frameworks for robotic navigation, inspections and intervention in assisted surgery and in sustainable and safe industry 4.0.</p>
Syllabus	<p>Intelligent Industrial and Medical Image Processing Theory and Applications (10 h)</p> <p>Virtual and Augmented Reality for Training and Assessment</p> <p>Head Mounted Assisted Surgery and Industrial Frameworks (5 h)</p> <p>Robotic Surgery and Surgical Navigation Systems (5 h)</p>
Bibliography	Slides and support material from lecturer.
Examination method	Final examination in class