

Flexible automation			
Credits: 4 Semester 3 UNIGE Compulsory: No			
Format	Lectures 30 h	Examples 10 h	Private study 85 h
Lectures: M. Zoppi, D. Zlatanov			
<p>This course presents a general intersectorial description of the industrial automation scopes, of the involved means and methods, and of the socio-economical issues related with the domain. The scope, to be achieved, covers the definition of the scenario, into which the competencies need be enhanced with designing and developing the different topics of the industrial intelligent automation techniques.</p> <p>Contents:</p> <p>The following subjects will be treated:</p> <ul style="list-style-type: none"> • Automation terminology. • Concepts of simultaneous engineering: product and process design. • Mechatronics means: machines, robots, handling and transportation equipment. • System control, process and machine diagnostics, information and communication. • Design concepts and tools. • Simulation, Virtual Manufacturing and Rapid prototyping. • Enterprise strategies for automation and for flexibility. • Life cycle engineering and management. Environmentally responsible manufacturing. <p>Example cases will be discussed.</p>			
Objectives			
<ul style="list-style-type: none"> • Achieve good acquaintance of problems of industrial automation and about the role played in the economical context. • Exploit the concepts, language and the tools understood along with the course. 			
Assessment: 30% continuous assessment, 70% from end of semester examination.			
Practical Work: laboratory			
Recommended texts Flexible automation:			
<ul style="list-style-type: none"> • S. Deb Robotics Technology And Flexible Automation, McGraw Hill, 2004 • Lecture Notes and documents provided by the lecturer 			
Further readings:			
will be provided by the lecturer			