

## Track “Smart Digital Manufacturing”

This track is focused the knowledge related to the engineering design of advanced and automated manufacturing systems, including the design of automatic machines, maintenance management policies, advanced manufacturing technologies, digital twins for automation and collaborative robots.



### Compulsory Courses (for all Tracks)

Year	Semester	Teaching	ECTS
I	1	Mechanics of Materials and Structures	9
I	1	Advanced Thermodynamics	9
I	1	Metallic alloys for product innovation	9
I	2	Dynamics and Vibrations	9
II	1	Product and manufacturing engineering	9
II	1	Assembly Systems and Logistics	9
II	1	Product Development and innovation	9

### Compulsory Courses for the Track

Year	Semester	Teaching	ECTS
I	2	Design of automatic machines	6
I	2	Maintenance Management	6
I	2	Quality and Metrology in Manufacturing	6
I	2	Multibody system dynamics and simulation*	6
II	1	Additive manufacturing*	6

\* One course to be chosen from these two

### Elective Courses for the Track

Year	Semester	Teaching	ECTS
II	1	Digital twins for automation	6
I	2	Simulation of metallurgical processes	6
I	2	Energy management in industry	6

**Internship: 6 ECTS**

**Final Project: 15 ECTS**