

Study plan Master of Science Mechanical Engineering
curriculum Smart Technology Engineering - academic year 2020/21 (CL LM 33)

 1st year

No.	Sem.	SSD	Course	Credits	course code	Professor
1	1	ING-IND/09	Sustainable energy	9	39164-ENG	Silvia Ravelli
2	2	ING-IND/15	Virtual and physical prototyping	6	39165-ENG	Daniele Regazzoni
3	2	ING-IND/13	Mechatronic systems design	6	39166-ENG	Paolo Righettini
			3 CFU Mechatronic systems design			Roberto Strada
			3 CFU Functional design of mechatronic systems (offered in MS Ingegneria Meccanica)			Simona Tonini
4	1	ING-IND/10	Thermal physics for advanced technology	6	39167-ENG	Simona Tonini
5	1	ING-INF/01	Smart sensors and electronic systems	8	39168-ENG	Gianluca Traversi
			2 CFU Smart sensors			Valerio Re
			6 CFU Biomedical sensors (offered in MS Engineering and Management for Health)			
6	1	ING-INF/05	Embedded and real-time systems (offered in MS Ingegneria Informatica)	6	21038-ENG	Davide Brugali
7	2	ING-INF/04	Dynamics systems identification	6	148004	Antonio Ferramosca
8	2	ING-IND/22	Materials for advanced engineering applications	6	39171-ENG	Sergio Lorenzi
ELECTIVE COURSES (6 CFU):						
12a		ING-INF/05	Robotica	6	39068	Davide Brugali
		ING-IND/14	Progettazione FEM		39056	Sergio Baragetti
		ING-IND/06	Computational fluid dynamics		39070-ENG	Alessandro Colombo
		ICAR/08	Computational mechanics of solids and structures		60039-ENG	Rosalba Ferrari
			and other elective courses of the Master of Science Mechanical Engineering			
Total Credits 1st year (CFU)				59		

 2nd year

SMART BUILDINGS LAB						
9	1	ICAR/08	Structural monitoring	3	39188-ENG	Rosalba Ferrari
	1	ICAR/09	Structural safety and risk assessment	6		Andrea Belleri
	1	ING-IND/09	Smart energy buildings	6		Giuseppe Franchini
	1	ING-IND/33	Smart electrical infrastructure	6		Mariacristina Roscia
				21		

SMART MANUFACTURING AND PROCESSING LAB						
Smart manufacturing and processing Lab (A)						
10	2	ING-IND/13	Robots for industrial applications and advanced production lines	6	39189-ENG	Paolo Righettini
	2	ING-IND/17	Advanced production systems	6		Paolo Gaiardelli
				12		
Smart manufacturing and processing Lab (B)						
11	2	ING-IND/16	Smart manufacturing technologies	6	39190-ENG	Gianluca D'Urso
	2	ING-IND/22	Advanced materials and characterisation techniques	3		to be defined
				9		

SMART THINGS AND HUMANS LAB (not activated in academic year 2020/21)						
	1	ING-IND/15	Virtual human interaction	6		
	1	ING-IND/10	Microfluidics for smart applications	6		
	1	ING-INF/01	Wearable devices	6		
	1	ING-INF/05	Software development	3		
				21		

SMART MOBILITY AND DRIVING LAB (not activated in academic year 2020/21)						

	2	ING-IND/08	Propulsion	6		
	2	ING-IND/06	Vehicle aerodynamics	6		
	2	ING-IND/13	Vehicle dynamic and safety	6		
	2	ING-IND/32	Electric vehicles	3		
				21		

			ELECTIVE COURSES (6 CFU):			
12b	2	CHIM/07	Nanotechnology (not activated in 2020/21)	6	39187	to be defined
	2	ING-IND/13	IT architecture in production			
		and other elective courses of the Master of Science Mechanical Engineering				
Total Credits 2nd year (CFU)				48		
	Other skills			1	39077	
	Project Work			12	39002	
Total Credits (CFU)				120		