Electronic and Communication Systems (ECS)

First Year (University of Bologna)

Kind	Course Name	Integrated Courses	Semester	Type	SSD	CFU
Mandatory	Advanced Automotive Sensors M		1	B	ING-INF/07	6
	Hardware-Software Design of Embedded Systems M.I.C.	Architectures and Firmware M	2	B	ING-INF/01	6
		Real Time OS M	E	C	ING-INF/05	6
	Automatic Control M		2	C	ING-INF/04	6
	Signals and Systems for Vehicular Communications M		1	C	ING-INF/03	6
	Wired and Wireless Interconnections M		E	B	ING-INF/02	9
Elective courses 12 CFU	Power Electronics for Automotive M		1	B	ING-INF/01	6
	Test, Diagnosis and Reliability M		1	B	ING-INF/01	6
	Statistical Signal Processing M		2	B	ING-INF/01	6
Elective courses 6 CFU	Dynamics and Compliant Design of Road Vehicles M		2	C	ING-IND/32	6
	Deep Learning for Engineering Applications M		2	C	ING-INF/05	6
Elective courses 3 CFU	Ground Vehicle Dynamics M		1	F	-	3
	Lab of Real-Time Operating Systems M		2	F	-	3
	Connected vehicles M		2	F	-	3

Second Year (University of Modena and Reggio Emilia)

Kind	Course Name	Integrated Courses	Semester	Type	SSD	CFU
Mandatory	Applied topics in Automotive Electronics M	Electronic Systems Design M	1	B	ING-INF/01	6
		Automotive Technologies for Ranging, Vision and Connectivity M	1	B	ING-INF/02	6
	Final examination M		E	E	-	24
	Final Examination + Internship For Preparation for the Final Examination					
	Final Examination + Internship Abroad for Preparation for the Final Examination					
	Final Examination + Preparation for the Final Examination					
Elective courses 12 CFU	Artificial Intelligence for Automotive M		1	C	ING-INF/05	6
	Industrial Co-Teaching M		1	C	ING-IND/32	6
	Automotive Connectivity M		1	C	ING-INF/03	6
	Automotive Cyber Security M		1	C	ING-INF/05	6
	Modeling and Control of Electromechanical Systems M		1	C	ING-INF/04	6
	Platforms and Algorithms for Autonomous Driving M		1	C	ING-INF/05	6
Courses freely chosen by the student 12 - 18 CFU	Product Safety, Product Liability and Automotive M		1	D	IUS/01	6
	TACC 1 - Training for Automotive Companies Creation M		2	D	ING-INF/07	6
	TACC 2 - Training for Automotive Companies Creation M		1	D	ING-INF/07	6
	All other exams of the plan not previously chosen M		-	D	-	-

Autonomous Driving Engineering (ADE)

First Year (University of Bologna)

Kind	Course Name	Integrated Courses	Semester	Type	SSD	CFU
Mandatory	Advanced Automotive Sensors M		1	B	ING-INF/07	6
	Hardware-Software Design of Embedded Systems M.I.C.	Architectures and Firmware M	2	B	ING-INF/01	6
		Real Time OS M	E	C	ING-INF/05	6
	Automatic Control M		2	C	ING-INF/04	6
	Image Processing and Computer Vision M		1	C	ING-INF/05	6
	Vehicular Radio Propagation M		E	B	ING-INF/02	9
	Deep Learning for Engineering Applications		2	C	ING-INF/05	6
Elective courses 12 CFU	Power Electronics for Automotive M		1	B	ING-INF/01	6
	Test, Diagnosis and Reliability M		1	B	ING-INF/01	6
	Statistical Signal Processing M		2	B	ING-INF/01	6

Second Year (University of Parma)

Kind	Course Name	Integrated Courses	Semester	Type	SSD	CFU
Mandatory	Electronics and Lighting Technologies for Automotive M I.C.	Electronics for Automotive Systems M	1	B	ING-INF/01	6
		Automotive Lighting and Ranging Technologies M	1	B	ING-INF/02	6
	Computer Engineering Laboratory M		1	F		3
	Final examination M		E	E	-	24
	Final Examination + Internship for Preparation for the Final Examination					
	Final Examination + Internship Abroad for Preparation for the Final Examination					
	Final Examination + Preparation for the Final Examination					
Elective courses 12 CFU	3D Perception, Learning-Based Data Fusion M		1	C	ING-INF/05	6
	Autonomous Driving and ADAS Technologies M		1	C	ING-INF/05	6
	Visual Perception for Self-Driving Cars M		1	C	ING-INF/05	6
	Virtual Systems and Human Machine Interface M		1	C	ING-INF/05	6
	Path and Trajectory Planning M		1	C	ING-INF/04	6
	Vehicular Communications M		1	C	ING-INF/03	6
Courses freely chosen by the student 12 - 18 CFU	Product Safety, Product Liability and Automotive M		1	D	IUS/01	6
	TACC 1 - Training for Automotive Companies Creation M		2	D	ING-INF/07	6
	TACC 2 - Training for Automotive Companies Creation M		1	D	ING-INF/07	6
	All other exams of the plan not previously chosen M		-	D	-	-