National Engineers School of Sousse
Industrial Electronics Department

School year 2025/2026

Study plan: 1st year Automotive Software Engineering

SEMESTER 1

Update: department meeting RD3 : 02.11.2022 / Scientific Council CS02 : 09/11/2022

TU	Code	Topics Title	V.H					Credits	
			Lecture		Lab	Pr	Total	Module	TU
TU1	111	General economy	21				21	2	6
	112	English I	15	6			21	2	
	113	Mathematics of the engineer	15	6			21	2	
TU2	121	Analog Electronics	15	6	21		42	2,5	9
	122	Digital Electronics	15	6	21		42	2,5	
	123	PRJ 1S1: Automotive request development	15			69	84	4	
TU3	131	AI for Automotive	15	6	21		42	3	8,5
	132	Algorithm and data structure	15	6		15	36	2,5	
	133	C programming	15	6	21		42	3	
TU4	141	Signal processing	15	6		15	36	2,5	6,5
	142	PRJ 2S1: Automotive Advanced Simulation	15			69	84	4	
		Total charge	171	48	84	168	**471**	30	30
		Charge in person					**357**		

Study plan: 1st year Automotive Software Engineering

SEMESTER 2

TU	Code	Topics Title	V.H					Credits	
			Lecture		Lab	Pr	Total	Module	TU
TU 1	211	Professional Career Development	21				21	2	8,5
	212	English II	15	6			21	2,5	
	213	GERMAN I	15	6			21	2	
	214	Probability and statistics	15	6			21	2	
TU 2	221	PRJ 1S2: Microcontroller base solution	15			69	84	4	7
	222	MCU and programming	15	6	21		42	3	
TU 3	231	Operating Systems	15	6	21		42	3	8
	232	General Purpose Processors architectures	15	6		15	36	2,5	
	233	Automotive SW engineering	15	6		15	36	2,5	
TU 4	241	Automotive System Overview	15	6		15	36	2,5	6,5
	242	PRJ 2S2: System architecture : system level Modelling and process engineering	15			69	84	4	
		Total charge	171	48	42	183	**444**	30	30
		Charge in person					**315**		

1st year average = (TU1 * 14,5 + TU2 * 16 + TU3 * 16,5 + TU4 * 13) / 60

Study plan: 2nd year Automotive Software Engineering

SEMESTER 1

TU	Code	Topics Title	V.H					Credits	
			Lecture		Lab	Pr	Total	Module	TU
TU 1	311	Team management project	21				21	2	8
	312	English III	15	6			21	2	
	313	GERMAN II	15	6			21	2	
	314	Numerical analysis	15	6		15	36	2	
TU 2	321	Real time systems	15	6	21		42	3	7
	322	PRJ 2S3: Advanced MCU embedded C application	15			69	84	4	
TU 3	331	Object Oriented Programming	15	6	21		42	3	8,5
	332	Visits and Seminars				15	15	1,5	
	333	PRJ 1S3: SW engineering change management	15			69	84	4	
TU 4	341	Network communication protocols	15	6	21		42	3	6,5
	342	AUTOSAR	15	6			21	2	
	343	Workman internship				15	15	1,5	
		Total charge	156	42	63	183	**444**	30	30
		Charge in person					**315**		

Study plan: 2nd year Automotive Software Engineering

SEMESTER 2

TU	Code	Topics Title	V.H					Credits	
			Lecture		Lab	Pr	Total	Module	TU
TU 1	411	Introduction to entrepreneurship	21				21	2	6,5
	412	English IV	15	6			21	2	
	413	Optimization techniques and methods	15	6			21	2,5	
TU 2	421	PRJ 1S4: Profile based project	15			69	84	4	10
	422	SW Formal verification	15	6			21	2	
	423	PRJ 2S4: AUTOSAR / ECU/CAN/MISRA-C	15			69	84	4	
TU 3	431	Security and safety: Design	15	6			21	2	7,5
	432	Sofware testing	15	6	21	15	36	2,5	
	433	Security and safety : Programming	15	6	21		42	3	
TU 4	441	Automotive communication protocols	15	6	21		42	3	6
	442	Automotive system modeling	15	6	21		42	3	
		Total charge	171	48	84	153	**435**	30	30
		Charge in person					**336**		

2st year average = (TU1 * 14,5 + TU2 * 17 + TU3 * 16+ TU4 * 12,5) / 60

Study plan: 3rd year Automotive Software Engineering

SEMESTER 1

TU	Code	Topics Title	V.H					Credits	
			Lecture		Lab	Pr	Total	Module	TU
TU 1	511	Investment laws	21				21	2,5	6
	512	Engineering technological innovation				15	15	1,5	
	513	English V	15	6			21	2	
TU 2	521	PRJ 1S5: Depends on which Profiles: preparation for graduation Project (DRX)	15			69	84	4	7
	522	Visits and Seminars				15	15	1,5	
	523	Engineer internship				15	15	1,5	
TU 3	531	Parallel architectures	15	6	21		42	3	10
	532	Embedded Linux	15	6	21		42	3	
	533	PRJ 2S5: Depends on which Profiles: preparation for graduation Project (DRX)	15			69	84	4	
TU 4	541	Automotive Diagnostic Services and Testing	15	6	21		42	3	7
	542	Elective module: Automotive Control Systems	15	6			21	2	
	543	Automotive Process Requirements	15	6			21	2	
		Total charge	141	36	63	183	**423**	30	30
		Charge in person					**294**		

Study plan: 3rd year Automotive Software Engineering

SEMESTER 2

TU 5	611	Final internship				450	450	30	30

3rd year average without Final internship = (TU1 * 6 + TU2 * 7+ TU3 * 10 + TU4 * 7) / 30

3rd year average with Final internship = (TU1 * 6 + TU2 * 7 + TU3 * 10 + TU4 * 7 + TU5 * 30) / 60

Appendix: Calculation of the average of a module or a teaching unit (TU)

Calculation of the average of a module =		
Mid-term*0,25 + Lab * 0,25 + Final exam * 0,5		Module with TP:
(Mid-term + 2*Final exam)/3		Module wihtout TP:
Mid-term*0,25 + Pr * 0,25 + Final exam * 0,5		Module with project:

Implementation of Semester Projects
The projects, scheduled for 6 hours per day, are conducted half in person (3 hours) and half remotely (3 hours).

Calculation of the average of a TU =
(Module1 * credit1 + Module2 * credit2 + ……+ Module N * credit N) / (credit1 + ….. + credit N)

Nomber of hours

Charge in person	**1617**			
Charge without in person	**600**			
Total Charge	**2217**			
Total Charge + Final internship	**2667**			

The head of the Industrial Electronics Engineering department