

# “GHEORGHE ASACHI” TECHNICAL UNIVERSITY OF IAȘI

FACULTY OF ELECTRICAL ENGINEERING

Domain: Electrical Engineering

Specialization: **Power Electronics and Electrical Drives**

Graduate title: Engineer, bachelor

Length of studies: 4 years

Form of education: with frequency

## CURRICULUM

### 1st YEAR

Crt. no	Course title	Course code UTI.EH...	Conditionnings	1st semester						2nd semester									
				Hours/week/ discipline						V	K	Hours/week/ discipline						V	K
				C	S	L	P	SI			C	S	L	P	SI				
DI	101	Mathematical Analysis	EH1.101.DF.DI		2	2			3	E	5								
	102	Linear Algebra, Analytic and Differential Geometry	EH1.102.DF.DI		2	2			3	E	5								
	103	Physics	EH1.103.DF.DI		3	1	1		3	E	6								
	104	Computer Assisted Graphics I	EH1.104.DF.DI		1		1		1	C	3								
	105	Applied Informatics I	EH1.105.DF.DI		1		2	1	2	E	5								
	106	Computer Programming and Programming Languages I	EH1.106.DF.DI		1		2		2	C	4								
	107	Differential Equations and Operational Calculus	EH1.107.DF.DI	C1, C2								2	2			2	E	5	
	108	Computer Programming and Programming Languages II	EH1.108.DF.DI	C3								2	2		2	E	5		
	109	Computer Assisted Graphics II	EH1.109.DF.DI	C4								2	2		2	VP	4		
	110	Electromagnetic Fields Theory	EH1.110.DID.DI									2	1	1		3	E	5	
	111	Physics – Elements of Newtonian Mechanics	EH1.111.DF.DI									2	1			1	E	3	
	112	Hydraulic and Pneumatic Drives	EH1.112.DID.DI									2	1		1	C	3		
	113	Mechanical Engineering	EH1.113.DID.DI									2		1	1	C	2		
	114	Modern Languages	EH1.114.DC.DI			1			1	C	1		1		1	C	1		
	115	Physical Training	EH1.115.DC.DI				1						1			AR	2		
DO	116	Intellectual Work Techniques	EH1.116.1.DC.DO			1				VP	1								
		Professional Communication	EH1.116.2.DC.DO																
DL	117	Modern Languages	EH1.117.DC.DL			1				C	1		1			C	1		
	118	Physical Training	EH1.118.DC.DL				1			AR	1								
	119	Ensemble Sports	EH1.119.DC.DL										1		AR	1			
	120	Personal Development	EH1.120.DC.DL		1	1					C	2							
	121	Mathematics	EH1.121.DF.DL			1					C	1							
Total hours per week, total tests number per semester and total credits per semester, for DI and DO					10	7	7	1	15	4E 4C	30	14	5	7	1	13	4E 3C	30	

Conditionnings	Previous compulsory discipline	
	Title	Code
C1	Mathematical Analysis	UTI.EH.EH1.101.DF.DI
C2	Linear Algebra, Analytic and Differential Geometry	UTI.EH.EH1.102.DF.DI
C3	Computer Programming and Programming Languages I	UTI.EH.EH1.106.DF.DI
C4	Computer assisted Graphics I	UTI.EH.EH1.104.DF.DI

**DEAN,**

*Prof.univ.dr.ing. Marinela Temneanu*

**RECTOR,**

*Prof.univ.dr.ing. Dan Cașcaval*

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## CURRICULUM

### 2nd YEAR

Crt. no	Course title	Course code UTI.EH...	Conditionnings	1st semester						2nd semester										
				Hours/week/ discipline						V	K	Hours/week/ discipline						V	K	
				C	S	L	P	SI			C	S	L	P	SI					
DI	201	Electronics	EL.201.DID.DI		2		2		2	C	4									
	202	Electrical Circuits Theory I	EL.202.DID.DI		2	1	1		2	E	5									
	203	Electrotechnical Materials	EL.203.DID.DI		2		3		2	E	6									
	204	Numerical Analysis	EL.204.DF.DI	C1	2		1		2	E	3									
	205	Quality and Reliability	EL.205.DID.DI		2		1		1	C	3									
	206	Systems Theory	EL.206.DID.DI	C2	3		2		2	E	6									
	207	Web Technologies	EL.207.DS.DI	C1	2		1		2	C	3									
	208	Electrical Circuits Theory II	EL.208.DID.DI	C3									2	1	1		3	E	4	
	209	Electrical Measurements I	EL.209.DID.DI										2		3		3	E	5	
	210	Electrical Machines I	EL.210.DID.DI	C3									2		3		3	C	5	
	211	Electrical Apparatus	EL.211.DID.DI										2		2		3	E	4	
	212	Static Converters I	EL.212.DID.DI										2		2		2	E	4	
	213	Physical Training	EL.213.DC.DI				1								1			A/R	1	
	214	Practice, 3 weeks. x 40 h/week=120 h	EL.214.DID.DI															C	4	
DO	215	General Economics and Marketing	EL.215.1.DC.DO																	
		Marketing Strategies	EL.215.2.DC.DO									2	1			1	C	3		
DL	216	Computing and Programming Methods in Electrical Engineering I	EL.216.DC.DL				2			C	2									
	217	Computing and Programming Methods in Electrical Engineering II	EL.217.DC.DL											2			C	2		
	218	Modern Languages	EL.218.DC.DL			1				C	1		1				C	1		
	219	European Civilization and Institutions	EL.219.DC.DL		1					C	1									
	220	Special Mathematics	220.DF.DL		1		1			C	2									
Total hours per week, total tests number per semester and total credits per semester, for DI and DO					15	1	12		13	4E 2C	30	12	2	12		15	4E 3C	30		
					<b>28</b>				<b>13</b>			<b>26</b>				<b>15</b>				

Conditionnings	Previous compulsory discipline	
	Title	Code
C1	Mathematical Analysis	UTI.EH.EH1.101.DF.DI
C2	Computer Programming and Programming Languages I	UTI.EH.EH1.106.DF.DI
C3	Electrical Circuits Theory I	UTI.EH.EL.203.DID.DI

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## CURRICULUM

### 3rd YEAR

Crt. no	Course title	Course code UTI.EH...	Conditionings	1st semester						2nd semester								
				Hours/week/ discipline					V	K	Hours/week/ discipline					V	K	
				C	S	L	P	SI			C	S	L	P	SI			
DI	301	Electrical Measurements II	EL. 301.DID.DI	C1	2		1		2	E	4							
	302	Electrical Machines II	EL.302.DID.DI	C2	2		2	1	3	E	6							
	303	Use of Electrical Energy	EL.303.DID.DI		2		2		2	C	4							
	304	Digital Circuits	EL.304.DID.DI		2		2		3	E	5							
	305	Static Converters	EL.305.DS.DI	C3	2		1	1	2	E	5							
	306	Electrical Energy Production and Distribution	EL.306.DID.DI		2		1		1	C	3							
	307	Electrical Drives I	EL.307.DS.DI									2	2	3	E	4		
	308	Equipments for Industrial and Urban Transport	EL.308.DID.DI									2	1	2	C	3		
	309	Systems Identification and Modelling	EPAE.309.DID.DI	C4								2	1	3	E	3		
	310	Microprocessors and Microsystems	EL.310.DID.DI									2	2	2	E	4		
	311	Special Electrical Machines	EL.311.DID.DI									2	1	1	E	3		
	312	Psychology of Creativity	EPAE.312.DID.DI		2	1			1	C	3							
	313	Practice, 3 weeks x 40 h/week=120 h	EL.313.DID.DI														C	4
DO	314	Sensors and Transducers	EL.314.1.DID.DI															
		Elements for Interfacing and Remote Control	EPAE.314.2.DID.DO									2	1	1	C	3		
	315	Power Electronic Systems	EPAE.314.1.DS.DO									2	1	1	VP	3		
		Applications of Power Electronics	EL.314.2.DS.DO															
316	Low Voltage Electrical Installations	EL.316.1.DS.DO									2	1	1	C	3			
	Electrical Installations Design	EL.316.2.DS.DO																
DL	316	Assembly Language Programming	EL.316.DS.DL	C5	1		2			C	3							
	317	Fuzzy Systems and Neural Networks	EL.317.DS.DL									1	2		C	3		
Total hours per week, total tests number per semester and total credits per semester, for DI and DO					14	1	9	2	14	4E 3 C	30	16	0	10	0	14	4E 3C 1VP	30

Conditionings	Previous compulsory discipline	
	Title	Code
C1	Electrical Measurements I	UTI.EH.EL.209.DID.DI
C2	Electrical Machines I	UTI.EH.EL.210.DID.DI
C3	Static Converters I	UTI.EH.EL.212.DID.DI
C4	Systems Theory	UTI.EH.EL.206.DF.DI
C5	Computer Programming and Programming Languages	UTI.EH.EL.108.DF.DI

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## CURRICULUM

### 4th YEAR

Crt. no	Course title	Course code UTI.EH...	Conditionnings	1st semester					2nd semester									
				Hours/week/ discipline					V	K	Hours/week/ discipline					V	K	
				C	S	L	P	SI			C	S	L	P	SI			
DI	401	Electrical Drives II	EL.401.DS.DI	C1	2	1	2	E	4									
	402	Industrial Informatics	EPAE.402.DS.DI		2	2	3	C	4									
	403	Digital Control Systems	EPAE.403.DS.DI		2	1	2	E	3									
	404	Manipulators and Industrial Robots	EPAE.404.DS.DI		3	1	2	E	5									
	405	Modelling and Simulation of Electrical Drives	EPAE.405.DS.DI		1	1	1	VP	3									
	406	Small Power Electrical Drives	EPAE.406.DS.DI								2	2	1	2	E	5		
	407	Vectorial Control of Electrical Drives	EPAE.407.DS.DI	C3							3	2	2	E	5			
	408	Digital Control of Electrical Drives	EPAE.408.DS.DI								3	1	1	E	4			
	409	Design of Electrical Drives	EPAE.409.DS.DI								2		1	2	C	3		
	410	Diploma Project Preparation	EPAE.410.DS.DI										6	6	C	6		
411	Practice for Diploma Project Drafting, 3 weeks x 40 h/week = 120 h*	EPAE.411.DS.DI												C	4			
418	Diploma project defend**	EPAE.418.DS.DI												E	10			
DO	412	Scalar Control of Electrical Drives	EPAE.412.1.DS.DO		2	1	2	C	3									
		Speed Control of Electrical Drive Systems	EPAE.412.2.DS.DO															
	413	Fundamentals of Technical Creation	EL.413.1.DS.DO		2	1	1	C	3									
		Micromachines	EL.413.2.DS.DO															
	414	Automatic Control Techniques	EPAE.414.1.DS.DO	C2	3	1	1	E	5									
		Automatic Control	EPAE.414.2.DS.DO															
DL	415	Equipments for Industrial and Urban Transport	EPAE.415.1.DS.DO							2	1	1	C	3				
		Electrical Traction	EPAE.415.2.DS.DO															
416	Electroecology	EL.416.DS.DL		1	1	1		C	3									
417	Special Electrical Drives	EPAE.417.DS.DL								2	1			C	3			
Total hours per week, total tests number per semester and total credits per semester, for DI and DO					17	0	9	0	14	4E 3C	30	12	0	6	8	14	3E 4C	30
					26			14				26			14			

\*It is accomplished at the diploma co-ordinator, who makes also the evaluation.

\*\*The 10 credits are granted only after succesful defend of the diploma project.

Conditionnings	Previous compulsory discipline	
	Title	Code
C1	Electrical Drives I	UTI.EH.EL.306.DS.DI
C2	Systems Theory	UTI.EH.EL.206.DF.DI
C3	Automatic Control Techniques	UTI.EH.EPAE.403.DS.DI

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