



People's Democratic Republic of Algeria
Ministry of Higher Education and Scientific Research
Sétif 1 University – Ferhat Abbas

Faculty of Technology
Department of Electrical Engineering

Training Canvas

Engineer degree in Electrical Engineering

Specialty: Electrical Systems Engineering

Semester 1 :

Teaching Units	Subject headings	Code	Credits	Coefficients	Hourly volume Weekly			Half-Yearly Hourly Volume (15 weeks)	Assessment method	
					Course	TW	PW		Continuous assessment	Final exam
UE Fundamental Code : UEF 1.1 Credits : 10 Coefficients : 5	Analysis 1	IST 1.1	6	3	1h30	3h00		67h30	40%	60%
	Algebra 1	IST 1.2	4	2	1h30	1h30		45h00	40%	60%
UE Fundamental Code : UEF 1.2 Credits : 14 Coefficients : 8	Elements of Chemistry (structure of matter)	IST 1.3	7	4	1h30	3h00	1h30	90h00	40% (20% TW + 20% PW)	60%
	Elements of Mechanics (Physics 1)	IST 1.4	7	4	1h30	3h00	1h30	90h00	40% (20% TW + 20% PW)	60%
UE Methodological Code : UEM 1.1 Credits : 4 Coefficients : 4	Probability and statistics	IST 1.5	2	2	1h30	1h30		45h00	40%	60%
	Computer structure and applications	IST 1.6	2	2			3h00	45h00	100%	
UE Transversal Code : UET 1.1 Credits : 2 Coefficients : 2	Ethical and Professional Dimension (Foundations)	IST 1.7	1	1	1h30			22h30		100%
	Foreign language 1 (French or English)	IST 1.8	1	1		1h30		22h30	100%	
Total Hourly Volume for the Semester 1			30	19	9h00	13h30	6h00	427h30		

Semester 2 :

Teaching Units	Subject headings	Code	Credits	Coefficients	Hourly volume Weekly			Half-Yearly Hourly Volume (15 weeks)	Assessment method	
					Course	TW	PW		Continuous assessment	Final exam
UE Fundamental Code : UEF 2.1 Credits : 10 Coefficients : 5	Analysis 2	IST 2.1	6	3	1h30	3h00		67h30	40%	60%
	Algebra 2	IST 2.2	4	2	1h30	1h30		45h00	40%	60%
UE Fundamental Code : UEF 2.2 Credits : 14 Coefficients : 8	Electricity and Magnetism (Physics 2)	IST 2.3	7	4	1h30	3h00	1h30	90h00	40% (20% TW + 20% PW)	60%
	Thermodynamics	IST 2.4	7	4	1h30	3h00	1h30	90h00	40% (20% TW + 20% PW)	60%
UE Methodological Code : UEM 2.1 Credits : 4 Coefficients : 4	Technical drawing	IST 2.5	2	2			3h00	45h00	100%	
	Programming (Computer Science 2)	IST 2.6	2	2			3h00	45h00	100%	
UE Transversal Code : UET 2.1 Credits : 1 Coefficients : 1	Foreign Language 2 (English)	IST 2.7	1	1		1h30		22h30	100%	
UE Discovery Code : UED 2.1 Credits : 1 Coefficients : 1	Engineering professions	IST 2.8	1	1	1h30			22h30		100%
Total Hourly Volume for the Semester 2			30	19	7h30	12h00	9h00	427h30		

Semestre 3 :

Teaching Units	Subject headings	Code	Credits	Coefficients	Hourly volume Weekly			Half-Yearly Hourly Volume (15 weeks)	Assessment method	
					Course	TW	PW		Continuous assessment	Final exam
UE Fundamental Code : UEF 3.1 Credits : 11 Coefficients : 6	Applied Mathematics	IGE 3.1	6	3	1h30	3h00		67h30	40%	60%
	Waves and vibrations	IGE 3.2	5	3	1h30	1h30	1h30	67h30	40% (20% TW + 20% PW)	60%
UE Fundamental Code : UEF 3.2 Credits : 13 Coefficients : 7	Combinatorial and sequential logic	IGE 3.3	5	3	1h30	1h30	1h30	67h30	40% (20% TW + 20% PW)	60%
	Fundamental Electronics 1	IGE 3.4	4	2	1h30	1h30		45h00	40%	60%
	Fundamental Electrical Engineering 1	IGE 3.5	4	2	1h30	1h30		45h00	40%	60%
UE Methodological Code : UEM 3.1 Credits : 4 Coefficients : 4	PW Electronics 1	IGE 3.6	1	1			1h30	22h30	100%	
	PW Electrotechnics 1	IGE 3.7	1	1			1h30	22h30	100%	
	Computer Science 3	IGE 3.8	2	2	1h30		1h30	45h00	40%	60%
UE Discovery Code : UED 3.1 Credits : 1 Coefficients : 1	State of the art of electrical engineering	IGE 3.9	1	1	1h30			22h30		100 %
UE Transversal Code : UET 3.1 Credits : 1 Coefficients : 1	Technical English	IGE 3.10	1	1		1h30		22h30	40%	60%
Total Hourly Volume for the Semester 3			30	19	10h30	10h30	7h30	427h30		

Semester 4 :

Teaching Units	Subject headings	Code	Credits	Coefficients	Hourly volume Weekly			Half-Yearly Hourly Volume (15 weeks)	Assessment method	
					Course	TW	PW		Continuous assessment	Final exam
UE Fundamental Code : UEF 4.1 Credits : 11 Coefficients : 6	Programmed Logic and Automation	IGE 4.1	7	4	1h30	3h00	1h30	90h00	40% (20% TW + 20% PW)	60%
	Signal theory	IGE 4.2	4	2	1h30	1h30		45h00	40%	60%
UE Fundamental Code : UEF 4.2 Credits : 14 Coefficients : 8	Fundamental Electronics 2	IGE 4.3	7	4	1h30	3h00	1h30	90h00	40% (20% TW + 20% PW)	60%
	Fundamental Electrical Engineering 2	IGE 4.4	7	4	1h30	3h00	1h30	90h00	40% (20% TW + 20% PW)	60%
UE Methodological Code : UEM 4.1 Credits : 3 Coefficients : 3	Numerical methods	IGE 4.5	2	2	1h30		1h30	45h00	40%	60%
	Electrical and electronic measurements	IGE 4.6	1	1			1h30	22h30	100 %	
UE Discovery Code : UED 4.1 Credits : 1 Coefficients : 1	Electrical and electronic devices technology	IGE 4.7	1	1	1h30			22h30		100 %
UE Transversal Code : UET 4.1 Credits : 1 Coefficients : 1	Techniques of expression, information and communication	IGE 4.8	1	1		1h30		22h30	40%	60%
Total Hourly Volume for the Semester 4			30	19	9h00	12h00	7h30	427h30		

Semester 5 :

Teaching Units	Subject headings	Code	Credits	Coefficients	Hourly volume Weekly			Half-Yearly Hourly Volume (15 weeks)	Assessment method	
					Course	TW	PW		Continuous assessment	Final exam
UE Fundamental Code : UEF 5.1 Credits : 11 Coefficients : 6	Servo systems	IGE 5.1	7	4	1h30	3h00	1h30	90h00	40% (20% TW + 20% PW)	60%
	Electrical diagrams and equipment	IGE 5.2	4	2	1h30		1h30	45h00	40%	60%
UE Fundamental Code : UEF 5.2 Credits : 14 Coefficients : 8	Power electronics	IGE 5.3	7	4	1h30	3h00	1h30	90h00	40% (20% TW + 20% PW)	60%
	Electrical machines	IGE 5.4	7	4	1h30	3h00	1h30	90h00	40% (20% TW + 20% PW)	60%
UE Methodological Code : UEM 5.1 Credits : 3 Coefficients : 3	Sensors and measuring chains	IGE 5.5	2	2	1h30		1h30	45h00	40%	60%
	Microcontroller-based control implementation	IGE 5.6	1	1			1h30	22h30	100 %	
UE Discovery Code : UED 5.1 Credits : 1 Coefficients : 1	Safety and Electrical Protection	IGE 5.7	1	1	1h30			22h30		100 %
UE Transversal Code : UET 5.1 Credits : 1 Coefficients : 1	Technical English related to the specialty	IGE 5.8	1	1		1h30		22h30	100%	
Total Hourly Volume for the Semester 5			30	19	9h00	10h30	9h00	427h30		

Semester 6 :

Teaching Units	Subject headings	Code	Credits	Coefficients	Hourly volume Weekly			Half-Yearly Hourly Volume (15 weeks)	Assessment method	
					Course	TW	PW		Continuous assessment	Final exam
UE Fundamental Code : UEF 6.1 Credits : 11 Coefficients : 6	Electrical Control	IGE 6.1	7	4	1h30	3h00	1h30	90h00	40% (20% TW + 20% PW)	60%
	Production, Transmission and Distribution of Electric Energy	IGE 6.2	4	2	1h30	1h30		45h00	40%	60%
UE Fundamental Code : UEF 6.2 Credits : 14 Coefficients : 8	Industrial Electricity	IGE 6.3	7	4	1h30	3h00	1h30	90h00	40% (20% TW + 20% PW)	60%
	Industrial regulation	IGE 6.4	7	4	1h30	3h00	1h30	90h00	40% (20% TW + 20% PW)	60%
UE Methodological Code : UEM 6.1 Credits : 4 Coefficients : 4	Industrial programmable logic controllers	IGE 6.5	2	2	1h30		1h30	45h00	40%	60%
	Industrial local networks	IGE 6.6	1	1			1h30	22h30	100 %	
	Internship in a company 1	IGE 6.7	1	1	Volume horaire hors quota, Tutorat 1h30 PW				100 %	
UE Transversal Code : UET 6.1 Credits : 1 Coefficients : 1	Entrepreneurship and business management	IGE 6.8	1	1		1h30		22h30		100%
Total Hourly Volume for the Semester 6			30	19	7h30	12h00	7h30	405h00		

Semester 7 :

Teaching Units	Subject headings	Code	Credits	Coefficients	Hourly volume Weekly			Half-Yearly Hourly Volume (15 weeks)	Assessment method	
					Course	TW	PW		Continuous assessment	Final exam
UE Fundamental Code : UEF 7.1 Credits : 12 Coefficients : 7	Modeling and identification of electrical systems	IGE 7.1	7	4	1h30	3h00	1h30	90h00	40% (20% TW + 20% PW)	60%
	Renewable energy conversion systems	IGE 7.2	5	3	1h30	1h30	1h30	67h30	40% (20% TW + 20% PW)	60%
UE Fundamental Code : UEF 7.2 Credits : 12 Coefficients : 7	Multivariable linear systems	IGE 7.3	7	4	1h30	3h00	1h30	90h00	40% (20% TW + 20% PW)	60%
	In-depth electrical machines	IGE 7.4	5	3	1h30	1h30	1h30	67h30	40% (20% TW + 20% PW)	60%
UE Methodological Code : UEM 7.1 Credits : 4 Coefficients : 3	Hydraulics and pneumatics	IGE 7.5	2	2	1h30		1h30	45h00	40%	60%
	Professional Personal Project	IGE 7.6	2	1	Volume horaire hors quota, Tutorat 1h30 PW				100 %	
UE Discovery Code : UED 7.1 Credits : 1 Coefficients : 1	Organization and methods of maintenance	IGE 7.7	1	1	1h30			22h30		100 %
UE Transversale Code : UET 7.1 Credits : 1 Coefficients : 1	Standards in Electrotechnics	IGE 7.8	1	1	1h30			22h30		100%
Total Hourly Volume for the Semester 7			30	19	10h30	9h00	7h30	405h00		

Semester 8 :

Teaching Units	Subject headings	Code	Credits	Coefficients	Hourly volume Weekly			Half-Yearly Hourly Volume (15 weeks)	Assessment method	
					Course	TW	PW		Continuous assessment	Final exam
UE Fundamental Code : UEF 8.1 Credits : 12 Coefficients : 7	Transient regimes in electrical systems	IGE 8.1	7	4	1h30	3h00	1h30	90h00	40% (20% TW + 20% PW)	60%
	Artificial intelligence techniques	IGE 8.2	5	3	1h30	1h30	1h30	67h30	40% (20% TW + 20% PW)	60%
UE Fundamental Code : UEF 8.2 Credits : 12 Coefficients : 7	Advanced Programming of Automata	IGE 8.3	5	3	1h30	1h30	1h30	67h30	40% (20% TW + 20% PW)	60%
	Advanced power electronics	IGE 8.4	7	4	1h30	3h00	1h30	90h00	40% (20% TW + 20% PW)	60%
UE Methodological Code : UEM 8.1 Credits : 3 Coefficients : 3	Maintenance of electrical installations	IGE 8.5	2	2	1h30		1h30	45h00	40%	60%
	Internship in a company 2	IGE 8.6	1	1	Volume horaire hors quota, Tutorat 1h30 PW			-	100 %	
UE Discovery Code : UED 8.1 Credits : 1 Coefficients : 1	Integration of renewable energies into electricity networks	IGE 8.7	1	1	1h30			22h30		100 %
UE Transversal Code : UET 8.1 Credits : 1 Coefficients : 1	Compliance with standards and rules of ethics and integrity	IGE 8.8	1	1	1h30			22h30		100%
Total Hourly Volume for the Semester 8			30	19	10h30	9h00	7h30	405h00		

Semester 9 :

Teaching Units	Subject headings	Code	Credits	Coefficients	Hourly volume Weekly			Half-Yearly Hourly Volume (15 weeks)	Assessment method	
					Course	TW	PW		Continuous assessment	Final exam
UE Fundamental Code : UEF 9.1 Credits : 10 Coefficients : 6	Advanced Commands	IGE 9.1	5	3	1h30	1h30	1h30	67h30	40% (20% TW + 20% PW)	60%
	Quality of electrical energy	IGE 9.2	5	3	1h30	1h30	1h30	67h30	40% (20% TW + 20% PW)	60%
UE Fundamental Code : UEF 9.2 Credits : 15 Coefficients : 9	Advanced industrial electricity	IGE 9.3	5	3	1h30	1h30	1h30	67h30	40% (20% TW + 20% PW)	60%
	Regulated electric drives	IGE 9.4	5	3	1h30	1h30	1h30	67h30	40% (20% TW + 20% PW)	60%
	Static Converter Control Strategies	IGE 9.5	5	3	1h30	1h30	1h30	67h30	40% (20% TW + 20% PW)	60%
UE Methodological Code : UEM 9.1 Credits : 4 Coefficients : 3	Sizing of electrical installations	IGE 9.6	3	2	1h30		1h30	45h00	40%	60%
	Electromagnetic Compatibility EMC	IGE 9.7	1	1	1h30			22h30		100 %
UE Transversal Code : UET 9.1 Credits : 1 Coefficients : 1	Documentary research and memory design	IGE 9.8	1	1		1h30		22h30		100%
Total Hourly Volume for the Semester 9			30	19	10h30	9h00	9h00	427h30		

Semester 10 :

The project for the final assignments in the relationship with the industrial sector or in an enterprise, or in the cadre of the 1275 (Start up) is sanctioned by a memory and a defense.

	VHS	Coefficients	Credits
Personal Work	655	11	18
Internship in a company	100	04	06
Seminars	50	02	03
Other (Supervision)	50	02	03
Total Semester 10	855	19	30

❖ *Evaluation of the End of Cycle Engineering Project*

- Scientific value (Jury assessment)	/6
- Writing the Dissertation (Jury's Assessment)	/4
- Presentation and answer to questions (Jury assessment)	/4
- Assessment of the supervisor	/3
- Presentation of the internship report (Jury assessment)	/3