

Curriculum

Dual Study Electrical Engineering

Type	Course Number	Module Name	Credit Hours	Required Credits
Dual Study Requirements	1800001	Basics of Business Administration	2	14
	1800002	Low-Intermediate English	2	
	1800003	Intermediate English	2	
	1800004	Upper-Intermediate English	2	
	1800010	Advanced English	2	
	1800011	Entrepreneurship	2	
	1800012	Communications Skills	2	
Cultural Course Requirements	1800070	History of Jerusalem	2	6
	1800071	Nature and Environment of Palestine	2	
	1800072	Language and Logic	2	
	1800073	Islamic Culture	2	
	1800074	International Civilizations	2	
Elective courses	1810050	Quality Control	2	2
	1810051	Project Management	2	
	1800005	German I	2	
	1810053	Engineering Economy	2	
Total				22

1. Engineering Requirements

The DSEE students must complete during their study all courses listed below:

	Course Number	Module Name	Credit Hours	Sum	Prerequisite / Corequisite
Sciences	1810101	Mathematics for Engineers I	3	20	-
	1810106	Mathematics for Engineers II	3		Mathematics for Engineers I (Pre)
	1810201	Mathematics for Engineers III	3		Mathematics for Engineers II (Pre)
	1810210	Complex Analysis and Engineering Transforms	3		Mathematics for Engineers II (Pre)
	1810213	Probability and Engineering Statistics	2		Mathematics for Engineers I (Pre)
	1810309	Numerical Engineering Analysis	2		Mathematics for Engineers III (Pre), Informatics II (Pre)
	1810102	Physics	3		-
	1810114	Physics Lab	1		Physics (Co)
Engineering Requirements	1810103	Fundamentals of Electrical Engineering I	3	19	-
	1810104	Fundamentals of Electrical Engineering I Lab	1		Fundamentals of Electrical Engineering I (Co)
	1810111	Informatics I	2		-
	1810112	Informatics I Lab	1		Informatics I (Co)
	1810204	Informatics II	2		Informatics I (Pre)

	1810205	Informatics II Lab	1		Informatics II (Co)
	1810211	Engineering Design and Drawing	2		-
	1810212	Engineering Materials	3		Physics (Pre)
	1810113	Thermodynamics	2		Physics (Pre)
	1810105	Engineering Workshop and Safety	2		-
		Total	39		

2. Electrical Engineering General Courses

The DSEE students must complete during their study all courses listed in the following table:

Course Number	Module Name	Credit Hours	Prerequisite / Corequisite
1810107	Fundamentals of Electrical Engineering II	3	Fundamentals of Electrical Engineering I (Pre)
1810108	Fundamentals of Electrical Engineering II Lab	1	Fundamentals of Electrical Engineering II (Co)
1810109	Electronics I	2	Fundamentals of Electrical Engineering I (Pre)
1810202	Digital Logic Systems	3	Electronics I (Pre)
1810203	Digital Logic Systems Lab	1	Digital Logic Systems (Co)
1810206	Electronics II	2	Electronics I (Pre)
1810207	Electronics Lab	1	Electronics II (Co)
1810208	Instrumentation and Measurement	3	Fundamentals of Electrical Engineering I (Pre), Electronics I (Pre)

1810209	Instrumentation and Measurement Lab	1	Instrumentation and Measurement (Co)
1810205	Electrical Workshop I	2	Engineering Design and Drawing (Pre), Fundamentals of Electrical Engineering II (Pre)
1810302	Electromagnetic Theory	3	Fundamentals of Electrical Engineering II (Pre), Mathematics for Engineers III (Pre), Physics for Electrical Engineers (Pre)
1810303	Microprocessors and Microcontrollers	3	Electronics II (Pre), Digital Logic Systems (Pre)
1810304	Microprocessors and Microcontrollers Lab	1	Microprocessors & Microcontrollers (Co)
1810305	Electrical Workshop II	2	Electrical Workshop I (Pre)
1810310	Communication Systems	2	Probability and Engineering Statistics (Pre), Electromagnetic Theory (Co)
1810306	Embedded Systems	3	Microprocessor (Pre)
1810307	Electronic Interfacing and PCB Prototyping Workshop	2	Electronics II (Pre), Digital Logic Systems (Pre)
1810401	Electrical Installation and Standards Workshop	2	Electrical Workshop 1 (Pre)
	Graduation Projects	10	See Error! Reference source not found.
	Total	47	

Graduation Project Modules

Course Number	Module Name	Credit Hours	Prerequisite / Corequisite
1810402	Introduction to Project	3	Student must have successfully completed a minimum of 120 Credit Hours + Microprocessor (Pre) + Electric Power Engineering II (Pre) + Power Systems and Transmissions (Pre)
1810490	Project I	3	Introduction to Project (Pre)
1810491	Project II	4	Project I (Pre)
	Total	10	

Specialization courses “Electric Power Engineering”

The DSEE students must complete during their study all courses listed in the following table.

Specialization courses “Electric Power Engineering”

Course Number	Module Name	Credit Hours	Prerequisite / Corequisite
1810320	Electric Power Generation	2	Physics for Electrical Engineers (Pre), Fundamentals of Electrical Engineering II (Pre)
1810321	Electric Power Engineering I	2	Physics for Electrical Engineers (Pre), Fundamentals of Electrical Engineering II (Pre)

1810323	Electrical Machines	3	Fundamentals of Electrical Engineering II (Pre), Electromagnetic Theory (Co)
1810330	Control Systems	3	Fundamentals of Electrical Engineering II (Pre), Electronics II (Pre), Complex Analysis and Engineering Transforms (Pre), Mathematics for Engineers III (Pre)
1810322	Electric Power Engineering II	3	Electric Power Engineering I (Pre)
1810324	Electrical Machines Lab	1	Electrical Machines (Pre)
1810430	Power System Automation	3	Control Systems I (Pre), Control and Automation Lab (Co)
1810421	Electric Drive Engineering	3	Fundamentals of Electrical Engineering II (Pre), Electronics II (Pre), Electrical Machines (Pre)
1810325	Power Electronics	3	Electronics II (Pre)
1810422	Power Electronics and Drive Technology Lab	1	Electric Drive Engineering (Co)
1810423	Renewable Energy	3	Physics for Electrical Engineers (Pre), Electric Power Engineering I (Pre), Electric Power Generation (Pre)
1810424	Power Systems and Transmissions	3	Electric Power Engineering II (Pre)
1810420	Control and Automation Lab	1	Control Systems (Pre), Digital Logic Systems (Pre), Electronics II (Pre)
1810425	Electric Power Lab	1	Electric Power Engineering II (Pre)
1810431	Special Topics in Electrical/ Power Engineering	2	
	Total	34	

Practice phases

Practice phases of three months that must be carried out in a dual study partner company

Course Number	Module Name	Credit Hours	Prerequisite / Corequisite
1810190	Practice I	3	-
1810191	Practice II	3	Practice I
1810290	Practice III	3	Practice II
1810291	Practice IV	3	Practice III
1810390	Practice V	3	Practice IV
1810391	Practice VI	3	Practice V
	Total	18	

course distribution

Courses distribution in the first academic years

1st Year of Study		Credits			
Semester #		Semester 1		Semester 2	
Course	Course Code	Theory	Lab	Theory	Lab
Mathematics for Engineers I	1810101	3			
Physics	1810102	3			
Fundamentals of Electrical Engineering I	1810103	3			

Fundamentals of Electrical Engineering I Lab	1810104		1		
Basics of Business Administration	1800001	2			
Low-Intermediate English	1800002	2			
Communications Skills	1800012	2			
Engineering Workshop and Safety	1810105	1	1		
Mathematics for Engineers II	1810106			3	
Fundamentals of Electrical Engineering II	1810107			3	
Fundamentals of Electrical Engineering II Lab	1810108				1
Physics Lab	1810114				1
Thermodynamics	1810113			2	
Electronics I	1810109			2	
Informatics I	1810111			2	
Informatics I Lab	1810112				1
Intermediate English	1800003			2	
Total (Semester)		16	2	14	3
Total (Year)		35			

Courses distribution in the second academic years

2nd Year of Study		Credits			
Semester #		Semester 3		Semester 4	
Course	Course Code	Theory	Lab	Theory	Lab
Mathematics for Engineers III	1810201	3			
Digital Logic Systems	1810202	3			
Digital Logic Systems Lab	1810203		1		
Informatics II	1810204	2			
Informatics II Lab	1810205		1		
Complex Analysis and Engineering Transforms	1810210	3			
Upper-Intermediate English	1800004	2			
University Requirement I	180007X	2			
Electronics II	1810206			2	
Electronics Lab	1810207				1
Instrumentation and Measurement	1810208			3	
Instrumentation and Measurement Lab	1810209				1
Electromagnetic Theory	1810302			3	
Engineering Materials	1810212			3	
Electrical Workshop I	1810301			1	1

Engineering Design and Drawing	1810211			2	
Advanced English	1800010			2	
Total (Semester)		15	2	16	3
Total (Year)		36			

Courses distribution in the third academic years

3rd Year of Study		Credits			
		Semester 5		Semester 6	
Total credits per year	38				
Course	Course Code	Theory	Lab	Theory	Lab
Electrical Machines	1810323	3			
Probability and Engineering Statistics	1810213	2			
Electric Power Engineering I	1810321	2			
Electronic Interfacing and PCB Prototyping Workshop	1810307	1	1		
Control Systems	1810330	3			
Microprocessor	1810303	3			
Microprocessor Lab	1810304		1		
Entrepreneurship	1810011	2			
Electric Power Generation	1810320			2	
Electrical Workshop II	1810305			1	1

Electric Power Engineering II	1810322			3	
Embedded Systems	1810306			3	
Communication Systems	1810310			2	
Electrical Machines Lab	1810324				1
Power Electronics	1810325			3	
Control and Automation Lab	1810420				1
Total (Semester)		16	2	14	3
Total (Year)		35			

Courses distribution in the fourth academic years

4th Year of Study		Credits			
Total credits per year	2	Semester 7		Semester 8	
Course	Course Code	Theory	Lab	Theory	Lab
Electrical Installation and Standards Workshop	1810401	1	1		
Numerical Engineering Analysis	1810309	2			
Electric Drive Engineering	1810421	3			
Power Electronics and Drive Technology Lab	1810422		1		
Renewable Energy	1810423	3			
University Requirement II	180007X	2			
Introduction to Graduation Project	1810402	3			

Power Systems and Transmissions	1810424			3	
Power System Automation	1810430			3	
Electric Power Lab	1810425				1
Elective – Electrical Engineering	181005X			3	
University Requirement III	180007X			2	
Special Topics in Electric Power Engineering	1810426			2	
Total (Semester)		14	2	13	1
Total (Year)		30			