

BSc in Electrical Engineering – Curriculum Chart

Term 1

Courses	Credits	Code	Prerequisites/ (Corequisites)	Type
General Mathematics 1	۳		-	
Physics 1	۳		-	
Fundamentals of Computer Programming	۳		-	
<i>a course from the department of Theology</i>	۲		-	
Persian	۳		-	
General English	۳		-	
Introduction to Electrical Engineering	۱		-	
Total Credits	18			

Term 2

Courses	Credits	Code	Prerequisites/ (Corequisites)	Type
General Mathematics 2	۳		General Mathematics 1	
Physics 2	۳		Physics 1	
Differential Equations	۳		(General Mathematics 2)	
Engineering Probability	۳		(General Mathematics 2)	
Physics 1 Lab	۱		(Physics 1)	
Engineering Drawing	۱		-	
Physical Education 1	۱		-	
<i>a course from the department of Theology</i>	۲		-	
General Workshop	۱		-	
Total Credits	۱۸			

Term 3

Courses	Credits	Code	Prerequisites/ (Corequisites)	Type
Electrical Circuits 1	۳		(Differential Equations) - (Physics 2)	
Electromagnetism	۳		General Mathematics 2 - Physics 2	
Engineering Mathematics	۳		General Mathematics 2 - Differential Equations	
Engineering Economics	۳		-	
Physics 2 Lab	۱		(Physics 2)	
Numerical Analysis	۲		General Mathematics 2 - Fundamentals of Computer Programming	
Electrical Workshop	۱		-	
<i>a course from the department of Theology</i>	۲		-	
Physical Education 2	۱		Physical Education 1	
Total Credits	۱۹			

Term 4

Courses	Credits	Code	Prerequisites/ (Corequisites)	Type
Electrical Circuits 2	۲		Electrical Circuits 1	
Signals and Systems	۳		Engineering Mathematics	
Electronics 1	۲		Electrical Circuits 1	
Electrical Machines 1	۲		Electrical Circuits 1 - (Electromagnetism)	
Digital Systems 1	۳		(Principles of Electronics)	
English for Students of Electrical Engineering	۲		General English	
Electrical Circuits Lab	۱		Physics 2 Lab – (Electrical Circuits 2)	
<i>a course from the department of Theology</i>	۲		-	
Total Credits	17			

Term 5

Courses	Credits	Code	Prerequisites/ (Corequisites)	Type
Principles of Telecommunication Systems	۳		Signals and Systems - Engineering Probability	
Linear Control Systems	۳		Signals and Systems - Electrical Circuits 2	
Electrical Energy Systems Analysis (1)	۳		Electrical Machines - Engineering Mathematics	
Digital Systems 2	۳		Digital Systems Design 1	
Electrical Machines 2	۲		Electrical Machines 1	
Electronics 2	۲		Electronics 1	
Electrical Machines 1 Lab	۱		Electrical Machines 1	
Electronics Lab	۱		Electronics 1 - Electrical Circuits Lab	
Digital Systems 1 Lab	۱		Digital Systems 1	
<i>a course from the department of Theology</i>	۲		-	
Total Credits	۲۰			

Electronic

Term 6

Courses	Credits	Code	Prerequisites/ (Corequisites)	Type
Analogue Electronics	۳		Principles of Electronics	
Digital and Pulse Circuits	۳		Principles of Electronics	
Microprocessor Systems Design	۳		Digital Systems 2	
<i>an Elective course</i>	۳		-	
<i>an Elective course</i>	۳		-	
Digital Systems 2 Lab	۱		(Digital Systems 2) - Digital Systems 1 Lab	
Linear Control Systems Lab	۱		Linear Control Systems	
<i>a course from the department of Theology</i>	۲		-	
Total Credits	۱۹			

Term 7

Courses	Credits	Code	Prerequisites/ (Corequisites)	Type
Telecommunication Circuits	۳		Principles of Telecommunication Systems	
Electronic Physics	۳		(Principles of Electronics)	
<i>an Elective course</i>	۳		-	
<i>an Elective course</i>	۳		-	
Analogue Electronics Lab*	۱		(Analogue Electronics)	
Digital and Pulse Circuits Lab*	۱		(Digital and Pulse Electronics)	
<i>a course from the department of Theology</i>	۲		-	
Total Credits	۱۶			

Term 8

Courses	Credits	Code	Prerequisites/ (Corequisites)	Type
Telecommunication Circuits Lab*	۱		(Telecommunication Circuits)	
<i>an Elective course</i>	۳		-	
<i>an Elective course</i>	۳		-	
<i>an Elective course</i>	۲		-	
Industrial Electronics Lab*	۱		(Industrial Electronics)	
Internship	۲		90 credits	
BSc Project	۳		100 credits	
Total Credits	۱۴			

* Taking 3 of the 4 offered Lab courses is mandatory.

Elective Courses – At least two courses (6 credits)		
Course	Credits	Prerequisites / (Corequisites)
Industrial Electronics	۳	Electronics 2 - (Electrical Machines 2)
Filter and Synthesis	۳	Electronics 2 - Signals and Systems
Telecommunication Networks	۳	Principles of Telecommunication Systems
CMOS Integrated Circuits	۳	Analogue Electronics
Digital Signals Processing	۳	Signals and Systems
Digital Systems Design	۳	Digital Systems 2
Modern Physics	۳	Physics 2 - Engineering Mathematics

Power

Term 6

Courses	Credits	Code	Prerequisites/ (Corequisites)	Type
Electrical Machines 3	۳		Electrical Machines 2	
Industrial Electronics	۳		Electronics 2 - (Electrical Machines 2)	
Electrical Equipment	۳		Electrical Energy Systems Analysis 1	
Electrical Energy Systems Analysis 2	۳		Electrical Energy Systems Analysis 1	
Digital Systems 2 Lab	۱		(Digital Systems 2) - Digital Systems 1 Lab	
Linear Control Systems Lab	۱		Linear Control Systems	
Electrical Machines 2 Lab*	۱		Electrical Machines 1 Lab - (Electrical Machines 3)	
<i>a course from the department of Theology</i>	۲		-	
Total Credits	۱۷			

Term 7

Courses	Credits	Code	Prerequisites/ (Corequisites)	Type
Industrial Electronics Lab*	۱		(Industrial Electronics)	
Relay Protection	۳		Electrical Energy Systems Analysis 2	
Power Systems Analysis Lab*	۱		Electrical Energy Systems Analysis 2	
an Elective course	۳		-	
an Elective course	۳		-	
an Elective course	۳		-	
a course from the department of Theology	۲		-	
Relay Protection Lab*	۱		(Relay Protection)	
Total Credits	۱7			

Term 8

Courses	Credits	Code	Prerequisites/ (Corequisites)	Type
<i>an Elective course</i>	۳		-	
<i>an Elective course</i>	۳		-	
<i>an Elective course</i>	۳		-	
<i>an Elective course</i>	۲		-	
High Voltage and Insulation Lab*	۱		(High Voltage and Insulation)	
Internship	۲		90 credits	
BSc Project	۳		100 credits	
Total Credits	۱7			

* Taking 3 of the 4 offered Lab courses is mandatory.

Elective Courses – At least two courses (6 credits)		
Course	Credits	Prerequisites / (Corequisites)
High Voltage and Insulation	۳	Electrical Energy Systems Analysis 1
Special Electrical Machines	۳	Electrical Machines 2
Electrical Energy Production	۳	Electrical Machines 2
Design of Overhead Transmission Lines and Project	۳	Electrical Energy Systems Analysis 2
Design of High Voltage Power Posts and Project	۳	Electrical Energy Systems Analysis 2
Fundamentals of Operations Research	۳	General Mathematics 2 - Computer Programming

Telecommunications

Term 6

Courses	Credits	Code	Prerequisites/ (Corequisites)	Type
Fields and Waves	۳		Electromagnetism	
Digital Signals Processing	۳		Signals and System	
<i>an Elective course</i>	۳		-	
<i>an Elective course</i>	۳		-	
<i>an Elective course</i>	۳		-	
Digital Systems 2 Lab	۱		(Digital Systems 2) - Digital Systems 1 Lab	
Linear Control Systems Lab	۱		Linear Control Systems	
<i>a course from the department of Theology</i>	۲		-	
Total Credits	۱۹			

Term 7

Courses	Credits	Code	Prerequisites/ (Corequisites)	Type
Telecommunication Circuits	۳		Principles of Telecommunication Systems - Principles of Electronics	
Antenna	۳		Fields and Waves	
Digital Telecommunication	۳		Principles of Telecommunication Systems	
Digital Signals Processing Lab*	۱		(Digital Signals Processing)	
<i>an Elective course</i>	۳		-	
Digital Telecommunication Lab*	۱		(Digital Telecommunication)	
<i>a course from the department of Theology</i>	۲		-	
Total Credits	۱۵			

Term 8

Courses	Credits	Code	Prerequisites/ (Corequisites)	Type
Telecommunication Circuits Lab*	۱		(Telecommunication Circuits)	
<i>an Elective course</i>	۳		-	
<i>an Elective course</i>	۳		-	
<i>an Elective course</i>	۲		-	
Antenna and Microwave Lab*	۱		(Microwave and Antenna)	
Internship	۲		90 credits	
BSc Project	۳		100 credits	
Total Credits	۱۵			

* Taking 3 of the 4 offered Lab courses is mandatory.

Elective Courses – At least two courses (6 credits)		
Course	Credits	Prerequisites / (Corequisites)
Circuits and Filter Synthesis	३	Electronics 2 - Signals and Systems
Telecommunication Networks	३	Principles of Telecommunication Systems
Analogue Electronics	३	Electronics 2
Optical Telecommunication Systems	३	Principles of Telecommunication Systems / Fields and Waves
Wireless Telecommunication	३	Principles of Telecommunication Systems
Advanced Programming	३	Computer Programming
Microwave 1	३	Fields and Waves
Linear Algebra	३	General Mathematics 2