



Program and Degree: BSc in Aerospace Engineering	
Course Description	
Course Title	Fundamentals of electrical engineering and electronics
Prerequisites	physics II
The course aims	<p>Students' acquaintance with the principles of electrical engineering and electrical circuits</p> <ol style="list-style-type: none"> 1- Familiarity with the electrical systems and devices in the industry 2- Understanding the foundations of electrical and magnetic circuits in the industry 3- Familiarity with the considerations of working with electrical appliances and working safely with them
Contents	<ol style="list-style-type: none"> 1. Review of the laws of physics of electricity, energy and power, direct and alternating current circuits 2. Components of electrical circuits such as resistors, capacitors, inductors 3. Single-phase and three-phase sine-circuit, star and triangle connections 4. Measuring the current and voltage in a circuit 5. Electric motors and transformers 6. Semiconductor components such as diodes, transistors, thyristors, electric lamps, rectifiers, transistor amplifiers, filters
Duration	1 Semester (16 weeks)
Course Hours	3 hours/week
Course Type	Required