

Summarized Course Description

Course number: ECE 211	Course name: Electric Circuits (2)
لغة تدريس المقرر: English	Pre-requisites: ECE 210
Credit hours: 3 (2+ 2 + 0)	Course level: Level - 5 Year3

Course Description

وصف المقرر :

Three-phase circuits and power calculation, linear op-amp and op-amp circuits, transient and steady state response of the first-order and the second-order circuits, Laplace transform and solution of circuits in complex-frequency domain, frequency response of passive circuits, transfer functions, poles and zeros, resonance networks, and filters, two-Port networks, mutually-coupled coils and the ideal transformer.

Course objectives

أهداف المقرر :

- Understand and analyze AC power generation and consumption
- Design power factor correction and power matching circuits.
- Understand and analyze three phase electrical systems.
- Understand and analyze transformers.
- Identify, characterize, and design RLC Filters.
- Characterize and analyze two-port electrical networks

Course Outcomes

مخرجات التعليم:

Upon completing the course, the student should be able to:

1. An ability to apply knowledge of mathematics, science, and engineering to the analysis of electrical circuits.
2. An ability to apply knowledge of mathematics, science, and engineering to the design of electrical circuits
3. An ability to identify, formulates, and solves basic electrical engineering problems.
4. An ability to use the techniques, skills, and modern engineering tools such as Multisim to analysis and design electrical circuits.
5. An ability to conduct experiments, as well as to analyze and interpret data.

Textbook and references

الكتاب المقرر والمراجع المساندة:

Book	Authors	Publisher	Publication year
Electric Circuits	James Nilsson and Susan Riedel	Pearson	2014
Fundamentals of Electric Circuits	Charles K. Alexander, Matthew N. O. Sadiku	McGraw Hill	2016
Introductory Circuit Analysis	Robert Boylestad	Pearson	2016