

Faculty of Engineering & Technology

Electrical Circuits 1

Information :

Course Code : EPR 261

Level : Undergraduate

Course Hours : 3.00- Hours

Department : Department of Petroleum Engineering

Instructor Information :

| Title | Name | Office hours |
|---------------------|---|--------------|
| Associate Professor | Tarek Abd ElBadee Boghdady Mahmoud | 2 |
| Assistant Lecturer | YOUSSEF ELSAYED ABDELHAFEZ KANDIEL | |
| Teaching Assistant | Ahmed Elsayed Abdellatif Ibrahim Bedeir | |

Description :

Analysis of resistive circuits by simplifications (source transformations, combination of elements, star/delta and delta /star transformations, node and loop analysis), Sinusoidal steady state analysis, Phasor diagram representation, Network theorems (superposition, Thevenin, Norton, compensation and maximum power transfer), Analysis of circuits with AC excitation in the time domain, Analysis of AC circuits in the frequency domain using complex number algebra, Application of network theorems on alternating current circuits, Electric power, Complex power calculations and power factor, Circuits with nonlinear resistances, Analysis of electrical circuits with non-sinusoidal alternating currents, Higher order harmonics.