

**Faculty of Engineering & Technology****Electrical Circuits****Information :****Course Code :** EED203**Level :** Undergraduate**Course Hours :** 3.00- Hours**Department :** Mechatronics Engineering**Instructor Information :**

| Title              | Name                             | Office hours |
|--------------------|----------------------------------|--------------|
| Lecturer           | Mohamed Abdallah Mahmoud Shaheen |              |
| Teaching Assistant | Abeer Tharwat Said Awad          |              |
| Teaching Assistant | Shorouk Mohamed khaleel Mohamed  |              |

**Description :**

Basic electrical quantities, Ohm's Law and Kirchhoff's Laws, resistance and source combinations, voltage and current division. Techniques of solving DC electric circuits: nodal analysis and mesh analysis. Theorems: superposition theorem. AC sinusoidal sources, time domain and frequency (phasor) domain, voltages and currents phasor diagrams, inductance and capacitance: voltage and current relationships, impedance and admittance, Techniques of solving AC electric circuits: nodal and mesh analysis, and superposition. Steady state power analysis: Real Power, maximum power transfer theorem, complex power, and power measurement. Three phase circuits; connections: Y-Y, Y- $\Delta$ ,  $\Delta$ -Y,  $\Delta$ - $\Delta$  and power measurements.