

## Faculty of Engineering & Technology

### Over-Voltages in Power Systems

#### Information :

**Course Code :** EPR 531

**Level :** Undergraduate

**Course Hours :** 3.00- Hours

**Department :** Specialization of Electrical Power Engineering

#### Description :

Introduction to types of over-voltages in power systems, EHV testing, HV measurements and laboratory equipment. Phenomenon of over-voltages in power systems. Over-voltages in EHV systems caused by switching operations & switching, Over-voltage protection. Lightning over-voltages: Lightning and lightning protection. Capacitance switching. Traveling waves: Wave equation, Reflection and refraction of the wave, wave propagation over lines and equipment, Theory of traveling waves and standing waves. Power-frequency and over-voltages frequency control. Electrostatic field of extra-high-voltage (EHV) lines. Factors contributing to line design. Design of EHV lines.