

EEPW 3142	Electrical Insulation and Wiring Design	3 Credit Hours
Prerequisites:	EEPW 2241	
Goal	To provide the student with the concepts, techniques and application of electrical insulation and wiring design.	
Objectives		Outcomes
<p>This course should enable the student to:</p> <ol style="list-style-type: none"> 1. Know the electrical safety rules. 2. Understand the basic of electrical circuits and machines. 3. Understand the concepts of lighting and illumination. 4. Understand the concepts of insulation materials. 5. Understand the concepts insulation circuits and systems. 6. Understand the concepts of earthing and protection. 		<p>A student who satisfactory complete the course should be able to:</p> <ol style="list-style-type: none"> 1. Familiarize and apply the electricity safety rules and first aid methods. 2. Identify and review ohm's law, resistance, capacitance, inductance in insulation work. 3. Identify the power factor of ac motor and its improvement. 4. Define intensity including maintenance factor, coefficient of utilization. 5. Differentiate between different types of lighting sources. 6. Calculate the lighting requirements 7. Recognize the stroboscopic effect. 8. Differentiate between different kinds of insulation materials like cables, jointing and conduits. 9. Compare between lighting circuits power circuits. 10. Differentiate between radial and ring circuits. 11. Differentiate between different insulation systems like industrial insulation system, multi-storey commercial insulation system and domestic insulation system. 12. Specify alarm and emergency system and central heating system. 13. Define the purpose of earthing. 14. Present different of earth protection. 15. Design an insulation system including current, nominal setting of protection, correction factor, current-carrying capacity, choice of cable size and thermal constrains.