

Program Assessment and Evaluation Plan
ELECTRICAL ENGINEERING

Program Assessment and Evaluation Matrix and Plan (IQ-13)						
PO Code	PO Statement	Performance Indicators (PI)	Key Course(s) for the PI(s)	Assessment Methods	Evaluation Method(s)	Standards
a	Apply knowledge of mathematics, physical, life and information sciences; and engineering sciences appropriate to the field of practice (Fundamentals)	1. Solve problems in electrical circuit analysis applying techniques in mathematics	Electrical Circuits 1 & 2 Electrical Machines 1 & 2	Problem solving examination (Direct Method)	Meeting and Consultation with the committee and Stakeholders	60% of the students get a rating of 70%
		2. Formulate electrical system models using knowledge in higher mathematics and sciences	Advanced Mathematics Numerical Methods Feedback and Control Systems	Case Study Problem and Written examination (Direct Method)		
b	Design and conduct experiments as well as analyze and interpret data. (Experimentation)	1. Perform laboratory experiments in electricity following proper procedure.	Electrical Circuits 1 & 2 Electrical Machines 1 & 2 Electrical Apparatus and Devices	Laboratory Report Rubric (Direct Method)	Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Collect data accurately using appropriate instrument	Electrical Circuits 1 & 2 Electrical Machines 1 & 2 Electrical Apparatus and Devices	Laboratory Report Rubric		
		3. Analyze and interpret data and draw conclusion within the experiment objectives.	Electrical Circuits 1 & 2 Electrical Machines 1 & 2 Electrical Apparatus and Devices	Laboratory Report Rubric		
c	Design a system, component, or process to meet desired needs within identified constraints. (Design)	1. Design electrical systems and illumination for commercial, residential, and industrial buildings	Electrical Systems and Illumination Engineering Design	Design Project Rubric	Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Design electrical distribution systems and power substation	Distribution Systems and Substation Design	Design Project Rubric		
		3. Design power plant including interconnection, operation, economics, and protection	Fundamentals of Power Plant Engineering Design	Design Project Rubric		
d	Work effectively in multi-disciplinary and multi-cultural teams. (Teamwork)	1. Perform assigned task in a team work such as group experiment and projects	Electrical Circuits 1 & 2 Electrical Machines 1 & 2 Electrical Apparatus and Devices	Laboratory Performance Rubric	Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Able to work harmoniously with superiors, peers, and subordinates during internship	On-the-Job Training/Practicum	Company Evaluation (Indirect Method)		
e	Recognize, formulate, and solve engineering problems. (Problem-solving)	1. Ability to create a project prototype with given specifications	Industrial Electronics Microprocessor Systems	Final Project Rubric	Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Ability to formulate engineering solutions to a given problem (Design/Research Methodology)	Research Project/Capstone Design Project	Design Project Rubric		

f	Recognize professional, social, and ethical responsibilities . (Ethics)	1. Articulate the electrical engineering laws, codes, and ethics	EE Laws, Codes, and Professional Ethics	Written examination	Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Design electrical systems with consideration to societal and ethical responsibilities	Electrical Standards and Practices	Design Project Rubric		
g	Effectively communicate orally and in writing using the English language. (Communication)	1. Deliver class reporting effectively	EE Laws, Codes, and Professional Ethics	Reporting Rubric	Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Write comprehensive laboratory reports	Electrical Circuits 1 & 2 Electrical Machines 1 & 2 Electrical Apparatus and Devices	Laboratory Report Rubric		
		3. Defend thesis or design project satisfactorily from a panel of experts	Research Project/Capstone Design Project	Thesis Defense Grading		
h	Understand the effects of engineering solutions in a comprehensive context. (Impact)	1. Follow the provisions in the current electrical building code in the design of electrical systems	Electrical Standards and Practices	Culminating Design Project	Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Give due consideration to environment impact on the designs of electrical systems and power plants	Environmental Science and Engineering Basic Occupational Safety and Health Engineering Economics	Written examination		
i	Engage in life-long learning and an understanding of the need to keep current of the development in the specific field of practice. (Independent learning)	1. Demonstrate an awareness that knowledge must be gained	Seminars and Fieldtrips	Seminars and Field Trips Report Rubric	Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Recognize that the acquisition of knowledge is a continuous process	Seminars and Fieldtrips			
j	Gain knowledge of contemporary issues (Contemporary Issues)	1. Exhibit interests in contemporary issues	Social Science	Survey Questionnaire	Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Shows awareness in contemporary issues related to the engineering profession	Social Science	Survey Questionnaire		
k	Demonstrate knowledge and understanding of engineering and management principles that address national and local issues. (Management)	1. Understands engineering and management principles	Engineering Management	Locally developed examination	Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Applies engineering and management principles to an assigned task and in multidisciplinary environments	Research Project/Capstone Design Project			
		3. Manages assigned projects in multidisciplinary environments	Research Project/Capstone Design Project			

I	Use the techniques, skills, and modern engineering tools necessary for electrical engineering practice. (Engineering Tools)	1. Show ability to use computers as an aid to design and simulation	Electronics Circuit Analysis and Design Computer-Aided Design	Final Project Rubric	Meeting and Consultation with the committee	60% of the students get a rating of 70%
		2. Demonstrate ability to choose appropriate instrument and equipment in project prototypes	Research Project/Capstone Design Project			
m	Integrate creative, effective, and implement Christian-like concepts in managing projects. (Moral)	1. Shows ability to work harmoniously with other students in doing projects and other activities	Research Project/Capstone Design Project Fieldtrips and Seminars	Culminating Design Project	Meeting and Consultation with the committee	60% of the students get a rating of 70%