Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
Accreditation Department

Academic Program and Course Description Guide

2025−2024

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (yearly, semesters), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

Concepts and terminology:

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

Course Description: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

Program Vision: An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

Program Mission: Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

Program Objectives: They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

Curriculum Structure: All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name: University of Mosul

Faculty/Institute: College of Engineering.

Scientific Department: Department of Electrical Engineering

Academic or Professional Program Name: Bachelor Science in Electrical Engineering

Final Certificate Name: Bachelor Science in Electrical Engineering

Academic System: Bolonga Process and Courses System

Description Preparation Date: 30/10/2024

File Completion Date: 3/11/2024

Signature:

Head of Department Name:

Asst. Prof. Dr. Mohammad T. Yaseen

Date: 25 / 3 / 2025

University of Mosul
Dept. Of Electrical Eng.

Signature:

Scientific Associate Name:

Asst. Prof. Dr. Ayman Talib Hameed

Date: 6 / 4 /2025

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

Dr. Abdulrahman Hani

جامعة الموصل
مكتب العميد
كلية الهندسة

Approval of the Dean

Dr. Abdul-Rahim Ibrahim

1. Program Vision

To be distinguished in education research and community service in the field of electrical engineering.

2. Program Mission

To provide an educational program characterized by depth in the field of specialization with comprehensiveness in engineering foundations. And disseminate engineering knowledge and contribute to its development in the field of specialization. In addition to serving industrial projects and specialists in all sectors of community.

3. Program Objectives

1. Preparing efficient engineering staff in the field of electronic and communications engineering, and power & machine engineering, as well as preparing specialized engineering staff with postgraduate degree and in the same field above in order to contribute to the comprehensive development and urban renaissance in the country.
2. Contribute to the provision of academic, scientific, practical and applied services and consultants to all sectors of the state, public, mixed and private, through cooperation agreements, as well as through consultancy bureau of College of Engineering.
3. Preparing research that works and contributes to solving engineering and industrial problems and obstacles facing industrial establishments and projects in the country.
4. Contribute to the dissemination and development of engineering knowledge and the transfer of the latest developments in the fields of electrical and electronic engineering to engineers in various fields of work through the establishment of continuing education courses and training courses, as well as through the publication of scientific research in specialized local and international scientific journals.
5. Development of academic staff by sending them in delegate scientific participation in conferences, seminars or joint workshops with Arab and international institutions and global or as well as by granting licenses to full - time work at universities outside the country, which helps in the exchange and development of expertise.
6. Participation in organizing and holding of conferences, seminars, workshops and scientific discussions inside and outside the country.

4. Program Accreditation

The Program is under review by the National Council for Accreditation of Engineering Education (ICAEE)

5. Other external influences

None

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	7	14	0.1	
College Requirements	3	5	0.04	
Department Requirements	46	115	0.7	
Summer Training	1	None		
Other				

* This can include notes whether the course is basic or optional.

7. Program Description

Fall Semester / First Level							
Notes	Code	Units	Practical hours	Theoretical hours	Subject	Type	Name
	UOM1011	2	-	2	Arabic Language	Basic	University Requirements
	UOM1031	3	2	2	Computer 1	Basic	
	EE105	3	-	2	mechanics Engineering	Support	Department Requirements
	EE101	8	2	4	Basics of Electrical Engineering I	Core	
	EE102	6	-	4	Mathematics I	Support	
	EE103	4	2	2	Engineering drawing	Support	
	EE104	4	-	2	Physics	Basic	
		30	6	18	Total Hours		

Spring Semester / First Level							
Notes	Code	Units	Practical hours	Theoretical hours	Subject	Type	Name
	UOM1021	2	-	2	English Language	Basic	University Requirements
	UOM1040	3	2	2	Democracy and Human Rights	Basic	
	EE111	3	-	2	Digital Techniques	Core	Department Requirements
	EE108	8	2	4	Basics of Electrical Engineering II	Core	
	EE109	6	-	4	Mathematics II	Basic	
	EE110	4	2	2	Computer Programming	Basic	
	EE112	4	-	2	Electronics Physics	Basic	
		30	6	18	Total Hours		

Second level / first semester / / **power and machines**							
Course Code	Smoother, if any	Number of Units	Number of practical hours	Number of theoretical hours	Course Name	Type of Requirement (Compulsory - Optional)	Requirement Name
UOM2050		2		2.00	The crimes of the Baath regime in Iraq	Compulsory	College Requirements
UOM2012		2		3.00	Arabic Language 2	Compulsory	
EEPM201		2		4.00	Electrical Circuits Analysis I	Compulsory	Department Requirements
EEPM202		2		5.00	Engineering Mathematics I	Compulsory	
EEPM203		3		3.00	Electromagnetic Fields	Compulsory	
EEPM204		3		3.00	Electrical Transformers	Compulsory	
EEPM205		4		5.00	Electronics Principles	Compulsory	
EEPM206		4	2	5.00	Electrical Engineering Lab. I	Compulsory	
		20	2	27	Total Hours		

Second Level / Second Semester / **power and machines**							
Course Code	Smoother, if any	Number of Units	Number of practical hours	Number of theoretical hours	Course Name	Type of Requirement (Compulsory - Optional)	Requirement Name
UOM2022		2		2.00	English language 2	Compulsory	College Requirements
UOM2032		2	2	3.00	Computer 2	Compulsory	
EEPM208		3		4.00	Electrical Circuits Analysis II	Compulsory	Department Requirements
EEPM209		3		5.00	Engineering Mathematics II	Compulsory	
EEPM210		2		3.00	DC Machines	Compulsory	
EEPM211		2		3.00	Distribution Systems	Compulsory	
EEPM212		4		5.00	Renewable Energies Siences	Compulsory	
EEPM213			2		Electrical Engineering Lab. II	Compulsory	
		20	4	30	Total Hours		

Courses / College of Engineering / University of Mosul / Third level for the academic year 2024-2025 / Department of Electrical Engineering

Fall Semester / Third Level – P&M								
Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
Compulsory for Dept. Students	ENGE 320	Calculus I, II	2	-	2	Numerical Analysis	Elective	College Requirements
	ENGC 327	-	2	-	2	Statistics	Compulsory	
	TRSY 300	Electrical Circuit Analysis II	3	-	3	Transmission Systems	Compulsory	Department Requirements
	PECT 302	Power Electronics I	3	-	3	Power Electronics II	Compulsory	
	INMA 304	Electrical Transformers	3	-	3	Induction Machines	Compulsory	
	PLAB 306	Electrical Engineering Lab II	2	6	-	Machines & Power Lab I	Compulsory	
The student should select one subject only (no. of units =2 only)	ELCD 312	Electrical Circuit Analysis I	2	-	2	Electrical Circuits Design	Elective	
	RENE 314	Electrical Circuit Analysis I				Renewable Energy		
The student should select one subject only (no. of units =2 only)	DSIP 405	Signals & Systems	2	-	2	Digital Signal Processing	Elective	
	MICP 316	Digital Techniques				Microprocessors		
			19	6	17	Total Hours		

Note: The student is required to complete the summer training after the end of the second semester of the third level

Spring Semester / Third Level – P&M								
Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
	-	-	2	-	2	English Language Intermediate	Compulsory	University Requirements
	ENGC 326	-	2	-	2	Engineering Economic	Compulsory	College Requirements
	MINS 350	Electrical Circuit Analysis I	3	-	3	Electrical Measurements	Compulsory	Department Requirements
	ICOS 352	Signals & Systems	3	-	3	Introduction to Control Systems	Compulsory	
	ECSS 354	Signals & Systems	2	-	2	Electronic and Communication Systems	Compulsory	
	SYMA 356	Electrical Transformers	3	-	3	Synchronous Machines	Compulsory	
	PLAB 358	Power and Machines Lab 1	2	6	-	Power & Machines Lab II	Compulsory	
	PCON 362	Digital Techniques	2	-	2	Programmable Controller	Elective	
	AINT 364	Signals & Systems				Artificial Intelligence		
			19	6	17	Total Hours		

Note: The student is required to complete the summer training after the end of the second semester of the third level

Fall Semester / Fourth Level – P&M								
Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
	PSAN 400	Numerical Analysis	4	-	4	Power System Analysis	Compulsory	Department Requirements
	COSA 402	Introduction to Control Systems	4	-	4	Control Systems Analysis	Compulsory	
	SPIM 404	Induction Machines	3	-	3	Single Phase Induction Motors	Compulsory	
	PGST 406	Synchronous Machines	2	-	2	Power Generating Stations	Compulsory	
	MLAB 408	Power & Machines Lab II	2	6	-	Power & Machines Lab III	Compulsory	
	GPRO 410	All compulsory department requirements for the third level	2	-	2	Graduation Project I	Compulsory	
The student should select one subject only (no. of units =2 only)	HVDC 414	Power Electronics II	2	-	2	High Voltage DC	Elective	
	SGRD 416	Electrical Circuit Analysis II				Smart Power Grid Systems		
			19	6	17	Total Hours		

Spring Semester / Fourth Level – P&M								
Notes	Code	Pre-request	Units	Practical hours	Theoretical hours	Subject	Type	
	UOMC 104	-	2	-	2	Professional Ethics	Compulsory	University Requirements
	-	-	2	-	2	-English Language Upper Intermediate	Compulsory	
	ENGC425	-	2	-	2	Engineering Management	Compulsory	College Requirements
	PSRP 450	Transmission Systems	3	-	3	Power System Protection	Compulsory	Department Requirements
	HVEN 452	Electronic Physics Electromagnetic Theory	3	-	3	High Voltage Engineering	Compulsory	
	SPEM 458	Induction Machines	2	-	2	Special Electrical Machines	Compulsory	
	GPRO454	Graduation Project I	2	-	2	Graduation Project II	Compulsory	
	MLAB456	Power & Machines Lab III	2	6	-	Power & Machines Lab IV	Compulsory	
The student should select one subject only (no. of units =2 only)	ELDR 462	Power Electronics II	2	-	2	Electrical Derives	Elective	
	ENEM 460	Power Generating Stations Power Electronics II				Energy Management	Elective	
			20	6	18	Total Hours		

8. Expected learning outcomes of the program

Graduate Outcomes (GOs) for engineering from ICAEE,

1. An ability to distinguish, identify, define, formulate, and solve Power and Machines engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to produce engineering designs that meet desired needs within certain constraints by applying both analysis and synthesis in the design process.
3. An ability to create and carry out proper measurements and tests with quality assurance, analyze and interpret results, and utilize engineering judgment to make inferences.
4. An ability to skillfully communicate orally with a gathering of people and in writing with various managerial levels.
5. An ability to perceive ethical and professional responsibilities in engineering cases and make brilliant judgments, taking into account the consequences in worldwide financial, ecological, and societal considerations.
6. An ability to perceive the continual necessity for professional knowledge growth and how to find, assess, assemble, and apply it properly.
7. An ability to work adequately on teams and to set up objectives, plan activities, meet due dates, and manage risk and uncertainty.

Knowledge	
Learning Outcomes (**A**)	**Learning Outcome (GO 1)** : An ability to distinguish, identify, define, formulate, and solve Power and Machines engineering problems by applying principles of engineering, science, and mathematics. **Learning Outcome (GO 2)** : An ability to produce engineering designs that meet desired needs within certain constraints by applying both analysis and synthesis in the design process. **Learning Outcome (GO 3)** : An ability to create and carry out proper measurements and tests with quality assurance, analyze and interpret results, and utilize engineering judgment to make inferences. **Learning Outcome (GO 6)** : An ability to perceive the continual necessity for professional knowledge growth and how to find, assess, assemble, and apply it properly.
Skills	
Learning Outcomes **(B)**	**Learning Outcome (GO 4)** : An ability to skillfully communicate orally with a gathering of people and in writing with various managerial levels. **Learning Outcome (GO 7)** : An ability to work adequately on teams and to set up objectives, plan activities, meet due dates, and manage risk and uncertainty.
Ethics	
Learning Outcomes **(C)**	**Learning Outcome (GO 5)** : An ability to perceive ethical and professional responsibilities in engineering cases and make brilliant judgments, taking into account the consequences in worldwide financial, ecological, and societal considerations.

9. Teaching and Learning Strategies

- Power point lectures

- Whiteboard Lectures
- Tutorial
- Laboratory experiments
- Computer laboratories
- Video lectures
- Team works
- Case Studies

On-line lectures

10. Evaluation methods

- Mid-Term and Final exams
- Quizzes
- Technical Reports and Projects
- Laboratory Reports and Exams

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/ Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor	Power and Machines	Power and Machines			1	
Assist. Professor	Electrical Machines	Electrical Machines			1	
Assist. Professor	Communication Engineering	Communication Engineering			2	
Assist. Professor	Computer Networks and Communications	Computer Networks and Communications			2	
Lecturer	Nanotechnology	Nanotechnology			1	

Lecturer	Communication Engineering	Communication Engineering			2	
Lecturer	Power Electronics	Power Electronics			4	
Lecturer	Automatic Control	Automatic Control			4	
Lecturer	High Voltage	High Voltage			3	
Lecturer	Electronics and Communications	Electronics and Communications			1	
Assist. Lecturer	Power Electronics	Power Electronics			1	
Assist. Lecturer	Electronics	Electronics			5	
Assist. Lecturer	Power and Machines Engineering	Power and Machines Engineering			4	
Assist. Lecturer	Electrical Power Stations and Systems	Electrical Power Stations and Systems			2	
Lecturer	Power and Machines	Power and Machines			1	
Assist. Lecturer	Electronics and Communications	Electronics and Communications			1	

Professional Development

Mentoring new faculty members

The academic program is designed to comprehensively enhance the knowledge and skills of new faculty members across various educational fields. It begins by focusing on equipping faculty with the fundamental ability to effectively manage their courses. It then progresses to encompass the processes and procedures necessary to ensure the successful achievement of targeted learning outcomes in diverse programs.

To achieve these goals, the program includes the following key components:

1. **Educational Courses**: New faculty members participate in educational courses aimed at improving the quality of the educational learning process. These courses cover a range of topics, including:
    - **Training on Teaching Methods**: Instruction on effective strategies for engaging students and delivering course content.
    - **Designing Course Outlines**: Guidance on structuring and organizing course materials to optimize student learning.
    - **Modern Trends in University Teaching**: Exploration of innovative approaches to teaching and learning in higher education.
    - **Evaluating Student Learning**: Techniques for assessing student performance and understanding.
    - **Preparing Tests**: Strategies for creating fair and rigorous assessments.
    - **University Policies**: Familiarization with relevant laws, regulations, instructions, and e-learning platforms.
2. **Continuous Evaluation**: Faculty members, both full-time and part-time, undergo continuous evaluation to identify areas for development throughout their educational careers. This process helps ensure that faculty are continually improving and adapting to meet the evolving needs of students and the university.
3. **Professional Development Opportunities**: Faculty members are encouraged to participate in teaching staff development courses offered by the department or the university's continuing education unit. These courses provide opportunities for faculty to enhance their skills, stay current with trends in education, and collaborate with colleagues.

Professional development of faculty members

Continuous Learning Committee of the Electrical Engineering Department organizes lectures and workshops for faculty members in various fields. The professional development activities held in the past five academic years are listed as follows:

- ✓ Development of education methods and E-learning/ 8
- ✓ Scientific publications/64
- ✓ Academic accreditation/3
- ✓ Miscellaneous seminars in the Renewable energy sources and technologies/50
- ✓ Participation in conferences, seminars, workshops, and training courses outside Iraq/1
- ✓ Participation in conferences, seminars, workshops, and training courses inside Iraq/20

The faculty members actively participate in various workshops and training courses that fit their teaching, quality, and research skills. Last three academic years, 15 faculty members presented a total skills development (22 workshops/20 continuous education courses). The department encourages faculty members to attend conferences, seminars, workshops, and training courses for professional development.

12. Acceptance Criterion

To be eligible for admission to the Electrical Engineering Department at the undergraduate level, applicants must meet certain requirements. The admissions process is overseen by the Ministry of Higher Education and Scientific Research, which electronically manages and allocates student admissions to government institutions and faculties based on their secondary school grades. Here are some of the key requirements for student acceptance:

A- Iraqi Nationality and Year of Birth: Applicants must hold Iraqi nationality and be born in 1999 or later.

B- Iraqi Secondary School Certificate: Applicants need to possess a certificate issued by an Iraqi secondary school that is authorized by the Ministry of Education.

C- Medical Certificate: Applicants must provide a medical certificate to demonstrate that they meet the necessary health requirements.

D- Full-Time Student: Applicants should commit to being full-time students, dedicating their time and efforts to their studies in the department.

E- Not acceptable and continues to study in another college.

F- Non-Iraqi students (arrivals) who obtained a certificate of an Iraqi secondary school admitted according to the central acceptance.

G- Admission 10% of the top graduates of technical institutes.

H- Acceptance of talented students.

13. The most important sources of information about the program

Guidebook for Mosul University The departmental website:

https://uomosul.edu.iq/en/engineering/electrical-engineering-dept/

14. Program Development Plan

To enhance the quality of education, elevate graduate outcomes, and meet the competencies required by increasingly complex societies, the department council has decided to adopt the "Bologna process system of Education." This system incorporates the European Credit Transfer and Accumulation System (ECTS) instead of the traditional course-based system, aligning with the department's commitment to continuous improvement. The new system will be implemented starting in the academic year .

The adoption of the Bologna process is expected to yield several benefits:

- **Student-Centered Learning**: The system places students at the core of the learning process, enhancing the overall education system.
- **Increased Class Interaction**: The constant engagement between teachers and students promotes a more dynamic learning environment.

- **Focus on Professional and Practical Skills:** Emphasis is placed on acquiring practical skills relevant to professional development.
- **Opportunity for Continuous Learning:** Students will have the opportunity for ongoing learning, assessment, and feedback.
- **Biannual Performance Evaluation:** The system allows for the evaluation of student performance twice a year, providing more comprehensive feedback.
- **Enhanced Subject Understanding:** The system is expected to facilitate a deeper understanding of subjects among students.

Program Skills Outline															
Learning outcomes required from the program															
Values				Skills				Knowledge				Basic or optional	Course Name	Course Code	2025-2024 / First Level
C4	C3	C2	C1	B4	B3	B2	B1	A4	A3	A2	A1				
											✔	Basic	Arabic Language	UOM1011	
✔			✔		✔			✔		✔		Basic	Computer 1	UOM1031	
		✔		✔		✔			✔		✔	Support	Mechanical Engineering	EE105	
		✔		✔		✔	✔	✔	✔			Core	Basics of Electrical Engineering I	EE101	
		✔		✔		✔			✔		✔	Support	Mathematics I	EE102	
	✔		✔		✔			✔		✔		Support	Engineering Drawing	EE103	
✔		✔		✔			✔		✔		✔	Basic	Physics	EE104	
		✔			✔		✔				✔	Basic	English Language 1	UOM1021	
✔			✔		✔			✔		✔		Basic	Democracy and Human Rights	UOM1040	

		✔		✔		✔			✔		✔	Core	Digital Technologies	EE111
		✔		✔		✔	✔	✔	✔			Core	Basics of Electrical Engineering II	EE108
		✔		✔		✔			✔		✔	Basic	Mathematics II	EE109
	✔		✔		✔			✔		✔		Basic	Computer Programming	EE110
✔		✔		✔			✔		✔		✔	Basic	Electronics Physics	EE112

Program Skills Outline															
Learning outcomes required from the program															
Values				Skills				Knowledge				Basic or optional	Course Name	Course Code	2025-2025 / Level 2
C4	C3	C2	C1	B4	B3	B2	B1	A4	A3	A2	A1				
	✔	✔					✔				✔	Core	Electrical Circuits Analysis I	EEPM201	
✔			✔		✔			✔		✔		Basic	Engineering Mathematics I	EEPM202	
		✔		✔		✔			✔		✔	Core	Electromagnetic Fields	EEPM203	
		✔		✔		✔	✔	✔	✔			Core	Electrical Transformers	EEPM204	
		✔		✔		✔			✔		✔	Basic	Electronics Principles	EEPM205	
	✔		✔		✔			✔		✔		Core	Electrical Engineering Laboratories I	EEPM206	
✔		✔		✔			✔		✔		✔	Basic	Crimes of the Baath regime in Iraq	UOM2050	

		✔			✔		✔				✔	Basic	Arabic Language 2	UOM2012	
✔			✔		✔			✔		✔		Core	Electrical Circuits Analysis II	EEPM208	
		✔		✔		✔			✔		✔	Basic	Engineering Mathematics II	EEPM209	
		✔		✔		✔	✔	✔	✔			Core	DC Machines	EEPM210	
		✔		✔		✔			✔		✔	Basic	Distribution Systems	EEPM211	
	✔		✔		✔			✔		✔		Core	Renewable Energies Siences	EEPM212	
✔		✔		✔			✔		✔		✔	Core	Electrical Engineering Laboratories II	EEPM213	
	✔		✔		✔			✔		✔		Basic	English Language 2	UOM2022	
✔		✔		✔			✔		✔		✔	Basic	Computer 2	UOM2032	

Program Skills Outline															
Learning outcomes required from the program															
Values					Skills			Knowledge				Basic or optional	Course Name	Course Code	2025-2024 / Level 3
C4	C3	C2	C1	B4	B3	B2	B1	A4	A3	A2	A1				
	✔	✔					✔				✔	elective	Numerical analyses	ENGE 320	
✔			✔		✔			✔		✔		Compulsory	Statistics	ENGC 327	
		✔		✔		✔			✔		✔	Compulsory	Transmission Systems	TRSY300	
		✔		✔		✔	✔	✔	✔			Compulsory	Power Electronics II	PECT302	
		✔		✔		✔			✔		✔	Compulsory	Induction Machines	INMA304	
	✔		✔		✔			✔		✔		Compulsory	Power & Machine Lab I	PLAB306	
✔		✔		✔			✔		✔		✔	Compulsory	Electrical circuits Design	ELCD312	
		✔			✔		✔				✔	elective	Renewable Energy	RENE314	

✔			✔		✔			✔		✔			Digital Signal Processing	DSPP405	
		✔		✔		✔			✔		✔	elective	Microprocessors	MICP316	
		✔		✔		✔	✔	✔	✔				Electrical circuit design	ELCD 312	
		✔		✔		✔			✔		✔		English Intermediate	-	
	✔		✔		✔			✔		✔		Compulsory	Engineering Economics	ENGC 326	
✔		✔		✔			✔		✔		✔	Compulsory	Electrical Measurements	MINS350	
		✔		✔		✔			✔		✔	Compulsory	Introduction to Control Systems	ICOS352	
		✔		✔		✔	✔	✔	✔			Compulsory	Electronic and Communication Systems	ECSS354	
		✔		✔		✔			✔		✔	Compulsory	Synchronous Machines	SYMA356	
	✔		✔		✔			✔		✔		Compulsory	Power & Machine Lab II	PLAB358	
✔		✔		✔			✔		✔		✔	elective	Programmable Controllers	PCON362	

	✔		✔		✔			✔		✔			Artificial Intelligence	AINT364	

Program Skills Outline															
Learning outcomes required from the program															
Values					Skills			Knowledge				Basic or optional	Course Name	Course Code	2024-2025 / Level 4
C4	C3	C2	C1	B4	B3	B2	B1	A4	A3	A2	A1				
	✔	✔					✔				✔	Compulsory	Power System Analysis	PSAN400	
✔			✔		✔			✔		✔		Compulsory	Control Systems Analysis	COSA402	
		✔		✔		✔			✔		✔	Compulsory	Single-Phase Induction motors	SPIM404	
		✔		✔		✔	✔	✔	✔			Compulsory	Power Generating Stations	PGST406	
		✔		✔		✔			✔		✔	Compulsory	Power& Machine Lab III	MLAB408	
	✔		✔		✔			✔		✔		Compulsory	Graduation Project I	GPRO410	
✔		✔		✔			✔		✔		✔	Compulsory	High Voltage DC	HVDC414	
		✔			✔		✔				✔	elective	Smart Power Grid Systems	SGRD 416	

		✔		✔		✔			✔		✔	Compulsory	Professional Ethics	UOMC 104	
		✔		✔		✔	✔	✔	✔			Compulsory	Post-Intermediate English	-	
		✔		✔		✔			✔		✔	Compulsory	Engineering Management	ENGC425	
	✔		✔		✔			✔		✔		Compulsory	Power System Protection	PSPR450	
✔		✔		✔			✔		✔		✔	Compulsory	High Voltage Engineering	HVEN452	
		✔			✔		✔				✔	Compulsory	Special Electrical Machines	SPEM458	
✔			✔		✔			✔		✔		Compulsory	Graduation Project II	GPRO 454	
		✔		✔		✔			✔		✔	elective	Power& Machine Lab IV	MLAB456	
		✔		✔		✔	✔	✔	✔			elective	Electrical Drives	ELDR462	
		✔		✔		✔			✔		✔	elective	Energy Management	ENEM460	