

**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

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 (annual, quarterly), 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: Diyala
Faculty/Institute: College of Engineering
Scientific Department: Department of Electrical Power and Machines Engineering
Academic or Professional Program Name: Bachelor
Final Certificate Name: Bachelor of science in Electrical Power and Machines Engineering
Academic System: Course
Description Preparation Date: 13/8/2024
Completion Date: 13/8/2024

Signature: 
Head of Department Name:
Assit. prof. Dr. Balasim M. Hussein
Date: 13/8/2024

Signature: 
Scientific Associate Name:
Ass. prof. Dr. 
Date: 13/8/2024



The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Date:
Signature: 


Approval of the Dean

Prof. Dr. Anees A. Khaden

Course description form

1. Course Name	
Systems and Signals	
2. Course Code	
3. Semester/Year	
1 st Semester/Third Year	
4. The date this description was prepared	
2023 / 9 / 17	
5. Available forms of attendance	
Face-to-Face theoretical lectures	
6. Number of study hours (total) / number of units (total)	
30/2	
7. Name of the course administrator	
Name: Asst. Prof. Omar Abbood Imran Email: omarimran53@uodiyala.edu.iq	
8. Course objectives	
Objectives of the study subject	<ol style="list-style-type: none">1. Develop problem-solving skills and understand the principles of signaling systems.2. Understand the basic concepts of analyzing and processing incoming signals after they pass through multistages of signal amplification.3. Identify the types of amplifiers and their applications in electrical circuits.
9. Solution of non-linear equations and root findings.	
The Strategy	<ul style="list-style-type: none">• Weekly lectures included providing students with the basics and topics related to the pre-skills education outcomes to solve practical problems through presentation, lecture, or conducting experiments.• Solve a group of practical and applied examples by faculty members.• Through discussion, students participate in solving some practical problems.

	<ul style="list-style-type: none"> • Practical laboratories in the department are monitored by faculty members in the department. • Asking the student to visit the library and the international information network (the Internet) to obtain additional knowledge of the academic subjects. • Presenting a seminar to the student in front of his fellow students to enhance his self-confidence.
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10. Numerical integration and differentiation.

Week	Hours	Name of the unit or topic	Required learning outcomes	Learning method	Interpolation and solving differential equations.
1	2	Small Signal	Introduction to small sine signals	Whiteboard and Data show	Daily, oral, monthly, written examinations and reports
2	2	Multistage system and frequency consideration	Explanation of multistage systems	Whiteboard and Data show	Daily, oral, monthly, written examinations and reports
3	2	Feedback amplifier	Completing the topic of multi-stage systems.	Whiteboard and Data show	Daily, oral, monthly, written examinations and reports
4	2	OP-Amp and applications	Signal amplifiers and their applications	Whiteboard and Data show	Daily, oral, monthly, written examinations and reports
5	2	Oscillators	Oscillating signals	Whiteboard and Data show	Daily, oral, monthly, written examinations and reports
6	2	Basic principles of sinusoidal oscillators, positive feedback and oscillation, the oscillation criterion (Barkhausen criterion).	Completing the topic of oscillating signals	Whiteboard and Data show	Daily, oral, monthly, written examinations and reports
7	2	RC oscillator: RC phase shift oscillator and Wien-bridge oscillator.	Explanation of RC oscillators, Wien-bridge	Whiteboard and Data show	Daily, oral, monthly, written examinations and reports

8	2	LC and crystal oscillator.	Explanation of LC oscillators	Whiteboard and Data show	Daily, oral, monthly, written examinations and reports
9	2	Large Signal Amplifier	Introduction to large sine signals	Whiteboard and Data show	Daily, oral, monthly, written examinations and reports
10	2	Sequential Circuit Design	Sequential circuit design	Whiteboard and Data show	Daily, oral, monthly, written examinations and reports
11	2	Introduction to Programmable Logic Devices	Introduction to programmable logic devices	Whiteboard and Data show	Daily, oral, monthly, written examinations and reports
12	2	Applications Interfacing:	Explanation of application interfaces	Whiteboard and Data show	Daily, oral, monthly, written examinations and reports
13	2	Arithmetic Processes	Explanation of arithmetic processors	Whiteboard and Data show	Daily, oral, monthly, written examinations and reports
14	2	Electronic memory circuit	Explanation of the electronic memory circuit	Whiteboard and Data show	Daily, oral, monthly, written examinations and reports
15	2	Exam.	Semester Exam.	Whiteboard and Data show	Daily, oral, monthly, written examinations and reports

11. Course Evaluation

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.

12. Learning and teaching resources

Required textbooks (methodology, if any)	<ul style="list-style-type: none"> • Electronic circuits
Main references (sources)	<ul style="list-style-type: none"> • Modern digital & analog communication systems by lathi • Principles of communications by Zlemer
Recommended supporting books and references (scientific journals, reports....)	<ul style="list-style-type: none"> • Electronic Devices and Circuit Theory 7th Edition by Boylestad
Electronic references, Internet sites	

