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:
ASSL 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. Khadom

Course description form

1. Course Name	
Communication Systems	
2. Course Code	
EP305	
3. Semester/Year	
2n'd 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: Lect. Saja Mazin Sami Email: **S.M.sami**@uodiyala.edu.iq	
8. Course objectives	
Objectives of the study subject	The Communication Systems curriculum aims to introduce the student to basic communications skills, types of modulation, as well as SNR calculation.
9. Teaching and learning strategies.	
The Strategy	1 - Providing students with the basics and additional topics related to the previous educational outcomes and skills to solve practical problems. 2- Solving a group of practical examples by the academic staff. 3- During the lecture, students participate in solving some practical

			problems. .		
10. Course Structure.					
Wek	**Hours**	**Name of the unit or topic**	**Required learning outcomes**	**Learning method**	Interpolation and solving differential equations.
Week 1 to 2Week	4	Introduction to communication system ,channel band width and rate transmission	The student learns about the communications and signals system and its characteristics	Whiteboard and Data show	Daily, oral, monthly, written examinations and reports
3Week to 6Week	8	AM Concepts Modulation Index and Percentage of Modulation Sidebands and the Frequency Domain Pulse Modulation AM Power Single-Sideband Modulation Disadvantages of DSB and SSB Applications of DSB and SSB	The student learns about the most important principles of amplitude modulation and its types	Whiteboard and Data show	Daily, oral, monthly, written examinations and reports
7Week to Week 11	10	Fundamentals of Frequency Modulation Basic Principles of Frequency Modulation FM Signal Bandwidth Noise-	The student learns about the most important principles of frequency modulation and its types.	Whiteboard and Data show	Daily, oral, monthly, written examinations and reports

		Suppression Effects of FM Pre-emphasis Generation of FM Demodulation of FM (Balanced slope detection): Frequency Modulation Versus Amplitude Modulation ,SNR			
Week to 12 Week 15	8	Introduction to digital communication systems The sampling theorem , reconstruction and aliasing ,PCM	The student learns an introduction to digital communications and the series of techniques. used to convert an analog signal to digital	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)	• Hewi Hsu, Ph.D, Analog and Digital Communications, 4th Edition, 2009, SCHAUM'S outlines
Main references (sources)	• 1st Edition Optical Modulation Advanced Techniques and

	Applications in Transmission Systems and Networks.
Recommended supporting books and references (scientific journals, reports....)	British BS-Std American IEEE, ANSI and German VDE.
Electronic references, Internet sites	Any other materials available on the web.