

*Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation
International Accreditation Dept.*

Academic Program Specification Form For The Academic

*University: University of Baghdad
College : AlKhwazizmi College of Engineering
Number Of Departments In The College :
Date Of Form Completion : October, 2023*

Dean's Name

Date : / /

Signature

*Dean's Assistant For
Scientific Affairs*

Date : / /

Signature

*The College Quality Assurance
And University Performance
Manager*

Date : / /

Signature

Quality Assurance And University Performance Manager

Date : / /

Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	University of Baghdad/Al_Khwarizmi College of Engineering
2. University Department/Centre	Information and Communication Engineering
3. Programme Title	Signal and System II
4. Title of Final Award	BSc degree in Information and Communication Engineering
5. Modes of Attendance offered	Attendance is according to the university rules in 2023-2024
6. Accreditation	Abet
7. Other external influences	
8. Date of production/revision of this specification	2023
9. Aims of the Programme	
Students completing this course are expected to have a good understanding of the fundamentals and applications of discrete-time signals and systems, convolution, and z transforms	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

At the completion of the course, students will be able to...

- A1. an ability to apply knowledge of mathematics, science and engineering.
- A2. an ability to design and conduct experiments, as well as to analyze and interpret data.
- A3. an ability to design a system, component, or process to meet desired needs
- A4. an ability to identify, formulate, and solve engineering problems
- A5. an ability to communicate effectively
- A6. Recognition of the need for, and an ability to engage in life-long learning
- A7. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
- A8. An ability to work in a hand-on laboratory in most of required courses.

B. Subject-specific skills

- B1. Review of discrete time signals and systems: linearity, time invariance, causality, stability, and convolution.
- B2. Z-transform and inverse z-transform.

Teaching and Learning Methods

Lectures, Presentations, Recitation and Documentations

Assessment methods

- homework 10%
- quizzes - 20%
- midterm -10%
- final exam - 60%

C. Affective and value goals

C1. Ability to apply knowledge of mathematics, science and engineering.

C2. Ability to identify, formulate and solve engineering problems.

C3. Ability to use the techniques, skills and modern engineering tools necessary for engineering practice.

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. Ability to design and conduct experiments.

D2. Ability to design a system, component or process to meet desired needs

Teaching and Learning Methods

Lectures, Presentations, Recitation and Documentations

11. Programme Structure

Level/Year	Course or Module Code	Course or Module Title	Credit rating	12. Awards and Credits
2 nd		Signal and System II		Bachelor Degree

				Requires (3) credits

13. Personal Development Planning

1. provide strong foundation in mathematical, scientific and engineering fundamentals necessary to analyze, formulate and solve engineering problems in the field of Information and Communication Engineering.
2. enhance the skills and experience in defining problems in Information and Communication Engineering design and implement, analyzing the experimental evaluations, and finally making appropriate decisions.
3. enhance their skills and embrace new Information and Communication Engineering Technologies through self-directed professional development and post-graduate training or education.

14. Admission criteria.

According to the rules of Ministry of Higher Education and Scientific Research in Iraq.

15. Key sources of information about the programme

1. Books
2. Trusted Internet sources related to the Program
3. Papers.

9. Learning Outcomes, Teaching ,Learning and Assessment Method

A- Cognitive goals.

B- Knowledge and Understanding

At the completion of the course, students will be able to...

A1. an ability to apply knowledge of mathematics, science and engineering.

A2. an ability to design and conduct experiments, as well as to analyze and interpret data.

A3. an ability to design a system, component, or process to meet desired needs

A4. an ability to identify, formulate, and solve engineering problems

A5. an ability to communicate effectively

A6. Recognition of the need for, and an ability to engage in life-long learning

A7. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

A8. An ability to work in a hand-on laboratory in most of required courses.

B. Subject-specific skills

B1. Review of discrete time signals and systems: linearity, time invariance, causality, stability, and convolution.

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homework 10%

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C. Affective and value goals

C1. Ability to apply knowledge of mathematics, science and engineering.

C2. Ability to identify, formulate and solve engineering problems.

C3. Ability to use the techniques, skills and modern engineering tools .necessary for engineering practice

Teaching and Learning Methods

Assessment methods

homework 10%

quizzes - 20%

midterm -10%

final exam - 60%

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	3		Fundamentals of Signals	Classroom with whiteboard	Quizzes
2	3		- Fundamentals of systems	Classroom with whiteboard	Quizzes
3	3		-Classification of signals.	Classroom with whiteboard	Quizzes
4	3		- Classification of systems	Classroom with whiteboard	Quizzes
5	3		Linearity, causality, time-invariance, stability	Classroom with whiteboard	Quizzes
6	3		- LIT System properties.	Classroom with whiteboard	Quizzes
7	3		Basic Building Blocks of system	Classroom with whiteboard	Quizzes
8	3		- convolution	Classroom with whiteboard	Quizzes
9	3		- convolution	Classroom with whiteboard	Quizzes
10	3		Prosperities of Convolution	Classroom with whiteboard	Quizzes
11	3		Correlation	Classroom with whiteboard	Quizzes
12	3		System Described by Linear-Constant Coefficient Difference Equation	Classroom with whiteboard	Quizzes
13	3		Z-Transform	Classroom with whiteboard	Quizzes
14	3		-properties of Z-transform	Classroom with whiteboard	Quizzes
15	3		-inverse Z-transform	Classroom with whiteboard	Quizzes

11. Infrastructure	
1. Books Required reading:	
2. Main references (sources)	
A- Recommended books and references (scientific journals, reports...).	
B-Electronic references, Internet sites...	

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Text Book1: Dimitris M., Vinay I."Applied digital signal processing" Cambridge, 2011. Text Book2: Luis Chaparro" Signal and system using Matlab" 2011 Elsevier Inc
Special requirements (include for example workshops, periodicals, IT software, websites)	Nil.
Community-based facilities (include for example, guest Lectures , internship , field studies)	Summer training, Scientific visits.