

*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:

College :

Number Of Departments In The College :

Date Of Form Completion :

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	Signals and Systems I
4. Title of Final Award	BSc degree in Information and Communication Engineering
5. Modes of Attendance offered	Attendance is mandatory according to the university rules
6. Accreditation	Abet
7. Other external influences	
8. Date of production/revision of this specification	Nov. 2023
9. Aims of the Programme	
<ul style="list-style-type: none">- Introduce students to the basic concepts of signals, system modelling, and system classification;- to develop students' understanding of time-domain and frequency domain approaches to the analysis of continuous and discrete systems;- to provide students with necessary tools and techniques to analyze electrical networks and systems;- to develop students' ability to apply modern simulation software to system analysis.	

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10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Cognitive goals

- A1. Mathematical tools relevant to communications and electronics systems.
- A2. Fundamental technological concepts, principles, and techniques associated with electronics and communications systems.
- A3. The structure of different communication systems.
- A4.
- A5.
- A6.

B. The skills goals special to the programme .

- B1. Develop a strong grounding in the fundamentals and how to apply them
- B2. Understanding, designing and developing different communication and electronic systems for processing signals and data.
- B3.

Teaching and Learning Methods

Lectures, Presentations, Recitation and Documentations

Assessment methods

homework 10%
quizzes - 15%
midterm -15%
final - 60%

C. Affective and value goals

- C1. Use appropriate numerical and mathematical skills to describe, analyze and solve a problem in electronics or/and communication system.
- C2. Analyze, design, evaluate, system behavior and test electronic or/and communication system using simulation or computer-based tool (engineering software tool).
- C3. Undertake ongoing learning in order to keep up to date in the field on electronics and communication technologies.
- C4.

Teaching and Learning Methods

Lectures, Presentations, Recitation and Documentations

Assessment methods
homework 10% quizzes - 15% midterm -15% final - 60%

D. General and Transferable Skills (other skills relevant to employability and personal development)
D1. Manage tasks, and solve problems.
D2. Negotiate learning contracts.
D3. Think logically and critically.
D4. Use a range of technological equipment and systems.

Teaching and Learning Methods

Lectures, Presentations, Recitation and Documentations

Assessment Methods

homework 10%
quizzes - 15%
midterm -15%
final - 60%

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
2nd		Signals and Systems I		Bachelor Degree Requires (3) credits

13. Personal Development Planning

1. Manage tasks, and solve problems.
2. Negotiate learning contracts.
3. Think logically and critically.
4. Use a range of technological equipment and systems.

14. Admission criteria .

attendance is mandatory according to the university rules

15. Key sources of information about the programme

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

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course 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 should be cross-referenced with the programme specification.

1. Teaching Institution	University of Baghdad/Al_Khwarizmi College of Engineering
2. University Department/Centre	Information and Communication Engineering
3. Course title/code	Signals and Systems I
4. Modes of Attendance offered	attendance is mandatory according to the university rules
5. Semester/Year	Autumn / 2023-2024
6. Number of hours tuition (total)	45
7. Date of production/revision of this specification	Nov. 2021
8. Aims of the Course	
	<ul style="list-style-type: none">- Introduce students to the basic concepts of signals, system modelling, and system classification;- to develop students' understanding of time-domain and frequency domain approaches to the analysis of continuous and discrete systems;- to provide students with necessary tools and techniques to analyze electrical networks and systems;- to develop students' ability to apply modern simulation software to system analysis.

9. Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Cognitive goals .

At the completion of the course, students will obtain knowledge and understanding of:

- A1. Mathematical tools relevant to communications and electronics systems.
- A2. Fundamental technological concepts, principles, and techniques associated with electronics and communications systems.
- A3. The structure of different communication systems.
- A4.
- A5.
- A6 .

B. The skills goals special to the course.

The students will acquire and develop the thinking skills that should enable them to:

- B1. Develop a strong grounding in the fundamentals and how to apply them
- B2. Understanding, designing and developing different communication and electronic systems for processing signals and data.
- B3.

Teaching and Learning Methods

Lectures, Presentations, Recitation and Documentations

Assessment methods

homework 10%
quizzes - 15%
midterm -15%
final - 60%

C. Affective and value goals

Students will acquire and develop the practical skills that should allow them to:

- C1. Use appropriate numerical and mathematical skills to describe, analyze and solve a problem in electronics or/and communication system.
- C2. Analyze, design, evaluate, system behavior and test electronic or/and communication system using simulation or computer-based tool (engineering software tool).
- C3. Undertake ongoing learning in order to keep up to date in the field on electronics and communication technologies.
- C4.

Teaching and Learning Methods

Lectures, Presentations, Recitation and Documentations

Assessment methods

homework 10%

quizzes - 15%

midterm -15%

final - 60%

D. General and rehabilitative transferred skills (other skills relevant to employability and personal development)

Students will acquire and develop the key transferable skills that will enable them to:

D1. Manage tasks, and solve problems.

D2. Negotiate learning contracts.

D3. Think logically and critically.

D4. Use a range of technological equipment and systems.

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	3	Ability to apply knowledge of mathematics	Introduction to Signals	Classroom with whiteboard	Quizzes
2	3	Identify basic electromagnetic fields	Introduction to Systems	Classroom with whiteboard	Quizzes
3	3	Identify basic of electromagnetic fields	Fourier series (FS): Trigonometric FS.	Classroom with whiteboard	Quizzes
4	3	Identify mathematics of plane waves	Fourier series (FS): Exponential FS.	Classroom with whiteboard	Quizzes
5	3	Identify mathematics of plane waves	Fourier series (FS): Line Spectra and RMS	Classroom with whiteboard	Quizzes
6	3	Identify mathematics of plane waves	FS Applications	Classroom with whiteboard	Quizzes
7	3	Identify mathematics of plane waves	Fourier Transform (FT)	Classroom with whiteboard	Quizzes
8	3	Identify mathematics of plane waves	Fourier Transform (FT) (cont.)	Classroom with whiteboard	Quizzes
9	3	Identify mathematics of plane waves	RLC Passive Filters	Classroom with whiteboard	Quizzes
10	3	Identify mathematics of plane waves	- Signal transmission through a linear system	Classroom with whiteboard	Quizzes
11	3	Identify basic antenna parameters	Modulation, Convolution and Correlation Properties	Classroom with whiteboard	Quizzes
12	3	Identify basic antenna parameters	Power Spectral Density (PSD) and Energy Spectral Density (ESD)	Classroom with whiteboard	Quizzes
13	3	Identify basic antenna parameters	Laplace Transform (LT)	Classroom with whiteboard	Quizzes
14	3	Identify basic antenna parameters	Inverse LT	Classroom with whiteboard	Quizzes
15	3	Identify basic antenna parameters	Application of LT	Classroom with whiteboard	Quizzes

11. Infrastructure	
1. Books Required reading:	Text book 1 : B. P. Lathi, "Modern Digital and Analog Communication Systems", McGraw Hill press, 2010
2. Main references (sources)	Text book 2 : B. P. Lathi, "Modern Digital and Analog Communication Systems", McGraw Hill press, 1998
A- Recommended books and references (scientific journals, reports...).	
B-Electronic references, Internet sites...	1- http://www.ws.binghamton.edu/fowler/fowler%20personal%20page/ee301.htm 2- http://pages.jh.edu/~signals/ 3- http://bonnie.ece.gatech.edu/book3/

12. The development of the curriculum plan
<p>This course is under constant revision in order to improve the learning outcomes of its students.</p> <ul style="list-style-type: none"> - Re-evaluate goals or objectives - Keep a track of student skills that are sought after - Take job trends into consideration - Make advanced technology a constant in courses offered - Student Feedback and Assessments - Choose a Supportive Program or Software