

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	Electronic Systems
4. Title of Final Award	BSc degree in Information and Communication Engineering
5. Modes of Attendance offered	Attendance is is Classroom (Electronic Lectures and learning) according to the university rules in 2023-2024
6. Accreditation	Abet
7. Other external influences	
8. Date of production/revision of this specification	Oct 2023
9. Aims of the Program	<i>Learn the basic Electronic systems fundamentals. Be able to to analyze Electronic circuits & design digital & analog electronic systems.</i>

10. Learning Outcomes, Teaching, Learning and Assessment Methods
<p>A- Knowledge and Understanding</p> <p>A1. Mathematical tools relevant to communications and electronics systems A2. Fundamental technological concepts, principles, and techniques associated with Electronic systems. A3. The structure of different Electronic systems. A4. The way of thinking and how to design. A5. The methods of developing an electronic system. A6 . Design and simulate different analog or digital electronic systems</p>
<p>B. Subject-specific skills The students will acquire and develop the thinking skills that should enable them to:</p> <p style="padding-left: 40px;">B1. Understanding, designing and developing electronic systems for processing signals and data.</p>
<p>C. Affective and value goals</p> <p>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.</p>
<p>D. General and Transferable Skills (other skills relevant to employability and personal development)</p> <p>D1. Ability to analyse a cct., component or process to meet desired needs D2. Think logically and critically.</p>
Teaching and Learning Methods
<p>Classroom assignments and homework Individual projects and groups Practical activities</p>
Assessment methods
<p>Homework-10% quizzes - 15% midterm -15% practical LAB-10% final - 50%</p>

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

13. Personal Development Planning
<ol style="list-style-type: none"> 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
<ol style="list-style-type: none"> 1. Books 2. Trusted Internet sources related to the Program 3. Papers.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

Different Communications systems spread widely along the world nowadays, especially for long distance communications, and Local Area Network LAN. This course is organized as a mandatory course for next different communication engineering courses.

1. Teaching Institution	University of Baghdad/Al_Khwarizmi College of Engineering
2. University Department/Centre	Information and Communication Engineering
3. Course title/code	Electronic Systems
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)	75
7. Date of production/revision of this specification	Oct 2023

8. Aims of the Course

Learn the basic Electronic systems fundamentals. Be able to to analyze Electronic circuits & design digital & analog electronic systems.

9. Learning Outcomes, Teaching, Learning and Assessment Methods

B- Knowledge and Understanding

- A1. Mathematical tools relevant to communications and electronics systems
- A2. Fundamental technological concepts, principles, and techniques associated with Electronic systems.
- A3. The structure of different Electronic systems.
- A4. The way of thinking and how to design.
- A5. The methods of developing an electronic system.
- A6 . Design and simulate different analog or digital electronic systems

B. Subject-specific skills

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

- B1. Understanding, designing and developing electronic systems for processing signals and data.

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 analyse a cct., component or process to meet desired needs
- D2. Think logically and critically.

Teaching and Learning Methods

Classroom assignments and homework
Individual projects and groups
Practical activities

Assessment methods

Homework-10%
quizzes - 15%
midterm -15%
practical LAB-10%
final - 50%

10. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	3	Operational Amplifiers	Basic concepts and basic laws	Classroom with whiteboard	Quizzes
2	3	Inverting- non-inverting configuration	Circuit variables and circuit elements	Classroom with whiteboard	Quizzes
3	3	Integrator, Differentiator	Operation, design equs, derivations		
4	3	Summing amplifiers, Comparators & Schmitt Trigger	Operation, design equs, derivations	Classroom with whiteboard	Quizzes
5	3	Multivibrators Monostable, bistable, astable opamp MMV	Basic concepts & types Operation, design equs, derivations	Classroom with whiteboard	Quizzes
6	3	Monostable, bistable, astable opamp using 555	Operation, design equs, derivations	Classroom with whiteboard	Quizzes
7	3	Active Filters	Basic concepts & types, response characteristics	Classroom with whiteboard	Quizzes
8	3	Butterworth, chebyshev approx.	Operation, design equs, derivations	Classroom with whiteboard	Quizzes
9	3	biquad sections	Operation, design equs, derivations	Classroom with whiteboard	Quizzes
10	3	Design filters	Complete analysis	Classroom with whiteboard	Quizzes
11	3	Sinusoidal Oscillators	Basic concepts & types, response characteristics	Classroom with whiteboard	Quizzes
12	3	R,C oscillators	Wien bridge, phase-shift	Classroom with whiteboard	Quizzes
13	3	Data Converters	Basic concepts, sample & hold, quantization	Classroom with whiteboard	Quizzes
14	3	D/A converters	Binary-weighted, R-2R ladder type	Classroom with whiteboard	Quizzes
15	3	A/D converters	Binary – counting, SAR (successful app. Register)	Classroom with whiteboard	Quizzes

11. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Text book 1: ELECTRONIC DEVICES AND CIRCUIT BY FLOYD.
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.

12. The development of the curriculum plan
Adding communication Application & examples with 555 timer