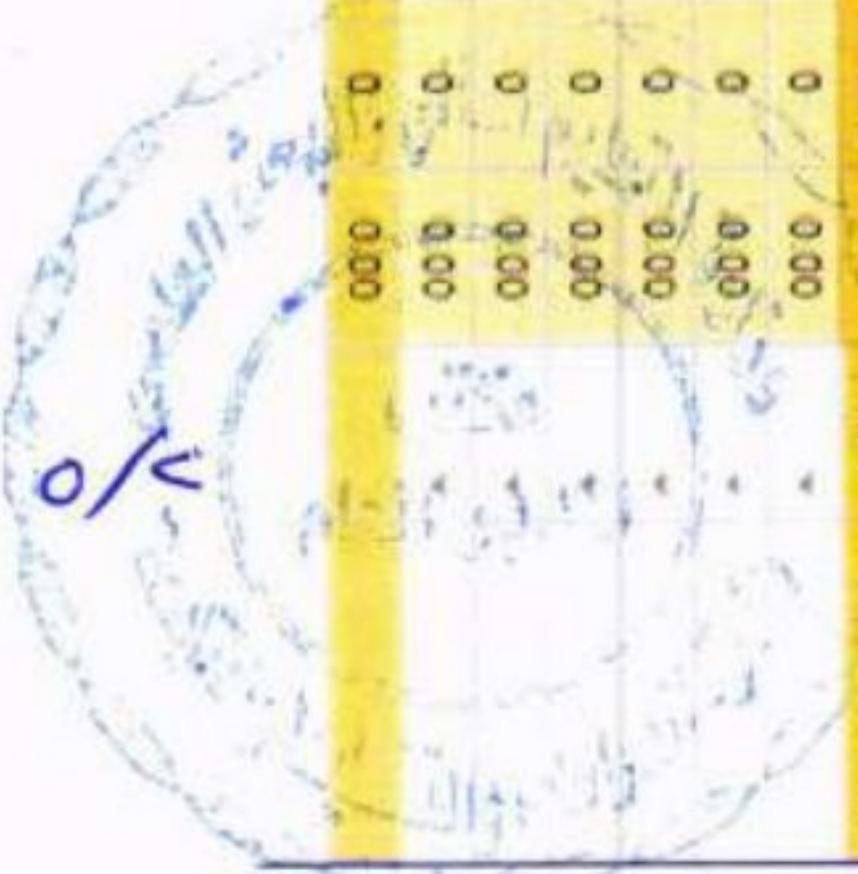





## الملحق ١: دليل المنهاج الدراسي

Republic of Iraq - Ministry of Higher Education and Scientific Research										جمهورية العراق - وزارة التعليم العالي والبحث العلمي										University Logo
Name of University										اسم الجامعة										
Bachelor's degree in Electrical Engineering (First cycle)										بكالوريوس في الهندسة الكهربائية (الدورة الأولى)										
Four years (Eight semesters) - 240 ECTS credits - 1 ECTS = 25hr										أربع سنوات (ثمانية فصول دراسية) - ٢٤٠ وحدة ائتمانية - كل وحدة ائتمانية = ٢٥ ساعة										
Program Curriculum (2023 - 2024)										المنهاج الدراسي للعام ٢٠٢٣-٢٠٢٤										
Level	Semester	No.	Module Code	Module Name in English	اسم الوحدة الدراسية	Language	CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Seminar (hr/w)	Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code	
UGI	One	1	UoB12345	Academic English	الإنجليزية الأكاديمية	English	4	1					2	72	53	125	5.00	B		
		2	UoB12346	Physical Electronics	الإلكترونيات الفيزيائية	English	4						2	58	97	125	5.00	B		
		3	UoB12347	Mathematics	الرياضيات	English	4				2		2	88	94	150	6.00	B		
		4	UoB12348	Electrical Circuits	الدوائر الكهربائية	English	4	1	2				4	102	98	200	8.00	C		
		5	UoB12349	Computer Programming	برمجة الحاسب الآلي	English	2		2				4	90	90	150	6.00	B		
		6													0		0	0.00		
Total							18	2	4	0	2	0	14	378	372	750	30.00			
UGI	Two	1												0		0	0.00			
		2												0		0	0.00			
		3												0		0	0.00			
		4												0		0	0.00			
		5												0		0	0.00			
		6												0		0	0.00			
Total							0	0	0	0	0	0	0	0	0	0.00				
Level	Semester	No.	Module Code	Module Name in English	اسم الوحدة الدراسية	Language	CL (hr/w)	Lect (hr/w)	SSWL (hr/w)			Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code		
									Lab (hr/w)	Pr (hr/w)	Tut (hr/w)									
									Seminar (hr/w)											
UGI	Three	1												0		0	0.00			
		2												0		0	0.00			
		3												0		0	0.00			
		4												0		0	0.00			
		5												0		0	0.00			
		6												0		0	0.00			
Total							0	0	0	0	0	0	0	0	0.00					
UGI	Semester	No.	Module Code	Module Name in English	اسم الوحدة الدراسية	Language	CL (hr/w)	Lect (hr/w)	SSWL (hr/w)			Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code		
									Lab (hr/w)	Pr (hr/w)	Tut (hr/w)									
									Seminar (hr/w)											
UGI	Four	1												0		0	0.00			
		2												0		0	0.00			
		3												0		0	0.00			
		4												0		0	0.00			
		5												0		0	0.00			
		6												0		0	0.00			
Total							0	0	0	0	0	0	0	0	0.00					







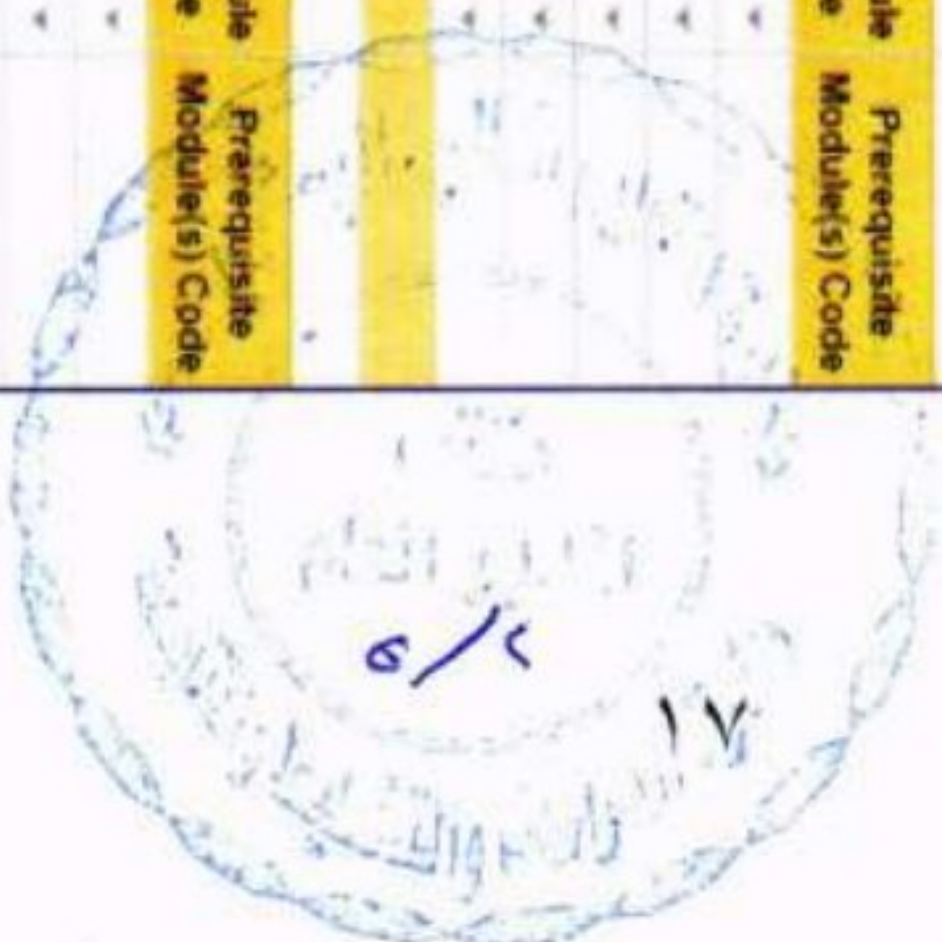
Level	Semester	No.	Module Code	Module Name in English	اسم الوحدة الدراسية	Language	CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Seminar (hr/w)	Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code	
	Five	1												0	0	0	0	0.00		
		2												0	0	0	0.00			
		3												0	0	0	0.00			
		4												0	0	0	0.00			
		5												0	0	0	0.00			
		6												0	0	0	0.00			
Total							0	0	0	0	0	0	0	0	0	0	0.00			
UGIII	Semester	No.	Module Code	Module Name in English	اسم الوحدة الدراسية	Language	CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Seminar (hr/w)	Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code	
		1												0	0	0	0.00			
		2												0	0	0	0.00			
		3												0	0	0	0.00			
		4												0	0	0	0.00			
		5												0	0	0	0.00			
Total							0	0	0	0	0	0	0	0	0	0	0.00			
	Six	1												0	0	0	0	0.00		
		2												0	0	0	0.00			
		3												0	0	0	0.00			
		4												0	0	0	0.00			
		5												0	0	0	0.00			
		6												0	0	0	0.00			
Total							0	0	0	0	0	0	0	0	0	0	0.00			
Level	Semester	No.	Module Code	Module Name in English	اسم الوحدة الدراسية	Language	CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Seminar (hr/w)	Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code	
		1												0	0	0	0.00			
		2												0	0	0	0.00			
		3												0	0	0	0.00			
		4												0	0	0	0.00			
		5												0	0	0	0.00			
Total							0	0	0	0	0	0	0	0	0	0	0.00			
UGIV	Semester	No.	Module Code	Module Name in English	اسم الوحدة الدراسية	Language	CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Seminar (hr/w)	Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code	
		1												0	0	0	0.00			
		2												0	0	0	0.00			
		3												0	0	0	0.00			
		4												0	0	0	0.00			
		5												0	0	0	0.00			
Total							0	0	0	0	0	0	0	0	0	0	0.00			
Note: The student should complete 4 weeks of Summer Internships to fulfil the requirements of the Bachelor's degree																				
Structured SWL (hr/w) type																				
CL Class Lecture																				
Lab Laboratory																				
Pr Practical Training																				
Tut Tutorial																				
Lect Online lecture																				
Seminar Seminar																				
Note: Columns O, Q, and R are programmed, protected and should not be edited																				
اسمح للوصول الى النسخة الالكترونية																				
																				
Must be 240 ECTS																				

Note: The student should complete 4 weeks of Summer internships to fulfil the requirements of the Bachelor's degree

Module Type

SWL: Student Workload  
SSWL: Structured SWL  
USSWL: Unstructured SWL

امسح للوصول الى النسخة الالكترونية







الملحق ٢ : دليل البرنامج الدراسي

دليل البرنامج الدراسي | 2023-2024 | Program Catalogue

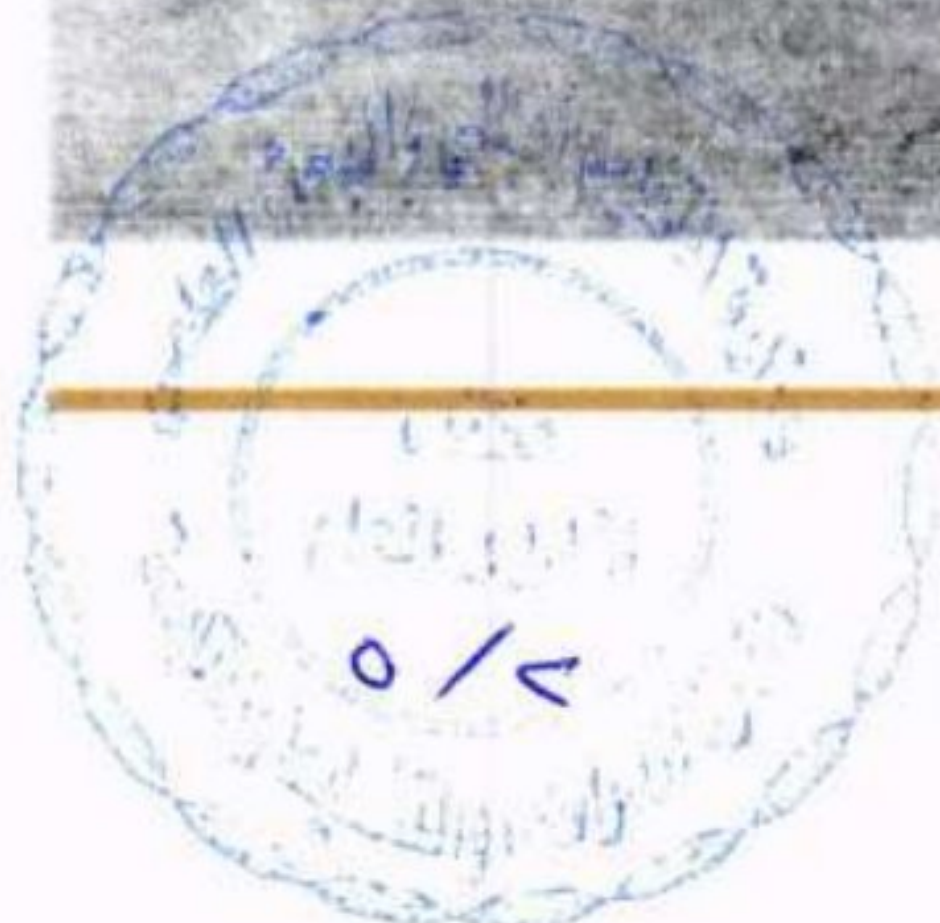
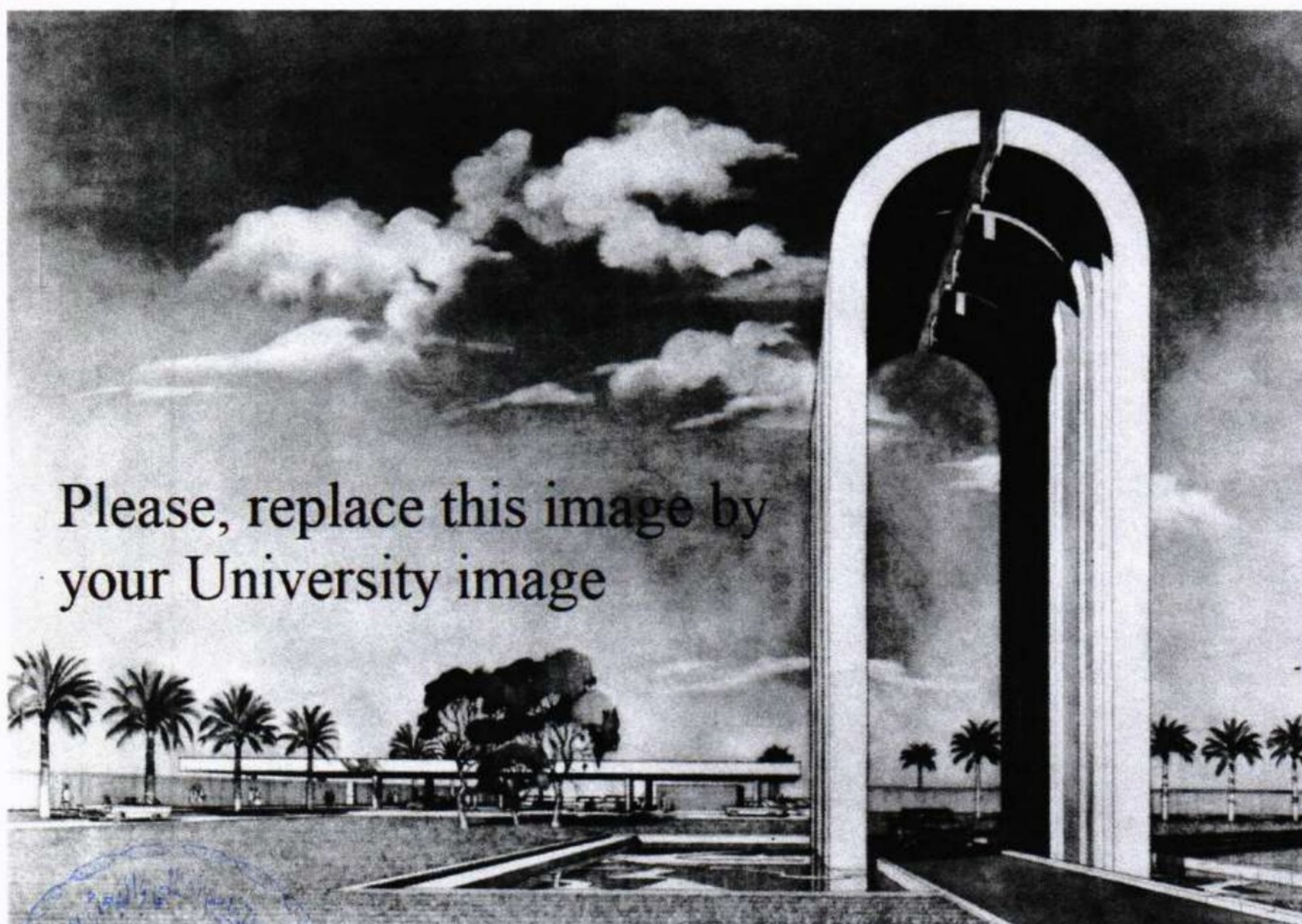
**Name of the University**

اسم الجامعة

University  
Logo

*First Cycle – Bachelor's degree (B.Sc.) – Biology*

بكالوريوس علوم - علم الأحياء







## Table of Contents | جدول المحتويات

1. Mission & Vision Statement	بيان المهمة والرؤية
2. Program Specification	مواصفات البرنامج
3. Program Goals	أهداف البرنامج
4. Student learning outcomes	مخرجات تعلم الطالب
5. Academic Staff	الهيئة التدريسية
6. Credits, Grading and GPA	الاعتمادات والدرجات والمعدل التراكمي
7. Modules	المواد الدراسية
8. Contact	اتصال

### 1. Mission & Vision Statement

#### *Vision Statement*

The biology academic staff of the Natural and Behavioral Sciences Division at (Name) University believe that students come to understand the discipline of biology through a combination of course work, laboratory experiences, research, and fieldwork. The combination of instructional methods leads students to a balanced understanding of the scientific methods used by biologists to make observations, develop insights and create theories about the living organisms that populate our planet. Small class sizes within the biology program foster a close working relationship between academic staff and students in an informal and nurturing atmosphere.

#### *Mission Statement*

The biology academic staff pursues a multifaceted charge at (Name) University. The Program seeks to provide all biology students with fundamental knowledge of biology, as well as a deeper understanding of a selected focus area within the biological sciences. The curriculum and advising have been designed to prepare graduates for their professional future, whether they choose to work as field biologists specializing in botany or wildlife, or to pursue advanced degrees in the life sciences or health sciences. The biology program also provides the necessary fundamental knowledge of the life sciences to support the Nursing degree, the Environmental Studies degree, and the Associate of Science degree in Forest Technology. In addition, biology courses provide a key laboratory science experience for those students seeking to complete the general education requirements

### 2. Program Specification

Programme code:	BSc-BIO	ECTS	240
Duration:	4 levels, 8 Semesters	Method of Attendance:	Full Time

Biology is a wonderfully wide-ranging subject, and Leeds, with one of the UK's largest and most diverse biology teaching groups, is well equipped to deliver. The emphasis of the programme is the





whole organism to which everything is related, be it the molecules that form proteins or communities of organisms in an ecosystem. The degree is popular - or some it is the breadth of the subject that appeals, for others it is a path to specialization. All students have the opportunity to transfer onto our specialist degrees in Genetics, Zoology, and Ecology at the end of the first year.

Level 1 exposes students to the fundamentals of Biology, suitable for progression to all programmes within the biology programme group. Programme-specific core topics are covered at Level 2 preparing for research-led subject specialist modules at Levels 3 and 4. A Leeds Biology graduate is therefore trained to appreciate how research informs teaching, according to the University and School Mission statements.

At Levels 2, 3 and 4 students are free to choose more than half of their module credits with the proviso a range of modules are selected that reflect the complexity of life forms from molecules, through organisms, both plants and animals, to populations to ensure the breadth of knowledge expected of a graduate with a biology degree. This allows students to develop their own wide-ranging interests in organismal biology. Decisions on what to study are made with input from personal tutors.

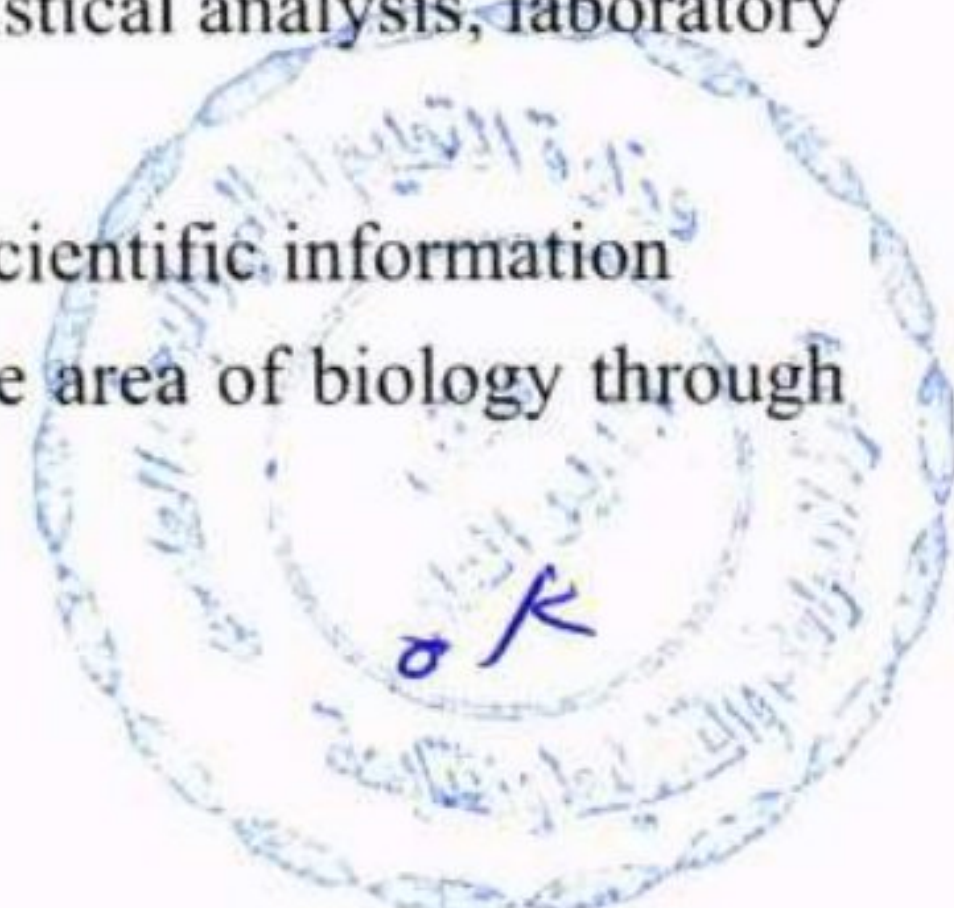
The research ethos is developed and fostered from the start via practicals, which are either embedded in lecture modules or taught in dedicated practical modules, research seminars and tutorials. There is a compulsory field course in Level 1, which students must pass in order to progress into Level 2, and optional field courses in Levels 2, 3 and 4. At Level 4 all students carry out an independent research project, which may be a xx credit library or data analysis project, or a xx credit field or laboratory based project.

Academic tutorials are held at Levels 1 and 2 with the same tutor, who is also the personal tutor, providing continuity and progressive guidance. Level 1 and 2 tutorials include a number of workshops to teach skills, e.g. library use and presentation skills, followed by assessed exercises, e.g. essays and talks, as opportunities to practice these skills in a subject-specific context.

International years and Industrial placements are also offered and individual needs are discussed with the appropriate tutor and accommodated wherever possible.

### 3. Program Goals

1. To provide a comprehensive education in biology that stresses scientific reasoning and problem solving across the spectrum of disciplines within biology
2. To prepare students for a wide variety of post-baccalaureate paths, including graduate school, professional training programs, or entry level jobs in any area of biology
3. To provide extensive hands-on training in electronic technology, statistical analysis, laboratory skills, and field techniques
4. To provide thorough training in written and oral communication of scientific information
5. To enrich students with opportunities for alternative education in the area of biology through undergraduate research, internships, and study-abroad







#### 4. Student Learning Outcomes

Biology is the study of the organization and operation of life at the molecular, cellular, organism, and population levels. Graduates obtain information on the historical, technical and social aspects of biology and utilize basic knowledge toward realizing broader concepts. The Department offers a Bachelor of Science in Biology with a concentration in General Biology; Pre-medicine / Pre-dentistry; Biotechnology / Molecular Biology and a minor in Secondary Education that leads to a Public Instruction License. Additionally, the Department offers courses to a large number of students from other departments and supports pre-professional programs. The Biology curriculum and experiences are designed to prepare students, in part, for entry into professional health programs, graduate studies, technical careers and education

##### Outcome 1

###### *Identification of Complex Relationships*

Graduates will be able to illustrate the structure and function of cellular components and explain how they interact in a living cell.

##### Outcome 2

###### *Oral and Written Communication*

Graduates will be able to formally communicate the results of biological investigations using both oral and written communication skills.

##### Outcome 3

###### *Laboratory and Field Studies*

Graduates will be able to perform laboratory experiments and field studies, by using scientific equipment and computer technology while observing appropriate safety protocols.

##### Outcome 4

###### *Scientific Knowledge*

Graduates will be able to demonstrate a balanced concept of how scientific knowledge develops, including the historical development of foundational theories and laws and the nature of science.

##### Outcome 5

###### *Data Analyses*

Graduates will be able to demonstrate scientific quantitative skills, such as the ability to conduct simple data analyses.

##### Outcome 6

###### *Critical Thinking*

Graduates will be able to use critical-thinking and problem-solving skills to develop a research project and/or paper.







## 5. Academic Staff

John Smith | Ph.D. in Biology | Professor

Email:

Mobile no.:

John Smith | Ph.D. in Biology | Professor

Email:

Mobile no.:

John Smith | Ph.D. in Biology | Assistant Prof.

Email:

Mobile no.:

## 6. Credits, Grading and GPA

### Credits

(Name) University is following the Bologna Process with the European Credit Transfer System (ECTS) credit system. The total degree program number of ECTS is 240, 30 ECTS per semester. 1 ECTS is equivalent to 25 hrs student workload, including structured and unstructured workload.

### Grading

Before the evaluation, the results are divided into two subgroups: pass and fail. Therefore, the results are independent of the students who failed a course. The grading system is defined as follows:

GRADING SCHEME				
مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX - Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F - Fail	راسب	(0-44)	Considerable amount of work required
Note:				
Marks with decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				





### Calculation of the Cumulative Grade Point Average (CGPA)

1. The CGPA is calculated by the summation of each module score multiplied by its ECTS, all are divided by the program total ECTS.

CGPA of a 4-year B.Sc. degrees:

$$CGPA = [ (1^{st} \text{ module score} \times ECTS) + (2^{nd} \text{ module score} \times ECTS) + \dots ] / 240$$

## 7. Curriculum/Modules

**Semester 1 | 30 ECTS | 1 ECTS = 25 hrs**

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request

**Semester 2 | 30 ECTS | 1 ECTS = 25 hrs**

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request

**Semester 3 | 30 ECTS | 1 ECTS = 25 hrs**

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request





**Semester 4 | 30 ECTS | 1 ECTS = 25 hrs**

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request

**Semester 5 | 30 ECTS | 1 ECTS = 25 hrs**

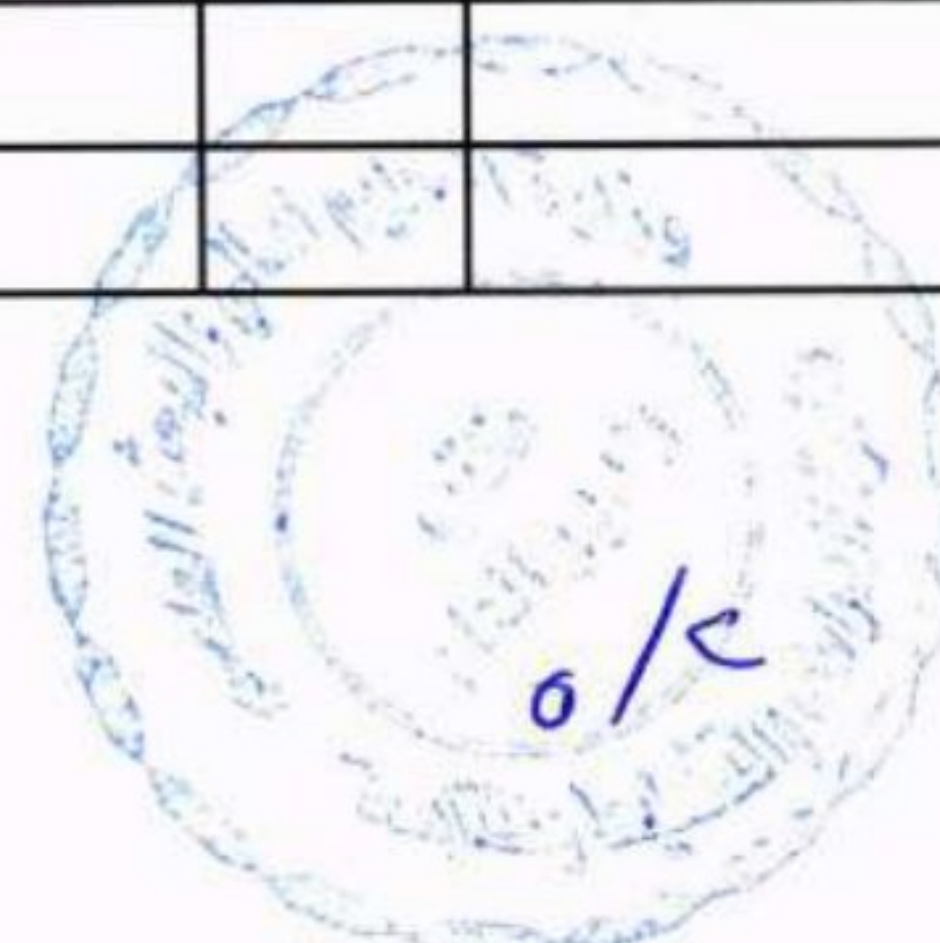
Code	Module	SSWL	USSWL	ECTS	Type	Pre-request

**Semester 6 | 30 ECTS | 1 ECTS = 25 hrs**

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request

**Semester 7 | 30 ECTS | 1 ECTS = 25 hrs**

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request







Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request

## 8. Contact

Program Manager:

John Smith | Ph.D. in Biology | Assistant Prof.

Email:

Mobile no.:

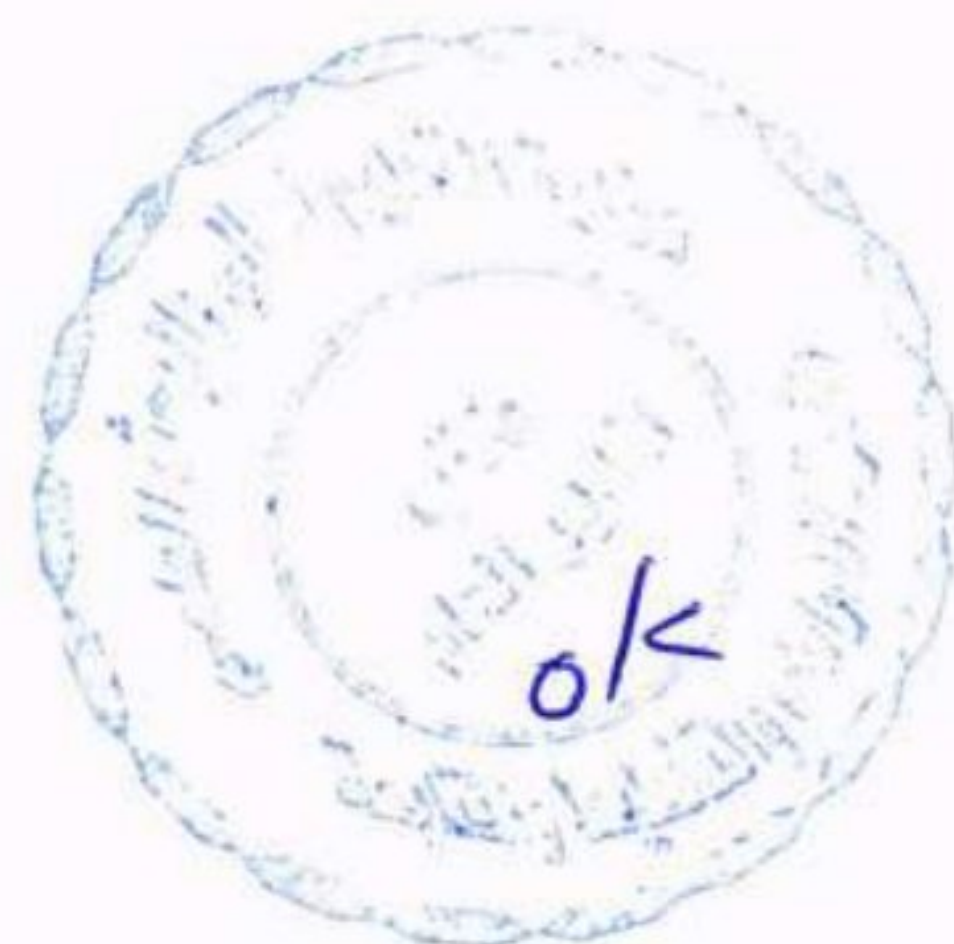
Program Coordinator:

John Smith | Ph.D. in Biology | Assistant Prof.

Email:

Mobile no.:

يرجى قراءة رمز الـ QR Code للحصول على النسخة الالكترونية للملحق







الملحق ٣: دليل المواد الدراسية

Modules Catalogue | 2023-2024 | دليل المواد الدراسية

**Name of the University**

اسم الجامعة

University  
Logo

*First Cycle – Bachelor's Degree (B.Sc.) -  
Electrical Engineering*

بكالوريوس - هندسة كهربائية



Please, replace this image by  
your University image





## Table of Contents

1. Overview
2. Undergraduate Modules 2023-2024
3. Contact

### 1. Overview

This catalogue is about the courses (modules) given by the program of Electrical Engineering to gain the Bachelor of Science degree. The program delivers (xx) Modules with (6000) total student workload hours and 240 total ECTS. The module delivery is based on the Bologna Process.

#### نظرة عامة

يتناول هذا الدليل المواد الدراسية التي يقدمها برنامج الهندسة الكهربائية للحصول على درجة بكالوريوس العلوم. يقدم البرنامج (٤٠) مادة دراسية، على سبيل المثال، مع (٦٠٠٠) إجمالي ساعات حمل الطالب و ٢٤٠ إجمالي وحدات أوروبية. يعتمد تقديم المواد الدراسية على عملية بولونيا.

### 2. Undergraduate Courses 2023-2024

#### Module 1

Code	Course/Module Title	ECTS	Semester
UoB12345	Academic English	5	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	1	72	53
Description			
This section includes a description of the module, 100-150 words			

#### Module 2

Code	Course/Module Title	ECTS	Semester
UoB12345	Academic English	5	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	1	72	53
Description			
This section includes a description of the module, 100-150 words			





**Module 3**

Code	Course/Module Title	ECTS	Semester
UoB12345	Academic English	5	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	1	72	53
Description			
This section includes a description of the module, 100-150 words			

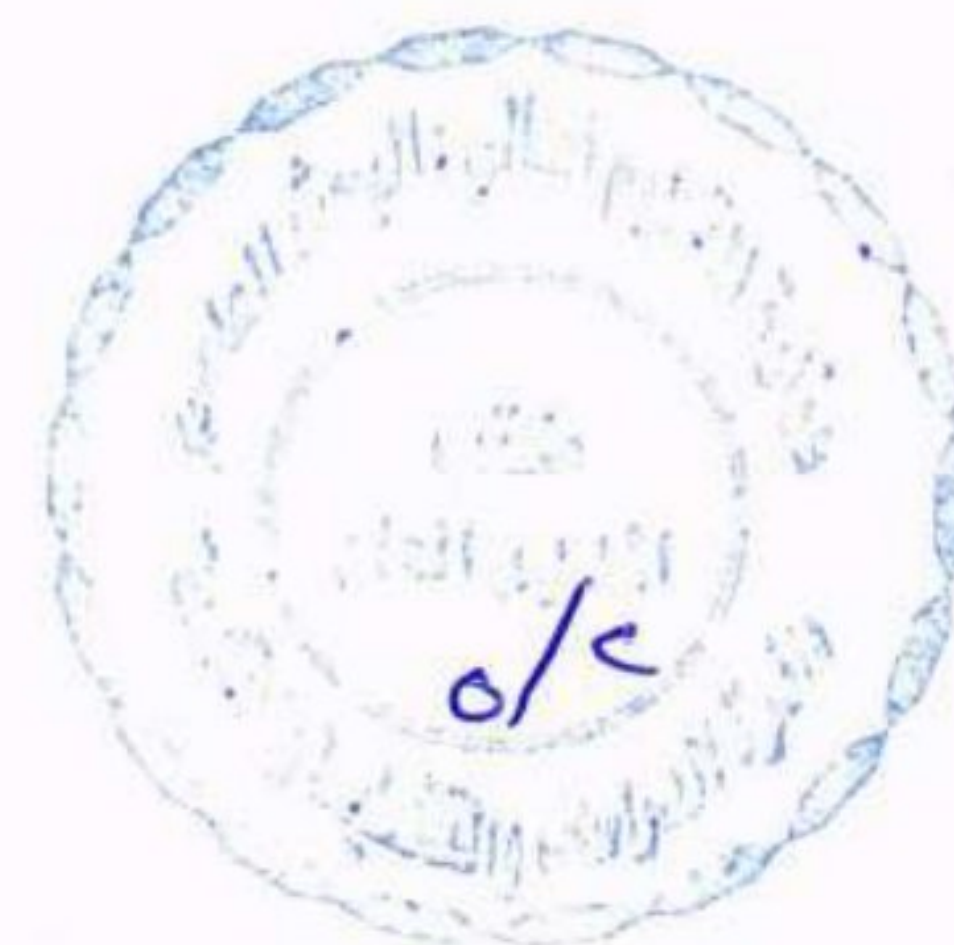
**Module 4**

Code	Course/Module Title	ECTS	Semester
UoB12345	Academic English	5	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	1	72	53
Description			
This section includes a description of the module, 100-150 words			

(List all other modules, 5, 6, 7, ....etc)

**Module 40**

Code	Course/Module Title	ECTS	Semester
UoB12345	Academic English	5	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	1	72	53
Description			
This section includes a description of the module, 100-150 words			







## Contact

Program Manager:

John Smith | Ph.D. in Biology | Assistant Prof.

Email:

Mobile no.:

Program Coordinator:

John Smith | Ph.D. in Biology | Assistant Prof.

Email:

Mobile no.:

يرجى قراءة رمز الـ QR Code للحصول على النسخة الالكترونية للملحق







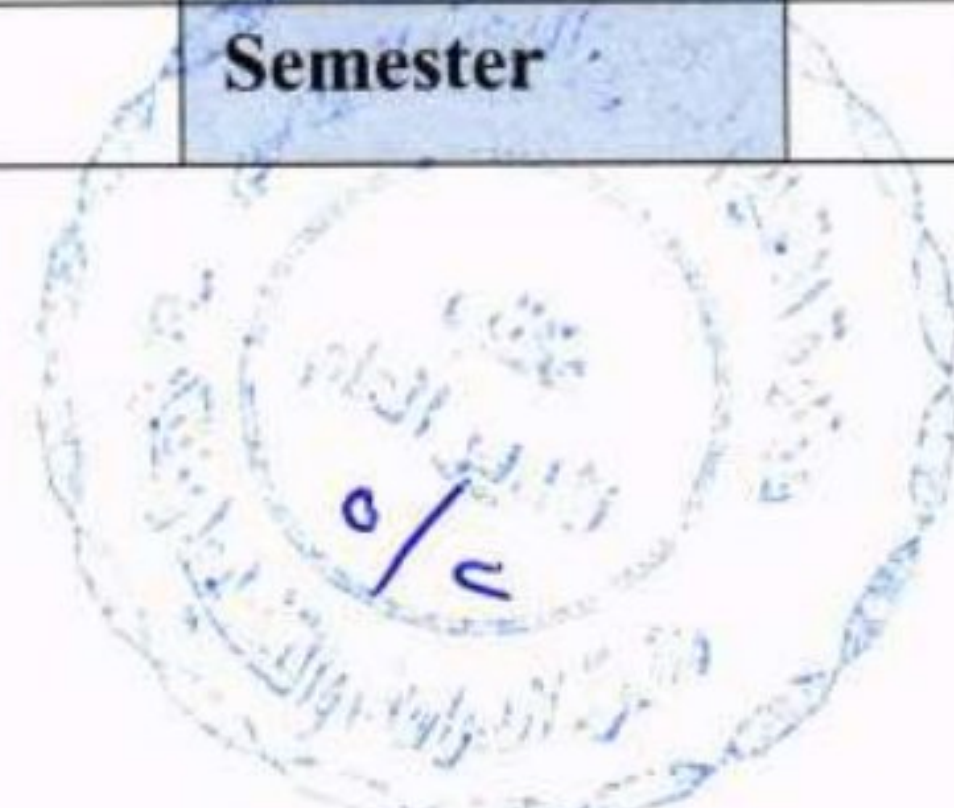
الملحق ٤ : وصف المادة الدراسية

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Electrical Circuits		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UoB12345		
ECTS Credits	8		
SWL (hr/sem)	200		
Module Level	1	Semester of Delivery	
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	Name	e-mail	E-mail
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/06/2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	



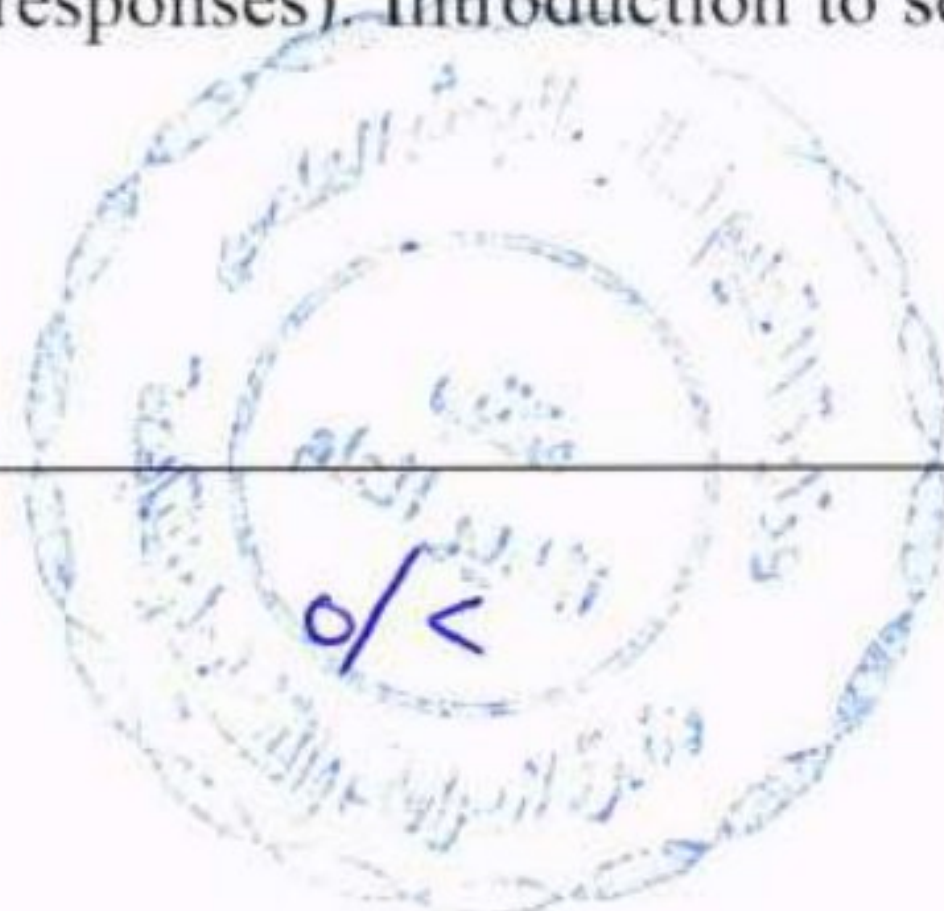




## Module Aims, Learning Outcomes and Indicative Contents

### أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<b>Module Aims</b> أهداف المادة الدراسية	<ol style="list-style-type: none"><li>1. To develop problem solving skills and understanding of circuit theory through the application of techniques.</li><li>2. To understand voltage, current and power from a given circuit.</li><li>3. This course deals with the basic concept of electrical circuits.</li><li>4. This is the basic subject for all electrical and electronic circuits.</li><li>5. To understand Kirchhoff's current and voltage Laws problems.</li><li>6. To perform mesh and Nodal analysis.</li></ol>
<b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"><li>1. Recognize how electricity works in electrical circuits.</li><li>2. List the various terms associated with electrical circuits.</li><li>3. Summarize what is meant by a basic electric circuit.</li><li>4. Discuss the reaction and involvement of atoms in electric circuits.</li><li>5. Describe electrical power, charge, and current.</li><li>6. Define Ohm's law.</li><li>7. Identify the basic circuit elements and their applications.</li><li>8. Discuss the operations of sinusoid and phasors in an electric circuit.</li><li>9. Discuss the various properties of resistors, capacitors, and inductors.</li><li>10. Explain the two Kirchhoff's laws used in circuit analysis.</li><li>11. Identify the capacitor and inductor phasor relationship with respect to voltage and current.</li></ol>
<b>Indicative Contents</b> المحتويات الإرشادية	<p>Indicative content includes the following.</p> <p><u>Part A - Circuit Theory</u></p> <p>DC circuits – Current and voltage definitions, Passive sign convention and circuit elements. Combining resistive elements in series and parallel. Kirchhoff's laws and Ohm's law. Anatomy of a circuit, Network reduction, Introduction to mesh and nodal analysis. [15 hrs]</p> <p>AC circuits I – Time dependent signals, average and RMS values. Capacitance and inductance, energy storage elements, simple AC steady-state sinusoidal analysis. [15 hrs]</p> <p>AC Circuits II - Phasor diagrams, definition of complex impedance, AC circuit analysis with complex numbers. [10 hrs]</p> <p>RL, RC and RLC circuits - Frequency response of RLC circuits, simple filter and band-pass circuits, resonance and Q-factor, use of Bode plots, use of differential equations and their solutions. Time response (natural and step responses). Introduction to second order circuits. [15 hrs]</p> <p>Revision problem classes [6 hrs]</p>



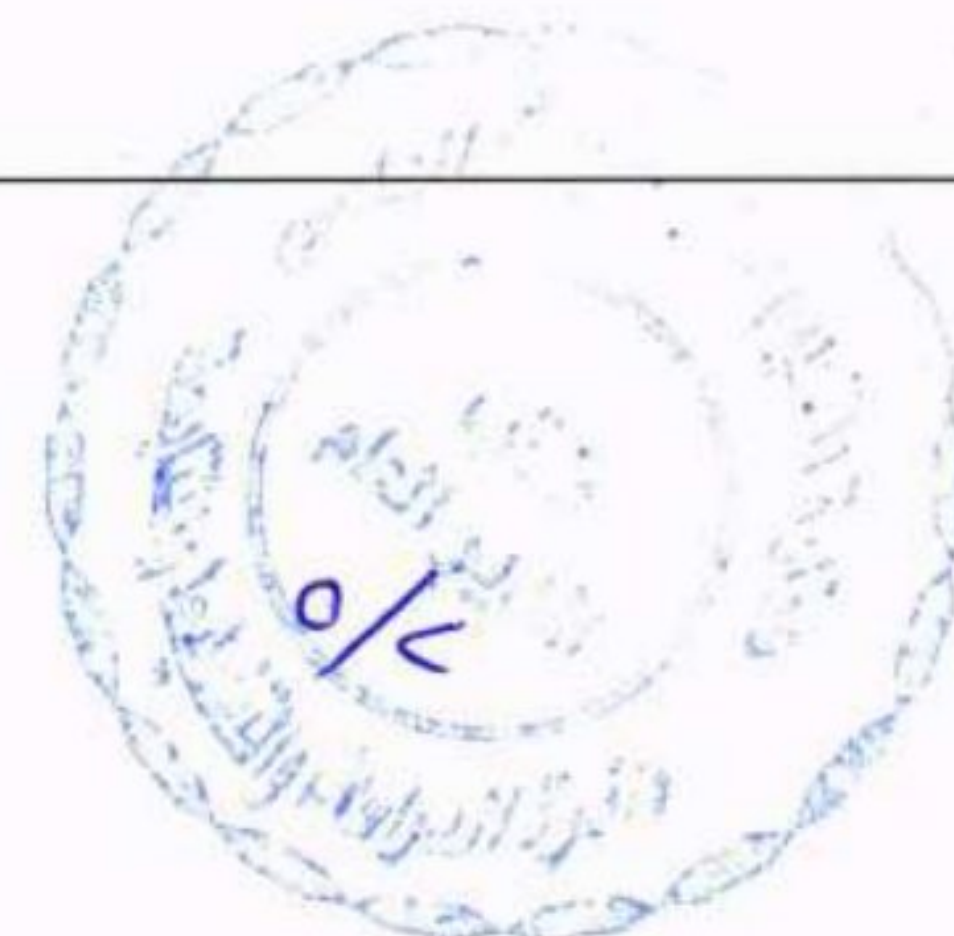




	<p><b>Part B - Analogue Electronics</b></p> <p><b>Fundamentals</b> Resistive networks, voltage and current sources, Thevenin and Norton equivalent circuits, current and voltage division, input resistance, output resistance, coupling and decoupling capacitors, maximum power transfer, RMS and power dissipation, current limiting and over voltage protection. [15 hrs]</p> <p><b>Components and active devices – Components vs elements and circuit modeling, real and ideal elements. Introduction to sensors and actuators, self-generating vs modulating type sensors, simple circuit interfacing. [7 hrs]</b></p> <p><b>Diodes and Diode circuits – Diode characteristics and equations, ideal vs real. Signal conditioning, clamping and clipping, rectification and peak detection, photodiodes, LEDs, Zener diodes, voltage stabilization, voltage reference, power supplies. [15 hrs]</b></p>
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<b>Learning and Teaching Strategies</b> <b>استراتيجيات التعلم والتعليم</b>	
<b>Strategies</b>	<p>Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.</p>

<b>Student Workload (SWL)</b> <b>الحمل الدراسي للطالب</b>			
<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	102	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعياً	7
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	98	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعياً	6.5
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	200		

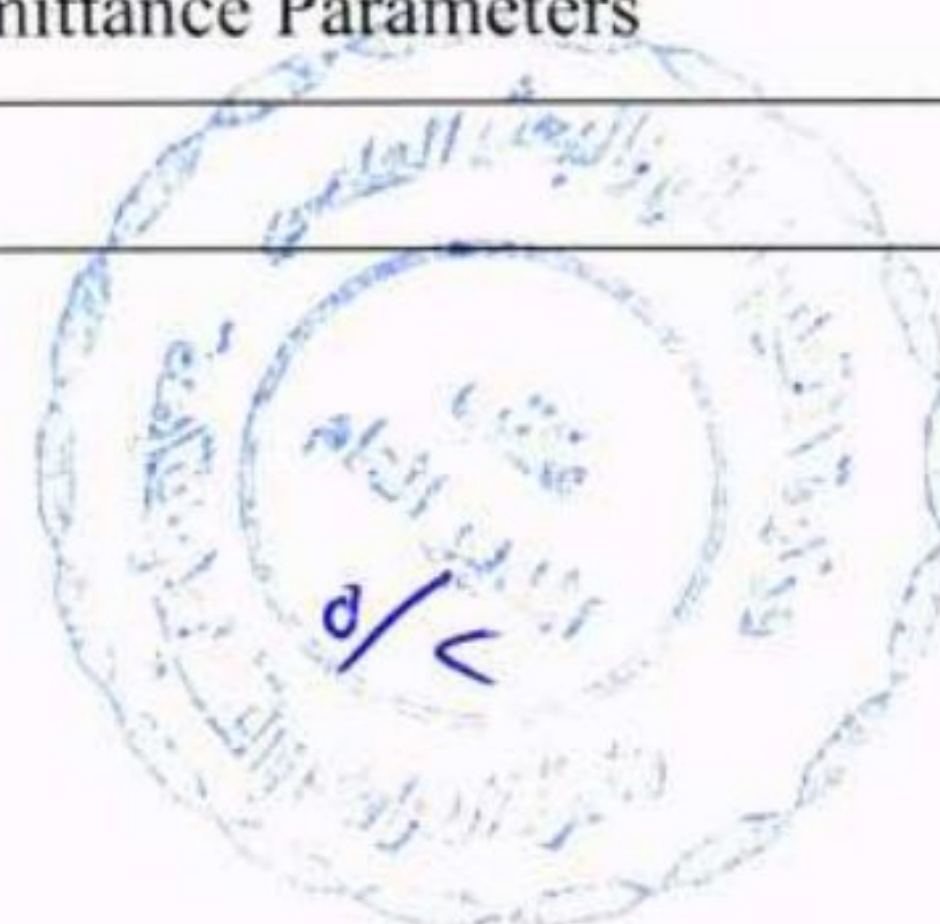






Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction - Difference between Circuit Theory and Field Theory
Week 2	Basics of Network Elements
Week 3	Resistance and Resistivity, Ohm's Law and Inductance, Capacitance
Week 4	Review of Kirchhoff's Laws, Circuit Analysis - Nodal and Mesh
Week 5	Linearity and Superposition, Source Transformations, Thévenin and Norton Equivalents
Week 6	Review of Inductor and Capacitor as Circuit Elements, Source-free RL and RC Circuits, Transient Response
Week 7	Mid-term Exam + Unit-Step Forcing, Forced Response, the RLC Circuit
Week 8	Sinusoidal Forcing, Complex Forcing, Phasors, and Complex Impedance, Sinusoidal Steady State Response
Week 9	Nodal and Mesh Revisited, Average Power, RMS, Introduction to Polyphase Circuits
Week 10	Mutual Inductance, Linear and Ideal Transformers, Circuits with Mutual Inductance
Week 11	Frequency Response of Series/Parallel Resonances, High-Q Circuits
Week 12	Complex Frequency, s-Plane, Poles and Zeros, Response Function, Bode Plots
Week 13	Two Port Networks, Admittance, Impedance, Hybrid, and Transmittance Parameters
Week 14	Two Port Networks, Admittance, Impedance, Hybrid, and Transmittance Parameters
Week 15	Two Port Networks, Admittance, Impedance, Hybrid, and Transmittance Parameters
Week 16	Preparatory week before the final Exam





**Delivery Plan (Weekly Lab. Syllabus)****المنهاج الاسبوعي للمختبر**

	Material Covered
Week 1	Lab 1: Introduction to Agilent VEE and PSPICE
Week 2	Lab 2: Thévenin's / Norton's Theorem and Kirchhoff's Laws
Week 3	Lab 3: First-Order Transient Responses
Week 4	Lab 4: Second-Order Transient Responses
Week 5	Lab 5: Frequency Response of RC Circuits
Week 6	Lab 6: Frequency Response of RLC Circuits
Week 7	Lab 7: Filters

**Learning and Teaching Resources****مصادر التعلم والتدريس**

	Text	Available in the Library?
Required Texts	Fundamentals of Electric Circuits, C.K. Alexander and M.N.O Sadiku, McGraw-Hill Education	Yes
Recommended Texts	DC Electrical Circuit Analysis: A Practical Approach Copyright Year: 2020, dissidents.	No
Websites	<a href="https://www.coursera.org/browse/physical-science-and-engineering/electrical-engineering">https://www.coursera.org/browse/physical-science-and-engineering/electrical-engineering</a>	

**Grading Scheme****مخطط الدرجات**

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

**Note:** Marks with decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.