نموذج وصف المادة الدراسية للمرحلة الأولى- قسم التقانة الاحيائية الصباحي والمسائي الفصل الدراسي الاول الفصل الدراسي الاول ٢٠٢٤-٢٠٢٣

Module Information معلومات المادة الدراسية						
Module Title		Biostatics		Modu	Module Delivery	
Module Type		Support			⊠heory	
Module Code		Biot-123			☐ Lecture Lab	
ECTS Credits		<mark>6</mark>			□Tutorial □Practical	
SWL (hr/sem)	125			_	□Seminar	
Module Level		1	Semester o	f Delivery		2
Administering Dep	partment		College			
Module Leader			e-mail			
Module Leader's A	Acad. Title	Lecturer.	Module Lea	ader's Qualification		
Module Tutor Dr Radi T. Abo		I	e-mail			
Name (if available)		Name	e-mail	E-mail		
Scientific Committee Approval Date		/ /2023	Version Nu	mber	1.0	

Relation with other Modules						
	العلاقة مع المواد الدر اسية الأخرى					
Prerequisite module	Prerequisite module None Semester					

Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية						
Module Objectives أهداف المادة الدراسية	Descriptive Statistics: Methods for collecting, organizing, analyzing and summarizing data Inferential Statistics: Methods that use results obtained from sample to derive conclusions about a population					
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ol> <li>Theoretical Statistics: Development, derivation and proof of theorems formulas, rules and laws.</li> <li>Applied Statistics: Applications of those theorems, formulas, rules and laws to solve real problems.</li> </ol>					

Learning and Teaching Strategies							
	استر اتيجيات التعلم والتعليم						
	In delivering a computer applications course, various learning and teaching strategies						
	are adopted to enhance students' understanding and practical skills. Here are some						
	common strategies:						
	1. Hands-on Practical Sessions:						
Strategies	2. Project-Based Learning:.						
	3. Demonstrations and Interactive Lectures:						
	4. Collaborative Learning:						
	5. Formative and Summative Assessments:						

Student Workload (SWL)						
الحمل الدر اسي للطالب محسوب لـ ١٥ اسبوعا						
Structured SWL (h/sem)						
الحمل الدراسي المنتظم للطالب خلال الفصل	75	الحمل الدراسي المنتظم للطالب أسبوعيا	5			
Unstructured SWL (h/sem)	50	Unstructured SWL (h/w)	3.3			
الحمل الدراسي غير المنتظم للطالب خلال الفصل	50	الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.3			
Total SWL (h/sem)		125				
الحمل الدراسي الكلي للطالب خلال الفصل		123				

Module Evaluation تقييم المادة الدراسية								
	Time/Number Weight (Marks) Week Due Outcome							
	Quizzes	1	10% (10)	5 and 10	LO #1, #2 and #10, #11			
Formative	Assignments	-	10% (10)	2 and 12	LO #3, #4 and #6, #7			
assessment Projects / Lab.  Report		2	10% (10)	Continuous	All			
		-	10% (10)	13	LO #5, #8 and #10			
Summative	Midterm Exam	۱hr	10% (10)	7	LO #1 - #7			
assessment Final Exam		Yhr	50% (50)	16	All			
Total assessme	ent		100% (100 Marks)					

Delivery Plan (Weekly Syllabus)						
	المنهاج الاسبوعي النظري					
	Material Covered					
Week 1	What is Statistics?					
Week 2	Parameter vs. statistic					
Week 3	DESCRIPTIVE DATA					
Week 4	Quantitative raw data					
Week 5	Organizing and Graphing Qualitative Data					
Week 6	Midterm exam					
Week 7	Frequency Distributions / Table					
Week 8	Relative Frequency and Percentage Distributions					
Week 9	Sample Spaces And Probability Concepts					
Week 10	Sampling from Population					
Week 11	Basic Probability Approaches(Classical probability Empirical or relative frequency probability Subjective probability)					
Week 12	Discrete Random Variable					
Week 13	Mean of a Discrete r.v					

	Mook 14	Standard Deviation of
	Week 14	a Discrete r.v.
,	Week 15	final exam

Learning and Teaching Resources مصادر التعلم والتدريس						
	Text	Available in the Library?				
Required Texts	Computer basics represented by the difference between a computer and a human being, number, programs, memory size, and everything related to computer basics.	No				
Recommended Texts	Apply to create the folder, change its name, show it, hide it, copy it, paste it, cut it, change the screen scroll, apply the right mouse commands, and everything related to basic computer basics in practice.	No				
Websites						

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

# نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية						
Module Title		General chemistry	у	Modu	le Delivery	
Module Type		Basic			⊠Theory	
Module Code		Biot-122			□Lecture ⊠Lab	
ECTS Credits		Tutorial				
SWL (hr/sem)		200		□Seminar		
Module Level		1	Semester o	Delivery 2		2
Administering Dep	partment	МРН	College	Applied sciences – Fallujah University		ijah University
Module Leader	Maath Talib Al	L-Saab	e-mail	Maadsaab65@uofallujah.edu.iq		
Module Leader's	Acad. Title	Assistant professor	Module Lea	ader's Qualification Ph.D.		Ph.D.
Module Tutor Dr. Mohammed Hadi		d Hadi	e-mail	E-mail		
Peer Reviewer Name		Name	e-mail	E-mail		
Scientific Committee Approval Date		/ /2023	Version Nu	mber	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					
Module Objectives أهداف المادة الدراسية	<ol> <li>The analytical chemistry course is determined according to the study plan prepared in the Medical Physics Department.</li> <li>The course aims to introduce the student to the general concepts of the organic compounds and their importance and uses in various fields.</li> <li>It also aims at a detailed study of the different structural compositions and naming principles for the compounds of organic chemistry, by focusing on the compounds. And help the student to know the composition of these substances, including drugs, and to know how interactions occur and the mechanism of interaction.</li> </ol>					
Module Learning Outcomes  مخرجات التعلم للمادة الدراسية	<ul> <li>The student should know the general concepts of the compounds of the analytical chemistry curriculum.</li> <li>That the student is acquainted with the basics and rules of naming, different structural structures and physical properties, and focuses on the same different rings for their vital activity, and recognizes their physical and chemical properties, and that the student distinguishes between the different structural structures.</li> <li>That the student knows the basic principles of preparation methods</li> <li>To familiarize the student with the different bases of their interactions.</li> <li>That the student is aware of the importance of these compounds and their applications.</li> </ul>					
Indicative Contents المحتويات الإرشادية	a- Methods of teaching and learning 1- Giving lectures. 2- Using the method of recitation, discussion and solving questions. 3- Giving assignments to students to strengthen them and prepare them for the final and final exams. b- Evaluation methods 1- Daily and monthly exams 2- Duties 3- In-class exercises					

Learning and Teaching Strategies				
استراتيجيات التعلم والتعليم				
Strategies	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 types			

of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL)						
۱۰ اسبوعا	الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا					
Structured SWL (h/sem)		Structured SWL (h/w)				
الحمل الدراسي المنتظم للطالب خلال الفصل	الحمل الدراسي المنتظم للطالب أسبوعيا 128 الحمل الدراسي المنتظم للطالب خلال الفصل					
Unstructured SWL (h/sem)	72	Unstructured SWL (h/w)	4.0			
الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.8			
Total SWL (h/sem)						
الحمل الدراسي الكلي للطالب خلال الفصل	200					

## **Module Evaluation**

## تقييم المادة الدراسية

					Data and Lander
		Time/Number	ber Weight (Marks)	Week Due	Relevant Learning
					Outcome
	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
Formative .	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
assessment	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative .	Midterm Exam	۱hr	10% (10)	7	LO #1 - #7
assessment	Final Exam	3hr	50% (50)	16	All
Total assessment		100% (100 Marks)			

#### **Delivery Plan (Weekly Syllabus)** المنهاج الاسبوعي النظري **Material Covered** Week 1 Material, atom structure, periodic table and bonds Week 2 **Solutions and their concentrations** Week 3 Statistical processing of analytical data Week 4 Chemical equilibria Week 5 Acid base theory, pH, puffer solutions Week 6 Precipitation methods, Gravimetric calculations Week 7 **Methods of separation** Week 8 First exam Week 9 Organic chemistry, Alkanes, Alkenes, Alkynes Week 10 **Alcohols, Properties, Reactions** Week 11 Aldehydes, Ketones, Properties, Reactions Week 12 Carboxylic acids, Properties, Reactions Week 13 Carboxylic acids, Properties, Reactions Week 14 **Aromatic compounds, Phenols** Week 15 Amines, Nitro compounds Week 16 Second exam

Delivery Plan (Weekly Lab. Syllabus)				
	المنهاج الاسبوعي للمختبر			
	Material Covered			
Week 1	Titration methods			

Week 2	Solubility 1
Week 3	Solubility 2
Week 4	Extraction 1
Week 5	Extraction 2
Week 6	Chromatography methods 1
Week 7	Chromatography methods 2
Week8	Midterm exam
Week 9	Test Reducing Flame 1
Week 10	Test Reducing Flame 2
Week 11	Flame test 1
Week 12	Flame test 2
Week 13	Detection of halogens, nitrogen and sulfur1
Week 14	Detection of halogens, nitrogen and sulfur 2
	Final exam

Learning and Teaching Resources مصادر التعلم والتدريس						
	Text Available in the Library					
Required Texts	Fundamentals of analytical chemistry. 9th Edition by <u>Douglas A. Skoog</u> (Author), Organic Chemistry, 6th Edition 6th Edition by <u>Robert T. Morrison</u> (Author), <u>Robert N. Boyd</u> (Author)	Yes				
Recommended Texts	Approach To Modern Separation Techniques.					
Websites	https://www.amazon.com/Fundamentals-Analytical-Chemistry-Douglas- Skoog/dp/0357450396/ref=d pd sbs vft none sccl 3 1/145-7711462- 5419924?pd rd w=CSlfi&content-id=amzn1.sym.3676f086-9496-4fd7-8490- 77cf7f43f846&pf rd p=3676f086-9496-4fd7-8490-					

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

# نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية						
Module Title		Computers		Modu	le Delivery	
Module Type		Support			☐ theory	
Module Code		SCI-101		□ Lecture  ⊠Lab		
ECTS Credits					Tutorial  Practical	
SWL (hr/sem)		125			<b>□</b> Seminar	
Module Level		1	Semester of Delivery		1	
Administering Dep	partment		College			
Module Leader			e-mail			
Module Leader's	Acad. Title	Lecturer.	Module Leader's Qualification			
Module Tutor	Dr. Alaa Sulaiman Al-Waisy		e-mail	alwaisyalaa@gmail.com		<u>n</u>
Name (if available)		Name	e-mail E-mail			
Scientific Committee Approval Date		/ /2023	Version Nu	mber	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

Initially, studying computer architecture focuses on understanding the design, organization, and operation of computer systems at the software and hardware level. The module objectives of studying computer architecture include:

- 1. Understanding the Basic Components: Students will learn about the fundamental building blocks of a computer system, such as the central processing unit (CPU), memory, input/output (I/O) devices, and storage units.
- 2. Instruction Set Architecture (ISA): Students will grasp the concepts of the ISA, which defines the set of instructions that a computer can execute. They will learn about different instruction formats, addressing modes, and the relationship between software and hardware.
- **3.** Understanding the Core Operating System Services: Students will learn about essential services provided by the Windows OS, such as process management, memory management, and file system operations.

#### **Module Objectives**

أهداف المادة الدر اسية

On other hand, studying Microsoft Office, commonly referred to as Word Office, is essential for individuals who want to enhance their productivity and proficiency in various professional and academic tasks. The module objectives of studying Word Office typically include:

- **1. Word Processing Fundamentals:** Understanding the basic concepts of word processing, including creating, editing, and formatting text documents.
- Document Creation and Editing: Learning how to create new documents, import existing files, and edit them using various tools and features provided by Word Office.
- **3. Formatting and Styling:** Understanding how to format text, paragraphs, and documents to make them visually appealing and professional, including fonts, colors, alignment, and indentation.
- **4. Page Layout and Margins:** Learning how to set up page layout, adjust margins, and use headers and footers to customize document appearance.
- **5. Working with Tables:** Understanding how to create and manage tables, organize data, and apply different table styles and formats.
- **6. Graphics and Multimedia:** Learning to insert and manipulate images, shapes, and multimedia elements within the document.
- **7. Document Collaboration:** Understanding features like track changes, comments, and version control to collaborate with others on the same document.
- **8. Headers, Footers, and Page Numbers:** Learning how to add headers and footers to pages and insert page numbers with various formatting options.

# Module Learning Outcomes

The module learning outcomes of studying the computer's architecture and applications, such as Word Office include:

**1.** Describing the graphical user interface (GUI) and managing windows to interact with the operating system effectively.

#### مخرجات التعلم للمادة الدراسية 2. Explaining the fundamental services provided by operating systems, such as process management, memory management, and file system operations. 3. Capability of setting up file sharing, managing printers, and implementing access control for shared resources. 4. Capability of using internet and web services, including web browsers and webrelated features. 5. Learning how to manage files, folders, and directories effectively in the Windows environment. 6. Developing a high level of proficiency in using Microsoft Word for creating, editing, and formatting documents. 7. Applying various text formatting options, such as font styles, sizes, colors, alignment, and emphasis. 8. Formatting the overall document, including page layout, margins, headers, footers, and page numbering. 9. Learning how to insert and format tables, as well as insert and manipulate graphics within the document. 10. Understanding how to use spelling and grammar check tools and proofread documents for errors. 11. Developing proficient keyboard and mouse skills for fast and efficient document editing. The indicative contents of studying computer applications may vary depending on the specific course and its level of complexity. However, the following are some common indicative contents that can be covered in a computer applications course: 1. Introduction to Computers and Operating Systems: Computer basics and history. Types of computers and their components. Overview of operating systems and their functions. 2. Microsoft Office Suite: Microsoft Word: Word processing, formatting, and document management. **Indicative Contents** Microsoft Excel: Spreadsheet creation, formulas, functions, and data analysis. المحتويات الإرشادية Microsoft PowerPoint: Creating presentations with multimedia elements. 3. Data Management and Manipulation: Data entry and validation. Sorting, filtering, and searching data. Data analysis and visualization. 4. File Management and Storage: Organizing files and folders. Working with cloud storage and file sharing. 5. Internet and Web Applications: Web browsing and search engines. Email communication and management. Online collaboration tools and cloud-based applications.

#### **Learning and Teaching Strategies**

#### استراتيجيات التعلم والتعليم

In delivering a computer applications course, various learning and teaching strategies are adopted to enhance students' understanding and practical skills. Here are some common strategies:

- **6. Hands-on Practical Sessions:** Emphasis on hands-on practice allows students to interact directly with computer applications and software. Practical exercises, lab sessions, and projects enable them to apply theoretical knowledge to real-world scenarios.
- **7. Project-Based Learning:** Assigning projects that simulate real-world challenges allows students to work collaboratively and develop problem-solving skills while creating tangible deliverables.
- **8. Demonstrations and Interactive Lectures:** Instructors use live demonstrations and interactive lectures to illustrate how to use computer applications effectively and efficiently.
- **9. Collaborative Learning:** Encouraging group activities, discussions, and team projects fosters teamwork and communication skills among students.
- **10. Formative and Summative Assessments:** Regular formative assessments, such as quizzes and assignments, help students track their progress, while summative assessments, like exams and final projects, evaluate their overall performance.

# Strategies

#### Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا Structured SWL (h/sem) Structured SWL (h/w) 8.3 125 الحمل الدراسي المنتظم للطالب أسبوعيا الحمل الدراسي المنتظم للطالب خلال الفصل Unstructured SWL (h/sem) Unstructured SWL (h/w) 3.3 50 الحمل الدر اسى غير المنتظم للطالب أسبو عبا الحمل الدراسي غير المنتظم للطالب خلال الفصل Total SWL (h/sem) 175 الحمل الدراسي الكلى للطالب خلال الفصل

#### **Module Evaluation**

## تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
	Quizzes	1	10% (10)	5 and 10	LO #1, #2 and #10, #11
Formative	Assignments	-	10% (10)	2 and 12	LO #3, #4 and #6, #7
assessment	Projects / Lab.	2	10% (10)	Continuous	All
	Report	-	10% (10)	13	LO #5, #8 and #10
Summative	Midterm Exam	۱hr	10% (10)	7	LO #1 - #7
assessment	Final Exam	Yhr	50% (50)	16	All
Total assessment		100% (100 Marks)			

Delivery Plan (Weekly Syllabus)							
	المنهاج الاسبوعي النظري						
	Material Covered						
Week 1	What is a computer? Introduction to computer organization (main parts).						
Week 2	Understanding the memory hierarchy and its impact on system performance						
Week 3	Execute right mouse commands (copy, paste, cut, delete, and change folder name).						
Week 4	Execute the right mouse button (the properties of the system icon, program icon, and folder icon)						
Week 5	Create a new folder, then save it, change its name, shape, hide it, and show it)						
Week 6	Show and hide the system icon (Control panel)						
Week 7	Monthly Test.						
Week 8	Learn the Word program, then ways to open the program						
VICERO	Home tab and execute its commands						

Week 9	Insert and Execute tab Insert a table, clip art, picture, shapes, text box, and symbols
Week 10	Page layout tabs such as paper margins, orientation, and size
Week 11	The Page Layout tab performs watermark, page borders, and color commands
Week 12	Executing and opening a file command such as saving the document and options for choosing the language of numbers and printing
Week 13	Completing a file command for the rest of it, such as opening a new one, sending it, and previewing it before printing
Week 14	review
Week 15	Monthly Test.

Delivery Plan (Weekly Lab. Syllabus)						
المنهاج الاسبوعي للمختبر						
	Material Covered					
Week 1	Lab 1: An application to create a folder, change its name, format and save it.					
Week 2	Lab 2: Change wallpaper. Learn about system icons, hide them, and show them.					
Week 3	Lab 3: Application of commands difference between delete and removal and the location of the use of each of them.					
Week 4	Lab 4: Application right-click (system icon, program icon, folder icon properties)					
Week 5	Lab 5: Use the (Control Panel) application to open and modify some programs such as time, date, deletion, and others					
Week 6	Lab 6: The application opens the Home tab and performs its commands					
Week 7	Lab 7: Insert and Execute tab application Insert a table, clip art, picture, shapes, text box, and symbols					
Week 8	Monthly Test.					
Trees o	Lab 8: Apply page layout tabs such as paper margins, orientation, and size					
Week 9	Lab 9: The Page Layout tab applies watermark, page border, and color commands					
Week 10	Lab 10 : Executing and opening a file command such as saving the document and options for choosing the language of numbers and printing					

Week 11	Lab 11: A file command completion application for the rest of the command, such as opening a new command, submitting it, and previewing it before printing
Week 12	Lab 12: The application of inserting a table and adding data inside it.  Lab 13: Complete the insert table application and add new rows and columns
Week 13	Lab 14: Complete the insert table application and the method for deleting rows and columns from within the table
Week 14	Monthly Test.

Learning and Teaching Resources مصادر التعلم والتدريس							
	Text	Available in the Library?					
Required Texts	Computer basics represented by the difference between a computer and a human being, number, programs, memory size, and everything related to computer basics.	No					
Recommended Texts	Apply to create the folder, change its name, show it, hide it, copy it, paste it, cut it, change the screen scroll, apply the right mouse commands, and everything related to basic computer basics in practice.	No					
Websites							

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

# نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية							
Module Title			Modu	le Delivery			
Module Type		Basic			Theory		
Module Code		Biot-112			■ Lecture		
ECTS Credits		8			⊠Lab		
					□ Tutorial		
SWL (hr/sem)		<b>200</b>	☐ Practical				
					☐ Seminar		
Module Level		1	Semester of Delivery		1		
Administering Dep	partment	МРН	College of Applied Sciences – Fa		nces – Fallujah		
Module Leader	Dr. Assad A. da	ahy	e-mail	Physicshamid2020@gmail.com		ail.com	
Module Leader's A	Acad. Title	Lect.	Module Lea	Module Leader's Qualification		Ph.D.	
Module Tutor Name (if available)			e-mail	E-mail			
Peer Reviewer Na	me	Asst. Prof. Dr. Batool Eneaze	e-mail	batoolen@uofallujah.edu.iq		edu.iq	
Scientific Committee Approval Date		/ /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								
	This course deals with the basic concept of physics to understand the relation of physics with biology.								
Module Objectives	To develop problem solving skills that dealing with the work of medical devices.								
أهداف المادة الدراسية	<ol> <li>To understand how the principles of physics are applied within the human body.</li> </ol>								
	4. Develop a physical explanation of biological processes.								
	<ol> <li>Clarifying the relationship between what happens outside and inside the human body.</li> </ol>								
	1. Explain the meaning of biophysics and biophysicists.								
	2. Explain the Mechanical properties of Biological Objects								
	3. Summarize what is meant by diffusion.								
	4. Discuss the four major biomolecules of nature.								
Module Learning	5. Describe energy absorbance by molecules.								
Outcomes	6. Define electromagnetic radiation and its types.								
	7. Discuss the effect of radiation on molecules inside body.								
مخرجات التعلم للمادة الدراسية	8. Discuss Fluid Dynamics and Medical application of Bernoulli's equation.								
. 5 (	9. Discuss the examples of Energy interactions with human body.								
	10. Define Bioacoustics and Echolocation effect.								
	11. Show mechanisms of Diffusion and directed transport.								
	12. Discuss the electrical properties of biomembranes.								
	13. Explain the Photobiology.								
Indicative Contents									
المحتويات الإرشادية	Part A – Introduction of Biophysics								

What is BIOPHYSICS?- IMPORTANCE OF BIOPHYSICS.- What Do Biophysicists Do?-CONCEPT OF UNIT - Fundamental and derived units - SYSTEMS OF UNITS — Physical Quantities- Atomic Structure - Bonding between atoms - The hierarchy of living things [15 hrs]

Proteins— Carbohydrates — Carbohydrates - Nucleic acids- Energy absorbance by molecules- Molecular transduction of energy. [15 hrs]

Electromagnetic Radiation – Effect of EMR on human body- definition of ionizing and nonionizing radiation - free radicals - Examples of Energy interactions with human body. [10 hrs]

Examples of Energy interactions with human body - ACTIVE TRANSPORT- Antiport, symport - Comparing Facilitated Diffusion and Active Transport - OSMOSIS - Basic principle of an osmometer - Electro-chemical potential - Extracellular Fluid - Waves and Sound . [15 hrs]

#### **Learning and Teaching Strategies**

#### استراتيجيات التعلم والتعليم

#### **Strategies**

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 types of simple experiments involving some sampling activities that are interesting to the students.

#### **Student Workload (SWL)**

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا							
Structured SWL (h/sem)		Structured SWL (h/w)					
الحمل الدراسي المنتظم للطالب خلال الفصل	<mark>128</mark>	الحمل الدراسي المنتظم للطالب أسبوعيا	<mark>8.5</mark>				
Unstructured SWL (h/sem)		Unstructured SWL (h/w)					
الحمل الدراسي غير المنتظم للطالب خلال الفصل	<mark>72</mark>	الحمل الدراسي غير المنتظم للطالب أسبوعيا	<mark>4.8</mark>				
Total SWL (h/sem)							
الحمل الدراسي الكلي للطالب خلال الفصل		200					

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## تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
Formative assessment	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative	Midterm Exam	۱hr	10% (10)	7	LO #1 - #7
assessment	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

# Delivery Plan (Weekly Syllabus)

## المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction of Biophysics.

Week 2	Mechanical properties of Biological Objects
Week 3	Biomaterials and its applications
Week 4	Load bearing in biology
Week 5	Energy Interactions with human body
Week 6	Mechanobiology and effect of mechanical factors on living organism
Week 7	Fluid and gas mechanics
Week 8	Fluid Dynamics and Medical application of Bernoulli's equation
Week 9	Bioacoustics and Echolocation effect
Week 10	Thermodynamics
Week 11	Heat exchange and Thermal Conductivity
Week 12	Photobiology
Week 13	Diffusion and directed transport
Week 14	Cellular membranes
Week 15	Electrical excitability of cell membranes
Week 16	Preparatory week before the final Exam

	Delivery Plan (Weekly Lab. Syllabus)			
	المنهاج الاسبوعي للمختبر			
	Material Covered			
Week 1	Lab 1: Measurements of Body Mass Index (BMI)			
Week 2	Lab 2: Measure a blood pressure using mercury sphygmomanometer			
Week 3	Lab 3: Measure of blood mass in the body			
Week 4	Lab 4: Determination of the energy content of food by combustion			
Week 5	Lab 5: Stress level and HRV stress			
Week 6	Lab 6: investigation of Archimedes principle			

Week 7	Mid exam
Week 8	Lab 8: Measurement of liquid density1
Week 9	Lab 9: Measurement of liquid density2
Week 10	Lab 10: Measurement of liquid density 3
Week 11	Lab 11: Speed of sound. 1
Week 12	Lab 12: Speed of sound.2
Week 13	Lab 13: Determination of frequency of tuning fork. 1
Week 14	Lab 14: Determination of frequency of tuning fork. 2
Week 15	Final exam

	Learning and Teaching Resources					
	مصادر التعلم والتدريس					
	Text	Available in the Library?				
Required Texts	Required Texts  Stanley J. Kays " Physics with Fundamentals of Biophysics" , second Edition  Yes					
Recommended						
Texts						
Websites						

	Grading Scheme مخطط الدرجات						
Group	Group Grade التقدير Marks % Definition						
	A - Excellent	امتياز	90 - 100	Outstanding Performance			
Success Group	<b>B</b> - Very Good	جيد جدا	80 - 89	Above average with some errors			
(50 - 100)	<b>C</b> - Good	ختر	70 - 79	Sound work with notable errors			
	<b>D</b> - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings			
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria			

Fail Group	<b>FX</b> – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
(0 – 49)	<b>F</b> – Fail	راسب	(0-44)	Considerable amount of work required

# نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Arabic			Module Delivery	
Module Type	S			⊠Theory	
Module Code		<b>UOF-103</b>		Lecture Lab	
ECTS Credits		3 □Tutorial □Practical			
SWL (hr/sem)		75		□Seminar	
Module Level		1	Semester o	Semester of Delivery 2	
Administering Dep	partment	BSc-Biot.	College	Type College Code	
Module Leader	Amir M.M. Ali		e-mail		
Module Leader's	Acad. Title	Assistant Professor	Module Lea	der's Qualification	MSc
Module Tutor	Module Tutor Name (if available) e-mail		E-mail		
Peer Reviewer Name			e-mail	_	
Scientific Committee Approval Date			Version Nu	mber	

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

Module Objectives أهداف المادة الدراسية	Teaching students writing skills at the level of spelling, grammar and morphology, as well as teaching students the method of analyzing the literary text by referring to significant literary texts.				
	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				
Module Learning Outcomes	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				
مخرجات التعلم للمادة الدراسية	Scientific Knowledge				
. 3	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				
	In congruence with the teaching and learning strategy of the college, the following				
Indicative Contents	tools are used:				
المحتويات الإرشادية	<ul> <li>I. Class lectures, interactive learning (class discussions, group work) video presentations, and practical problems solved in class.</li> <li>II. Exercises and primary source documents are assigned as homework, the</li> </ul>				
	solutions of which are reviewed in class				

- III. Laboratory work (some laboratory reports and drawings may be required).
- IV. CD-ROMS (The Dynamic Human, Explorations in Human Biology. Virtual Biology Laboratory, Explorations in Cell Biology & Genetics).
- V. Office hours: students are encouraged to make full use of the office hours of their instructor, where they can ask questions, see their exam paper, and/or go over lecture/lab material.
- VI. Use of a blackboard site, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources

# 

Student Workload (SWL)					
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا					
Structured SWL (h/sem)		Structured SWL (h/w)	0.5		
الحمل الدراسي المنتظم للطالب خلال الفصل	53	الحمل الدراسي المنتظم للطالب أسبوعيا	3.5		
Unstructured SWL (h/sem)	22	Unstructured SWL (h/w)	1.46		
الحمل الدراسي غير المنتظم للطالب خلال الفصل	22	الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.46		
Total SWL (h/sem)					
الحمل الدراسي الكلي للطالب خلال الفصل					

# Module Evaluation تقييم المادة الدراسية

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

Delivery Plan (Weekly Syllabus)					
	المنهاج الاسبوعي النظري				
	Material Covered				
Week 1	الجمله الأسميه (المبتدأ و الخبر)				
Week 2	الأسماء المعربه بالحروف				
Week 3	النواسخ أن و اخواتها				
Week 4	كان و اخواتها				
Week 5	الجمله الفعليه (الأفعال الخمسه)				
Week 6	الفاعل ونائب الفاعل				
Week 7	المفاعيل / مفعول به				
Week 8	امتحان نصفي				
Week 9	مفعول لأجله / ومعه / ومطلق				
Week 10	التفسير البياني لبعض من سورة الكهف				
Week 11	معاني القرآن في سور متفرقه				
Week 12	الشعر الجاهلي، امرؤ القيس نموذجا				

Week 13	الشعر الحر، بدر شاكر السياب
Week 14	تطبيقات عملية / للمعارف
Week 15	امتحان نهائي

# Learning and Teaching Resources مصادر التعلم والتدريس Available in the Library? Required Texts No Recommended Texts Websites

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

# نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية						
Module Title		Biology		Modu	le Delivery	
Module Type		Core			Theory	
Module Code		Biot -121			⊠Lecture ⊠Lab □Tutorial □Practical	
ECTS Credits	Credits 8					
SWL (hr/sem)	200			□Seminar		
Module Level		1	Semester o	Semester of Delivery 2		2
Administering Dep	partment	Type Dept. code	College	Type College Code		
Module Leader	Dr. Ahmed M. Ibrahim		e-mail			
Module Leader's A	Acad. Title		Module Leader's Qualification Ph.D.		Ph.D.	
Module Tutor	Name (if available)		e-mail	E-mail		
Peer Reviewer Name		Assist. Prof.Dr.Maysam Naji Ahmed	e-mail E-mail Maysam_naji@uofallujah.edu.i		ofallujah.edu.iq	
Scientific Committee Approval Date			Version Nu	mber		

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
Module Objectives أهداف المادة الدراسية	<ol> <li>Describe levels of organization and related functions in plants and animals.</li> <li>Identify the characteristics and basic needs of living organisms and ecosystems.</li> <li>Explain the processes of growth and development in individuals and populations.</li> <li>Design and critically assess the scientific investigations they perform.</li> <li>Demonstrate critical thinking skills.</li> </ol>
	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
Module Learning Outcomes	Graduates will be able to perform laboratory experiments and field studies, by using scientific equipment and computer technology while observing appropriate safety protocols.
ratification to	Outcome 4
مخرجات التعلم للمادة الدراسية	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.
Indicative Contents	In congruence with the teaching and learning strategy of the college, the following

tools are used:
VII. Class lectures, interactive learning (class discussions, group work) video presentations, and practical problems solved in class.
VIII. Exercises and primary source documents are assigned as homework, the solutions of which are reviewed in class
IX. Laboratory work (some laboratory reports and drawings may be required).
X. CD-ROMS (The Dynamic Human, Explorations in Human Biology. Virtual
Biology Laboratory, Explorations in Cell Biology & Genetics).
XI. Office hours: students are encouraged to make full use of the office hours of
their instructor, where they can ask questions, see their exam paper, and/or go over lecture/lab material.
XII. Use of a blackboard site, where instructors post lecture notes, assignment
instructions, timely announcements, as well as additional resources.

Learning and Teaching Strategies				
استراتيجيات التعلم والتعليم				
Strategies	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 types of simple experiments involving some sampling activities that are interesting to the students.			

Student Workload (SWL)  الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem)  الحمل الدراسي المنتظم للطالب خلال الفصل	153	Structured SWL (h/w)  الحمل الدراسي المنتظم للطالب أسبوعيا	10.2
Unstructured SWL (h/sem)  الحمل الدراسي غير المنتظم للطالب خلال الفصل	47	Unstructured SWL (h/w)  الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.13
Total SWL (h/sem)  الحمل الدراسي الكلي للطالب خلال الفصل	200		

#### **Module Evaluation**

## تقييم المادة الدراسية

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

Delivery Plan (Weekly Syllabus)				
	المنهاج الاسبوعي النظري			
	Material Covered			
	Definition and Introduction to biology.			
Week 1	- Types of microscopy.			
	- The cell and classification of kingdom.			
	-The cell theory, Cellular size, Cellular evolution and cell types.			
	The Cell Structure and Function.			
	- Prokaryotic cell.			
Week 2	- Eukaryotic cells.			
	-Animal Cell and Plant Cell			
	- Comparison between Animal cell and Plant cell			
Week 3	Structures in Animal Cell and Plant Cell			

	-cell organelles.
	-structure .
	-function.
	Membranes and transport ( membrane structure and function(
3441.4	- Animal and plant cell border
Week 4	- passive transport processes
	-active transport processes.
	Energy-releasing pathways (Cellular respiration)
	-Glycolysis
	-Krebs cycle
Week 5	- Oxidation
	-Electron transport chain
	-Fermentation
Week 6	Midterm exam
	Photosynthesis
	-photosynthetic organisms.
Week 7	- Site of photosynthesis
week /	-Factors, Equation, Structure
	-Process
	-Importance
	Transpiration
	-Types
Week 8	-Factors
	-Significant.
Week 9	Genetic basis of life

	-The cell cycle
	-The Eukaryotic Chromosomes
	-Prokaryotic cell division
	Mitosis
Week 10	- Mitosis and cytokinesis.
	- Cytokinesis in plant
Week 11	Sexual Reproduction in the Flowering Plant
	Meiosis and reproduction
	- Meiosis I
Week 12	-Meiosis II
	- Spermatogenesis
	- Oogenesis
	Evolution
	- Source of variation
Week 13	- The evolutionary history of biological diversity
17 CCN 25	- An Overview of Plant Diversity
	-An Overview of Animal
	-Phylogenetic tree
Week 14	Ecosystem and Relationships between Organisms
Week 15	Preparatory week before the final Exam
Week 16	FINAL EXAM

	Delivery Plan (Weekly Lab. Syllabus)
المنهاج الاسبوعي للمختبر	
	Material Covered

Week 1	Kingdoms Types of Cell
Week 2	Cell Components
Week 3	Cell membrane and transport
Week 4	Preparation of slide which contain cells
Week 5	Cell division
Week 6	Necrosis and apoptosis
Week 7	Inflammation and Organelles Diseases

	Learning and Teaching Resources مصادر التعلم والتدريس	
	Text	Available in the Library?
Required Texts	Mader: Human Biology	Yes
Recommended Texts	Campbell Biology Textbook, 11th Edition	No
Websites		

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

**Note:** Marks 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.

# MODULE DESCRIPTION FORM

# نموذج وصف المادة الدراسية

	Module Information					
	معلومات المادة الدراسية					
Module Title		Biology		Modu	le Delivery	
Module Type		Core			Theory	
Module Code	Biot -121				⊠Lecture ⊠Lab	
ECTS Credits	8				□Tutorial □Practical	
SWL (hr/sem)	200			□Seminar		
Module Level		1	Semester of Delivery 2		2	
Administering Dep	partment	Type Dept. code	College	lege Type College Code		
Module Leader	Dr. Ahmed M.	Ibrahim	e-mail			
Module Leader's A	Acad. Title		Module Lea	ıder's Qu	alification	Ph.D.
Module Tutor	Name (if available)		e-mail	E-mail		
Peer Reviewer Name		Assist. Prof.Dr.Maysam Naji Ahmed	e-mail E-mail Maysam_naji@uofallujah.ed		ofallujah.edu.iq	
Scientific Committee Approval Date			Version Nu	mber		

## **Relation with other Modules**

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Modu	le Aims, Learning Outcomes and Indicative Contents					
	أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية					
Module Objectives أهداف المادة الدراسية	<ol> <li>Describe levels of organization and related functions in plants and animals.</li> <li>Identify the characteristics and basic needs of living organisms and ecosystems.</li> <li>Explain the processes of growth and development in individuals and populations.</li> <li>Design and critically assess the scientific investigations they perform.</li> <li>Demonstrate critical thinking skills.</li> </ol>					
	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.					
Module Learning Outcomes  مخرجات التعلم للمادة الدراسية	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.
	In congruence with the teaching and learning strategy of the college, the following tools are used:
	XIII. Class lectures, interactive learning (class discussions, group work) video presentations, and practical problems solved in class.
Indicative Contents	XIV. Exercises and primary source documents are assigned as homework, the solutions of which are reviewed in class
المحتويات الإرشادية	<ul> <li>XV. Laboratory work (some laboratory reports and drawings may be required).</li> <li>XVI. CD-ROMS (The Dynamic Human, Explorations in Human Biology. Virtual Biology Laboratory, Explorations in Cell Biology &amp; Genetics).</li> <li>XVII. Office hours: students are encouraged to make full use of the office hours of their instructor, where they can ask questions, see their exam paper, and/or go over lecture/lab material.</li> </ul>
	XVIII. Use of a blackboard site, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources.

	Learning and Teaching Strategies					
استراتيجيات التعلم والتعليم						
Strategies	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 types of simple experiments involving some sampling activities that are interesting to the students.					

Student Workload (SWL)					
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا					
Structured SWL (h/sem)         153           الحمل الدراسي المنتظم للطالب خلال الفصل		Structured SWL (h/w)  الحمل الدراسي المنتظم للطالب أسبوعيا	10.2		
Unstructured SWL (h/sem)	47	Unstructured SWL (h/w)	3.13		

الحمل الدراسي غير المنتظم للطالب خلال الفصل	الحمل الدراسي غير المنتظم للطالب أسبوعيا	
Total SWL (h/sem)	200	
الحمل الدراسي الكلي للطالب خلال الفصل	200	

# **Module Evaluation**

# تقييم المادة الدراسية

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

Delivery Plan (Weekly Syllabus)			
	المنهاج الاسبوعي النظري		
	Material Covered		
	Definition and Introduction to biology.		
Week 1	- Types of microscopy.		
week 1	- The cell and classification of kingdom.		
	-The cell theory, Cellular size, Cellular evolution and cell types.		
Week 2	The Cell Structure and Function.		
VVEER Z	- Prokaryotic cell.		

	- Eukaryotic cells.
	-Animal Cell and Plant Cell
	- Comparison between Animal cell and Plant cell
	Structures in Animal Cell and Plant Cell
	-cell organelles.
Week 3	-structure .
	-function.
	Membranes and transport ( membrane structure and function(
	- Animal and plant cell border
Week 4	- passive transport processes
	-active transport processes.
	Energy-releasing pathways (Cellular respiration)
	-Glycolysis
	-Krebs cycle
Week 5	- Oxidation
	-Electron transport chain
	-Fermentation
Week 6	Midterm exam
	Photosynthesis
	-photosynthetic organisms.
Week 7	- Site of photosynthesis
	-Factors, Equation, Structure
	-Process
	-Importance
Week 8	Transpiration

	-Types
	-Factors
	-Significant.
	Genetic basis of life
Mark 0	-The cell cycle
Week 9	-The Eukaryotic Chromosomes
	-Prokaryotic cell division
	Mitosis
Week 10	- Mitosis and cytokinesis.
	- Cytokinesis in plant
Week 11	Sexual Reproduction in the Flowering Plant
	Meiosis and reproduction
	- Meiosis I
Week 12	-Meiosis II
	- Spermatogenesis
	- Oogenesis
	Evolution
	- Source of variation
Week 13	- The evolutionary history of biological diversity
WEER 13	- An Overview of Plant Diversity
	-An Overview of Animal
	-Phylogenetic tree
Week 14	Ecosystem and Relationships between Organisms
Week 15	Preparatory week before the final Exam
Week 16	FINAL EXAM

	Delivery Plan (Weekly Lab. Syllabus)		
المنهاج الاسبوعي للمختبر			
	Material Covered		
Week 1	Kingdoms Types of Cell		
Week 2	Cell Components		
Week 3	Cell membrane and transport		
Week 4	Preparation of slide which contain cells		
Week 5	Cell division		
Week 6	Necrosis and apoptosis		
Week 7	Inflammation and Organelles Diseases		

Learning and Teaching Resources مصادر التعلم والتدريس					
	Text	Available in the Library?			
Required Texts	Mader: Human Biology	Yes			
Recommended Texts	Campbell Biology Textbook, 11th Edition	No			
Websites					

Grading Scheme						
	مخطط الدرجات					
Group	Grade	التقدير	Marks %	Definition		
	A – Excellent	امتياز	90 - 100	Outstanding Performance		
Success Group	<b>B</b> - Very Good	جيد جدا	80 - 89	Above average with some errors		
(50 - 100)	C – Good	جيد	70 - 79	Sound work with notable errors		
	<b>D</b> - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings		

	E – Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group	<b>FX</b> – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
(0 – 49)	<b>F</b> – Fail	راسب	(0-44)	Considerable amount of work required

# نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية							
Module Title	Occupational laboratory		safety	Modu	le Delivery		
Module Type		Basic			⊠Theory		
Module Code		Biot-124			⊠Lecture		
ECTS Credits		3			□ Lab		
SWL (hr/sem)		75		□Tutorial □Practical			
					□Seminar		
Module Level		1	Semester o	f Deliver	У	2	
Administering Dep	ministering Department BSG		College	Type College Code			
Module Leader	Assist.proff.Dr.Maysam Naji Ahmed			E-mail: maysam_naji@uofallujah.edu.iq			ah.edu.iq
Module Leader's	Acad. Title	Assit.Professor	Module Lea	ader's Qualification		Ph.D.	
Module Tutor			e-mail				
Peer Reviewer Name		Name: Dr Mohammed Jobair Muhaid	e-mail	E-mail: mjm20002014@uofallujah.edu.i		ujah.edu.iq	
Scientific Committee Approval Date		01/06/2023	Version Nu	ımber 1.0			
Relation with other Modules							
	العلاقة مع المواد الدراسية الأخرى						
Prerequisite module					Semester		
Co-requisites module					Semester		

Module Aims, Learning Outcomes and Indicative Contents						
	أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية					
	To introduce students to essential laboratory techniques in healthcare sciences student must learn the following topics:					
Module Objectives أهداف المادة الدراسية	<ol> <li>Biological risk assessment</li> <li>Biosafety guidelines and regulations</li> <li>Biotechnology and cell biology</li> <li>Containment equipment</li> <li>Decontamination</li> <li>Laboratory-acquired infections</li> <li>Medical surveillance</li> <li>Shipment of biological materials</li> <li>Waste disposal</li> </ol>					
	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks.					
Module Learning Outcomes  مخرجات التعلم للمادة الدراسية	Upon successful completion, students will have the knowledge and skills to:  The syllabus is designed to provide the student with a strong science-based, patient-centred training in a healthcare science and is partly defined by the HCPC Standards of Proficiency and equivalent HEE standards. The education, training competencies relating to these standards will be demonstrated in a manner appropriate to your working environment and therefore your syllabus will be negotiated between you, your workplace clinical tutor and the course tutor. In this module you will acquire new competencies relating to appropriate Standards of Proficiency. Study skills: techniques useful to optimise learning from lectures, seminars, tutorials and practical sessions; effective written communication; time management. IT skills: computer-assisted learning, use of computer networks, Powerpoint presentation, essay writing, approaches to assessments and examinations. Use of library facilities, learning styles and self-evaluation, action planning, reflective practice. Researching careers information, occupational and employer search and the Internet. Presentations skills: how to reach your audience. Working with others, theoretical concepts, negotiation and achieving objectives. Laboratory skills: familiarisation with laboratory facilities, safety aspects, record keeping and report writing, instrument calibration and maintenance, concepts of accuracy and precision, sample preparation and dilutions. Specific techniques used in biomedical sciences: cell counting methods (manual and automated), light spectrophotometry, balances, pH meter, micropipettes, centrifugation methods.					
Indicative Contents المحتويات الإرشادية	Biosafety is the prevention of large-scale loss of biological integrity, focusing both on ecology and human health.[1] These prevention mechanisms include conduction of regular reviews of the biosafety in laboratory settings, as well as strict guidelines to follow. Biosafety is used to protect from harmful incidents. Many laboratories handling biohazards employ an ongoing risk management assessment and enforcement process					

for biosafety. Failures to follow such protocols can lead to increased risk of exposure to biohazards or pathogens. Human error and poor technique contribute to unnecessary exposure and compromise the best safeguards set into place for protection.

#### **Learning and Teaching Strategies**

استراتيجيات التعلم والتعليم

#### Strategies

The module will be delivered as lectures and seminars to develop knowledge and understanding, computing workshops, laboratory classes and small group tutorials. Directed study will include experiential and theoretical learning of the range of competencies defined in the HCPC Standards of Proficiency and equivalent HEE standards and the compilation of evidence to demonstrate that competency. Reflection will be developed through the use of a learning log. All of the knowledge required will be assessed by coursework throughout the module. Formative assessments will be followed by summative assessment, culminating in five pieces of course work presented as a portfolio including a reflective statement on an area of practice and a work-based written assignment.

Student Workload (SWL)  الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا				
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	53	Structured SWL (h/w)  الحمل الدراسي المنتظم للطالب أسبوعيا	3.5	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	22	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.4	
Total SWL (h/sem)  125  الحمل الدراسي الكلي للطالب خلال الفصل				

Module Evaluation				
تقييم المادة الدراسية				
Relevant Learning				
	Time/Number	Weight (Marks)	Week Due	Outcome

Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
assessment	Final Exam	3hr	50% (50)	16	All
Total assessment		100% (100 Marks)			

Delivery Plan (Weekly Syllabus)				
	المنهاج الاسبوعي النظري			
	Material Covered			
Week 1	Discuss and evaluate essential practical techniques for healthcare sciences.			
Week 2	Review and reflect on the application of the competencies that you have achieved in your working environment with tutor support.			
Week 3	Perform essential laboratory techniques, produce scientific reports and communicate scientific information in an essay format. With some tutor support demonstrate competency in the range of HCPC Standards of Proficiency and equivalent HEE standards as agreed between you, your workplace tutor and course tutor. With tutor support carry out laboratory based tasks to an acceptable standard			
Week 4	Work in accordance with laboratory safety protocols, understand the health and safety requirements with respect to patient identification, sample type, protective clothing, hazard data sheets (including COSHH), equipment (HCPC standards 4, 3.2, 14, 15). This Clinical Experiential Learning will facilitate learning and achievement of stated outcomes.			
Week 5	Write reports, communicate orally and in writing.			
Week 6	Use IT for presentation and to perform numerical calculations.			
Week 7	Describe the principles of career management and working with others.			

Week 8	Describe the work of the healthcare science workforce and explain how it contributes to the patient pathways relevant to each area of their placement.
Week 9	Explain the need to ensure that the needs and wishes of the patient are central to their care and explain the importance of developing and maintaining the patient-professional partnership.
Week 10	Apply reflective practice.
Week 11	Biosecurity and Responsibilities of Laboratory Workers
Week 12	Work injury and occupational diseases
Week 13	Types of wounds and injuries and their management
Week 14	Fire prevention methods and types of fire extinguishers
Week 15	Tools, tools and methods to use them
Week 16	FINAL EXAM

Learning and Teaching Resources  مصادر التعلم والتدريس				
	Text	Available in the Library?		
Required Texts	<ol> <li>"Definition of BIOSAFETY". Retrieved October 8, 2016.</li> <li>Biosafety and the environment</li> </ol>	Yes		
Recommended Texts	"Laboratory Safety Guidance" (PDF). U.S. Occupational Safety and Health Administration. 2011. pp. 9, 15, 21, 24–28. Archived from the original (PDF) on 2019-12-15. Retrieved 2019-01-17.	No		
Websites	<ol> <li>WHO Biosafety Manual</li> <li>International Centre for Genetic Engineering and Biotechnol</li> </ol>	ogy (ICGEB): Biosafety pages		

### **Grading Scheme**

### مخطط الدرجات

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

# نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title		English		Module Delivery	
Module Type		S		⊠Theory	
Module Code		UOF-101		Lecture	
ECTS Credits		4		Lab □Tutorial	
SWL (hr/sem)	175			□Practical □Seminar	
Module Level		1	Semester o	Semester of Delivery 1	
Administering Dep	partment	Type Dept. code	College	Type College Code	
Module Leader	Assist. Prof. Dr. Ayad Hammood Ahmed		e-mail		
Module Leader's Acad. Title		Assistant Professor	Module Leader's Qualification Ph.D.		Ph.D.
Module Tutor	Mohammed Majeed		e-mail	E-mail	
Peer Reviewer Name			e-mail		
Scientific Committee Approval Date			Version Nu	mber	

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
Module Objectives أهداف المادة الدراسية	<ul> <li>11. Describe the nature and uses of language in light of audience and purpose.</li> <li>12. To use English effectively for study purpose across the curriculum</li> <li>13. Develop interest in and appreciation of Literature.</li> <li>14. Demonstrate critical thinking skills.</li> </ul>
Module Learning Outcomes  مخرجات التعلم للمادة الدراسية	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
Indicative Contents المحتويات الإرشادية	In congruence with the teaching and learning strategy of the college, the following tools are used:  XIX. Class lectures, interactive learning (class discussions, group work) video presentations, and practical problems solved in class.

XX.	Exercises and primary source documents are assigned as homework, the solutions of which are reviewed in class
XXI.	Laboratory work (some laboratory reports and drawings may be required).
XXII.	CD-ROMS (The Dynamic Human, Explorations in Human Biology. Virtual Biology Laboratory, Explorations in Cell Biology & Genetics).
XXIII.	Office hours: students are encouraged to make full use of the office hours of their instructor, where they can ask questions, see their exam paper, and/or go over lecture/lab material.
XXIV.	Use of a blackboard site, where instructors post lecture notes, assignment
ins	tructions, timely announcements, as well as additional resources

Learning and Teaching Strategies استراتيجيات التعلم والتعليم				
Strategies	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 types of simple experiments involving some sampling activities that are interesting to the students.			

Student Workload (SWL)  الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem)  الحمل الدراسي المنتظم للطالب خلال الفصل	75	Structured SWL (h/w)  الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem)  الحمل الدراسي غير المنتظم للطالب خلال الفصل	25	Unstructured SWL (h/w)  الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.6
Total SWL (h/sem)  الحمل الدراسي الكلي للطالب خلال الفصل	100		

## **Module Evaluation**

# تقييم المادة الدراسية

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

	المنهاج الاسبوعي النظري
	Material Covered
Week 1	Unit One - Describing people and All types of Adjectives (What is your Story):
Week 2	Students will learn to describe people using different types of adjectives.
Week 3	<ul> <li>They will understand the various categories of adjectives and their usage.</li> </ul>
Week 4	Students will be able to construct sentences with descriptive adjectives.
Week 5	Unit Two - Tenses and Parts of speech (Language Matters):
Week 6	Students will comprehend different verb tenses and their usage in sentences.
Week 7	They will learn about the various parts of speech and their roles in sentence structure.
Week 8	<ul> <li>Students will be able to identify and use different tenses and parts of speech accurately.</li> </ul>

Week 9	Unit Three: Verbs and Vocabulary for Leisure Activities
Week 10	Expand vocabulary related to leisure activities and hobbies.
Week 11	Learn new verbs and expressions used when discussing leisure and free time.
Week 12	<ul> <li>Describe personal hobbies and interests using appropriate vocabulary and sentence structures.</li> </ul>
Week 13	Engage in conversations about leisure activities.
Week 14	Unit Four - "Tales of the Unexpected":Learning and understanding narrative tenses (e.g., past simple, past continuous, past perfect) to recount stories and events. Improving spelling and pronunciation of common words and phrases used in narratives
Week 15	Final exam.

Learning and Teaching Resources					
	مصادر التعلم والتدريس				
	Text	Available in the Library?			
Required Texts	Curriculum: Headway Intermediate (5 edition).	Yes			
Recommended Texts					
Websites					

	Grading Scheme						
	مخطط الدرجات						
Group	Grade	Marks % Definition التقدير					
	A – Excellent	امتياز	90 - 100	Outstanding Performance			
Success Group	<b>B</b> - Very Good	جيد جدا	80 - 89	Above average with some errors			
(50 - 100)	C – Good	جيد	70 - 79	Sound work with notable errors			
	<b>D</b> - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings			
	E – Sufficient	مقبول	50 - 59	Work meets minimum criteria			

Fail Group	<b>FX</b> – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
(0 – 49)	<b>F</b> – Fail	راسب	(0-44)	Considerable amount of work required

# نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية						
Module Title		Biotechnology		Modu	le Delivery	
Module Type		Core			⊠Theory	
Module Code		Biot-111			⊠Lecture ⊠Lab	
ECTS Credits		8			□Tutorial □Practical	
SWL (hr/sem)	200				□Seminar	
Module Level		1	Semester o	Semester of Delivery 1		1
Administering Dep	partment	BSc.Biot	College	Type Co	ollege Code	
Module Leader	. Prof.Dr. leqaa	a Majeed Aziz	e-mail	Leqaa.a	ziz@uofallujah.e	du.iq
Module Leader's A	Acad. Title	Assist .Professor	Module Lea	ıder's Qu	alification	Ph.D.
Module Tutor	Dr. Firas R. Jameel		e-mail			
Peer Reviewer Name		Prof.Dr. Mohammed Jobair Muhaidi	e-mail	mjm200	02014@uofalluj	ah.edu.iq
Scientific Committee Approval Date			Version Nu	mber		

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
Module Objectives أهداف المادة الدراسية	<ol> <li>To understand the basic concepts of molecular biology and methods used in the manipulation of nucleic acids to isolate and characterize genes.</li> <li>To understand how molecular tools are used to modify an organism.</li> <li>To become aware of the numerous benefits of molecular biology and its utilization in basic and applied sciences.</li> <li>To develop an understanding of the regulatory and social issues surrounding biotechnology.</li> <li>To develop students' ability to apply knowledge and skills to solve theoretical and practical problems in biology and biotechnology.</li> <li>To provide students with the basis for the life-long self-learning in an attempt to keep up with the continuous quick changes in the field of biotechnology.</li> <li>To foster entrepreneurship among students in areas pertinent to biotechnology.</li> <li>To acquaint the students with the principles of biosafety and ethical perspectives of biotechnological systems.</li> <li>To establish a strong reliable infrastructure and facilities to implement the current advanced applications in biotechnology and gene sequencing as a diagnostic tool for genetic disorders. In addition, the biotechnology provides</li> </ol>
Module Learning Outcomes  قامخرجات التعلم للمادة الدراسية	<ol> <li>applications on plants, microbiology and environment.</li> <li>Describe levels of organization and related functions in plants and animals.</li> <li>Identify the characteristics and basic needs of living organisms and ecosystems.</li> <li>Explain the processes of growth and development in individuals and populations.</li> <li>Design and assess the scientific investigations in biotechnology</li> <li>Define and contrast the terms agriculture and agricultural biotechnology.</li> <li>Recognize the importance of Intellectual Property in the context of Industrial Biotechnology.</li> <li>To understand the current applications of biotechnology to environmental quality evaluation, monitoring and remediation of contaminated environments.</li> <li>To make known the great biodiversity existing in the microbial world and relate the ecophysiological aspects of microorganisms to the functioning of the biogeochemical cycles that govern the terrestrial ecosphere. Know the possibilities of environmental application presented by the biotechnology of higher organisms</li> <li>Know the characteristics of raw material and industrial processes applied to obtain the most relevant fermented</li> <li>foods.</li> <li>Describe the role of enzymes in foods, and the most important enzymatic transformations in the food industry.</li> <li>Able to consult the relevant sources of information in Food Biotechnology and analyze the content.</li> <li>Learn the basics of medical biotechnology, the most important of which is</li> </ol>

	gene therapy			
	14. Learn the basics of recombinant DNA technology and PCR Technique			
	In congruence with the teaching and learning strategy of the college, the following			
	tools are used:			
	<ol> <li>Class lectures, interactive learning (class discussions, group work) video presentations, and practical problems solved in class.</li> </ol>			
Indicative Contents	Exercises and primary source documents are assigned as homework, the solutions of which are reviewed in class			
المحتويات الإرشادية	<ol> <li>Laboratory work (some laboratory reports and drawings may be required).</li> <li>CD-ROMS (Introduction of biotechnology, Recombinant DNA technology)</li> <li>Virtual Biotechnology Laboratory, Explorations in Biotechnology &amp; Genetics).</li> </ol>			
	<ol> <li>Office hours: students are encouraged to make full use of the office hours of their instructor, where they can ask questions, see their exam paper, and/or</li> </ol>			
	go over lecture/lab material.  6. Use of a blackboard site, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources.			

Learning and Teaching Strategies  استراتیجیات التعلم والتعلیم			
Strategies	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 types of simple experiments involving some sampling activities that are interesting to the students.		

Student Workload (SWL)				
اسبوعا	الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem)		Structured SWL (h/w)		
الحمل الدراسي المنتظم للطالب خلال الفصل	153	الحمل الدراسي المنتظم للطالب أسبوعيا	10.2	
Unstructured SWL (h/sem)		Unstructured SWL (h/w)	0.40	
الحمل الدراسي غير المنتظم للطالب خلال الفصل	47	الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.13	
Total SWL (h/sem) 200				
الحمل الدراسي غير المنتظم للطالب أسبوعيا الحمل الدراسي غير المنتظم للطالب خلال الفصل			3.1	

## الحمل الدراسي الكلي للطالب خلال الفصل

#### **Module Evaluation**

تقييم المادة الدراسية

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

# Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	المنهج الرسبوعي النظري
	Material Covered
Week 1	Introduction of biotechnology  What is biotechnology  History of biotechnology  Major scientific discoveries in biotechnology  Biotechnology as the science of integration  Future of biotechnology
Week 2	<ul> <li>Plant environmental biotechnology</li> <li>Plant breeding</li> <li>Applications molecular tools in agriculture</li> <li>Gene transfer methods in plant</li> </ul>
Week 3	Animal biotechnology

	Industrial biotechnology				
	Medicine and pharmacological industry				
Week 4	Vaccine production				
	Food industry				
	Health care products				
Week 5	Microbial biotechnology				
Week 6	Midterm exam				
	Medical biotechnology				
	Gene therapy				
Week 7	Biocontrol therapy				
	Organ transplant				
	Stem cells				
Week 8	Aquatic and food biotechnology				
Week 9	Production biomolecular using fermenter technology				
Week 10	Gene and genome				
	Recombinant DNA technology				
	Development of Recombinant DNA technology				
Week 11	Significance of restriction enzymes in Recombinant DNA technology				
	Significance of vectors in Recombinant DNA technology				
	Introduction of the Recombinant DNA into the suitable host				
	Selection of Recombinant clones				
Week 12	Gene cloning				
Week 13	PCR technology				
Week 14	Forensic biotechnology				
Week 15	Preparatory week before the final Exam				
Week 16	FINAL EXAM				

# Delivery Plan (Weekly Lab. Syllabus)

## المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Lab 1: Introduction to protein and DNA extraction method
Week 2	Lab 2: cell Lysis methods
Week 3	Lab 3: protein precipitation
Week 4	Lab 4: Dialysis of protein solution
Week 5	Lab 5: protein concentration assay and standard curve
Week 6	Lab 6: chromatography
Week 7	Lab 7: Mid-term Exam
Week 8	Lab 8: electrophoresis of protein
Week 9	Lab 9: chromatography
Week 10	Lab 10: DNA extraction -1
Week 11	Lab 11: DNA extraction -2
Week 12	Lab 12: DNA purity and concentration assessment methods
Week 13	Lab 13: DNA electrophoresis
Week 14	Preparatory week before the final Exam

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Learning	and	leaching	Resources

## مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Biotechnology fundamental	Yes
Recommended Texts	Biotechnology for beginners	Yes

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

# نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية						
Module Title  Human rights ,Freedom Democracy		n and	Modu	ıle Delivery		
Module Type		S			☑Theory Lecture Lab □Tutorial □Practical	
Module Code		UOF-102				
ECTS Credits	ts 3					
SWL (hr/sem)	75				□Seminar	
Module Level		1	Semester of Delivery		1	
Administering Dep	partment	BSc-Biot	College Type College Code			
Module Leader	Majed A. Isma	al	e-mail			
Module Leader's Acad. Title		Assistant Professor	Module Leader's Qualification MSc		MSc	
Module Tutor Name (if availa		able)	e-mail	E-mail		
Peer Reviewer Name			e-mail			
Scientific Committee Approval Date			Version Nu	mber		

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	

Module Objectives أهداف المادة الدراسية	<ol> <li>The historical development of human rights.</li> <li>The role of international organizations in ensuring freedom and respect for human rights.</li> <li>Democracy and its types and its impact on third world countries.</li> <li>Types and future of freedoms</li> </ol>			
Module Learning Outcomes  مخرجات التعلم للمادة الدراسية	Outcome 1  Identification of Complex Relationships  Graduates will be able to illustrate the moral, legal or societal rules and an understanding of what is necessary to fulfil people's social needs and to promote social inclusion and social solidarity  Outcome 2  Oral and Written Communication  Graduates will be able to understand that all human beings are born free and equal in dignity and rights.  Outcome 3  Graduates will be able to recognize our freedom to make choices about our lives and to develop our potential as human beings. They are about living a life free from fear, harassment or discrimination  Outcome 4  Graduates will be able to understand that a democracy is a society in which the citizens are sovereign and control the government			
Indicative Contents المحتويات الإرشادية	In congruence with the teaching and learning strategy of the college, the following tools are used:  XXV. Class lectures, interactive learning (class discussions, group work) video presentations, and practical problems solved in class.  XXVI. Exercises and primary source documents are assigned as homework, the solutions of which are reviewed in class  (XVII. Laboratory work (some laboratory reports and drawings may be required).  XVIII. Office hours: students are encouraged to make full use of the office hours of their instructor, where they can ask questions, see their exam paper, and/or go over lecture/lab material.  XXIX. Use of a blackboard site, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources			

# **Learning and Teaching Strategies**

استراتيجيات التعلم والتعليم

### Strategies

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 types of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL)					
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا					
Structured SWL (h/sem)	F2	Structured SWL (h/w)	2.5		
الحمل الدراسي المنتظم للطالب خلال الفصل	53	الحمل الدراسي المنتظم للطالب أسبوعيا	3.5		
Unstructured SWL (h/sem)	22	Unstructured SWL (h/w)	1.46		
الحمل الدراسي غير المنتظم للطالب خلال الفصل	22	الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.46		
Total SWL (h/sem)		<b>-</b> -			
الحمل الدراسي الكلي للطالب خلال الفصل		75			

# Module Evaluation تقييم المادة الدراسية Time/Number Weight (Marks) Week Due Outcome Relevant Learning Outcome Quizzes 2 10% (10) 5 and 10 LO #1, #2 and #10, #11

Formative	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
assessment	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
assessment	Final Exam	3hr	50% (50)	16	All
Total assessment		100% (100 Marks)			

	Delivery Plan (Weekly Syllabus)				
	المنهاج الاسبوعي النظري				
	Material Covered				
Week 1	حقوق الانسان، تعريفها واهدافها				
Week 2	جذور حقوق الانسان وتطورها في التاريخ البشري				
Week 3	حقوق الانسان في الحضارات القديمة وخصوصا حضارة وادي الرافدين				
Week 4	حقوق الانسان في الشرائع السماوية وخصوصا الاسلام				
Week 5	حقوق الانسان في العصور الوسطى				
Week 6	حقوق الانسان في التاريخ المعاصر الحديث				
Week 7	الاعتراف الاقليمي بحقوق الانسان				
Week 8	امتحان				
Week 9	تعريف الديمقراطية				
Week 10	تصنيف الديمقراطية				
Week 11	حقوق الانسان في الدساتير العراقية بين النظرية والواقع				
Week 12	حقوق الانسان الضرورية وحقوق الانسان الجماعية				
Week 13	حقوق الانسان الاقتصادية والثقافية والاجتماعية				
Week 14	حقوق الانسان الحديثة				

Week 15	الامتحان النهائي

Learning and Teaching Resources				
مصادر التعلم والتدريس				
	Text	Available in the Library?		
Required Texts		No		
Recommended				
Texts				
Websites				

## **Grading Scheme**

### مخطط الدرجات

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