جامعة بغداد

كلية العلوم

قسم التقنيات الاحيائية

مواد المرحلة الاولى

الكورس الاول

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department Biotechnology	

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	Principles of Biotechnology I		**Module Delivery**	
Module Type	Core		☒ **Theory** ☐ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☒ **Seminar**	
Module Code	BIOT1101			
ECTS Credits	7			
SWL (hr/sem)	175			
Module Level	UGI		**Semester of Delivery**	1
Administering Department	Dept. of Biotechnology		**College**	Science
Module Leader	Sahar I. H.		**e-mail**	sahar.hussein@sc.uobaghdad.edu.iq

Module Leader's Acad. Title	Assis. Professor	**Module Leader's Qualification**	Ph.D.
Module Tutor	None	**e-mail**	
Peer Reviewer Name	Ghazi M. Aziz	**e-mail**	Ghazi.aziz@sc.uobaghdad.edu.iq
Scientific Committee Approval Date	1/6/2023	**Version Number**	1.0

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	**Semester**	
Co-requisites module	Biochemistry , Microbiology	**Semester**	3,4

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. To enable students to obtain knowledge and understanding the intellectual framwok, foundations and applications of biotechnology 2. To enable students to obtain knowledge and understanding of industrial, environment and food microbiology. 3. To enable students to obtain knowledge and understanding of genetics, genetic engineering and cytogenetics 4. To enable students to obtain knowledge and understanding botany and animal tissues. 5. To enable students to obtain knowledge and understanding of cytology and microbiology 6. Found a mental and applications of biotechnology 7. Isolation, purification and treatment of various biological molecules.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Preparing specialists familiar with the basis of biotechnology (theoretically and practically) who are able to meet the needs of the labor market. 2. Conduction scientific research and trying to keep with the scientific development of biotechnologies. 3. Cooperate with state institution and the private sector by providing scientific consultation laboratory analysis in the fields of genetic, environment, industrial microbiology engineering. 4. Encourage scientific research and providing students with basic skill in biotechnologies and their applications in all fields. 5. Encourage the staff to participate in scientific forums inside and outside the country. 6. Contribute to solve scientific problems in order to serve the national development planks.
Indicative Contents المحتويات الإرشادية يتضمن الكلمات المفتاحية المهمة للمحاضرات	1. Introduction to Biotechnology 2. Evolutionary stages of biotechnologies 3. Isolation of microorganisms and types of nutritional requirements for them 4. Types of culture media 5. Growth curve of microorganisms 6. Factors affecting the growth of industrial microorganisms 7. Types of plant tissue cultures 8. Types of secondary metabolism 9. Fermentation Technology 10. Types of fermentation media

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Teaching students the basic foundations and principles of biotechnology related to the various directions of this field of knowledge in the sciences of industrial fermentation, genetic engineering, bioseparation, and how to exploit microbial, plant and animal cells in the production of materials of industrial or medical value to the consumer.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا تملئ من قبل المقررية			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	79	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5.26
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	96	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	6.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

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, 4 and 6
	Assignments	2	10% (10)	2, 12	LO # 3, 4 and 6
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO # 5, 8 and 6
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	Definition of the concept of biotechnologies
Week 2	Historical development of biotechnology before and after the World War
Week 3	Methods used to isolate microorganisms from the elements of the environment and types of nutritional requirements for them.
Week 4	Productive and enriching food media
Week 5	Different growth phases of bacteria and molds
Week 6	First exam
Week 7	The effect of some factors on the growth and production of microorganisms such as heat, pH, Co2, light and some chemicals
Week 8	**Mid Exam**
Week 9	Types of tissue cultures such as meristems, callus and protoplast cultures
Week 10	Types of secondary metabolism and active compounds in the plant
Week 11	Determine the different levels in the production of biological materials such as laboratory level, experimental laboratory and industrial production
Week 12	Second exam
Week 13	Definition of industrial fermentors, materials used in their manufacture and factors affecting them
Week 14	Batch culture
Week 15	Continuous Farms
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: Laboratory Equipment's
Week 2	Laboratory Equipment's (practically)
Week 3	Lab 2: Microorganism's growth requirements and culture media
Week 4	Microorganism's growth requirements and culture media(practically)
Week 5	Lab 3: The Isolation of Microorganisms from a different environments by a different techniques
Week 6	The Isolation of Microorganisms from a different environments by a different techniques(practically)
Week 7	Lab 4: Maintaining and preserving pure cultures
Week 8	Maintaining and preserving pure cultures(practically)
Week 9	Lab 5: The enumeration methods of Microorganisms
Week 10	The enumeration methods of Microorganisms(practically)
Week 11	Lab 6: Solid state fermentation (SSF)
Week 12	Solid state fermentation (SSF) (practically)
Week 13	Lab 7: Fermenter and Bioreactor
Week 14	Fermenter and Bioreactor(practically)

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1- Microbiology and Biotechnology (2001) 2- A Text book of Biotechnology(2006)	Yes
Recommended Texts	1-Methods in Biotechnology (1997) 2- Biotechnology, Principles and Application (1988)	yes

Websites	https://books.google.iq/books?id=K7kLyFX_qtUC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

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 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.

Ministry of Higher Education and Scientific Research - Iraq
University of Baghdad
College of Science
Department Biotechnology

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية		
Module Title	General Biology I/animal	**Module Delivery**

Module Type	Core		☒ **Theory** ☐ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☒ **Seminar**		
Module Code	BIOT1102				
ECTS Credits	7				
SWL (hr/sem)	175				
Module Level	UGI		**Semester of Delivery**	1	
Administering Department	Type Dept. Code		**College**	Type College Code	
Module Leader	Dr. Rasha Al-khalidi		**e-mail**	Rasha.ali@sc.uobaghdad.edu.iq	
Module Leader's Acad. Title	Assistant Professor		**Module Leader's Qualification**	Ph.D.	
Module Tutor	None		**e-mail**	E-mail	
Peer Reviewer Name	Dr. Laith Ahmed Yaaqoob		**e-mail**	E-mail laith.yaaqoob@sc.uobaghdad.edu.iq	
Scientific Committee Approval Date	20/6/2023		**Version Number**	1.0	

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module		**Semester**	
Co-requisites module	Histology, Physiology	**Semester**	3,4

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. This course deals with the basic concept of Zoology. 2. To understand the role of Zoology in the Biotechnology field.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. To know the general information about Zoology and its branches. 2. Recognize the classification systems of the animal kingdom, and the main divisions and characteristics of each division and class with examples 3. To understand the chemistry of life the components including lipids, and carbohydrates. 4. To understand the chemistry of life the components including protein, and nucleic acid. 5. To understand the animal cell structure and functions such as cell membrane, cytoplasm, mitochondria, and endoplasmic reticulum. 6. To understand the animal cell structure and functions such as the nucleus, Golgi apparatus, cilia and flagella, centrioles, and cytoskeleton.

	7. To have knowledge about the main technique for an animal transport system. 8. To know cell signaling and communication. 9. Understanding the cell division including mitosis and meiosis. 10. To understand some cell functions such as the Cellular Respiration 11. Study animal disruption, revolution, and development. 12. The evolutionary history of biological diversity Phylogenetic tree 13. To understand the function of some organs in the animal system, for example, the digestive system. 14. Recognize how animal cells can play a very important role in biotechnology. 15. Recognize how animal models can play a very important role in biotechnology such as the production of biomaterials and other applications
Indicative Contents المحتويات الإرشادية يتضمن الكلمات المفتاحية المهمة للمحاضرات	Indicative content includes the following:- Introduction, Zoology classification systems, How animal cells differ from plant, Morphology of fungi, Reproduction. Important of fungi, Living mode of fungi, Cultivation of fungi, sexual and asexual reproduction in fungi. Classification of fungi, Division 1: Myxomycota, general characteristics, the classes involved in this division. (One example for each class). Division 2: Eumycota , general characteristics, Class 1,Chytridiomycetes and its classification, Class 2, Hyphochytridiomyctes. Division 2: Eumycota, Class 3: Oomyctes , general characteristics, and the classification of this class. Division 2: Eumycota, Class 4: Zygomycetes, general characteristics, Orders involved in this class. The role of some strains in production of biomaterials. Division 2: Eumycota, Class 5: Ascomycetes, general characteristics, Subclasses involved in this class. The role of some strains in production of biomaterials, food manufacturing, plant pathogens, Human pathogens. Division 2: Eumycota, Class 6: Basidimycetes, general chracteristics, Subclasses involved in this class. The role of some strains in production of enzymes such laccase, peroxidase, cellulose, Edible and poising mushroom. Division 2: Eumycota, Class 7: Deutromycetes, general chracteristics, Subclasses involved in this class. Medical mycology Mycotoxins

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 collection of different samples, media preparation. Isolation and primitive identification according to the acquired skills from the theoretical and practical information through lectures and Lab.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	79	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5.26
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	96	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	6.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

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	All
	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, branches such as morphology, histology, cytology, physiology, genetics, ecology, and taxonomy

Week 2	Classification of Zoology including kingdom, phylum, class, order, family, genus, and species.
Week 3	Study the chemistry of life such as macromolecules and carbohydrates and lipids.
Week 4	Study the chemistry of life such as the structure and function of proteins and the structure of nucleic acid, DNA and RNA, the type of RNA.
Week 5	Cell membrane structure and components, cytoplasm, the cytoplasm structure, mitochondria and endoplasm reticulum
Week 6	Structure and function of cells such as of nucleus, Golgi apparatus, cilia, and flagella, centrioles, and cytoskeleton.
Week 7	First exam
Week 8	Transport system in animals: cell -Plasma Membrane Functions,-Diffusion, Osmosis, Facilitated transport, Active transport, Endocytosis, and Exocytosis
Week 9	Type of cell signal, a cascade of signaling events, relay, integration and distribution of signal transducer, signaling pathways regulator and cellular function
Week 10	Mitosis and meiosis, prophase, metaphase, anaphase, telophase, the function of mitosis, development and growth, cell replacement, regeneration, meiosis I meiosis II.
Week 11	Study animal disruption, revolution, and development. Source of variation, modern synthesis, anatomy, fossils, direct observation, analogy, morphology, natural selection, population
Week 12	Phylogenetic tree, protist, protozoa, Protophyta, Molds.
Week 13	Animal cell application, gene therapy, drug screening, production of vaccine, production of therapeutic protein
Week 14	Animal model: drug pharmacological, disease resistance models, mutation induced models, stress induced model
Week 15	Final exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: Introduction
Week 2	Lab 2: -Microscope Parts and functions
Week 3	Lab 3: Functions of cell membrane-Composition of cell membrane.
Week 4	Lab 4: Methods of transport across membranes, Diffusion, Osmosis, Facilitated transport, Aactive transport, Endocytosis and Exocytosis
Week 5	Lab 5: The stages of mitosis, Why use onion roots for viewing mitosis? Viewing Chromosomes

Week 6	Lab 6: cell respiration
Week 7	Lab 7: Phylogenetic tree, protist, protozoa, Protophyta, Molds.
Week 8	Lab 8: Animal cell application, gene therapy, drug screening, production of vaccine, production of therapeutic protein
Week 9	Lab 9: Animal model: drug pharmacological, disease resistance models, mutation induced models, stress induced model
Week 10	Lab 10: final exam

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	1.M. Koto-The. Biology of biodiversity-Springer 2. E.O. Wilson-Biodiversity-Academic Press Washington. 3. G.G.-Simpson-Principle of animal taxonomy Oxford IBH Publication company.	Yes
Recommended Texts	Skoal R.R. and F.J.Rohiff Biometry-Freeman, San-Francisco	Yes
Websites	https://www.khanacademy.org/science/biology	

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 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.

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department Biotechnology	

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information

معلومات المادة الدراسية

Module Title	Analytical Chemistry and Instrumental Analysis	**Module Delivery**	
Module Type	Support	☒ **Theory** ☐ **Lecture** ☒ **Lab** ☒ **Tutorial** ☐ **Practical** ☒ **Seminar**	
Module Code	COS1103		
ECTS Credits	7		
SWL (hr/sem)	175		

Module Level	UGI	**Semester of Delivery**	1
Administering Department	Chemistry Dept.	**College**	Science
Module Leader	Wasan Abdulameer Alwan	**e-mail**	wasan.a@sc.uobaghdad.edu.iq
Module Leader's Acad. Title	Assistant Professor	**Module Leader's Qualification**	M.Sc.
Module Tutor	none	**e-mail**	none
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	15/6/2023	**Version Number**	1.٠

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 Aims أهداف المادة الدراسية	This module aims to cultivate a scientifically literate generation that embraces science as a foundation for transformative change, applying scientific knowledge and methods in critical thinking, analysis, and adaptation to evolving technologies and societal needs This module will be included the main points: 1-Introduce students to the fundamental principles of volumetric analysis 2- Foster an understanding of the theoretical principles and practical applications of titration. 3- To ensure a comprehensive understanding of gravimetric analysis, calculations of gravimetric coefficients, studying the calculations of solubility product constants and determining the mathematical conditions for sediment formation. 4-Identify some instrument devices used in quantitative analysis
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. To educate students on the principles of calculating concentrations and the weight of substances in samples, including the preparation of solutions from solid or liquid materials. 2. Provide students with a comprehensive knowledge of volumetric analysis, particularly titration, and its wide range of applications. 3. Identify the types of acids, bases, ionization constants, and pH function calculations, as well as identify the acidic and basic properties of water and the ionization constant (Kw). 4. Identify the hydrolysis of salts and its calculations 5. Familiarize students with the fundamentals of Bufer solutions and its calculations 6. Identify the basics of gravimetric analysis

	7. Studying the calculations of the solubility product constant and knowing when sediments form mathematically. 8. Study the characteristics of the sediment and the factors affecting the solubility of the sediment, as well as the study of the factors that affect the formation of the sedimen 9. Understand molecular spectroscopy in terms of principles and theoretical basis.
Indicative Contents المحتويات الإرشادية يتضمن الكلمات المفتاحية المهمة للمحاضرات	Indicative content includes the following. 1- Methods for expressing the concentration of solutions 2- volumetric analysis, particularly titration, 3- Calculations of pH for acids, bases, salts and buffer solutions 4- Gravimetric analysis and calculations of the solubility product constant. 5- Instrument devices used in quantitative analysis
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	This module will be covered by class hours, tutorial hours, online work, practical hours, reports, homework, independent self-study, and guided reading.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	94	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	6.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	81	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

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, 4,5 and 8
	Assignments	2	10% (10)	2, 12	LO # 2, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO # 2, 5,8 and 9
Summative assessment	**Midterm Exam**	2 hr	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
Week 1	Analytical Chemistry and methods for expressing the concentration of solutions
Week 2	Volumetric Methods of Analysis, Requirements for a primary standard, Volumetric Calculations for Acid-Base Titrations.
Week 3	Equilibrium in acid-base solutions, Calculating the pH of weak acid and base solutions, Calculating the pH of salts solutions, 1-Salt differential from strong acid and strong base, 2-Salt differential from weak acid and strong base, 3-Salt differential from strong acid and weak base, 4-Salt differential from weak acid and weak base.
Week 4	Buffer Solutions, Calculating the pH of Buffer solutions, Acid – Base Titration, Acid – Base Indicators, Methyl Orange, Phenolphthalein.
Week 5	Titration curve: 1-Titrating a strong acid with a Strong base, 2-Titrating a weak acid with a Strong base.

Week 6	Precipitation titrations, Conditions for Precipitation Titrations, Titration curve.
Week 7	Determination of End point for precipitation titrations: Indicator, Mohr Method (formation of a colored precipitate),Volhard Method (formation of colored complex), Fajan Method (adsorption indicators)
Week 8	Mid-term Exam + Titration Mixture of two Bases with Strong Acid.
Week 9	Gravimetric Analysis, Properties of precipitates and precipitating reagents, Calculations in gravimetric Analysis
Week 10	Solubility, The Solubility of Precipitates. Applying solubility-product constants, Common Ion Effect on Solubility,
Week 11	Instrumental Methods, Spectrochemical Methods, Energy states of chemical species, Electromagnetic radiation, Absorption Spectrometry.
Week 12	Transmittance, Absorbance, Beer-Lambert law, Limitations to Beer's Law, examples
Week 13	Instrument Designs for Molecular UV/Vis Absorption, Photometers, Spectrophotometers, Spectrophotometric configurations
Week 14	Analytical Separations: a) Liquid-Liquid Extraction, b) Solid-Liquid Extraction
Week 15	Distillation, Kjeldahl method
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Learn about laboratory tools and equipment and how to use them
Week 2	Learn the principles of descriptive analysis and the descriptive interactions of the first group of ions
Week 3	A test on the analysis of information samples for the first group, based on the descriptive analysis

Week 4	A test on the analysis of the anonymous samples of the first group, based on the descriptive analysis
Week 5	Characteristic descriptive interactions of the second group ions
Week 6	A test on the analysis of the known samples of the second group
Week 7	A test on the analysis of anonymous samples of the second group
Week 8	Calculations of volumetric analysis, preparation of approximately (0.1N) HCI and (0.IN) sodium carbonate.
Week 9	Standardization of HCl solution with standard solution of Na_2CO_3.
Week 10	Analysis of a mixture containing (sodium hydroxide + sodium carbonate)
Week 11	Analysis of a mixture containing (sodium bicarbonate + sodium carbonate)
Week 12	Unknown solution: Practical exam
Week 13	Determination of NaCl by Mohr method
Week 14	Analysis the unknown sample of NaCl by Mohr method
Week 15	Preparatory week before the final Exam

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	**Available in the Library?**
Required Texts	Fundamentals of analytical chemistry /Skoog and West ,7th ed.,2000	Yes
Recommended Texts	Fundamental of analytical chemistry by Skoog, West, Holler & Crouch, 8th , 2004.	
Websites	https://www.goodreads.com/book/show/1568659.General_Chemistry	

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 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	Biostatistics			**Module Delivery**	
Module Type	Support			☒ **Theory** ☐ **Lecture** **Lab** ☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**COS1104**				
ECTS Credits	5				
SWL (hr/sem)	125				
Module Level	UGI		**Semester of Delivery**	2	
Administering Department	Dept. of Mathemetics		**College**	Science	
Module Leader	Dr. Iraq Tareq Abbas		**e-mail**	Iraq.t@sc.uobaghdad.edu.iq	
Module Leader's Acad. Title	Assist.Professor		**Module Leader's Qualification**	Ph.D.	
Module Tutor			**e-mail**	E-mail	

Peer Reviewer Name	Dr. Liqua Zaqi Hamady	**e-mail**	liqaa.hummady@sc.uobaghdad.edu.iq
Scientific Committee Approval Date	٢٠٢٣/٦/٢٠	**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	
Module Aims أهداف المادة الدراسية	1. This course deals with the basic concept of statistic. 2. To understand the role of statistic in mathematical field.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. To know the old classification systems of linear number. Portability of statistic, how statistic differ from math. 2. To know the importance of statistic, learn about how to classify all methods of probability. 3. Recognize the new classification systems of statistic, and the main divisions and characteristics to each divisions and classes, Division: propaplistic, Classification and the main characteristics of this field with examples. 4. Derivatives: definition and Classes. 5. Define measures of central tendency. 6. 1 - the mediator 7. 2 - Arithmetic mean 8. 3 - the vein 9. Identify the practical applications of each of the standards in terms of: 10. Practical application 11. Arithmetic application 12. Mathematical application 13. In addition to their use in engineering construction drawing 14. Learn about the different types of charts, including: 15. Cartesian drawing 16. Chart engineering drawing

Indicative Contents المحتويات الإرشادية يتضمن الكلمات المفتاحية المهمة للمحاضرات	Indicative content includes the following:- Introduction, statistic classification systems, How statistic differ from mathematics. Reproduction. Important of statistic, mathematical modeling of statistic, definition of statistic. Classification of statistic, mean, stander division and mode. Identify the practical applications of each of the standards in terms of: Practical application Arithmetic application Mathematical application In addition to their use in engineering construction drawing Learn about the different types of charts, including: Cartesian drawing Chart engineering drawing

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 collection of different samples, media preparation. Isolation and primitive identification according to the acquired skills from the theoretical and practical information through lectures.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5.2
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	125		

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	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO # 5, 7 and 16
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, Classification systems of statistic, Definition of statistic.
Week 2	Important of statistic, Living mode, Elements and environmental requirements for statistic cultivation, Sexual and asexual reproduction, sexual compatibility.
Week 3	Classification of statistic,
Week 4	Define measures of central tendency.
Week 5	1 - the mediator 2 - Arithmetic mean 3 - the mode
Week 6	Identify the practical applications of each of the standards in terms
Week 7	Practical application Arithmetic application Mathematical application
Week 8	Mid-term Exam.
Week 9	Learn about the different types of charts, including: application and learning.
Week 10	Cartesian drawing
Week 11	Chart engineering drawing
Week 12	Statistics and its connection with other sciences from a practical application
Week 13	Cartesian drawing between a group of diseases given as a practical example and how to deduce appropriate solutions for application
Week 14	Learn the basics of statistical application in biotechnology, a practical example

Week 15	Identify some important definitions and applications in the use of statistics with biotechnology
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Introductory to statistic and probability.	Yes
Recommended Texts	Introduction to statistic by John Webster and Roland W.S.Weber 2007. Cambridge.	Yes
Websites	https://www.statistic	

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 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.

Ministry of Higher Education and Scientific Research - Iraq
University of Baghdad
College of Science
Department Biotechnology

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية (اللغة العربيَّة)

Module Information معلومات المادة الدراسية					
Module Title	Arabic Language 1			**Module Delivery**	
Module Type	BASIC			☒Theory ☐Lecture ☐Lab ☐Tutorial ☐Practical ☐Seminar	
Module Code	Uob101				
ECTS Credits	2				
SWL (hr/sem)	50				
Module Level	1		**Semester of Delivery**	1	
Administering Department	Type Dept. Code		**College**	Type College Code	
Module Leader	Dr. Leqaa faleh owdaa		**e-mail**	leqaa.falih@ircoedu.uobaghdad.edu.iq	
Module Leader's Acad. Title	Lecturer		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Assistant Lecturer. Alaa Sabah Hammood		**e-mail**	alaa.sabah@sc.uobaghdad.edu.iq	
Scientific Committee Approval Date	11/06/2023		**Version Number**	1.0	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1- تهدف إلى تنمية روح الإعتزاز باللغة العربيَّة للمحافظة على الهوية العربيَّة. 2- تهدف إلى تأهيل الطلبة بالمعارف والمخرجات الخاصة علم النحو، والصرف، والإملاء؛ لتمكنه من الكتابة الصحيحة والتعبير السليم وتقويم لسانه. 3- تهدف إلى تنمية ذوق الطالب الأدبي وإثراء تحصيله وإغناء زاده من الفكر العربي والإسلامي. 4- تهدف إلى تطوير مهارات الطلاب اللغويَّة التي تؤهلهم للإبداع المتميز. 5- تهدف إلى تنمية مهارات التحدث بـ (اللغة العربيَّة). 6- تهدف إلى الارتقاء بمستوى الطلبة من الجانب المهني والبحثي.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1-التعرف على أهم خصائص اللغة العربيَّة وأهميتها في مجال العلم كونها أداة نقل العلم والمعرفة. 2- التعرف على أقسام الكلمة وعلامات كل منها كونها المحور الرئيسي الذي يتألف منها الكلام. 3- التمييز بين المبني والمعرب وعلامات كل منها وتوضيحها بالأمثلة. 4- التعرف على المبتدأ والخبر من حيث تعريفهما وحكمهما وبيان ذلك بالأمثلة التوضيحية. 5- التعرف على النَّواسخ لغة واصطلاحاً وأقسامها وعملها وبيان ذلك بالأمثلة التوضيحية. 6- التعرف على الأعداد وبيان العلاقة بين العدد والمعدود من حيث المطابقة والمخالفة أو الاستعمال بلفظ واحد، ومعرفة التقديم والتأخير بين العدد والمعدود، فضلاً عن معرفة أحكام العدد والمعدود في كل منها. 7- التعرف على المشتقات والذي تعد من أبرز خصائص اللغة العربية التي تميزت بها عن اللغات الأخرى، وبيان حيويتها وقدرتها على استيعاب العلوم والتعبير عنها، وذلك بدراسة أنواع المشتقات واشتقاقاتها واستعمالاتها كـ (اسم الفَاعِل، اسم المَفْعُول، صيغة المبالغة ...). 8- التعرف على جمع التكسير ، وأنواعها (جمع القلة وجمع الكثرة) وأوزانها . 9- التعرف على قواعد كتابة التاء المربوطة والمفتوحة في آخر الألفاظ، وذلك بذكر مواضع كل منها، والتمييز بين الهاء والتاء المربوطة، مع ضبط كتابة التاء المربوطة وفق القاعدة. 10- التمييز بين الضاد والظاء كون مشكلة الفرق بين الضاد والظاء تكمن في النطق والكتابة وذلك بدراسة محاور الفرق بين الضاد والظاء من حيث الاسم والرسم والنطق والمعنى وغير ذلك. 11- التعرف على الهمزة كونها أحد حروف اللغة العربيَّة والتمييز بين همزة الوصل والقطع، وذلك بذكر مواضع كل منها، فضلاً عن قواعد كتابة همزة القطع وصورها المختلفة. 12- تمكن الطالب من استعمال علامات الترقيم في كتابة البحوث والتقارير أو أي نص آخر واستعمالها استعمالاً صحيحاً، لما لها من أثر في توضيح النص بين المتكلم والمتلقي. 13- التعرف على أهم الأغلاط اللغويَّة الشائعة: النحوية والصرفية، والإملائية. 14- التعرف على الشاعر العراقي محمد مهدي الجواهري كونه رمز من رموز الشعر العمودي في العراق، والشاعر بدر شاكر السياب كونه أحد رواد الشعر الحر في العراق.
Indicative Contents المحتويات الإرشادية تتضمن الكلمات المفتاحية المهمة للمحاضرات	- اللغة العربيَّة: خصائصها، مميزاتها، أهميتها. - أقسام الكلمة: الاسم والفعل والحرف. - المبني والمعرب: علامات البناء وعلامات الإعراب. - المبتدأ، الخبر. - النَّواسخ : كانَ وأخواتها، إنَّ وأخواتها، لا النافية للجنس، المشبهات بـ(ليس) ظنَّ وأخواتها، كاد وأخواتها. - العدد: أحكام العدد. - المشتقات: اسم الفَاعِل، اسم المَفْعُول، صيغة المبالغة... - جمع التكسير: جمع القلة، جمع الكثرة. - التاء المربوطة والتاء المفتوحة في آخر الألفاظ: التاء المربوطة (القصيرة) في آخر الألفاظ ، التاء المفتوحة (الطويلة، المبسوطة) في آخر الألفاظ. - الفرق بين الضاد والظاء: صوت الضاد – حرف الضاد، صوت الظاء – حرف الظاء. - الهمزة وقواعد كتابتها: همزة الوصل وهمزة القطع. - علامات الترقيم: مواضع علامات الترقيم ، علامات التنقيط.

	ـ الأغلاط اللغويَّة الشائعة: الأغلاط اللغوية، النحوية، الصرفية، الإملائية. ـ الشاعر محمد مهدي الجواهري: حياته، مؤلفاته. ـ الشاعر بدر شاكر السياب: حياته، مؤلفاته.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	الاستراتيجية الرئيسية التي سيتم تبنيها في تقديم هذه الوحدة هي تشجيع الطلاب على المشاركة في التمارين والتطبيقات النحوية والإملائية، مع تحسين مهارات التفكير والتحليل في الوقت نفسه. ويتم تحقيق ذلك عن طريق الفصول والبرامج التعليمية التفاعلية والنظر في أنواع التطبيقات التي تتضمن بعض الأنشطة التي تهم الطلبة.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	**33**	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	**2**
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	**17**	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	**1.13**
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**50**		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	3, 9	LO #1 ,2 and 8
	Assignments	2	10% (10)	5, 8	LO # 4 and 6
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	10	LO # ,1,2 ,3,4,5,6,8,9,10,11,12, and 14
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO # 1-6
	Final Exam	3hr	50% (50)	16	All

Total assessment	100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	**اللغة العربيَّة : خصائصها وأهميتها.**
Week 2	**أقسام الكلمة والمبني والمعرب منها.**
Week 3	**العدد وأحكامه.**
Week 4	**المشتقات: ومنها (اسم الفاعِل، اسم المفْعُول، صيغ المبالغة ...).**
Week 5	**قواعد كتابة التاء المربوطة والمفتوحة في آخر الألفاظ.**
Week 6	**الهمزة وقواعد كتابتها.**
Week 7	**امتحان نصف الفصل.**
Week 8	**المبتدأ والخبر.**
Week 9	**النَّواسخ.**
Week 10	**جمع التكسير وأنواعه.**
Week 11	**علامات الترقيم: تعريفها وأنواعها ومواضع كل منها.**
Week 12	**الفرق بين الضاد والظاء.**
Week 13	**الأغلاط اللغويَّة الشائعة.**
Week 14	**الأدب: الشعراء العراقيون:** **- الشاعر العراقي محمد مهدي الجواهري.** **- الشاعر العراقي بدر شاكر السياب.**
Week 15	**مراجعة للمنهج قبل الامتحان النهائي.**
Week 16	**امتحان ختامي.**

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	القرآن الكريم. اللغة: التطبيق الصرفي: د. عبده الراجحي. جامع الدروس العربيَّة: الشيخ مصطفى الغلاييني. السلامة اللغويَّة: د. علاء حسن مشكور. شرح ابن عقيل: ابن عقيل، تحقيق: محمد محي الدين عبد الحميد. فقه اللغة العربيَّة وخصائصها: د. إميل بديع يعقوب.	Yes

	كيف تكتب بحثاً أو رسالة : د. أحمد شلبي. الوجيز في اللغة العربيَّة: أ.د. محيي هلال السرحان. الأدب العربي: - ديوان بدر شاكر السياب: بدر شاكر السياب. - ديوان الجواهري: محمد مهدي الجواهري. - الشعر العراقي الحديث مرحلة وتطور: د. جلال الخياط.	
Recommended Texts	Electromagnetic theory (book). 2000.vol.1	No
Websites	https://www.coursera.org/browse/physical-science-and-engineering/electrical-engineering	

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 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.

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department Biotechnology	

MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Democracy and Human rights**			**Module Delivery**	
Module Type	**Basic**			**X Theory** **Lecture** **Tutorial** **Seminar**	
Module Code	UOB104				
ECTS Credits	2				
SWL (hr/sem)	50				
Module Level	UGl		**Semester of Delivery**	1	
Administering Department	Type Dept. Code		**College**	Type College Code	
Module Leader	**Ansam Faik Abdul - Rezzak Al-Obidi**		**e-mail**	**ansam.faik@sc.uobaghdad.edu.iq**	
Module Leader's Acad. Title	**Lecturer**		**Module Leader's Qualification**	M.Sc.	
Module Tutor	None		**e-mail**	None	
Peer Reviewer Name			**e-mail**		
Review Committee Approval	8/06/2023		**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	
Module Aims أهداف المادة الدراسية	**1. This course deals with the basic concept of human rights& democracy** **2. Clarifying and training students on the most important principles of human rights and democracy.** **3. Organizing discussions and presentations on the most vital and basic topics affecting community building, related to human rights and democracy..** **4. Adopting teamwork with students to develop their cognitive abilities and create a spirit of cooperation, initiative, creativity and exchange of views in an effort to build the foundations of peaceful community coexistence.** **5. Providing society with conscious youth aware of the importance of its role in building society, its unity and cohesion through spreading the culture of human rights and establishing the rules of correct democracy.** **6. Human rights guarantee the protection and respect of an individual's interests, even when he or she is not a majority. In a democratic climate, sustainable democratic power cannot be conceived without respecting, protecting and fulfilling human rights. Through their combined influence, they allow the individual a life based on the freedom of self-determination and collective. That is why the protection and realization of human rights truly form the basis of the democratic project.**
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**Cognitive goals.** **1. Educate students and inform them about the importance of human rights and democracy.** **2. Recognize and understand the methods of teamwork for the exchange of ideas and creative discussions** **3. Developing students' performance through guidance in preparing mini-research on modern vocabulary on vital topics related to human rights and democracy.** **4. Providing students with creative development abilities in modern proposals and creative developmental ideas by discussing awareness videos presented on electronic classes.** **5. Developing the skills of sharing opinions and ideas and respecting others opinion.** **6. Objective Skills :**

	7. Basic knowledge in the principles of human rights and democracy. 8. Building the innovative personality of knowledge through online research and the transfer and exchange of information. 9. Discuss the various properties about everything related to human rights and their importance in our daily lives. 10. Identify everything related to democracy and the foundations of the performance of the electoral process and its importance in building the nation. 11. Identify the capacitor and inductor phasor relationship with respect to voltage and current.
Indicative Contents **المحتويات الإرشادية**	**- Developing the student's analytical and critical skills regarding the reality and future of human rights and democracy** **- Training the student on the importance of active participation in aspects of public life, such as promoting respect for the principles of public human rights and active participation in political and cultural life.** **- Enable students to understand the importance of education and its role in spreading the culture of human rights and democracy in building a civilized society based on good governance, the most important component of which is belief in human rights, education and active participation in governance through free and fair elections.**
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 discussions, dialogues and group work lectures & exercises, while at the same time refining and expanding their critical thinking skills. There are many teaching and learning methods used, and the most important of these methods are:** **Theoretical lecture, discussion and dialogue, panel discussions on certain topics, theoretical student research** **Library and electronic activities (which helps students to reach the following results:** **1- The scientific ability to distinguish between correct information and wrong information.** **2- Ease of scientific drafting and ease of correction.** **3. Ability to memorize and guess.** **4- The ability to link concepts and principles with reality.**

	5. Ability to invoke, link, interpret.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.13
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

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
	Attending lectures	1	1%	1.5	41#15 weeks
	Report	1	10% (10)	13	LO # 5, 9 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 مادة حقوق الانسان و الديمقراطية	
	Material Covered **Human rights & Democracy**
Week 1	**Familiarity with the concept of human rights and the definitions approaching it, discussing, dismantling and criticizing them in a scientific way in order to reach the most accurate and objective. - Definition of right , of human, of the concept of human rights. Human rights qualities, Types of human rights Human Rights Categories**
Week 2	**The historical development of human rights: Orcagina Reforms 1- Urnamo Law.2- The law of Ishtar Bit. 3- The law of the Kingdom of Eshnuna.4- Code of Hammurabi.**
Week 3	**Human rights in other ancient civilizations: 1- Indian and Chinese civilization 2- Pharaonic civilization of Egypt 3- Greek civilization 4- Roman civilization**
Week 4	**Human rights in heavenly laws** **Human Rights in Judaism, Human rights in Christianity, Human Rights in Islam.**
Week 5	**Human rights in Renaissance - modern and contemporary societies** **Introducing the student to the most important UN document in the field of human rights, which was approved and approved by the Assembly on January 10, 1948** **Universal Declaration of Human Rights 1948.**
Week 6	**Non-governmental organizations defending human rights: Amnesty International, b. International Committee of the Red Cross. Arab Organization for Human Rights.**
Week 7	**Definition of the phenomenon of administrative corruption, Types of administrative corruption, Causes of administrative corruption. The repercussions of the phenomenon of administrative corruption on human rights and society. Successful treatments to combat corruption and protect society from it.**
Week 8	**Introduction - Historical development of the concept of democracy, definition of democracy, freedom. The difference between freedom and democracy, The relationship between the rights and public freedoms of individuals and democracy, Islamic views in a democratic system of government , Shura and Democratic System**

Week 9	**Specifications and duties of the Islamic ruler reading, The era of Imam Ali "peace be upon him" to his governor over Egypt: Specifications of the Islamic ruler: First: The moral and doctrinal components of the ruler Second: The general culture of the Islamic ruler, Third: Acumen and good choice: -Fourth: Direct relationship with people: Fourth: Direct relationship with people.** **Duties of the Islamic ruler:** **First: Social Reform: Second: Achieving security and defense** **Third: The architecture of the country "economic development"**
Week 10	**Forms of democracy: (1): Direct democracy ,(2): Semi-direct democracy ,** **(3): Parliamentary democracy (parliamentary representation)4): Liberal Democracy** **(5): consociation Democracy, (6): Delegated Democracy.**
Week 11	**Conditions for the success of the elements and pillars of the democratic system** **General conditions for the success of the democratic system: 1. Respect for human rights, 2. Political pluralism 3. Peaceful transfer of power 4. Political equality 5. Respect the principle of the majority 6. Existence of the rule of law.**
Week 12	**Components or elements of democracy:** **1 – Citizenship 2- Political participation 3. Elections 4. MPs and Responsibility** **5. Opposition 6- Separation of government and parliament 7- Constitutional legitimacy**
Week 13	**The concept of elections and their legal adaptation: First: The concept of election** **Second: Legal adaptation of the Election, Third: Conditions of Election, Fourth: Concepts of Elections, Fifth: Types of Electoral Systems. Assessing the Democratic System, Pros and advantages of the democratic system, Disadvantages and disadvantages of the democratic system, Implementing the democratic system in Iraq.**
Week 14	**Lobbyists: First: the concept and definition. Second: Types of pressure groups. Third: The methods of pressure groups that they use to achieve their goals.** **Fourth: Lobbying and Democracy.**
Week 15	**Preparatory Week**
Week 16	**Final Exam**

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Martyrdom verses from the Holy Quran Mohammed Al-Tarawneh et al., International Humanitarian Law, ICRC, Amman, 2005 Diamond Larry, Democracy: Its Development and Ways to Enhance It, translated by Fawzia Naji, Dar Al-Mamoun for Translation, Iraq, 2005.	Yes
Recommended Texts	journal.un.org Hadi, Riad Azabz. (2005). Human rights (evolving contents and protection) (Baghdad).	Yes
Websites	Universal Declaration of Human Rights | United Nations https://sc.uobaghdad.edu.iq/?page_id=8415 https://www.youtube.com/@ansamalobidimanagerofhuman2891	

APPENDIX:

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	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				

NB 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.

الكورس الثاني

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department Biotechnology	

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Principles of Biotechnology II			**Module Delivery**	
Module Type	Core			☒ **Theory** ☐ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☒ **Seminar**	
Module Code	BIOT1217				
ECTS Credits	7				
SWL (hr/sem)	175				
Module Level	UGI		**Semester of Delivery**	2	
Administering Department	Dept. of Biotechnology		**College**	Science	
Module Leader	Ali J.R.		**e-mail**	Ali.reshak@sc.uobaghdad.edui.iq	
Module Leader's Acad. Title	Assis. Professor		**Module Leader's Qualification**	Ph.D.	
Module Tutor			**e-mail**		
Peer Reviewer Name	Prof.Dr.Ghazi M. Aziz		**e-mail**	Ghazi.aziz@sc.uobaghdad.edu.iq	
Scientific Committee Approval Date	01/06/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Principles of Biotechnology	**Semester**	1
Co-requisites module	Biochemistry , Microbiology	**Semester**	3,4

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	8. To enable students to obtain knowledge and understanding the intellectual framwok, foundations and applications of biotechnology 9. To enable students to obtain knowledge and understanding of industrial, environment and food microbiology. 10. To enable students to obtain knowledge and understanding of genetics, genetic engineering and cytogenetics 11. To enable students to obtain knowledge and understanding botany and animal tissues. 12. To enable students to obtain knowledge and understanding of cytology and microbiology 13. Found a mental and applications of biotechnology 14. Isolation, purification and treatment of various biological molecules.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Preparing specialists familiar with the basis of biotechnology (theoretically and practically) who are able to meet the needs of the labor market. 2. Conduction scientific research and trying to keep with the scientific development of biotechnologies. 3. Cooperate with state institution and the private sector by providing scientific consultation laboratory analysis in the fields of genetic, environment, industrial microbiology engineering. 4. Encourage scientific research and providing students with basic skill in biotechnologies and their applications in all fields. 5. Encourage the staff to participate in scientific forums inside and outside the country. 6. Contribute to solve scientific problems in order to serve the national development planks.
Indicative Contents المحتويات الإرشادية يتضمن الكلمات المفتاحية المهمة للمحاضرات	1. Genetics and Biotechnology Evolutionary stages of biotechnologies 2. Mutation 3. Methods of transmitting genetic material (gene) 4. Antibiotics 5. Enzyme production 6. Enzyme production 7. Immobilization of Enzyme 8. Solid-state fermentations 9. Separation of biological products 10. Bioseparation (purification of biomaterials) 11. The relationship between the environment and biotechnologies 12. Mineral Mining

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Teaching students the basic foundations and principles of biotechnology related to the various directions of this field of knowledge in the sciences of industrial fermentation, genetic engineering, bioseparation, and how to exploit microbial, plant and animal cells in the production of materials of industrial or medical value to the consumer.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	79	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5.26
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	96	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	6.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
	Quizzes	2	10% (10)	5, 10	LO #1, 2, 4 and 6

Formative assessment	**Assignments**	2	10% (10)	2, 12	LO # 3, 4 and 6
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO # 5, 8 and 6
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	
Week	**Material Covered**
Week 1	The concept of genetics, genetic engineering and categorical enzymes
Week 2	The concept of mutagenication types of physical and chemical mutagens
Week 3	Conjugation, phage transport and DNA manipulation technology
Week 4	The concept of antibiotics and microorganisms used in production
Week 5	First exam
Week 6	The concept of enzymes and microorganisms producing enzymes and their industrial and medical applications, Industrial production of enzymes
Week 7	The concept of restriction Enzyme restriction methods and their use
Week 8	MID EXAM
Week 9	The concept of solid state fermentations Microbiology feedstock used in SCP
Week 10	The concept of bioseparation and methods used in the extraction of biological materials
Week 11	Precipitation with ammonium sulfate, alcohol and other methods
Week 12	Ion exchange Chromatography, gel filtration Chromatography and affinity Chromatography

Week 13	Second exam
Week 14	The concept of biological control and microorganisms used
Week 15	The concept of mining microorganisms used
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**Material Covered**
Week 1	Lab 1: The Roles of Enzymes in Biotechnology
Week 2	The Roles of Enzymes in Biotechnology (practically)
Week 3	Lab 2: Enzyme purification by ammonium sulfate precipitation
Week 4	Enzyme purification by ammonium sulfate precipitation (practically)
Week 5	Lab 3: Immobilization of Enzymes
Week 6	Immobilization of Enzymes (practically)
Week 7	Lab 4: Production of Single cell protein from yeast
Week 8	Production of Single cell protein from yeast (practically)
Week 9	Lab 5: Antibacterial Activity of Ginger (*Zingiber Officinale*) Extract
Week 10	Antibacterial Activity of Ginger (*Zingiber Officinale*) Extract (practically)
Week 11	Lab 6: Solid state fermentation (SSF)
Week 12	Solid state fermentation (SSF) (practically)
Week 13	Lab 7: What is a restriction enzyme?
Week 14	What is a restriction enzyme? (practically)

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	1- Microbiology and Biotechnology (2001) 2- A Text book of Biotechnology(2006)	Yes
Recommended Texts	1-Methods in Biotechnology (1997) 2- Biotechnology, Principles and Application (1988)	yes
Websites	https://books.google.iq/books?id=K7kLyFX_qtUC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false	

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 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.

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 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.

Ministry of Higher Education and Scientific Research - Iraq
University of Baghdad
College of Science
Department Biotechnology

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information

معلومات المادة الدراسية

Module Title	General Biology of Plant	**Module Delivery**	
Module Type	Core	☒ **Theory** ☐ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	BIOT1208		
ECTS Credits	7		
SWL (hr/sem)	175		

Module Level	UGI	**Semester of Delivery**	2
Administering Department	Biotechnology	**College**	Science
Module Leader	Majid Rasheed Majeed	**e-mail**	dr.majid.palani@gmail.com
Module Leader's Acad. Title	Professor	**Module Leader's Qualification**	Ph.D.
Module Tutor		**e-mail**	
Peer Reviewer Name	Alaa Abdulhussein Jabr	**e-mail**	alla2004ele@gmail.com
Scientific Committee Approval Date		**Version Number**	1.0

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module		**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. Finding new ways to produce enough nutritious food for a growing world population. 2. Breeding plants to tolerate the heat- and drought-stress caused by climate change. 3. Developing sustainable cropping practices to produce healthful food while protecting the environment. 4. Investigating new methods to fight plant diseases.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. To study about some biology terms, biology discipline, and botany discipline, the difference between Prokaryotic and Eukaryotic cells. 2. Study the planet cell. 3. Eukaryotic cell organelles, structure, composition and functions. 4. Understand the fundamental concept of the cell cycle, Mitosis, and its various stages, Meiosis, and its different phases. 5. Mendel's Laws of Inheritance. 6. Plant Tissues types. 7. Types of Root and Stem System of the plant. 8. Absorption of mineral salts of plant. 9. Translocation of organic solutes. 10. Growth and Growth hormones.
Indicative Contents المحتويات الإرشادية يتضمن الكلمات المفتاحية المهمة للمحاضرات	Indicative content includes the following. -**Introduction to the General Biology of Plant** – morphology, Taxonomy, physiology, anatomy, Genetics, behavior, origin and distribution. [8 hrs] - **Study the planet cell** – cell wall, cell membrane , protoplast, phragmoplast , middle-lamella. [5 hrs] **-Photosynthesis –Noncyclic and cyclic photophosphorylation, Reaction of reduction CO_2 to the carbohydrate level . [7 hrs]** **- Microtubules** - Intermediate filaments, Ergastic substances, Vacuole, Nucleus, Protoplasm . [5 hrs]

	- **Cell cycle** – Mitosis, Meiosis, M phase, cytokinesis, Cyclins and cyclin-dependent protein kinases. [6 hrs] **- Osmosis – Introduction , Fullness pressure , The relationship between the water potential , the osmotic potential and the filling pressure , osomotic relationship of plant cell , . [8 hrs]**. - **Plant Tissues types** – Meristematic Tissues, Permanent Tissues, Simple Permanent Tissues, Parenchyma, Collenchyma, Sclerenchyma, Epidermis, Complex Permanent Tissue, Xylem, Phloem .[10 hrs] - **Types of Root System** – Adventitious Roots, Taproot Roots, Assimilatory roots, Reproductive roots, Root-thorns, Floating roots, Buttress roots, Climbing roots, Contractile roots, Stilt roots, Prop roots. [11 hrs] - **Stem System** – Nodes, Internodes, Terminal or apical bud, Lateral or axillary bud, petiole , pedicel, leaves , flowers, Seeds, Monocots, Dicots. [12 hrs] - **Absorption of mineral salts of plant** – Ions, Contact Exchange, Carbonic acid Exchange, active absorption, Carrier Concept, Isotopic, saturation effects specificity. [7 hrs] - **Mineral Nutrition of the Plant** –Osmotic Pressure , Catalytic Function, Antagonistic , Balancing Function.[4 hrs] **-Translocation of organic solutes** –Downward Translocation, Upward Translocation, Radial Translocation, Protoplasmic Streaming, Interfacial Flow Hypothesis, Active Diffusion. [6 hrs] -**Factors Controlling Translocation** –Sink Active, Photosynthesis, Turgor Pressure, Phytohormones, Plasmodesmata. [5 hrs] - **Respiration** –Oxidation , Carbohydrate, anaerobic respiration, Metabolism. [4 hrs] - **Growth and Growth hormones** – Auxin, Cytokinins, Sigmoid Curve, Plant Hormones. [4 hrs]

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 type 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	79	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5.26
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	96	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	6.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

Module Evaluation

تقييم المادة الدراسية

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

Formative assessment	**Assignments**	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	All
	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 to the General Biology of Plant**
Week 2	**Study the planet cell**
Week 3	**Photosynthesis**
Week 4	**Microtubules**
Week 5	**Cell cycle**
Week 6	**Osmosis**
Week 7	**Plant Tissues types**
Week 8	**The Midterm Exam**
Week 9	**Types of Root System**
Week 10	**Absorption of mineral salts of plant**
Week 11	**Mineral Nutrition of the Plant**
Week 12	**Translocation of organic solutes**

Week 13	**Factors Controlling Translocation**
Week 14	**Respiration**
Week 15	**Growth and Growth hormones**
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: Introduction: Branches of botany
Week 2	Lab 2: The solutions : Types of solutions
Week 3	Lab 3: Photosynthesis
Week 4	Lab 4: Plant Cell Structure.
Week 5	Lab 5: Plant pigments.
Week 6	Lab 6: Osmosis.
Week 7	Lab 7: Mendel's Laws Examples.
Week 8	Lab 8: Plant tissue.
Week 9	Lab 9: Flower of plant.
Week 10	Lab 10: Seeds of plant.
Week 11	Lab 11: Diffusion, Osmosis and Imbibition.
Week 12	Lab 12: Transpiration.
Week 13	Lab 13: The Plant Hormones.

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Pollard, T. D., Earnshaw, W. C., Lippincott-Schwartz, J., & Johnson, G. (2022).	Yes
Recommended Texts	Cell biology E-book. Elsevier Health Sciences.	No
Websites	PRINCIPLES OF PLANT BIOTECHNOLOGY ICAR eCourse / 2015	

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 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.

Ministry of Higher Education and Scientific Research - Iraq
University of Baghdad
College of Science
Department Biotechnology

MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	ORGANIC CHEMISTRY			**Module Delivery**	
Module Type	Support			☒ Theory ☐Lecture ☒ Lab ☒Tutorial Practical ☒Seminar	
Module Code	COS1209				
ECTS Credits	7				
SWL (hr/sem)	175				
Module Level		UGI	**Semester of Delivery**		2
Administering Department		Biotechnology	**College**		Science
Module Leader	Dr. Suror Abdulrahman Mahdi		**e-mail**	Sorour.a@sc.uobaghdad.edu.iq	
Module Leader's Acad. Title		Lecturer	**Module Leader's Qualification**		Ph.D.
Module Tutor	None		**e-mail**	None	
Peer Reviewer Name			**e-mail**		
Review Committee Approval		1/6/2023	**Version Number**		1.0

Relation With Other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	None

Co-requisites module	None	**Semester**	None

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	This module aims to provide a good foundation to the students in Organic Chemistry. It teaches fundamental chemical ideas in the framework of Organic Chemistry and begins to build the more specialized understanding of organic processes needed for following modules. This module will be included the main points: 1. Basic principles of organic chemistry for predicting the atom and electronic structure of molecules, their stability, reactivity, and molecular characteristics including bond types and hybridization. 2. Know the organic compounds naming and categorization. 3. Through lectures, workshops, tutorials, and seminars, the students will learn more about organic chemistry and understand it better. This course will give them the confidence to talk about the path of simple processes using the language of organic chemistry.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	According to the delivery plan , the students who successfully complete the organic chemistry 2 module will be able to: 1. Predict and explain the expected chemical and physical behavior of an organic compound based on its functional groups and geometry. Identify the electronic configuration of elements atomic and molecular orbitals, especially carbon atoms. Study the types of bonds between elements and the hybridization types of atoms. Recognize the structural isomers, molecular formula, melting points and boiling points. 2. Recognize the hydrocarbons generally, and then study All organic compounds are derived from the hydrocarbons because they are made up of only hydrogen and carbon. On the basis of structure, hydrocarbons are divided into two main classes—aliphatic and aromatic. Aliphatic hydrocarbons do not contain the benzene group, or the benzene ring, whereas aromatic hydrocarbons contain one or more benzene rings. 3. Preparation of alkanes and Cycloalkanes: Hydrogenation, Reduction of alkyl halides, Coupling of alkyl halides with organometallic compounds. 4. Studying structure and shape of alkenes, Geometric Isomers, Nomenclature, preparations, Dehydrohalogenation of alkyl halides, Dehydration of alcohols, Dehalogenation of vicinal dihalides, Reduction of alkynes.

	5. Reactions of the carbon-carbon double bond: ADDITION REACTIONS, Catalytic hydrogenation, Addition of halogens, Hydroxylation. Glycol formation, Addition of hydrogen halides, Addition of sulfuric acid, Polymerization. 6. Structure and Bonding in Alkynes, Nomenclature, Preparations, Dehydrohalogenation of alkyl dihalides, Dehalogenation of tetrahalides, Reaction of sodium acetylides with primary alkyl halides, Reactions of Alkynes. 7. Nomenclature of Benzene Derivatives, Monosubstituted Benzenes, Disubstituted Benzenes, Polysubstituted Benzenes, reactions of benzene: Electrophilic Aromatic Substitution. 8. Effect of substituent groups on benzene (Activating and Deactivating groups), Bromination, Nitration etc.

Indicative Contents المحتويات الإرشادية	Indicative content includes the following. 1. Structural isomers and orbital views of bonding; Structure of alkanes; Physical and chemical properties of alkanes, alkenes, and alkynes. 2. Terminology, essential ideas, and some basics of organic chemistry. 3. Basic reactions of alkanes, alkenes, alkynes, Benzene Derivatives; Reactivity and Orientation Naming and classification of organic compounds.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	This module will be covered by class hours, tutorial hours, online work, practical hours, reports, seminars, homework, independent self-study, and guided reading.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	79	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5.26

Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	96	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	6.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**175**		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5, 10	LO # 3, 4 and ٨
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 5 and 6
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5 and 8
Summative assessment	**Midterm Exam**	2 hours	10% (10)	7	LO # 1-7
	Final Exam	3 hours	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week No.	**Material Covered**
Week 1	Introduction to the Organic Chemistry - structure and properties
Week 2	Hydrocarbons – types, Alkane, Nomenclature, Structure, sources.
Week 3	Alkanes and Cycloalkanes - Preparations and reactions
Week 4	Alkenes – Nomenclature, Preparations
Week 5	Alkenes – Reactivity, Reactions
Week 6	Alkynes - Nomenclature,Structure, sources, Preparations
Week 7	Alkynes - Reactivity, Reactions
Week 8	Mid-term exam
Week 9	Aromatic Hydrocarbons ,Benzene and Its Derivatives
Week 10	Seminar
Week 11	Reactions of benzene
Week 12	Benzene Derivatives; Reactivity and Orientation
Week 13	Electrophilic Aromatic Substitution of Benzene Derivatives
Week 14	**Preparatory Week**
Week 15	**Final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week No.	**Material Covered**
Week 1	Lab 1: Safety Guidelines in the Organic Chemistry Laboratory
Week 2	Lab 2:Tools and instruments used in laboratory
Week 3	Lab 3: Determination of the Melting Point for the Organic Compounds
Week 4	Lab 4: Unknown sample to determination melting point
Week 5	Lab 5: Determination of the Boiling Point for the Organic Compounds
Week 6	Lab 6 : Unknown sample to determination boiling point
Week 7	Lab 7: Purification of the Solid Organic Compounds (Recrystallization Process)
Week 8	Lab 8: Purification of the Liquid Organic Compounds (Simple Distillation)
Week 9	Lab 9: Purification of the Liquid Organic Compounds (Fractional Distillation)
Week 10	Lab 10: Saponification
Week 11	Lab 11: Paracetamol preparation
Week 12	Lab 12: Extraction
Week 13	Lab 13: Preparation of Pharmaceutical Organic Compounds (Acetanilide)
Week 14	**Final Exam**
Week 15	**Final Exam**

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Organic Chemistry, Morrison and Boyd book, 6th edition	Yes
Recommended Texts	Organic Chemistry, Jonathan Clayden, Nick Greeves, and Stuart Warren, 2nd edition	No
Websites	https://www.coursera.org/browse/physical-science-and-engineering/electrical- engineering	

APPENDIX:

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 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.

	Ministry of Higher Education and Scientific Research - Iraq University of Baghdad College of Science Department Biotechnology	

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Biosafety**			**Module Delivery**	
Module Type	support			☒ **Theory** ☐ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	BIOT12010				
ECTS Credits	4				
SWL (hr/sem)	100				
Module Level	UGI		**Semester of Delivery**	2	
Administering Department	Biotechnology		**College**	Science	
Module Leader	Sohad saad abdulah		**e-mail**	Suhadsaad22@gmail.com	
Module Leader's Acad. Title	Professor		**Module Leader's Qualification**	Ph.D.	
Module Tutor			**e-mail**		
Peer Reviewer Name	Mouruj Abd Al Satar M.		**e-mail**	mouruj.najeeb@sc.uobaghdad.edu.iq	
Scientific Committee Approval Date	20/06/2023		**Version Number**	1.0	

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. Prepare students to acquire knowledge and understanding of the conceptual framework and applications of biotechnology and nanotechnology. 2. Prepare students to acquire knowledge and understanding of industrial, environmental, and food microbiology. 3. Prepare students to acquire knowledge and understanding of genetics, genetic engineering, and cellular genetics. 4. Prepare students to acquire knowledge and understanding of plant, plant tissue, and animal biology. 5. Prepare students to acquire knowledge and understanding of diseases, immunity, and pathogenic bacteria. 6. Prepare students to acquire knowledge and understanding of cell biology and microbiology standards. 7. Prepare students to acquire knowledge and understanding of biological statistics and the English language.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Module Learning Outcomes: 1. Understand the principles and importance of biosafety and biosecurity in handling microorganisms and biological materials. 2. Demonstrate knowledge of the different containment levels and appropriate safety measures for working with various biological agents. 3. Apply proper techniques and protocols for handling, storing, and disposing of biological materials to minimize risks and prevent accidental release. 4. Identify potential hazards and assess risks associated with specific biological experiments or procedures. 5. Implement effective measures to mitigate risks and ensure the safety of researchers, the environment, and the community. 6. Comply with relevant regulations, guidelines, and ethical considerations in the field of biosafety and biosecurity. 7. Recognize the significance of early detection and diagnosis of genetic diseases through genetic engineering and immunological techniques. 8. Understand the principles and applications of tissue culture in the field of animal cell biology. 9. Evaluate and implement appropriate measures to maintain the security and integrity of biological materials and prevent unauthorized access or misuse. 10. Communicate and collaborate effectively within a biosafety framework, demonstrating an understanding of the importance of clear communication and teamwork in maintaining a safe and secure laboratory environment.

Indicative Contents المحتويات الإرشادية يتضمن الكلمات المفتاحية المهمة للمحاضرات	Indicative Contents: 1. Introduction to biosafety and biosecurity: Concepts, importance, and historical background. 2. Biosafety levels and containment systems: Overview of different biosafety levels and their associated safety measures and equipment. 3. Risk assessment and management: Techniques for identifying, assessing, and mitigating risks in biological research and laboratory settings. 4. Safe handling and manipulation of biological materials: Proper techniques for handling, storing, and transporting microorganisms, genetically modified organisms (GMOs), and other biological agents. 5. Personal protective equipment (PPE) and laboratory safety protocols: Understanding and implementing appropriate PPE and following established safety protocols. 6. Biohazardous waste management: Proper disposal methods for biohazardous materials and adherence to waste management regulations. 7. Laboratory design and engineering controls: Considerations for designing and equipping a biosafety laboratory, including ventilation systems, containment facilities, and access controls. 8. Security measures and biosecurity protocols: Ensuring the protection and security of biological materials, including strategies for preventing unauthorized access and potential misuse. 9. Genetic engineering and molecular diagnostics: Applications of genetic engineering techniques and molecular diagnostics in the early detection and diagnosis of genetic diseases. 10. Tissue culture techniques: Principles and applications of tissue culture in the context of animal cell biology and biotechnology. 11. Regulatory frameworks and ethical considerations: Understanding and complying with relevant regulations, guidelines, and ethical principles in biosafety and biosecurity practices. 12. Communication and teamwork in biosafety: Effective communication, collaboration, and teamwork within a biosafety framework, including reporting incidents and sharing information.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Demonstration and Practice: Provide hands-on demonstrations and practice opportunities for students to learn and apply biosafety and biosecurity techniques. Case Studies: Use real-life examples and scenarios to help students understand the practical application of biosafety and biosecurity measures. Visual Aids and Multimedia: Utilize visual aids and multimedia resources to enhance understanding of biosafety and biosecurity concepts.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	52	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.46
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation تقييم المادة الدراسية					
As		**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	All
	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

Week	Material Covered
Week 1	**Introduction to biosafety**
Week 2	**Introduction to biosecurity**
Week 3	**Chemical hazardous part 1**
Week 4	**Chemical hazardous part 2**
Week 5	**exam**
Week 6	**Radiation hazardous**
Week 7	**Waste management p1**
Week 8	**Waste management p2**
Week 9	Shipping of hazard materials p1
Week 10	Shipping of hazard materialsp2
Week 11	BIOSECURITY
Week 12	BIOSECURTY -2
Week 13	Dual Use Research of Concern (DURC)
Week 14	**Dual Use Research of Concern (DURC) 2**
Week 15	exam
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**Material Covered**
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Biological Safety: Principles and Practices, 5th Edition Dawn P. Wooley (Editor), Karen B. Byers (Editor)	Yes

	ISBN: 978-1-683-67313-2 February 2017 300 Pages	
Recommended Texts	Biological Safety: Principles and Practices, 5th Edition Dawn P. Wooley (Editor), Karen B. Byers (Editor)	No
Websites		

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 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	**English Language I**			**Module Delivery**	
Module Type	Basic			☒ **Theory** ☒ **Lecture** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	UOB102				
ECTS Credits	2				
SWL (hr/sem)	50				
Module Level		UGI	**Semester of Delivery**		2
Administering Department		Type Dept. Code	**College**	Type College Code	
Module Leader	Dr. Muthana Hameed Khalaf		**e-mail**	muthana.khalaf@sc.uobaghdad.edu.iq	
Module Leader's Acad. Title		Assistant Professor	**Module Leader's Qualification**		Ph.D.
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		Dr. Zahraa Abduhasan AbdAli	**e-mail**	Zahraa.a@sc.uobaghdad.edu.iq	
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	
Module Objectives أهداف المادة الدراسية	New Headway Beginner Plus is a Beginner course in English intended to provide students with the fundamentals of the language and a foundation at First Year students / college of science, moving towards a higher level of proficiency at this stage. 1. Listening Objectives: • Understand and respond to basic greetings, introductions, and simple instructions. • Comprehend and extract information from short, simple spoken passages related to everyday topics. • Identify and understand common vocabulary and expressions in spoken English. 2. Speaking Objectives: • Engage in basic conversations using simple greetings, introductions, and expressions related to personal information. • Ask and answer simple questions about personal details, daily routines, and familiar topics. • Participate in short dialogues and role-plays to practice communication skills. 3. Reading Objectives: • Read and comprehend simple texts, such as signs, labels, short passages, and dialogues. • Recognize and understand basic vocabulary words and phrases in context. • Extract information from texts related to everyday situations and topics. 4. Writing Objectives: • Write short sentences and paragraphs about personal information, experiences, and familiar topics. • Fill out basic forms with personal details, such as name, age, and nationality. • Write simple messages, notes, and emails related to everyday situations. 5. Vocabulary and Grammar Objectives: • Acquire a basic vocabulary related to common topics, such as greetings, numbers, time, family, food, and everyday objects. • Understand and use basic grammatical structures, including present simple, present continuous, simple past, and basic question forms. • Recognize and use common prepositions, articles, and basic sentence structures. 6. Cultural Awareness Objectives:

	• Develop an understanding of cultural customs and practices related to greetings, social norms, and everyday interactions in English-speaking countries. • Gain exposure to cultural elements through reading or listening to texts about customs, traditions, and holidays.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	By the end of the course, the students will be able to: 1. Listening and Speaking Skills: • Understand and respond appropriately to basic questions and statements. • Engage in simple conversations related to personal information, daily routines, and immediate surroundings. • Follow simple instructions and directions. • Develop basic pronunciation and intonation skills. 2. Reading Skills: • Recognize and understand basic vocabulary words and phrases in simple texts. • Comprehend and extract information from short, simple texts such as signs, notices, and labels. • Understand basic sentence structures and common grammatical patterns. 3. Writing Skills: • Write simple sentences and short paragraphs about personal information, experiences, and familiar topics. • Fill out simple forms and write basic personal information. • Write simple messages, notes, and emails related to everyday situations. 4. Vocabulary and Grammar: • Acquire and use a basic range of vocabulary related to everyday topics, such as greetings, numbers, time, family, food, and common objects. • Understand and use basic grammatical structures, including present simple, present continuous, simple past, and basic question forms. • Recognize and use common prepositions, articles, and basic sentence structures. 5. Cultural Awareness: • Develop an understanding of cultural customs and practices related to greetings, social norms, and everyday interactions in English-speaking countries. • Gain exposure to cultural elements through reading or listening to texts about customs, traditions, and holidays.
Indicative Contents المحتويات الإرشادية	1. Use simple forms of polite expressions to establish basic social contact and to perform

	everyday functions including making requests and offers, conducting simple phone conversations, asking and telling time, giving simple directions, asking about price, ordering a meal, etc. 2. Use a narrow range of positive and negative adjectives to describe objects, people and places. 2.3. Exchange information by forming and responding to simple questions. 3. Produce simple sentences using the correct word order and punctuation marks. 4. Use capital and lower case letters accurately in writing. 5. Construct a short guided paragraph on a familiar topic concerning home, family, friends and holidays. 5. Use the basic tenses including the present and past simple, and present continuous correctly. 6. Use the basic auxiliary verbs (am/is/are/was/were/can) and a range of regular and irregular verbs. 7. Demonstrate awareness of the essential grammatical features and functions including questions and negatives, plural nouns, frequency adverbs, possessives, pronouns and determiners.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1.Communicative Approach: Emphasize communicative activities that promote interaction among students. Encourage pair and group work, role-plays, and discussions to practice language skills in meaningful contexts. 2.Integrated Skills: Integrate the four language skills (speaking, listening, reading, and writing) in lessons to create a balanced approach to language learning. Provide opportunities for students to use and develop these skills simultaneously.

	3.Vocabulary Expansion: Incorporate vocabulary-building exercises and activities throughout the course. Use real-life contexts, visuals, and practical examples to help students learn and remember new words. 4.Grammar Focus: Teach and reinforce grammar structures in a systematic and progressive manner. Provide clear explanations, examples, and practice exercises to ensure students understand and can apply the grammar rules correctly. 5.Authentic Materials: Include authentic texts, such as articles, newspaper clippings, songs, and videos, to expose students to real-world language usage. This helps develop their reading and listening comprehension skills and exposes them to cultural aspects of English-speaking countries. 6.Cultural Awareness: Integrate cultural topics and discussions into the lessons to foster cultural awareness and sensitivity. Encourage students to share their own cultural backgrounds and experiences to promote understanding and appreciation of diverse perspectives. 7.Error Correction: Provide constructive feedback and error correction during speaking and writing activities. Help students identify and correct their mistakes, focusing on accuracy while encouraging fluency and self-expression. 8.Technology Integration: Utilize technology tools, such as interactive whiteboards, online resources, and language learning apps, to engage students and enhance their language learning experience. Incorporate multimedia materials for listening and speaking practice. 9.Regular Assessment: Assess students' progress regularly through quizzes, tests, and assignments. Provide timely feedback to guide their learning and address areas that need improvement. 10.Individualization: Cater to the individual needs and learning styles of students. Offer differentiated tasks and activities to ensure all learners are appropriately challenged and supported. 11.Cooperative Learning: Promote collaboration and teamwork among students through pair work, group projects, and peer feedback. This encourages active participation and a supportive learning environment. 12.Review and Revision: Schedule regular review sessions to consolidate previously learned material. Encourage students to revise and practice independently, providing resources for self-study and additional practice.

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.13
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**50**		

Module Evaluation

تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning 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	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

Week	Material Covered
Week 1	Hello!

	p6 ***am/are/is, my/your*** *I'm Pablo.* *My name's Judy.* *What's your name?* p6 ***This is ...*** *This is Ben.* *Nice to meet you.* p7
Week 2	Your world p12***he/she/they, his/her*** *He's from the United States.* *Her name's Karima.* p13 *They're on holiday.* p16 Questions *What's his name?* *Where's she from?* p13
Week 3	All about you p18 ***am/are/is*** *We're all singers.* p20 Negatives *She isn't a nurse.* p18 *I'm not from Scotland.* p20 *They aren't builders.* p20 Questions *What's her address? How old is she?* *Is she married?* p19 Short answers *Yes, she is. / No, she isn't.* p20
Week 4	Family and friends p24

	Possessive adjectives *my, your, our, their* p24 **Possessive *'s*** *Annie's husband Jim's office* p24 ***has/have*** *I have a small hotel. She has a job.* *We have three sons.* p27 **Adjective + noun** *a small hotel a big house a good job* p27*apples, beer, bread, cake* p36 **Shopping** *newsagent's, chemist's,* *off-licence* p36 **Can you come for dinner?** *Would you like some* *more rice?* *Could you pass the* *salt, please?* *How would you like* *your coffee?* *This is delicious!* p37
Week 5	# The way I live p32 **Present Simple *I/you/we/they*** *I like ice-cream. I don't like tennis.* *Do you like football?* p33 *Where do you work? Do you live in Dundee?* p34 *In Brazil they speak Portuguese.* p36 ***a* and *an*** *a waiter, an actor, an Italian restaurant* p34 **Adjective + noun** *an American car Spanish oranges* p37
Week 6	# Every day p40

	Present Simple *he/she* *He gets up at 6.00.* *He has lunch in his office.* p42 *She lives in a small house.* p44 Questions and negatives *What time does he have breakfast?* *He doesn't live in London.* p43 **Adverbs of frequency** *He always works late.* *He never goes out.* p42
Week 7	Mid-term Exam
Week 8	My favourites p48 **Question words** *who, where, why, how* p48 **Pronouns** Subject/Object/Possessive *I/me/my we/us/our they/them/ their* p49 ***this* and *that*** *I like this wine. Who's that?* p50
Week 9	Where I live p56 ***There is/are ...*** *There's an old sofa.* *Are there any armchairs?* *There are some books.* p57 **Prepositions** *in, on, under, next to* p58
Week 10	Times past p64

	was/were born *When were you born?* *I was born in 1996.* p65 **Past Simple – irregular verbs** *went, came, saw* *She went shopping.* p68
Week 11	# We had a great time! p72 **Past Simple – regular and irregular** *played, got, watched, did* p72 Questions *What did you do?* *Did you go out?* p73 Negatives *They didn't go to work.* p73 ***ago*** *I went to Rome ten years ago.* p78
Week 12	# I can do that! p80 ***can/can't*** *He can speak French. I can't draw.* *Can she run fast?* p80 **Adverbs** *I can cook a little bit. I can't cook at all.* *really well, fluently* p82 **Requests and offers** *Can you tell me the time? Can I help you?* p83
Week 13	# Please and thank you p88 ***I'd like ...***

	I'd like some ham. *How much would you like?* p88 ***some* and *any*** *I'd like some cheese.* *Do you have any Emmental?* *I don't have any apple juice.* p89 ***like* and *would like*** *I like Coke.* *I like going to the cinema.* *I'd like to go out.* p91
Week 14	Here and now p96 **Present Continuous** *She's wearing a T-shirt.* *What's he doing?* p97 **Present Simple and Present Continuous** *He lives in London.* *They're staying in a hotel.* p98
Week 15	It's time to go! p104 **Future plans** *They're going on holiday.* *Which countries are you going to visit?* *I'm leaving on Tuesday.* *What are you doing this evening?* p104 **Revision** Question words – *when, where, who, how* p106 Tenses – present, past, and future tenses p110
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Soars, John and Liz, (2011), New Headway Plus, Special Edition, Beginner Level, Oxford University Press.	Yes
Recommended Texts	New Headway Plus provides an integrated skills course with each unit divided into grammar, vocabulary, skills work and everyday English segments	yes
Websites	Oxford University Press: The New Headway series is published by Oxford University Press. Visit their website at www.oup.com and search for "New Headway Plus, Special Edition, Beginner Level " or browse their English language teaching section for information on the course.	

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 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	Computer I		**Module Delivery**	
Module Type	Basic		☒ **Theory** ☐ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	UOB103			
ECTS Credits	3			
SWL (hr/sem)	75			
Module Level	UGI	**Semester of Delivery**	2	
Administering Department	Computer Science	**College**	College of Science	
Module Leader	Mela Ghazi Abdul-Haleem	**e-mail**	a.mela@sc.uobaghdad.edu.iq	
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	**Module Leader's Qualification**	
Module Tutor		**e-mail**		
Peer Reviewer Name	Dr. Assmaa A. Fahad	**e-mail**	Assmaa.fahad@sc.uobaghdad.edu.iq	
Scientific Committee Approval Date	11-6-2023	**Version Number**	**Version Number**	

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	This module provides an introduction to essential computer skills. In this module, students will learn, • computer literacy, including hardware and software fundamentals in theory as well as practical. • various office applications (Microsoft Word, Excel, and PowerPoint), where students will use these software applications to create a current resume, and slide presentation. • basic computer knowledge and skills required to obtain an understanding of computer hardware, software, Internet, and web search.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	By the end of this module, students should be able to: 1. Understand computer hardware, software components, and peripheral devices, enabling them to use computers confidently. 2. Manage and organize files and folders on a computer effectively, including creating, renaming, moving, and deleting files and folders. 3. Efficiently employ Microsoft Office to execute fundamental tasks with ease. 4. Navigate the internet and communicate via email, while understanding internet safety. 5. Upon finishing the course, students will be aware of the ethical and security considerations when using computers, promoting safe and responsible digital behavior.
Indicative Contents المحتويات الإرشادية	Part A: Understanding Computer Components Starting with an introduction to computers, the first part introduces learners to identify computer peripherals, internal components, and the operation of the Windows operating system.

	Part B: Exploring Microsoft Office In this part, the student will learn how to work with Microsoft Office package to create Word documents and Excel spreadsheets and get ideas to create a PowerPoint presentation. Part C: Navigating the Internet In this part, the student will learn the knowledge of harnessing the power of the internet to search for information through web browsers. Part D: Computer Ethics In this part, the student will learn to address issues related to the misuse of computers and how they can be prevented.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1. Providing lectures to explain essential principles related to computer skills. 2. Projects and activities shared among students. 3. Examinations to gauge students' understanding and identify areas where additional support may be needed. 4. Providing guidance on textbooks, online resources, and supplementary references that can aid students in their studies more efficiently.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	49	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3.26
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	26	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.73
Total SWL (h/sem)	**75**		

الحمل الدراسي الكلي للطالب خلال الفصل	

Module Evaluation تقييم المادة الدراسية					
As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	١5% (١5)	4,9, and 13	1,2,3, and 4
	Assignments	3	15% (15)	4, 8 and 11	1,2,3, and 4
	Projects/ Lab	1	5% (5)	Continuous	All
	Report	1	5% (5)	Continuous	All
Summative assessment	Midterm exam	2hr	١٠% (١٠)	7	All
	Final Exam	4hr	٥0% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	Material Covered
Week 1	Computer Fundamentals. Characteristics of Computers, Block Diagram of Computer: Input Unit, Storage Unit, Memory size, Output Unit, Arithmetic Logical Unit, Control Unit, Central Processing Unit, Data Representation: Binary Number System.

Week 2	Memory: Types, Units of memory, RAM, ROM, Secondary storage devices – HDD, Flash Drives, Optical Disks: DVD I/O Devices – Keyboard, Mouse, LCDs, Scanner, Plotter, Printer and Latest I/O devices in market
Week 3	MS Windows: Desktop, My Computer, Files and folders using windows explorer; Control Panel, Searching Files and folders
Week 4	MS Word: Introduction, Environment, Help, Creating and Editing Word Document. Saving Document, Working with Text: Selecting, Formatting, Aligning and Indenting
Week 5	MS Word: Finding Replacing Text, Bullets and Numbering, Header and Footer, Working with Tables, Properties Using spell checker, Grammar, AutoCorrect Feature, Synonyms and Thesaurus
Week 6	MS Word: Graphics: Inserting Pictures, Clipart, Drawing Objects, Using Word Art. Setting page size and margins; Printing documents. Mail Merge Practical
Week 7	**Mid Exam**
Week 8	MS-Excel: Environment, Creating, Opening, and Saving Workbook. Range of Cells. Formatting Cells, Functions: Mathematical, Logical, Date, Time, Auto Sum
Week 9	MS-Excel: Formulas. Graphs: Charts. Types and Chart Tool Bar. Printing: Page Layout, Header and Footer Tab
Week 10	MS PowerPoint: Environment, Creating and Editing presentation, Auto content wizard, using built-in templates
Week 11	MS PowerPoint: Types of Views: Normal, Outline, Slide, Slide Sorter, Slide Show, Creating customized templates; formatting presentations Graphics: AutoShapes, adding multimedia contents, printing slides
Week 12	Internet: Basic Internet terms: Web Page, Website, Home page, Browser, URL, Hypertext, ISP,
Week 13	Web Server Applications: WWW, e-mail, Instant Messaging, Internet Telephony, Videoconferencing, Web Browser and its environment
Week 14	Computer Ethics and Societal Impact: Computer ethics encompass a collection of moral principles that regulate the utilization of computers. It reflects society's perspectives regarding the use of computer hardware and software. These ethical considerations address a range of critical issues, including privacy concerns, intellectual property rights, and the broader societal impact of computer technology.

Week 15	**Preparatory week**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**Material Covered**
Week 1	Identifying hardware components (CPU, RAM, storage, etc.); Assemble and disassemble computer hardware components.
Week 2	Installing an operating system (e.g., Windows or Linux); Installing and uninstalling software applications.
Week 3	Understand the principles of data backup and recovery; the Importance of data backup, backup methods, and recovery procedures; Organize, manipulate, and maintain files and folders on a computer or other digital storage devices. It involves tasks such as creating, moving, copying, renaming, deleting, and searching for files.
Week 4	Word Processing. Understanding the Word interface and essential functions; Creating, saving, and opening documents; Formatting documents (headers, footers, styles).
Week 5	Word Processing (continued). Formatting text (font, size, style, and color); Formatting paragraph (alignment, spacing, and indentation); Setting up page layout (margins, orientation, and size).
Week 6	Word Processing (continued). Creating and formatting tables; Inserting images, shapes, and text boxes; Adding hyperlinks and bookmarks; Mail merge for personalized documents; Saving a PDF and setting options.
Week 7	**Mid Exam**
Week 8	MS-Excel. Overview of Excel and its interface; Basic spreadsheet concepts, including rows, columns, and cells; Entering data and formatting; Using basic functions like SUM, AVERAGE, and COUNT; Error handling in formulas; Absolute and relative references.
Week 9	MS-Excel (continued).

	More advanced functions, including IF, VLOOKUP, and HLOOKUP; Creating and formatting charts and graphs; Types of charts: bar, line, pie, and more; Adding titles, labels, and data labels to charts; Creating and working with Excel tables; Saving a PDF and setting options.
Week 10	MS-PowerPoint Overview of PowerPoint and its interface; Creating a presentation (Choosing a Template/Theme, Changing the Template/Theme, Adding Slides, and Typing in Content); Formating slide layouts (Choosing a Slide Layout, Changing the Slide Layout); Adding and editing text with outline view.
Week 11	MS-Power Point (continued). Adding/Adjusting pictures and graphics (placing pictures into placeholders, cropping photos, sizing graphics, fixing stretched/squished photos, where to get photos, picture border, and effects); Running a presentation (starting and stopping a slide show, ways to navigate slide shows); Saving a PDF and setting options.
Week 12	Using Email: Understanding how to send and receive email is essential for communication in the modern workplace. Basic skills include composing, sending messages, and attaching files
Week 13	Using Web Browsers: Web browsers such as Google Chrome or Mozilla Firefox are used for browsing the internet. Basic skills include navigating websites, using bookmarks, and completing online forms.
Week 14	Understanding computer ethics issues: 1) Divide the students into small groups. 2) Provide each group with (a real-world privacy scenario. For example, a social media company's data collection practices **or** Present a case study involving intellectual property issues, such as software copyright infringement). 3) In their groups, students should discuss the ethical issues raised by the scenario, potential consequences, and possible solutions. 4) Each group presents their findings to the class.
Week 15	**Preparatory week**

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	-	
Recommended Texts	Wallace Wang, Absolute Beginners Guide to Computing, Apress, 2016. Michael Miller, Absolute Beginner's Guide to Computer Basics, Que, 2022. Chris Ewin, Carrie Ewin, Cheryl Ewin, Computers for Seniors: Email, Internet, Photos, and More in 14 Easy Lessons, William Pollock, 2017.	**Available online**
Websites	https://ebooks.lpude.in/library_and_info_sciences/DLIS/Year_1/DCAP101_BASIC_COMPUTER_SKILLS.pdf	

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 is required but credit awarded
	F – 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.