

Academic Program Description Form

University Name **University of Basrah**

Faculty / Institute **College of Agriculture**

Scientific Department **Department of Fisheries and Marine Resources**

Academic or Professional Program Name **Fisheries and Marine Resources**

Final Certificate Name **Bachelors in Fisheries and Marine Resources**

Academic System **Semester System**

Description Preparation Date 10 June 2026

File Completion Date 21 June 2026



Head of Department Name:

Prof. Dr. Khalidah Salim khaudeyer

Date 21 June 2026



Scientific Associate Name

Prof. Dr. Sadiq Jabar Muhsin

21 June 2026

Signature



This File Is Checked by Prof. Dr. Aqeel Abbood Suhaim

Department of Quality Assurance and University Performance

Director of the Department of Quality Assurance and University Performance

Date 21 June 2026



Prof Dr Sarmad Ghazi Mohammed

Approval of The Dean

**Program Catalogue B.Sc. | 2025-2026 | Fisheries and Marine
Resources Department**

University of Basrah



*First Cycle – Bachelor's Degree (B.Sc.) - Fisheries &
Marine Resources*



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1. **Mission & Vision Statement**

Vision Statement

Fisheries and Marine Resources Departments looks forward to a leading role to promote education and scientific research and community service in the field of Fisheries and Marine Resources.

The department plays a big role to be a pattern of distinction in providing high-quality education supported locally and globally and keep pace with the times by providing academic environment where students and faculty interact to create appropriate educational ambience.

Mission Statement

The mission of the Fisheries and Marine Resources Department is to provide a premium and contemporary education to prepare graduates as professionals capable of identifying, evaluating, and solving complex and multi-layered problems in the field of environmental science and engineering, to conduct and encourage fundamental and applied research with a focus of designing and implementing sound, feasible, and sustainable engineering solutions to the environmental real-world issues, to build-up the proficient expertise with a global, inter- disciplinary, and innovative perspective, to be a competent actor coordinating with the public administration, the industry, and the other local, national and, international bodies for implementation of the generated sustainable solutions.

2. Program Specification

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

The Fisheries and Marine Resources program is a comprehensive and dynamic discipline that explores the intricate relationships within aquatic ecosystems. This degree not only covers the biological aspects of fish and marine organisms but also integrates ecological, environmental, and management principles critical for sustainable practices. For some students, the appeal lies in the diversity of the subject, while for others, it provides a pathway to specialized fields such as aquaculture, marine conservation, and fisheries management.

In the first year, students are introduced to the foundational concepts of fisheries science, creating a solid base for progression into more specialized modules in subsequent years. Core topics covered include fish biology, aquatic ecosystems, and the principles of sustainable resource management. This structure prepares students for research-focused modules in their later studies, ensuring they are well-equipped to address real-world challenges in marine environments.

Throughout Levels 2, 3, and 4, students have the flexibility to choose a significant portion of their module credits, allowing them to tailor their education according to their interests in various aspects of fisheries and marine science. This personalization enables students to explore topics ranging from marine ecology to fish genetics, ensuring they graduate with a well-rounded understanding of the field.

The program fosters a strong research ethos from the outset, with practical experiences embedded within lecture modules and dedicated practical sessions. Students participate in field courses in Level 1, which are mandatory for progression, and have the opportunity to engage in mandatory field studies in later years. In Level 4, every student undertakes an independent research project, which can be laboratory-based, field-oriented, or involve data analysis, allowing them to apply their knowledge in a practical context.

Academic support is a key feature of the program, with tutorials held consistently across Levels 1 and 2, led by the same personal tutor. This continuity ensures students receive tailored guidance and mentorship throughout their studies. These tutorials include workshops designed to develop essential skills such as research methodologies and presentation techniques, alongside assessed exercises that provide students with opportunities to practice and refine their abilities.

Additionally, the program offers options for international study and industrial placements, accommodating individual student needs and career aspirations. This holistic approach prepares graduates to become leaders in sustainable fisheries and marine resources management, equipped to tackle the pressing challenges facing our oceans today.

3. **Program Objectives**

The Fisheries and Marine Resources Department will:

1. Create, disseminate and integrate knowledge of engineering, science and technology that expands our Fisheries and Marine Resources knowledge base, which in turn enables the betterment of human society.
2. Develop and transfer innovative applications of engineering, science and technology to improve Fisheries and Marine Resources practice.
3. Recognized by our peers as a highly effective leader in the conducted interdisciplinary research and the development of innovative approaches to solve Fisheries and Marine Resources problems.
4. Attract and welcome undergraduate students to our Bachelor of Science program in Fisheries and Marine Resources, and to graduate B.S. students who are innovative problem solvers, who become leaders in their organizations, and who possess the knowledge and skills required for a wide range of careers and career changes.
5. Maintain an intellectually challenging, yet supportive and welcoming environment that encourages and enables our students, faculty and staff to achieve their best in a diverse community.
6. Concentrating on scientific research and its leading role in helping to serve the society and solving its problems through conducting application researches.
7. Continuous development of curricula and studying plans for all stages and levels of studying at the Department to keep up with the latest developments in Fisheries and Marine Resources.
8. Cooperating with related public sector institutions to supply scientific and engineering advice, and preparing different training courses in the development and capacity building for their engineering staffs.

4. **Student Learning Outcomes**

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

Outcome 1

The basics of culture and propagating aquatic organisms and manufacturing feeds:

Learn the basic principles of culture and propagating fish and aquatic organisms and manufacturing feed using modern methods.

Outcome 2

The basics of fisheries and fresh and marine water aquatic resources:

Graduates will be able to formally Learn the basic principles of fishing, aquatic life, and exploiting the biological resources found in fresh and marine water bodies using modern methods.

Outcome 3

The basics of the aquatic environment, its preservation, and the problems of water pollution:

Learn the basic principles of preserving the aquatic environment, environmental diversity, sustainability, and avoiding environmental pollutants and their negative effects.

Outcome 4

Knowledge of modern applications in the above fields:

Identify modern and advanced applications in the fields of knowledge related to fish farming and fisheries.

5. Academic Staff

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6. Credits, Grading and GPA

Credits

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

Grading

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

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

Calculation of the Cumulative Grade Point Average (CGPA)

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

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

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

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOB104	Democracy and Human Rights	33	17	2	B	
UOB102	English Language	33	17	2	B	
ANCH121	Analytical Chemistry	78	97	7	B	
ZOOL126	Zoology	78	97	7	B	
ECOL105	Ecology	78	97	7	B	
MATH111	Mathematic	48	77	5	B	

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOB101	Arabic Language	33	17	2	B	
UOB103	Computer	48	27	3	B	
BIOD113	Biodiversity	33	92	5	C	
ICTH145	Ichthyology	78	97	7	C	
LATE119	Laboratory Techniques in Fisheries	48	102	6	C	
CLBO112	Climate Change and Biosustainability	78	97	7	C	

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**Modules Catalogue B.Sc. | 2025-2026 | Fisheries and Marine
Resources Department**

University of Basrah



*First Cycle – Bachelor's Degree (B.Sc.) - Fisheries &
Marine Resources*



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1. Overview

This catalogue outlines the courses (modules) offered by the Fisheries & Marine Resources program, designed for students pursuing a Bachelor of Agricultural Science degree. The program comprises 48 modules, totaling 6000 student workload hours and 240 ECTS credits. The delivery of these modules adheres to the principles of the Bologna Process, ensuring a structured and quality-driven approach to higher education. Each module is designed to provide students with the necessary knowledge and skills to excel in the field of fisheries and marine resources, integrating theoretical concepts with practical applications.

2. Undergraduate Courses 2024-2025

Module 1

Code	Course/Module Title	ECTS	Semester
UOB104	Democracy and Human Rights	2	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2/0/0/0	33	17
Description			
The course “Democracy and Human Rights” addresses the fundamental principles and concepts related to democratic governance and human rights. It explores the historical development of democracy, the different democratic systems, and the importance of active citizenship. Students will engage with key human rights documents, such as the Universal Declaration of Human Rights, and analyze their impact on individuals and societies. The course also examines contemporary issues related to human rights violations, social justice, and the role of international organizations in promoting and protecting human rights. Through case studies and discussions, students will critically assess the relationship between democracy and human rights, and understand how each reinforces the other. The course aims to equip students with the knowledge and skills necessary to advocate for democratic values and human rights in different contexts and to foster a spirit of citizenship.			

Module 2

Code	Course/Module Title	ECTS	Semester
UOB102	English Language	2	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2/0/0/0	33	17
Description			
The course “Academic English” focuses on developing the essential language skills that students need in the fields of study and academic research. It emphasizes improving the four core skills: reading, writing, listening, and speaking. In terms of reading, students learn how to analyze academic texts and understand the general structure of research papers and articles. Effective strategies for reading quickly and efficiently are introduced, enabling students to extract key information and important ideas. With regard to writing, the course helps students develop academic essay-writing skills, including organizing ideas, constructing arguments, and using sources appropriately. Special attention is given to writing literature reviews, reports, and research papers, with a focus on proper documentation and citation. For listening, students are trained to comprehend lectures and academic discussions, allowing them to participate effectively in classroom settings. They also learn how to take notes during listening and to analyze the information presented. In speaking, the course encourages students to actively engage in academic discussions and presentations. Their confidence is strengthened in expressing opinions and sharing ideas in a clear and persuasive manner. The course also includes the expansion of academic vocabulary by introducing a range of words and phrases commonly used in academic contexts.			

Module 3

Code	Course/Module Title	ECTS	Semester
ANCH121	Analytical Chemistry	7	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2/3/0/0	78	97
Description			
The course “Analytical Chemistry” in the first year focuses on studying the methods and techniques used in the analysis of chemical substances. It aims to introduce the fundamental principles of analytical chemistry, including various measurements and techniques. The main topics include quantitative and qualitative analysis methods, such as spectroscopic and chromatographic techniques, in addition to studying how to identify chemical pollutants in different samples. The course also addresses the analysis of nutrients, where students learn how to measure nutritional components. The course requires a basic knowledge of general chemistry and readiness for practical laboratory applications, helping students develop the skills necessary to understand and analyze chemical changes in various fields.			

Module 4

Code	Course/Module Title	ECTS	Semester
ZOOL126	Zoology	7	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/3/0/0	78	97
Description			
The Zoology course provides a general study of animal science, highlighting its importance, various branches, and the relation of some of these branches to the department's specialization. The course covers epithelial and nervous tissues and their scientific and practical applications in fish and other organisms. It also includes the classification of different animals within the Kingdom Protozoa, focusing on selected phyla and genera of medical and veterinary significance, as well as sponges (Phylum Porifera), their types, applications, and importance as marine resources. The course introduces cnidarians (Coelenterata), with emphasis on species relevant to fisheries, in addition to flatworms, nematodes, annelids, crustaceans, and echinoderms. The course further examines the benefits and harms of animals belonging to the above-mentioned groups, and identifies dangerous species affecting fish and aquatic organisms through toxin production, pollution, or by serving as intermediate hosts for parasites that impact fish productivity and reduce their economic value.			

Module 5

Code	Course/Module Title	ECTS	Semester
ECOL105	Ecology	7	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2/3/0/0	78	97
Description			
The course “ Ecology” examines the interactions between living organisms and their environments. It aims to provide an understanding of ecosystems and how environmental factors influence the distribution and diversity of organisms. The course begins with an introduction to fundamental ecological concepts, such as ecosystems, biotic and abiotic factors, and the role of each in shaping the environment. Different types of ecosystems are explored, including forests, aquatic systems, and deserts. Focus is also given to interactions among living organisms, such as competition, parasitism, and cooperation. Food chains and food webs are studied to understand how energy and nutrients flow through ecosystems. Biodiversity and its importance in maintaining ecological balance are emphasized, with analysis of threats such as climate change, habitat loss, and pollution. Conservation strategies and sustainable resource management are discussed to enhance environmental awareness among students. Through theoretical lectures and practical activities, the course develops critical and analytical thinking skills for understanding contemporary environmental challenges. Ultimately, it equips students with the knowledge required to apply ecological principles in fields such as natural resource management, environmental conservation, and scientific research.			

Module 6

Code	Course/Module Title	ECTS	Semester
MATH111	Mathematic	5	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
3	3/0/0/0	48	77
Description			
The course “Mathematics” in the first year is designed to provide students with the mathematical foundations necessary for understanding basic concepts across various disciplines. It begins with an introduction to algebra, where students learn how to work with equations and variables, developing essential problem-solving skills. The course then covers geometry, including the study of geometric shapes, areas, and volumes. Students learn to apply geometric principles to real-life problems, thereby enhancing their understanding of the world around them. Calculus is also introduced, focusing on the fundamental concepts of differentiation and integration and their use in analyzing change. This component is crucial for practical applications in the natural and engineering sciences. In addition, the course addresses data collection, analysis, and interpretation, equipping students with the tools to recognize patterns and behaviors in diverse contexts. The course emphasizes logical reasoning and problem-solving, thereby fostering critical thinking skills. Students are encouraged to work collaboratively and discuss mathematical problems, enhancing their communication and teamwork abilities.			

Module 7

Code	Course/Module Title	ECTS	Semester
UOB101	Arabic Language	2	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2/0/0/0	33	17
Description			
The course “Arabic Language” focuses on developing the fundamental skills necessary for effective communication in Arabic. It aims to enhance students’ abilities in reading, writing, listening, and speaking, thereby fostering a deeper understanding of the language and its culture. The course covers essential grammar and morphology, enabling students to construct correct sentences and use vocabulary effectively in different contexts. Reading skills are developed through the analysis of literary and scientific texts, helping students extract main ideas and interpret deeper meanings. Writing skills are strengthened through the preparation of essays, assignments, and reports, with an emphasis on organizing ideas and proper citation. Listening skills are trained through exposure to lectures and discussions, which improves students’ ability to participate actively in classroom settings. Students are encouraged to practice speaking and engage in group discussions to build confidence in expressing their opinions. Through practical activities and diverse resources, the course promotes critical thinking and effective communication, enabling students to interact positively with their academic community. Ultimately, it prepares students to use Arabic competently in academic and professional contexts while deepening their appreciation of Arab culture and heritage.			

Module 8

Code	Course/Module Title	ECTS	Semester
UOB103	Computer	3	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	1/2/0/0	48	27
Description			
This course is designed to introduce students to the fundamental concepts of computer systems and their applications. It provides an overview of computer hardware, software, and operating systems, offering students the basic knowledge required to use computers effectively. The course covers word processing applications, enabling students to create, edit, and professionally format documents. Spreadsheet applications are also included, where students learn to enter data, use formulas, and generate analytical outputs and charts. In addition, presentation software is introduced to help students design effective and engaging presentations. The course also focuses on essential internet skills, including online research and evaluating electronic sources, thereby enhancing students' ability to access accurate and reliable information. Practical assignments and projects are integrated to encourage hands-on application of acquired skills. Ultimately, this course aims to equip students with the basic computer knowledge and practical competencies needed for academic success and to prepare them for future professional environments.			

Module 9

Code	Course/Module Title	ECTS	Semester
BIOD113	Biodiversity	5	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2/0/0/0	33	92
Description			
This course focuses on the study of life's diversity on Earth and its importance in maintaining ecosystems and planetary health. It aims to develop an understanding of biodiversity, which includes species diversity, genetic diversity, and ecosystem diversity. The course begins with an introduction to the definition and dimensions of biodiversity, including species and ecosystems. It explores the significance of biodiversity in supporting life, such as providing food, medicine, and natural resources, as well as its role in ensuring environmental stability. The course also addresses the threats facing biodiversity, such as habitat loss, climate change, pollution, and invasive species, analyzing their impacts on ecosystems and natural resources. Conservation strategies are examined, including the establishment of protected areas, ecological restoration, and sustainable practices, with reference to successful global case studies. Through lectures and practical activities, the course seeks to raise awareness of the importance of biodiversity and to foster students' critical thinking skills. It encourages active participation in environmental conservation efforts. In conclusion, the course aims to equip students with the knowledge and skills necessary to understand the challenges related to biodiversity and to contribute to sustainable solutions.			

Module 10

Code	Course/Module Title	ECTS	Semester
ICTH145	Ichthyology	7	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2/3/0/0	78	97
Description			
This course examines fish as biological organisms from multiple perspectives, including their taxonomy, biology, and behavior. It aims to provide students with a comprehensive understanding of fish biodiversity and their ecological importance within aquatic systems. The course begins with an overview of fish taxonomy, highlighting the main groups and species, and analyzing the morphological and physiological traits that distinguish them, as well as their ecological roles. Focus is also placed on fish biology, including growth, nutrition, and reproduction. The course explores how environmental factors influence fish behavior and distribution, allowing students to better understand the complex interactions within aquatic ecosystems. Additional emphasis is given to fisheries management and conservation strategies, including the study of threats such as pollution and habitat loss, alongside effective approaches for protecting endangered species. Through lectures and practical activities, students are encouraged to conduct independent research and analyze field data, thereby enhancing their research and analytical skills. Ultimately, the course equips students with the knowledge and skills required to apply ichthyological principles in areas such as marine resource management and biodiversity conservation.			

Module 11

Code	Course/Module Title	ECTS	Semester
LATE119	Laboratory Techniques in Fisheries	6	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	2/1/0/0	48	102
Description			
This course introduces students to a set of essential skills used in the study and management of aquatic organisms. It is designed to provide students with the tools and knowledge required to perform experiments and analyses in fisheries laboratories. The course begins with laboratory safety, emphasizing the importance of following proper protocols and procedures to ensure personal and environmental safety. It then addresses data collection techniques, including methods of sampling water and fish, with a focus on proper handling of samples to guarantee reliable results. Special emphasis is placed on water quality analysis, where students are trained to measure key chemical and physical parameters such as pH, temperature, and dissolved oxygen, all of which directly influence the health of aquatic organisms. The course also covers techniques for fish species identification, enabling students to recognize different species and understand associated biodiversity. In addition, students learn how to conduct fish health assessments, including the detection of diseases and disorders, and to apply diagnostic tools and procedures to maintain aquatic health. Through a combination of theoretical lectures and practical applications, the course aims to strengthen students' hands-on understanding of laboratory techniques and their applications in fisheries science.			

Module 12

Code	Course/Module Title	ECTS	Semester
CLBO112	Climate Change and Biosustainability	7	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2	0/3/0/0	78	97
Description			
This course explores the impacts of climate change on ecosystems and living organisms. It aims to provide students with a comprehensive understanding of the global challenges posed by climate change and the strategies required to achieve sustainability under such conditions. The course begins with an introduction to climate change, addressing its main drivers—such as greenhouse gas emissions and their effects on global temperatures and climate patterns. It analyzes how ecosystems and biodiversity are affected by these changes. The concept of biological sustainability is emphasized, focusing on the preservation of biodiversity and environmental resources for future generations. Effective strategies for climate change adaptation are explored, including natural resource management and sustainable agricultural practices. The course also examines the social and economic implications of climate change, such as its effects on food security, public health, and water resources, while analyzing how communities respond to these challenges. Through lectures and group discussions, the course aims to raise awareness of the importance of adaptation and sustainability. Students are encouraged to engage in critical thinking and develop innovative solutions to climate-related challenges. Ultimately, the course equips students with the knowledge and skills necessary to contribute to biological sustainability and climate change adaptation, preparing them for future roles in environmental protection and sustainable management.			

Contact

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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Democracy and Human Rights		Module Delivery	
Module Type	Basic		☒ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	UOB104			
ECTS Credits	2			
SWL (hr/sem)	50			
Module Level	1	Semester of Delivery		1
Administering Department	FISHERIES	College	College of Agriculture	
Module Leader	Dr. Widad Salem Muhammad		e-mail	widad.mohammad@uobasrah.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Msc	
Module Tutor			e-mail	
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	01/09/2024	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	1. Explain Democratic Principles: Understand the fundamental principles of democracy, including popular sovereignty and separation of powers. 2. Analyze Human Rights Frameworks: Review key international human rights documents and their importance in protecting rights globally. 3. Evaluate Current Issues: Critically assess contemporary issues related to democracy and human rights through case studies. 4. Assess Institutional Roles: Examine the roles of various institutions in upholding democracy and human rights. 5. Promote Active Citizenship: Develop strategies for fostering civic engagement and individual actions that support democracy and human rights.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Articulate Key Concepts: Students will be able to clearly articulate key concepts related to democracy and human rights. 2. Analyze Case Studies: Students will analyze case studies to identify challenges and successes in promoting democracy and human rights. 3. Evaluate Legal Frameworks: Students will evaluate the effectiveness of national and international legal frameworks in protecting human rights. 4. Critically Assess Media Influence: Students will assess the role of media in shaping public perceptions of democracy and human rights issues. 5. Engage in Discussions: Students will engage in informed discussions about current events related to democracy and human rights, demonstrating critical thinking skills. 6. Design Advocacy Strategies: Students will design advocacy strategies aimed at promoting human rights and democratic principles within their communities.
Indicative Contents المحتويات الإرشادية	Indicative Content for Democracy and Human Rights Part A - Foundations of Democracy Introduction to Democracy Definitions, historical evolution, and forms of democratic governance. [SSWL=5 hrs] Principles of Human Rights Overview of human rights concepts and their relationship with democracy. [SSWL=5 hrs] Part B - Human Rights in Practice Civil and Political Rights Exploration of civil liberties, political rights, and the right to a fair trial. [SSWL=5 hrs] Economic, Social, and Cultural Rights Understanding rights related to work, education, and health. [SSWL=5 hrs] Part C - Engaging with Democracy and Human Rights Current Issues in Human Rights Analysis of contemporary issues such as gender equality and minority rights. [SSWL=5 hrs]

	Public Participation and Civic Engagement Methods and importance of civic engagement in democratic processes. [SSWL=5 hrs] Revision and Problem-Solving Sessions Review of key concepts and preparation for assessments. [SSWL=5 hrs] Total SSWL = 30 hrs Total hrs = 30 SSWL - (Exam hrs) = 32 - 2 = 30 hr (Time table hrs x 15 weeks)
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The course will feature interactive lectures with multimedia to engage students in democracy and human rights concepts. Small group discussions will promote critical thinking and diverse perspectives. Real-world case studies will illustrate the application of principles, while role-playing activities will help students empathize with different stakeholders. Guest speakers from the field will provide insights, and collaborative projects will allow students to investigate specific human rights issues. Online discussion forums will facilitate ongoing engagement. Reflective journal entries will encourage personal connections to the material, and research assignments will support independent inquiry. Timely feedback on assessments will enhance learning and improvement.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	30	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	20	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.3
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 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.				
	Report	1	20% (20)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	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 Democracy
Week 2	Principles of Human Rights
Week 3	Principles of Human Rights
Week 4	Economic, Social, and Cultural Rights
Week 5	Key Human Rights Documents
Week 6	Democratic Institutions
Week 7	Current Issues in Human Rights
Week 8	Role of Non-Governmental Organizations (NGOs)
Week 9	Public Participation and Civic Engagement
Week 10	Global Perspectives on Democracy
Week 11	Advocacy and Policy Making
Week 12	Media and Human Rights
Week 13	Reflective Practices
Week 14	Revision and Problem-Solving
Week 15	Assessments and Feedback
Week 16	Preparatory week before the 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	a- Relying on the prescribed curricula issued by the Ministry. Among them: The book on human rights, written by: Hafez Alwan Hammadi Al-Dulaimi. 2010 B- Relying on the curricula prepared by the subject teacher.	Yes
Recommended Texts	1- The Genesis of Human Rights, written by: Lynn Hunt, translated by: Fayqa Girgis Hanna 2- -Al The Philosophy of Human Rights, written by Ansam Amer Sudani 3- Human Rights in the Western Religious Heritage and Islam, written by: Muhammad Jalaa Idris and Amal Muhammad Abd al-Rahman Rabie.	No
Websites	The United Nations website: https://www.un.org/ar/global-issues/human-rights	

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		Module Delivery	
Module Type	Basic		☒ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	UOB102			
ECTS Credits	2			
SWL (hr/sem)	50			
Module Level	1	Semester of Delivery		1
Administering Department	FISHERIES	College	College of Agriculture	
Module Leader	Dr. Hazim Sabah Al-Hamadani		e-mail	hazim.rahmah @uobasrah.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Ph.D.	
Module Tutor			e-mail	
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	01/09/2024	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	1. Develop overall language proficiency in listening, speaking, reading, and writing skills. 2. Improve communication abilities in English for various contexts and purposes. 3. Expand vocabulary knowledge and usage in different topics and disciplines. 4. Enhance grammar, sentence structure, and language mechanics for accuracy and fluency. 5. Foster critical thinking and intercultural competence while promoting collaborative skills.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Effective Communication: Demonstrate the ability to write clear and coherent academic essays, incorporating appropriate structure and argumentation. 2. Critical Reading Skills: Analyze and interpret various academic texts, identifying main ideas, arguments, and supporting details. 3. Research Proficiency: Conduct effective research using academic sources, integrating findings appropriately into written assignments. 4. Oral Presentation Skills: Deliver organized and engaging presentations on academic topics, utilizing visual aids and responding to audience questions.
Indicative Contents المحتويات الإرشادية	Indicative Content for Academic English Part A - Foundations of Academic Writing Introduction to Academic Writing Overview of academic writing conventions, importance of clarity, and coherence. [SSWL=5 hrs] Essay Structure Understanding the components of academic essays, including thesis statements, introductions, body paragraphs, and conclusions. [SSWL=5 hrs] Part B - Reading and Research Skills Critical Reading Techniques Strategies for analyzing academic texts, identifying key arguments, and evaluating sources. [SSWL=5 hrs] Research Methodology Introduction to research methods, using academic databases, and proper citation practices. [SSWL=5 hrs] Part C - Presentation and Communication Skills Oral Presentation Skills Techniques for organizing and delivering effective presentations, including the use of visual aids. [SSWL=5 hrs] Digital Communication Best practices for academic communication through email and online platforms, including etiquette and clarity. [SSWL=5 hrs]

	Total SSWL = 30 hrs Total hrs = 30 SSWL - (Exam hrs) = 32 - 2 = 30 hrs (Time table hrs x 15 weeks)
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The course will utilize interactive lectures to introduce key concepts in academic English, complemented by hands-on writing workshops for practical application. Group discussions will foster collaborative learning and critical thinking, while peer review sessions will enhance editing skills and provide constructive feedback. Additionally, students will engage in research projects that encourage independent inquiry and the use of academic resources. Finally, oral presentations will help develop effective communication skills, allowing students to articulate their ideas clearly and confidently.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	30	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	20	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.3
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 and 10	LO #1, #2 and #10, #11
	Assignments	2	20% (20)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.				
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	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 Academic Writing : Overview of course objectives and writing conventions.
Week 2	Essay Structure : Components of an academic essay: thesis, introduction, body, and conclusion.
Week 3	Developing Thesis Statements : Crafting clear and concise thesis statements.
Week 4	Paragraph Development : Techniques for writing effective and cohesive paragraphs.
Week 5	Critical Reading Skills : Analyzing academic texts and identifying key arguments.
Week 6	Research Methodology : Introduction to research methods and using academic databases.
Week 7	Citing Sources : Understanding citation styles (APA, MLA, etc.) and avoiding plagiarism.
Week 8	Drafting Essays : Writing first drafts with an emphasis on structure and coherence.
Week 9	Peer Review Process : Engaging in peer reviews to provide and receive feedback on drafts.
Week 10	Revising and Editing : Techniques for revising drafts and improving clarity and style.
Week 11	Oral Presentation Skills : Organizing and delivering effective presentations.
Week 12	Visual Aids in Presentations : Utilizing slides and other visual aids effectively.
Week 13	Digital Communication : Best practices for academic communication through email and online platforms.
Week 14	Final Project Preparation : Working on final essays and presentations, incorporating feedback.
Week 15	Final Presentations and Assessments : Delivering final presentations and submitting final essays.
Week 16	Preparatory week before the 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	Eastwood, J. (2006). Oxford Practice Grammar – Intermediate. OUP.	Yes
Recommended Texts	Graff, G. (2014). They Say / I Say: The Moves That Matter in Academic Writing (Third Edition).	No
Websites	https://www.duolingo.com/enroll/en/uk/Learn-English	

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	Analytical Chemistry		Module Delivery
Module Type	Core		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	ANCH121		
ECTS	7		
SWL (hr/sem)	175		
Module Level	1	Semester of Delivery	
Administering Department	Food science	College	Agriculture
Module Leader	Faleeha Hasan Hussein	e-mail	faleeha.hussein@uobasrah.edu.iq
Module Leader's Acad. Title	Assistant professor	Module Leader's Qualification	Ph.D.
Module Tutor	Faleeha Hasan Hussein	e-mail	faleeha.hussein@uobasrah.edu.iq
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	2024/9/2	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	A general study of chemistry, including analytical chemistry, which is divided into two types: quantitative analysis and descriptive qualitative analysis, knowledge of the requirements for volumetric analysis, and also methods for expressing the concentration of solutions to know their weights. Analytical chemistry also studies the indicators used in the analysis of acids and bases, the foundations of choosing the indicator, the mechanism of the work of the indicator, and calculating the pH for all solutions. * Objectives of analytical Chemistry By knowing the objectives of analytical Chemistry, the following can be reached: - • Study the basics of analytical chemistry and its sections • Determining the weights of some chemicals using volumetric determination methods • Knowing the requirements for volumetric corrosion • Methods of expressing the concentration of solutions to determine the weights of some compounds • Analysis of acids and bases • Knowing the evidence used in analyzing acids and bases • Interpreting the work of the guide • How to choose the appropriate guide • Calculate the pH of all solutions
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	The graduate of the department is awarded a degree (Bachelor of Science in general chemistry) and acquires the following skills: 1- The ability to apply knowledge of the general chemistry method and related techniques 2- The ability to evaluate and implement experiments. 3- The ability to use ready-made programs to accomplish the required cases. 4- The ability to work with diverse teams. 5- The ability to know and bear responsibility. 6- The ability to communicate. 7- The ability to use skills. 8- The ability to intertwine with other specializations to serve them
Indicative Contents المحتويات الإرشادية	The guiding content includes the following. - Be extremely careful when sorting chemicals that cause violent reactions when mixed together. [SSWL=10 hrs] - Immediately dispose of containers that do not have a label indicating their contents at the end of the daily working hours. [SSWL=10 hrs] - Operate the suction fan (pump) to get rid of fumes. [SSWL=10 hrs]

	- Connect electric heating devices to a control device to disconnect the power from the device in the event of a noticeable rise in the temperature of the device. [SSWL=10 hrs] - Periodically check the efficiency of the laboratory devices and keep records of the devices that have been checked to determine their validity. [SSWL=10 hrs] - Use both hands when handling large bottles and do not lift them up. [SSWL=10 hrs] - Return all materials, glassware and equipment to their designated places after use. [SSWL=15 hrs] Total hrs = 75 SSWL - (Exam hrs) = 77 - 2 = 75 hr (Time table hrs x 15 weeks)
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Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	1- Identify the tools and devices used in chemical analysis and train to use and deal with them correctly. 2- Identify some chemical materials and their physical and chemical properties and their solutions and how to prepare them. 3- Practice writing equations correctly. 4- Practice choosing the appropriate guide for the calibration process. 5- Practice performing various chemical calibrations correctly and with high confidence. 6- Practice performing chemical calculations and calculations of concentrations and purity.
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Student Workload (SWL)

الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	75	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	100	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	6.6
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	175		

Module Evaluation

تقييم المادة الدراسية

		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 / Lab.	1	15% (15)	Continuous	All
	Report	1	5% (5)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	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	Analytical chemistry
Week 2	Types of oxidation and reducing agents
Week 3	Standard solution
Week 4	Calculating the pH of buffer solutions
Week 5	Volumetric titration methods
Week 6	Examples of Volumetric titration methods
Week 7	Calculating the pH of acids and bases
Week 8	Calculating the pH of salts
Week 9	Mid-term exam
Week 10	Acid-base titration
Week 11	True redox indicators
Week 12	How to choose the right guide
Week 13	Titration Base-Acid
Week 14	Calculate the pH of all solutions
Week 15	Preparatory week before the final Exam
Week 16	

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
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Week 1	Lab 1: principle of volumetric analysis by titrimetric method:
Week 2	Lab 2: Standard solutions
Week 3	Lab 3: Concentration of solutions
Week 4	Lab 4: Molarity(M)
Week 5	Lab 5: Normality (N)
Week 6	Lab 6: volumetric Titration Methods
Week 7	Lab 7: final Exam

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	[1] Fundamentals of general chemistry [2] Foundations of quantum chemistry: theory and practice [3] Mohi- AL- ddin al-Bakush and others. (2003). Principles of General Chemistry, Tripoli, 687 p. 4-The theoretical and practical foundations of quantitative and gravimetric chemistry	Yes
Recommended Texts	Pauling, L. (1988). General chemistry. Courier Corporation.	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	Zoology		Module Delivery	
Module Type	Basic		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	ZOOL126			
ECTS Credits	7			
SWL (hr/sem)	175			
Module Level	1	Semester of Delivery		1
Administering Department	Fisheries & Marine Resources	College	College of Agriculture	
Module Leader	Dr. Thamir K. Adday		e-mail	thamir.adday@uobasrah.edu.iq
Module Leader's Acad. Title	Assistant professor		Module Leader's Qualification	Ph.D.
Module Tutor	Dr. Thamir K. Adday		e-mail	thamir.adday@uobasrah.edu.iq
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	1/9/2024	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	1- Definition of zoology and its branches. 2- Knowing the structures of animals and their distinction. 3- Identify the benefits and harms of different animals.

Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Recognize the Zoology, the importance and fields 2- Definitions of different families of Kingdom Animalia 3- Summarize advantages and disadvantages of different animals 4- The Aquaculture and the dangerous animals effects 5- Describe different i systems of animals groups 6- Discuss the animals in red list and Preserving animals from extinction
Indicative Contents المحتويات الإرشادية	Indicative Content for Zoology Part One: A Study of zoology in general and explain the importance of studying it and its various branches and the relationship of some branches of zoology to the specialization of the scientific department. . [SSWL=15 hrs] B Animal tissues including epithelial tissues and connective tissues and muscle tissues and nervous tissues and their scientific and practical applications for fish and other organisms. . [SSWL=15 hrs] Part Two: A Study the classification of different animals within the kingdom of protozoa and some of the divisions and genera belonging to it and the pathological ones within the direction of the department. Study of animals within the division of porosity [SSWL=15 hrs] B sponges, their types and applications and their use as important marine resources, identifying the division of cnidarians (coelomate) and those related to fish wealth. Identifying flatworms and the genera and those belonging to them in addition to nematodes and annelid worms, crustaceans and echinoderms. [SSWL=15 hrs] Part Three: Studying the benefits and harms of the various animals belonging to the animal phyla mentioned above, and identifying the dangerous species among them that harm fish and other aquatic life secreting toxins or causing pollution, or may be intermediate hosts for parasites that infect fish and reduce their productivity and consumer value [SSWL=15 hrs] Total hrs = 75 SSWL - (Exam hrs) = 77 - 2 = 75 hr (Time table hrs x 15 weeks)

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The course will feature interactive lectures with multimedia to engage students in definitions and taxonomy of animals. Group discussions will promote the diverse perspectives and provided the mainly information for different animals and the relationship with the others and the advantages and disadvantages. Another activities will help students to acknowledgment the animals that commercial value and any has role or affect in the environment. The course will improved the animals as intermediate hosts of many parasites and its effect of other animals and the human.

Student Workload (SWL)			
الحمل الدراسي للطلاب محسوب ل ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	75	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	100	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	6.6
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	175		

Module Evaluation					
تقييم المادة الدراسية					
		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 / Lab.	1	15% (15)	Continuous	All
	Report	1	5% (5)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	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	Animal cell and Animal Tissues part 1
Week 2	Animal cell and Animal Tissues part 2
Week 3	Kingdom Protozoa and Phylum Porifera part 1
Week 4	Kingdom Protozoa and Phylum Porifera part 2
Week 5	Phylum Cnidaria
Week 6	1st monthly exam
Week 7	Platyhelminthes- Turbellaria, Trematoda

Week 8	Platyhelminthes- Cestoda
Week 9	Phylum Nematoda
Week 10	Phylum Annelida
Week 11	2nd monthly exam
Week 12	Phylum Arthropoda part 1
Week 13	Phylum Arthropoda part 2
Week 14	Phylum Mollusca
Week 15	Phylum Echinodermata
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: General introduction to the microscope, its importance and uses
Week 2	Lab 2: Animal epithelial and connective tissues
Week 3	Lab 3: Animal muscular and nervous tissue
Week 4	Lab 4: The kingdom of the different primary and divisions
Week 5	Lab 5: The phylum of sponges and the genera of this phylum
Week 6	Lab 6: The Cnidaria phylum, its characteristics and the genera belonging to
Week 7	Lab 7: Division of flatworms, class of flukes and flukes, their characteristics and genera
Week 8	Phylum of flatworms, classification of tapeworms, their characteristics and the
Week 9	Phylum Nematoda
Week 10	Division of annelids
Week 11	Phylum Artthropoda
Week 12	Monthly exam
Week 13	Discussing the submitted reports
Week 14	Classification of animal models belonging to students

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	General Zoology (2000) .Storer; T.I, Usinger, R.L. and Stebbins	Yes

Recommended Texts	Practical Zoology Dr. Alwan Al-Waeli and Dr. Amal Al-Khatib Practical animal biology Dr. Ahmed Hammad Al-Husseini	No
Websites	https://guides.lib.ua.edu/invertebrate_zoology	

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

Module Information				
Module Title	Ecology		Module Delivery	
Module Type	Basic		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	ECOL105			
ECTS Credits	7			
SWL (hr/sem)	175			
Module Level	1	Semester of Delivery		1
Administering Department	FISHERIES	College	College of Agriculture	
Module Leader	Dr. Mujtaba A.T. Ankush		e-mail	mujtaba.tahir@uobasrah.edu.iq
Module Leader's Acad. Title	Assistant Professor		Module Leader's Qualification	Ph.D.
Module Tutor	Dr. Mujtaba A.T. Ankush		e-mail	mujtaba.tahir@uobasrah.edu.iq
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	01/09/2024		Version Number	1.0

Relation with other Modules			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents	
Module Objectives أهداف المادة الدراسية	1. Understand Ecosystem Dynamics: Explain the structure and function of ecosystems, including energy flow and nutrient cycling. 2. Analyze Species Interactions:

	Evaluate various types of species interactions, such as predation, competition, and symbiosis. 3. Explore Population Ecology: Examine population dynamics, including factors that influence population growth and regulation. 4. Assess Biodiversity and Conservation: Discuss the importance of biodiversity, threats to ecosystems, and strategies for conservation. 5. Integrate Ecological Principles: Apply ecological concepts to real-world environmental issues and sustainability practices.
Module Learning Outcomes	1. Demonstrate an understanding of ecosystem components, dynamics, and the roles of different organisms. 2. Analyze and describe various interactions between species and their ecological implications. 3. Assess population growth patterns and the factors that influence population size and stability. 4. Recognize the significance of biodiversity and its impact on ecosystem health and resilience. 5. Utilize ecological principles to propose solutions for environmental challenges and promote sustainability.
Indicative Contents	Indicative Content for Principles of Ecology Part A - Introduction to Ecology Overview of Ecosystems Introduction to ecosystem components, structure, and function, including biotic and abiotic factors. [SSWL=10 hrs] Species Interactions Examination of different types of species interactions such as predation, competition, and mutualism. [SSWL=10 hrs] Part B - Population and Community Ecology Population Dynamics Understanding population growth models, factors influencing population size, and carrying capacity. [SSWL=15 hrs] Community Structure Analysis of community composition, diversity, and ecological niches. [SSWL=10 hrs] Part C - Ecosystem Dynamics Energy Flow and Nutrient Cycling Exploration of energy transfer in ecosystems and the cycling of nutrients through biogeochemical cycles. [SSWL=10 hrs] Biodiversity and Conservation

	Study of biodiversity concepts, threats to ecosystems, and conservation strategies. [SSWL=10 hrs] Part D - Human Impact and Sustainability Human Influence on Ecosystems Assessment of anthropogenic effects on ecosystems, including habitat destruction and climate change. [SSWL=5 hrs] Sustainable Practices Exploring sustainable practices and their importance in ecology and conservation efforts. [SSWL=5 hrs] Total SSWL = 75 hrs SSWL - (Exam hrs) = 77 - 2 = 75 hr (Time table hrs x 15 weeks)
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Learning and Teaching Strategies	
Strategies	The course will utilize a blend of interactive lectures and hands-on activities to engage students in ecological concepts. Field studies will provide real-world experience in observing ecosystems and species interactions. Group discussions will encourage critical thinking and collaborative learning, allowing students to explore complex ecological issues together. Case studies will highlight the application of ecological principles to contemporary environmental challenges. Regular assessments and feedback will guide student progress and deepen their understanding of ecological concepts.

Student Workload (SWL)			
Structured SWL (h/sem)	75	Structured SWL (h/w)	5
Unstructured SWL (h/sem)	100	Unstructured SWL (h/w)	6.6
Total SWL (h/sem)	175		

Module Evaluation					
		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	1	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	15% (15)	Continuous	All
	Report	1	5% (5)	13	LO #5, #8 and #10

Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	Introduction to ecology and the importance of studying ecosystems.
Week 2	Overview of biotic and abiotic factors in ecosystems.
Week 3	Types of ecosystems and their characteristics.
Week 4	Species interactions: predation, competition, and mutualism.
Week 5	Population dynamics: growth models and factors affecting population size.
Week 6	Community structure: diversity, composition, and ecological niches.
Week 7	Energy flow in ecosystems: food chains and food webs.
Week 8	Nutrient cycling: biogeochemical cycles (carbon, nitrogen, phosphorus).
Week 9	Biodiversity: definitions, measurements, and significance.
Week 10	Threats to biodiversity: habitat loss, invasive species, and climate change.
Week 11	Conservation strategies: protected areas, restoration ecology, and sustainable practices.
Week 12	Human impacts on ecosystems: pollution, urbanization, and resource exploitation.
Week 13	Ecological footprint and sustainability concepts.
Week 14	Case studies of successful conservation efforts and ecological restoration.
Week 15	Review of key concepts and final assessments.
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

	Material Covered
Week 1	Lab orientation: safety rules, field/lab equipment (quadrats, transects, pH meters, light meters), training on field note-taking.
Week 2	Measuring abiotic factors: temperature, pH, dissolved oxygen, light intensity, soil moisture. Collecting small samples of plants/organisms to represent biotic components.
Week 3	Field visit (aquatic vs terrestrial ecosystem) or virtual survey; students compare and draw diagrams of ecosystem differences.
Week 4	Microcosm experiment (terrarium/aquarium) to observe simple predator-prey or mutualistic interactions.

Week 5	Yeast/algae growth experiment; students record daily counts and plot exponential vs logistic growth curves.
Week 6	Quadrat sampling of plants/insects; calculate relative abundance and Shannon–Wiener diversity index.
Week 7	Collect field data of organisms and construct food chains and a food web diagram; identify trophic levels.
Week 8	Demonstration of nitrogen cycle or carbon cycle (CO₂ measurement in soil/water samples).
Week 9	Biodiversity assessment using real field data; calculate and compare diversity indices between habitats.
Week 10	Simulation of habitat fragmentation using grid/patch models; analyze its effect on species distribution.
Week 11	Water quality testing (turbidity, pH, conductivity) or soil analysis from urban vs rural samples.
Week 12	Ecological footprint calculation using online/offline tools; compare sustainability results among students.
Week 13	Group workshop: analyze published data from a real restoration project (e.g., wetlands, forests, marshes).
Week 14	Comprehensive practical exam: data analysis, short lab experiment interpretation, applied questions.
Week 15	Practical review session: correcting lab reports, mock exam practice, open Q&A.

Learning and Teaching Resources		
	Text	Available in the Library?
Required Texts	Barnes, R. S. K. and K. H. Mann (2009). Fundamentals of Aquatic Ecology, 2nd Ed. Wiley Blackwell	Yes
Recommended Texts	D. Hussein Al-Saadi, Dr. Najm al-Dahham and Laith al-Hussan. (1986). Aquatic ecology	No
Websites	https://www.nationalgeographic.com/environment/ecology/	

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	Mathematics		Module Delivery	
Module Type	Basic		☒ Theory ☒ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	MATH111			
ECTS Credits	5			
SWL (hr/sem)	125			
Module Level	1	Semester of Delivery		1
Administering Department	Type Dept. Code	College	Type College Code	
Module Leader	سمير خيرى لازم		e-mail	samir.lazim@uobasrah.edu.iq
Module Leader's Acad. Title	Professor		Module Leader's Qualification	MS.c
Module Tutor	سمير خيرى لازم		e-mail	samir.lazim@uobasrah.edu.iq
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	01/09/2024	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	1. تزويد الطالب بالطرق المتنوعة في المشتقة والتكامل للدوال من أجل تنمية قدراته العقلية عند حل التمارين .

	2. تمكين الطلبة من التوصل إلى حل للمشكلة والاستفادة منها في مواد علمية أخرى. 3. - تعلم كيفية التعامل مع المتجهات وتحليلها لزيادة معرفته عند التعامل مع الكميات الفيزيائية وتطبيقها في دروسه العلمية التخصصية. 4. ربط البيانات الرياضية بمعلوماته للوصول إلى حل للقضية والاستفادة منها في موضوعات علمية أخرى. 5. سيكون الطلاب بعد اجتياز هذه الدورة قادرين على فهم مبادئ الرياضيات الأساسية ويمكنهم التعامل مع المشاكل الرياضية المختلفة مما يجعلهم مؤهلين لفهم مواضيع جديدة أكثر تعقيداً.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. فهم وتطبيق مجموعة متنوعة من الأساليب الرياضية: يتعلم الطلاب مجموعة متنوعة من الطرق والأساليب الرياضية المختلفة التي يمكن استخدامها لحل المسائل الرياضية المعقدة. 2. تطوير مهارات التفكير النقدي: يتم تعزيز مهارات التحليل والتركيب والتفكير النقدي عندما يتعلم الطلاب طرقاً رياضية متنوعة. يتم تشجيع الطلاب على التفكير بشكل منهجي والتحليل العميق للمسائل الرياضية. 3. القدرة على حل المسائل الرياضية المعقدة: يتعلم الطلاب كيفية تحليل وفهم المسائل الرياضية المعقدة وتطبيق الأساليب والتقنيات الرياضية المناسبة لحلها بشكل صحيح. 4. التفكير الإبداعي والابتكار: يشجع تعلم طرق رياضية متنوعة الطلاب على التفكير الإبداعي والابتكار في مجال حل المسائل الرياضية. يتعلم الطلاب كيفية تطوير حلول جديدة وفريدة باستخدام الأساليب الرياضية.
Indicative Contents المحتويات الإرشادية	مقدمة عن الدالة - منطلق ومدى الدالة - أمثلة وتمارين حول مدى ومنطلق الدالة - غاية الدالة - غاية الدالة ان وجدت - فحص غاية يمين ويسار الدالة. [SSWL=15 hrs] غاية الدالة اللانهائية - أمثلة وتمارين - رسم الدوال ببسط صورة ممكنة - المشتقة - الصيغ العامة للأشتقاق - مشتقة الدالة البارامترية - التفاضل الضمنية. [15 hrs] تطبيقات المشتقة لأيجاد معادلة المستقيم المماس لمنحني الدالة - قاعدة السلسلة [SSWL=10 hrs] مقدمة عن التكامل- صيغ التكامل الغير محدد- التكامل المحدد - الدوال اللوغارتمية - الخواص - مشتقة وتكامل الدوال اللوغارتمية [SSWL=15 hrs] مراجعة عامة وتمارين [SSWL=6 hrs] الدوال الأسية - الخواص - مشتقة وتكامل الدوال الأسية - الدوال المثلثية - الخواص - مشتقة وتكامل الدوال المثلثية [SSWL=15 hrs] مقدمة عامة عن المتجهات - وحدة المتجه - معادلة المتجه في المستوي - المتجه في الفضاء - معادلة المتجه في الفضاء [SSWL=14 hrs] المتجه في الفضاء - معادلة المتجه في الفضاء - ضرب المتجهات - الضرب الثنائي العددي والمتجهي - الضرب الثلاثي العددي والمتجهي [SSWL=15 hrs] Total hrs = 105 = SSWL - (Exam hrs) = 109 - 4 = 105 hr (Time table hrs x 15 weeks)

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	الاستراتيجية الرئيسية التي سيتم اعتمادها في تقديم هذه الوحدة هي تشجيع مشاركة الطلاب في التمارين، والتي سيتم تحقيقها من خلال المشاركة في الأنشطة التعليمية التي تساهم في تطوير استراتيجيات حل المشكلات ومهارات التفكير لفهم المفاهيم الرياضية. إن استخدام استراتيجيات التدريس التي تتطلب المشاركة المعرفية في بناء المعرفة الجديدة يسلب الضوء على أهمية حل المشكلات في الرياضيات. إن استخدام مهام حل المشكلات التي تلبي طرق التفكير المختلفة التي يظهرها الطلاب، بناءً على المعرفة التي يجلبونها إلى الفصل الدراسي.

Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	45	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	80	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	5.3
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	3	15% (15)	5 and 10	LO #1, #2 and #10, #11
	Assignments	3	15% (15)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	0	0	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	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		100% (100 Marks)

Delivery Plan (Weekly Syllabus)	
المناهج الاسبوعي النظري	
	Material Covered
Week 1	مقدمة عن الدالة – منطلق ومدى الدالة
Week 2	أمثلة وتمارين حول مدى ومنطلق الدالة
Week 3	غاية الدالة – غاية الدالة ان وجدت – فحص غاية يمين ويسار الدالة
Week 4	غاية الدالة اللانهائية – أمثلة وتمارين
Week 5	رسم الدوال ببسط صورة ممكنة
Week 6	المشتقة – الصيغ العامة للأشتقاق – مشتقة الدالة البارامترية – التفاضل الضمني
Week 7	تطبيقات المشتقة لإيجاد معادلة المستقيم المماس لمنحني الدالة – قاعدة السلسلة
Week 8	مقدمة عن التكامل- صيغ التكامل الغير محدد- التكامل المحدد

Week 9	الدوال اللوغارتمية – الخواص – مشتقة وتكامل الدوال اللوغارتمية
Week 10	الدوال الأسية – الخواص – مشتقة وتكامل الدوال الأسية
Week 11	الدوال المثلثية – الخواص – مشتقة وتكامل الدوال المثلثية
Week 12	مقدمة عامة عن المتجهات – وحدة المتجه – معادلة المتجه في المستوي
Week 13	المتجه في الفضاء – معادلة المتجه في الفضاء
Week 14	ضرب المتجهات – الضرب الثنائي العددي والمتجهي – الضرب الثلاثي العددي والمتجهي
Week 15	أسبوع التحضير قبل الامتحان النهائي

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	[1] Thomas' Calculus: Thirteenth Edition , George B. Thomas, Jr.2006 [2] التفاضل والتكامل-تأليف الدكتور علي عزيز علي وعبد الرزاق علي الجامعة المستنصرية- 1980	Yes
Recommended Texts		
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	Arabic Language		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	
Administering Department	FISHERIES	College	College of Agriculture
Module Leader	Anwar Khaled Weleed	e-mail	anwarwaleed@uobasrah.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	MSc
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	01/09/2024	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	1. Strengthen Arabic Language Skills: Enhance proficiency in reading, writing, speaking, and listening to facilitate effective communication in academic and everyday contexts. 2. Master Arabic Grammar and Syntax: Understand and apply the rules of Arabic grammar and sentence structure to improve language accuracy and clarity. 3. Expand Vocabulary and Expression: Build a diverse vocabulary relevant to various subjects and situations, enabling students to express themselves more effectively. 4. Promote Cultural Understanding: Explore the rich cultural heritage of Arabic-speaking communities to foster a deeper appreciation of language and traditions. 5. Encourage Analytical Thinking: Develop critical thinking skills through the analysis of Arabic texts, enhancing comprehension and interpretation of diverse materials.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	- Demonstrate effective communication skills in Arabic through reading, writing, speaking, and listening. - Apply grammatical rules and syntax to produce accurate and coherent Arabic texts. - Utilize an expanded vocabulary to express ideas clearly in both academic and everyday contexts. - Analyze and interpret cultural texts, enhancing understanding of Arabic-speaking communities and their heritage. - Exhibit critical thinking skills by evaluating and discussing various Arabic texts and concepts.
Indicative Contents المحتويات الإرشادية	Indicative Content for Arabic Language Part A - Importance of the Arabic Language The Importance of Arabic for Scientific Specializations Exploration of the role of Arabic in scientific fields and its distinction among living languages. [SSWL=5 hrs] Part B - Quranic Studies Surat Al-Kahf: Reasons for Revelation Study of the historical and contextual reasons for the revelation of Surat Al-Kahf. [SSWL=5 hrs] Interpretation and Memorization Interpretation of selected verses from Surat Al-Kahf, with a focus on memorization techniques. [SSWL=5 hrs] Part C - Arabic Grammar and Syntax Basic Rules of Arabic Language Introduction to essential grammar rules, including parsing, subjects, and predicates. [SSWL=5 hrs] Verb-like Letters and Incomplete Verbs Study of verb-like letters and the concept of incomplete verbs. [SSWL=5 hrs]

	Objects and Numbers Understanding objects in sentences and basic rules for expressing numbers. [SSWL=5 hrs] Part D - Common Writing Challenges Common Mistakes in Writing Identification and correction of frequent writing errors in Arabic. [SSWL=5 hrs] Total SSWL = 30 hrs SSWL - (Exam hrs) = 32 - 2 = 30 hr (Time table hrs x 15 weeks)
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The course will utilize a combination of interactive lectures and discussions to engage students with key concepts of the Arabic language. Hands-on activities, such as group exercises and practical writing tasks, will reinforce grammar and vocabulary skills. Memorization techniques for Quranic verses will be incorporated to enhance retention and understanding. Collaborative projects will encourage peer learning and critical analysis of literary texts. Regular assessments and feedback will help track progress and improve language proficiency in reading, writing, and speaking.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ 15 اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	30	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	20	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	1.3
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	50		

Module Evaluation تقييم المادة الدراسية					
		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	20% (20)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.				
	Report	1	10% (10)	13	LO #5, #8 and #10

Summative assessment	Midterm Exam	2hr	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	مقدمة حول أهمية اللغة العربية للتخصصات العلمية ودورها الفريد بين اللغات الحية.
Week 2	دراسة سورة الإخلاص في جوانبها اللغوية والنحوية
Week 3	تفسير آيات مختارة من سورة الضحى ، مع التركيز على الموضوعات والمعاني.
Week 4	القواعد الأساسية للغة العربية: مقدمة في الإعراب وتركيب الجمل.
Week 5	المبتدأ والخبر.
Week 6	فهم الفاعل والمفعول به في الجمل العربية.
Week 7	إن وأخواتها
Week 8	تحليل الأفعال الناقصة واستخدامها في الجمل.
Week 9	تحليل قصيدة مالك بن الربيع .
Week 10	تحديد وتصحيح الأخطاء الكتابية الشائعة في اللغة العربية.
Week 11	تمارين عملية لتعزيز مهارات النحو والمفردات.
Week 12	نقاشات جماعية حول تفسير الآيات القرآنية وأهميتها اليوم.
Week 13	مهام كتابة لتطبيق قواعد النحو وتعزيز مهارات التأليف.
Week 14	مراجعة المفاهيم الرئيسية التي تم تناولها في الدورة والاستعداد للتقييمات النهائية.
Week 15	التقييمات النهائية لتقييم الكفاءة في القراءة والكتابة وفهم اللغة العربية.
Week 16	الأسبوع التحضيري الذي يسبق الامتحان النهائي

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

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

Week 7	
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Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	النجار ، فهمي قطب الدين (2013) قواعد اللغة العربية الميسرة	Yes
Recommended Texts	نظرات فاحصة في قواعد رسم الكتابة العربية وضوابط اللغة وطريقة تدوين تاريخ الأدب العربي - موقع العلامة محمد بهجة الأثري	No
Websites	https://www.edraak.org/programs/course/ag101-v2019_t2/	

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 Basics		Module Delivery	
Module Type	Basic		☒ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☒ Practical ☐ Seminar	
Module Code	UOB103			
ECTS Credits	3			
SWL (hr/sem)	75			
Module Level	1	Semester of Delivery		2
Administering Department	FISHERIES	College	College of Agriculture	
Module Leader	Dr. Mujtaba A.T. Ankush		e-mail	mujtaba.tahir@uobasrah.edu.iq
Module Leader's Acad. Title	Assistant Professor		Module Leader's Qualification	Ph.D.
Module Tutor	Dr. Mujtaba A.T. Ankush		e-mail	mujtaba.tahir@uobasrah.edu.iq
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	01/09/2024	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	1. Basic Computer Literacy 2. Utilize the computer for fundamental tasks. 3. Identify and discuss the hardware components of the computer system. 4. Create documents using a word processor and create presentations. 5. Conduct research on the Internet. 6. An introduction to Artificial Intelligence.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Ability to identify and explain the main components of a computer system and their functions. 2. Effective navigation and utilization of basic features of various operating systems. 3. Proficiency in producing well-formatted documents using word processing software, including editing and formatting tools. 4. Capability to perform basic data analysis and calculations using spreadsheet applications, including creating charts and graphs. 5. Competence in conducting effective online research, evaluating sources, and using digital communication tools responsibly.
Indicative Contents المحتويات الإرشادية	Indicative Content for Computer Applications Part A - Introduction to Computers Overview of Computer Components Introduction to hardware and software, types of computers, and their uses. [SSWL=5 hrs] Operating Systems Functions of operating systems, basic navigation, and file management techniques. [SSWL=10 hrs] Part B - Application Software Proficiency Word Processing Creating and formatting documents, using editing tools, and incorporating tables and images. [SSWL=10 hrs] Spreadsheets Data entry, basic formulas and functions, and creating charts and graphs for data analysis. [SSWL=10 hrs] Part C - Presentation and Internet Skills Presentation Software Designing effective presentations, incorporating multimedia elements, and presentation best practices. [SSWL=5 hrs] Internet Skills Effective web browsing, search techniques, evaluating online sources, and using digital communication tools. [SSWL=5 hrs]

	Total SSWL = 45 hrs SSWL - (Exam hrs) = 47 - 2 = 45 hr (Time table hrs x 15 weeks)
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The course will employ interactive lectures with multimedia presentations to introduce key concepts in computer applications. Hands-on lab sessions will provide practical experience with software tools, enhancing skills in word processing, spreadsheets, and presentations. Group projects will encourage collaboration and problem-solving, while guided tutorials will offer personalized support. Online discussion forums will facilitate peer interaction and knowledge sharing. Reflective exercises will help students connect course material to real-world applications, and regular quizzes will assess understanding and reinforce learning. Timely feedback on assignments will support continuous improvement and skill development.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	45	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	55	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	1	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	15% (15)	Continuous	All
	Report	1	5% (5)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	2hr	50% (50)	16	All

Total assessment	100% (100 Marks)		
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Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Computer: Concepts of Hardware and Software with their components; Concept of Computing, Data and Information; Connecting input/output devices, and peripherals to CPU.
Week 2	Computer Components: Computer Portions, Hardware Parts, I/O Units, Memory Types.
Week 3	Computer Components (Cont.): Basic CPU Components, Computer Ports, Personal Computer, Personal Computer (Features and Types)
Week 4	Operating System and Graphical User Interface GUI: Operating System; Basics of Common Operating Systems; The User Interface, Using Mouse Techniques.
Week 5	Operating System and Graphical User Interface GUI (Cont.): Use of Common Icons, Status Bar, Using Menu and Menu-selection, Concept of Folders and Directories, Opening and closing of different Windows; Creating Shortcuts.
Week 6	Word Processing: Word Processing Basics; Basic Features of Word Processors, Opening and Closing of documents, Text creation and Manipulation; Formatting Text and Paragraphs, Using Templates for Document Creation.
Week 7	Word Processing (Cont.): Creating and Managing Tables, Utilizing Styles and Themes, Spell Check and Grammar Tools, Using Headers and Footers.
Week 8	Spreadsheet: Introduction to Spreadsheet Software, Creating and Formatting Worksheets, Sorting and Filtering Data, Using Formulas and Functions.
Week 9	Spreadsheet (Cont.): Using Formulas and Functions, Using Pivot Tables for Data Analysis, Data Validation and Error Checking, Data Visualization: Creating Charts and Graphs.
Week 10	Presentation Software: Introduction to Presentation Software, Overview of Popular Presentation Tools, Creating a New Presentation, Using Templates and Themes, Inserting and Formatting Text and Images, Transition and Animation Effects.
Week 11	Presentation Software (Cont.): Using Speaker Notes and Timers, Advanced Features: Hyperlinks and Action Buttons, Troubleshooting Common Presentation Issues, Future Trends in Presentation Technology.
Week 12	Introduction to Internet and Web Browsers: Computer networks Basic; LAN, WAN; Concept of Internet and its Applications; Connecting to internet.

Week 13	Introduction to Internet and Web Browsers (Cont.): World Wide Web; Web Browsing software's, Search Engines; Understanding URL; Domain name; IP Address.
Week 14	Communications and Emails: Basics of electronic mail; Getting an email account; Sending and receiving emails; Accessing sent emails; Using Emails; Document collaboration.
Week 15	Introduction to Cloud Computing and Services: Definition of Cloud Computing and its concept, Cloud-Based Office Suites (Office 365 and Google Workspace), Google Docs, Google Sheets, Google Drive, Google Meet.
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	1. Assembling and disassembling a basic PC: Students can physically connect components like RAM, hard drives, etc. 2. Identifying different ports and connectors on a computer. 3. Installing a simple software program
Week 2	1. Hands-on exploration of computer hardware: opening a computer case and identifying components (CPU, GPU, RAM, etc.). 2. Using software tools to check memory usage and system information. 3. Comparing different types of storage devices (HDD, SSD).
Week 3	1. Connecting various peripherals (printers, scanners, external drives) to different computer ports (USB, HDMI, etc.). 2. Benchmarking a PC's performance using readily available tools. 3. Troubleshooting basic hardware issues (e.g., a device not being recognized).
Week 4	1. Navigating the operating system (Windows, macOS, or Linux) using the mouse and keyboard. 2. Customizing the desktop environment (changing wallpaper, icons, etc.). 3. Using file management tools to create, rename, and delete folders and files.
Week 5	1. Creating and organizing folders and files within a directory structure. 2. Creating and using shortcuts to frequently accessed programs and files. 3. Customizing the taskbar and system tray for quick access to applications.
Week 6	1. Creating a simple document, formatting text (font, size, color), and inserting paragraphs. 2. Using built-in templates to create resumes, letters, and other documents. 3. Experimenting with different paragraph formatting options (alignment, indentation, line spacing).
Week 7	1. Creating and formatting tables to organize data. 2. Applying different styles and themes to documents to enhance their appearance. 3. Using spell check and grammar tools to identify and correct errors. 4. Adding headers and footers to documents for page numbering and branding.
Week 8	1. Creating a simple spreadsheet and entering data. 2. Formatting cells (number format, alignment, borders). 3. Sorting and filtering data to extract specific information. 4. Using basic formulas (SUM, AVERAGE, etc.) to perform calculations.
Week 9	1. Creating and using more complex formulas (IF, VLOOKUP, etc.). 2. Creating pivot tables to summarize and analyze data. 3. Using data validation rules to prevent errors. 4. Creating charts and graphs to visualize data trends.

Week 10	1. Creating a new presentation using a pre-designed template. 2. Inserting and formatting text and images. 3. Adding transitions and animations to slides.
Week 11	1. Adding speaker notes to slides to aid in presentation delivery. 2. Setting timers for each slide to manage presentation time. 3. Adding hyperlinks and action buttons to create interactive presentations. 4. Troubleshooting common presentation issues (e.g., video not playing).
Week 12	1. Connecting to a local network and accessing shared resources. 2. Using different web browsers to access the internet. 3. Performing searches using different search engines. 4. Identifying the components of a URL and understanding their purpose.
Week 13	1. Analyzing the structure of a URL and identifying its components (protocol, domain name, path). 2. Using online tools to look up the IP address of a website. 3. Comparing the features of different web browsers.
Week 14	1. Creating a new email account. 2. Sending and receiving emails with attachments. 3. Using email features like CC, BCC, and reply-to-all. 4. Collaborating on documents using cloud-based platforms.
Week 15	1. Creating and editing documents using Google Docs or Microsoft Word Online. 2. Creating and editing spreadsheets using Google Sheets or Microsoft Excel Online. 3. Storing and sharing files using Google Drive or OneDrive. 4. Conducting a video conference using Google Meet or Microsoft Teams.
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Graham Brown, David Watson, "Cambridge IGCSE Information and Communication Technology", 3rd Edition (2020) Alan Evans, Kendall Martin, Mary Anne Poatsy, "Technology In Action Complete", 16th Edition (2020). Ahmed Banafa, "Introduction to Artificial Intelligence (AI)", 1st Edition (2024). Microsoft Office 2019 Step by Step 1st Edition by Curtis Frye & Joan Lambert الخضر علي الخضر بحث, "أساسيات الحاسوب" 2016 الدكتور عادل عبد النور, "مدخل إلى عالم الذكاء الاصطناعي" 2005	Yes
Recommended Texts	Introduction to computers (computer basics), prepared by: Abdullah Al-Shahrani	No
Websites	https://www.dawliatraining.com/training-packages-single/1025 https://edu.gcfcglobal.org/en/tr_ar-misc/what-is-a-computer-/1/	

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	Biodiversity		Module Delivery	
Module Type	Core		☒ Theory ☒ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	BIOD113			
ECTS Credits	5			
SWL (hr/sem)	125			
Module Level	1	Semester of Delivery		2
Administering Department	Type Dept. Code	College	Type College Code	
Module Leader	Jassim Mohsen Abed		e-mail	jassim.abd@uobasrah.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.	
Module Tutor			e-mail	
Peer Reviewer Name	Name	e-mail	E-mail	
Scientific Committee Approval Date	2025-2026	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	1. To introduce students to the fundamental concepts of biodiversity and its various levels. 2. To equip students with the ability to analyze the role of biodiversity in the stability of ecosystems. 3. To clarify the main threats facing biodiversity globally and locally. 4. To develop students' awareness of the importance of conserving biodiversity to achieve sustainable development. 5. To enable students to propose practical and managerial solutions for protecting natural resources.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	By the end of the course, the student will be able to: 1- Explain the levels of biodiversity (genetic, species, and ecosystem). 2- Analyze the relationship between biodiversity and the stability of ecosystems. 3- Assess the impact of human activities and environmental changes on biodiversity. 4- Apply environmental management principles in developing plans to protect biodiversity. 5- Provide scientific and practical recommendations for conserving natural resources and ensuring their sustainability.
Indicative Contents المحتويات الإرشادية	The main topics of the biodiversity course include: 1- Levels of diversity 2- The importance of biodiversity 3- Risks or threats to biodiversity 4- Conservation of biodiversity

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	
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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	92	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
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)	3 and 9	
	Assignments	2	10% (10)	2 and 11	
	presentation	1	10% (10)	6	
	Report	1	10% (10)	13	
Summative assessment	Midterm Exam	2hr	10% (10)	7	
	Final Exam	3hr	50% (50)	16	
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Biodiversity
Week 2	Description of Biodiversity
Week 3	Abiotic Factors Affecting Biodiversity
Week 4	Biological Factors Affecting Biodiversity
Week 5	Habitats
Week 6	Causes of Species Extinction
Week 7	Biodiversity Conservation
Week 8	Nature Sanctuary
Week 9	Natural Disasters
Week 10	Biodiversity of the Iraqi Marshes
Week 11	Endemic Plants of the Marshes
Week 12	Fishes of Iraqi Marsh
Week 13	Birds of Iraqi Marshes
Week 14	Marsh Amphibians, Reptiles, and Mammals
Week 15	Preparatory week before the final Exam

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Biodiversity and Ecosystem Management in the Iraqi Marshlands	No
Recommended Texts		No
Websites	Many of websites, links, and research papers are related to biodiversity.	

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	Ichthyology		Module Delivery	
Module Type	Basic		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	ICTH145			
ECTS Credits	7			
SWL (hr/sem)	175			
Module Level	1	Semester of Delivery		2
Administering Department	FISHERIES	College	College of Agriculture	
Module Leader	Dr. Atheer H. Ali		e-mail	atheer.hussain@uobasrah.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.	
Module Tutor	Dr. Atheer H. Ali		e-mail	atheer.hussain@uobasrah.edu.iq
Peer Reviewer Name		e-mail		
Scientific Committee Approval Date	01/09/2024	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	Graduating students who are able to: 1. Identify the diversity of fish species based on fin and head morphology and classify them into three main groups, focusing on those found in Iraqi waters. 2. Recognize distinct fish groups in Iraqi marine and freshwater environments and describe their ecological roles. 3. Trace the life cycle of fish from egg to adulthood and understand the biological factors influencing their growth. 4. Demonstrate practical methods for collecting fish in rivers and lakes, assessing the effectiveness of each technique. 5. Examine structural differences in the digestive tracts of various fish species and relate these to their feeding habits. 6. Identify different reproductive strategies in fish, estimate their age and growth, and analyze the structure and function of the swim bladder and circulatory system.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Demonstrate the ability to classify and identify diverse fish species based on morphological traits, specifically fins and head structures. 2. Analyze and describe the ecological roles of various fish groups in Iraqi marine and freshwater ecosystems. 3. Explain the developmental stages of fish from egg to adulthood and the factors influencing their growth and maturation. 4. Apply practical techniques for effectively collecting fish in both river and lake environments. 5. Compare and contrast the digestive tract structures of different fish species and their related feeding behaviors. 6. Evaluate the reproductive strategies of fish and effectively estimate their age and growth using appropriate methodologies.
Indicative Contents المحتويات الإرشادية	Indicative Content for Ichthyology Part A - Introduction to Ichthyology Overview of Fish Diversity Introduction to the classification of fish, focusing on morphological adaptations, including fins and head structures. [SSWL=10 hrs] Basic Fish Anatomy Study of essential anatomical features of fish, including skeletal structure, musculature, and organ systems. [SSWL=10 hrs] Part B - Fish Ecology Aquatic Ecosystems Understanding the biological and chemical aspects of aquatic environments and their impact on fish populations. [SSWL=10 hrs] Fish Groups in Iraqi Waters

	Identification of fish species in Iraqi marine and freshwater ecosystems, along with their ecological roles. [SSWL=10 hrs] Part C - Fish Development and Reproduction Life Cycle Stages Examination of the developmental stages of fish from egg to adulthood and factors influencing growth. [SSWL=10 hrs] Reproductive Strategies Overview of different reproductive strategies in fish, including oviparity, viviparity, and their ecological implications. [SSWL=10 hrs] Part D - Practical Techniques Fish Collection Methods Practical methods for collecting fish in rivers and lakes, including netting and trapping techniques. [SSWL=5 hrs] Estimating Age and Growth Methods for determining fish age and growth rates through otolith analysis and other indicators. [SSWL=5 hrs] Part E - Physiology and Adaptations Digestive Physiology Study of variations in digestive tract structures among fish species and their relation to feeding habits. [SSWL=5 hrs] Swim Bladder and Circulatory System Examination of the structure and functions of the swim bladder and the circulatory system in fish. [SSWL=5 hrs] Part F - Conservation and Management Conservation Efforts Discussion of the role of ichthyology in fish conservation and sustainable management practices. [SSWL=5 hrs] Environmental Impact Assessment of human impacts on fish populations and strategies for mitigating these effects. [SSWL=5 hrs] Total SSWL = 75 hrs SSWL - (Exam hrs) = 77 - 2 = 75 hr (Time table hrs x 15 weeks)
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Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Lectures and presentations will deliver structured core concepts and theories in ichthyology, supplemented by multimedia for enhanced understanding. Practical laboratory sessions will allow hands-on observation of fish anatomy, physiology, and behavior, enabling practical application of theoretical knowledge. Field trips to local rivers and lakes will provide practical training in fish collection methods, giving students real-world experience in various aquatic environments.
	Group discussions and workshops will encourage collaborative learning, critical thinking, and idea exchange on topics such as fish conservation and management. Independent or group research projects will foster skills in scientific inquiry, data analysis, and presentation on specific fish species or ecological issues. Guest lectures from professionals in ichthyology and fisheries management will offer insights into real-world applications and current research.
	Interactive online resources, including videos, databases, and quizzes, will reinforce learning and provide access to diverse materials. Formative and summative assessments, such as quizzes, presentations, and practical exams, will evaluate student understanding and provide constructive feedback for improvement.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	75	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	100	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6.3
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 and 10	LO #1, #2 and #10, #11
	Assignments	1	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	15% (15)	Continuous	All
	Report	1	5% (5)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	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 fish diversity based on fin and head mutations.
Week 2	Classification of fish into three main groups with a focus on Iraqi waters.
Week 3	Identification of various fish groups in Iraqi marine environments.
Week 4	Identification of fish groups in Iraqi freshwater ecosystems.
Week 5	Examination of the life cycle of fish from egg to adulthood.
Week 6	Practical methods for collecting fish in rivers.
Week 7	Practical methods for collecting fish in lakes.
Week 8	Analysis of differences in digestive tract structures among fish species.
Week 9	Identification of reproductive strategies in fish.
Week 10	Methods for estimating the age and growth of fish.
Week 11	Structure and functions of the swim bladder in fish.
Week 12	Overview of the circulatory system in fish and its adaptations.
Week 13	Impact of environmental factors on fish distribution and behavior.
Week 14	Role of fish in aquatic ecosystems and their ecological significance.
Week 15	Conservation issues affecting fish populations and habitats.
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Introduction to fish anatomy and identification techniques.
Week 2	Practical training in collecting fish from rivers using nets and traps.
Week 3	Hands-on experience with fish collection methods in lakes.
Week 4	Dissection of fish to study anatomical structures and organ systems.
Week 5	Analysis of digestive tract variations among different fish species.
Week 6	Estimating fish age and growth through otolith examination.
Week 7	Fieldwork project: assessing local fish populations and habitats.

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Carpenter, K.E., Krupp, F., Jones, D.A. and Zajonz, U. (1997). Living marine resources of Kuwait, Eastern Saudi Arabia, Bahrain, Qatar, and the United Arab Emirates. FAO Species identification field guide for fishery purposes, FAO, Rome. viii + 293 pp., XVII pls.	Yes
Recommended Texts	Ali, A. H.; Adday, T. K. and Khamees, N. R. (2018a). Catalogue of marine fishes of Iraq. Biological and Applied Environmental Research, 2(2): 298-368.	No
Websites	https://www.fishbase.org www.briancod.org	

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	Laboratory Techniques in Fisheries		Module Delivery
Module Type	Basic		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	LATE119		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	
Administering Department	FISHERIES	College	College of Agriculture
Module Leader	Dr. Habeeb M.H. Alsudani	e-mail	habeebalsudani@uobasrah.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Ph.D.
Module Tutor	Dr. Habeeb M.H. Alsudani	e-mail	habeebalsudani@uobasrah.edu.iq
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	01/09/2024	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	1. Understand Laboratory Safety Protocols: Familiarize students with essential safety procedures and practices in a fisheries laboratory setting. 2. Master Sampling Techniques: Equip students with the skills to effectively collect and handle biological samples from aquatic environments. 3. Analyze Water Quality Parameters: Teach students how to measure and interpret key water quality indicators relevant to fish health and habitat conditions. 4. Identify Fish Species: Provide students with the tools and knowledge to accurately identify various fish species and assess their biological characteristics. 5. Apply Laboratory Techniques in Fish Health Assessment: Enable students to conduct health assessments and diagnostic tests on fish populations, including disease detection and management.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Demonstrate proficiency in laboratory safety protocols and best practices in a fisheries laboratory. 2. Execute effective sampling techniques for collecting and handling biological specimens from aquatic environments. 3. Analyze and interpret water quality parameters, understanding their impact on fish health and habitat. 4. Accurately identify various fish species and assess their biological traits using appropriate techniques. 5. Conduct health assessments on fish populations, including disease detection and management strategies.
Indicative Contents المحتويات الإرشادية	Indicative Content for Laboratory Techniques in Fisheries Part A - Introduction to Fisheries Laboratory Overview of Fisheries Laboratory Techniques Introduction to the role of laboratory techniques in fisheries science and management. [SSWL=5 hrs] Laboratory Safety Protocols Essential safety procedures, protocol adherence, and emergency response in the lab. [SSWL=5 hrs] Part B - Sampling and Collection Techniques Fish Sampling Methods Techniques for collecting fish samples from various aquatic environments (e.g., nets, traps). [SSWL=10 hrs] Handling Biological Samples Best practices for handling, storing, and preserving biological specimens. [SSWL=5 hrs]

	Part C - Water Quality Analysis Water Quality Parameters Understanding key parameters (pH, dissolved oxygen, temperature, turbidity) and their importance in fisheries. [SSWL=5 hrs] Laboratory Techniques for Water Analysis Practical exercises in measuring and analyzing water quality using various tools and methods. [SSWL=5 hrs] Part D - Fish Identification and Health Assessment Fish Species Identification Techniques for identifying local fish species based on morphological characteristics. [SSWL=5 hrs] Health Assessment Techniques Methods for assessing fish health, including visual inspections and diagnostic tests. [SSWL=5 hrs] Part E - Data Analysis and Interpretation Data Collection and Management Best practices for recording, managing, and analyzing data collected from laboratory work. [SSWL=5 hrs] Reporting and Presenting Findings Techniques for effectively reporting and presenting laboratory results and assessments. [SSWL=5 hrs] Total SSWL = 45 hrs SSWL - (Exam hrs) = 47 - 2 = 45 hr (Time table hrs x 15 weeks)
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The course will incorporate a variety of teaching strategies to enhance learning in laboratory techniques for fisheries. Interactive lectures will introduce key concepts and techniques, while hands-on practical sessions will provide students with real-world experience in the lab. Group activities will encourage collaboration and peer learning, allowing students to share insights and techniques. Case studies will be utilized to illustrate the application of laboratory methods in fisheries management. Regular assessments and feedback will help gauge understanding and facilitate continuous improvement in practical skills and knowledge.

Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	45	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	105	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	7
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation					
تقييم المادة الدراسية					
		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	1	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	15% (15)	Continuous	All
	Report	1	5% (5)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	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	Overview of the course, importance of laboratory work in fisheries science.
Week 2	Essential safety measures, equipment handling, and emergency procedures.
Week 3	Techniques for collecting fish samples, including nets and traps.
Week 4	Best practices for preserving and storing biological specimens.
Week 5	Introduction to key water quality indicators and their significance in fisheries.
Week 6	Measuring pH, dissolved oxygen, temperature, and turbidity in water samples.
Week 7	Techniques for identifying local fish species based on morphology.
Week 8	Methods for visual inspections and health diagnostics in fish populations.
Week 9	Best practices for recording and managing laboratory data effectively.

Week 10	Interpreting results from water quality tests and understanding their implications.
Week 11	Techniques for compiling and presenting laboratory results clearly and effectively.
Week 12	Examination of real-world applications of laboratory techniques in fisheries management.
Week 13	Hands-on practice to reinforce key laboratory techniques learned throughout the course.
Week 14	Students present findings from their practical work or case studies.
Week 15	Comprehensive review of key concepts, techniques, and final evaluations.
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Introduction to lab safety and procedures, focusing on fisheries laboratory techniques.
Week 2	Hands-on practice in fish sampling methods using nets and traps.
Week 3	Techniques for handling and preserving biological samples collected from aquatic environments.
Week 4	Water quality testing: measuring pH, dissolved oxygen, and temperature using appropriate instruments.
Week 5	Conducting turbidity tests and understanding their significance in fish habitats.
Week 6	Identification of local fish species through morphological characteristics and field guides.
Week 7	Performing health assessments on fish populations, including visual inspections.

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Hasegawa, H. (1987). Laboratory manual on analytical methods and procedures for fish and fish products.	online
Recommended Texts		online
Websites	https://fish.faperta.ugm.ac.id/aquaculture-laboratory/	

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	Climate Change and Biosustainability		Module Delivery
Module Type	Basic		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	CLBO112		
ECTS Credits	7		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	2
Administering Department	FISHERIES	College	College of Agriculture
Module Leader	Dr. Amjad Kadhem Risen	e-mail	amjed.rasen@uobasrah.edu.iq
Module Leader's Acad. Title	Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Dr. Amjad Kadhem Risen	e-mail	amjed.rasen@uobasrah.edu.iq
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	01/09/2024	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	1. Understand Climate Change Fundamentals: Explain the basic concepts of climate change, including its causes and effects on the environment and society. 2. Explore Biosustainability Principles: Define biosustainability and its importance in promoting ecological balance and resource management. 3. Assess Impacts of Climate Change: Evaluate the social, economic, and environmental impacts of climate change on ecosystems and human communities. 4. Identify Mitigation and Adaptation Strategies: Investigate various strategies to mitigate climate change effects and adapt to changing environmental conditions. 5. Promote Sustainable Practices: Encourage the adoption of sustainable practices in daily life and community initiatives to foster environmental stewardship.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Demonstrate an understanding of the fundamental concepts of climate change and its primary causes. 2. Analyze the impacts of climate change on ecosystems, biodiversity, and human societies. 3. Evaluate biosustainability principles and their role in promoting ecological balance. 4. Identify and assess various strategies for mitigating climate change and adapting to its effects. 5. Propose actionable sustainable practices for individuals and communities to address climate change challenges.
Indicative Contents المحتويات الإرشادية	Indicative Content for Climate Change and Biosustainability Part A - Introduction to Climate Change Overview of Climate Change Introduction to climate change concepts, causes (natural and anthropogenic), and historical context. [SSWL=15 hrs] Impacts of Climate Change Examination of environmental, social, and economic impacts, including effects on ecosystems and human health. [SSWL=15 hrs] Part B - Biosustainability Principles Understanding Biosustainability Definition and key principles of biosustainability, including resource management and ecological balance. [SSWL=10 hrs] Sustainable Practices Exploration of sustainable practices in agriculture, energy use, and waste management. [SSWL=10 hrs] Part C - Mitigation Strategies

	Mitigation Approaches Overview of strategies to reduce greenhouse gas emissions, including renewable energy and carbon capture. [SSWL=10 hrs] Policy and Legislation Examination of international agreements and local policies aimed at combating climate change. [SSWL=5 hrs] Part D - Adaptation Strategies Adaptation Measures Assessment of adaptation strategies for communities and ecosystems to cope with climate change impacts. [SSWL=5 hrs] Case Studies Analysis of successful adaptation projects around the world and lessons learned. [SSWL=5 hrs] Total SSWL = 75 hrs SSWL - (Exam hrs) = 77 - 2= 75 hr (Time table hrs x 15 weeks)
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Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course will employ a combination of interactive lectures and multimedia presentations to introduce key concepts of climate change and biosustainability. Hands-on activities, such as case studies and group projects, will encourage collaboration and critical thinking. Field trips to local sustainability initiatives will provide practical insights into real-world applications. Discussions and debates will foster engagement and deepen understanding of complex issues. Regular assessments and feedback will ensure students can apply their knowledge effectively and develop actionable solutions to climate challenges.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	75	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	100	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6.6
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 and 10	LO #1, #2 and #10, #11
	Assignments	1	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	15% (15)	Continuous	All
	Report	1	5% (5)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	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 climate change: definitions, historical context, and key concepts.
Week 2	Causes of climate change: natural vs. anthropogenic factors.
Week 3	Overview of greenhouse gases and their role in climate change.
Week 4	Impacts of climate change on ecosystems and biodiversity.
Week 5	Social and economic consequences of climate change.
Week 6	Climate change and human health: risks and vulnerabilities.
Week 7	Introduction to biosustainability: definitions and principles.
Week 8	Resource management strategies for sustainable practices.
Week 9	Sustainable agriculture: practices and innovations.
Week 10	Renewable energy sources and their role in sustainability.
Week 11	Waste management strategies for a sustainable future.
Week 12	Mitigation strategies: reducing greenhouse gas emissions.
Week 13	Policy frameworks and international agreements on climate change.
Week 14	Adaptation strategies for communities facing climate change impacts.
Week 15	Case studies of successful adaptation and sustainability initiatives.
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
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Week 1	Introduction to lab safety and procedures, focusing on climate change research methods and data collection techniques.
Week 2	Data collection on local climate conditions: measuring temperature, humidity, and precipitation using field instruments.
Week 3	Analysis of carbon footprints: calculating individual or community carbon footprints and exploring reduction strategies.
Week 4	Study of local ecosystems: field surveys to observe biodiversity and assess the impact of climate change on specific habitats.
Week 5	Investigation of sustainable practices: hands-on projects such as composting, recycling, and energy conservation techniques.
Week 6	Case study analysis: evaluating the effectiveness of local sustainability initiatives and their impact on climate resilience.
Week 7	Final presentations: summarizing lab findings and proposing actionable solutions for enhancing sustainability in the community.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Lobell, D. (2008). Prioritizing Climate Change Adaptation Needs for Food Security: Policy Brief, Centre on Food Security and the environment, Stanford University	Yes
Recommended Texts	Wikipedia, (2015). Climate Change and Agriculture. Online	Yes
Websites	https://wmo.int/news/media-centre/climate-change-undermines-nearly-all-sustainable-development-goals	

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

Course Information				
Delivery of the material		Commercial Fishing Techniques		Article Title
☒ Theory ☐ Present ☐ Laboratory ☐ Educational ☐ practical ☐ Seminar		Core		Material Type
		COFI215		Article Code
		2		ECTS Module
		50		SWL (Hour/SEM)
1	Semester		2	Material Level
Faculty of Agriculture		college	Fisheries and Marine Resources Department	Management
amjed.rasen@uobasrah.edu.iq		Email	Prof. Dr. Amjad Kadhém Risen	Course Leader
PhD	Qualifications of the Subject Teacher		Lecturer	Subject Instructor Academy Title
		Email		Subject Instructor
		Email		Reference Name
1.0	Issue Number		01/09/2026	Date of Approval of the Scientific Committee

Relationship with other subjects			
	Semester	None	Prerequisites Module
	Semester	None	Common Requirements Module

Course Objectives, Learning Outcomes, and Instructional Contents	
1. Enable students to acquire knowledge and understanding of commercial fisheries. 2- Enable students to acquire knowledge and understanding of the relationship of fish in their environment. 3- Enable students to acquire knowledge and understanding of the fishing methods used in commercial fisheries. 4- Enabling students to acquire knowledge and understanding of the means used in monitoring fish populations.	Course Objectives
1. Clarify the basic concepts related to commercial fishing and fishing techniques. 2. Analysis of environmental factors and their impact on fisheries and populations. 3. Evaluate the efficiency of modern detectors and fishing vessels in fisheries management. 4. Understand and apply fishing laws and legislation to protect fisheries.	Learning Outcomes for the Course
How-to Content Part A - Foundations of Commercial Fisheries: A General Introduction to Commercial Fisheries, the Importance of Fisheries in Food Supply, and a Historical View of the Development of Fishing Methods. [SSWL = 10 hours] Part B - Fishing Environment and Areas: Study of Global and Regional Fishing Areas, Behavior of Fish Populations, and the Impact of Environmental Factors. [SSWL = 10 hours] Part C - Fishing Techniques and Laws: Modern Monitoring and Detection Devices, Types of Nets and Traps, Modern Fishing Vessels, and Fishing Laws. [SSWL = 10 hours] Total SSWL: 30 hours Total hours: 30 scheduled hours (2 hours per week × 15 weeks)	How-to Contents

Learning and Teaching Strategies	
The course is based on the delivery of theoretical lectures supported by interactive media and providing students with the basics related to reasoning and analysis of outputs. Discussion groups are formed to ask motivational questions and think critically (e.g., what, how, when, and why). Students are also assigned homework and scientific reports that require interpretation and conclusion to build scientific and analytical thinking styles.	Strategies

The student's academic load is calculated for 15 weeks			
2	SWL Regulator (h/w) Regular Academic Load of the Student Weekly	30	SWL (h/week)

			Student's regular academic load during the semester
1.3	Unregulated SWL (h/w) Student's irregular academic load per week	20	SWL (h/week) Student's irregular academic load during class
50			SWL (h/week) The student's total academic load during the semester

Assessment of the course					
Relevant Learning Outcomes	Week due	Weight(s)	Time/Number		
LO #1 & #2 & #10 & #11	5 & 10	10% (10)	2	Competitions	Formative Assessment
LO #3, #4, #6 and #7	2 & 12	10% (10)	2	Appointments	
				Projects/ Laboratory.	
LO #5, #8 and #10	13	(20) %20	1	Report	
LO #1 – #7	7	(10) %10	hours 2	Mid-Term Exam	Final
eat	16	(50) %50	hours 2	Final Exam	Evaluation
		100% (100°)	Overall Evaluation		

Theoretical Weekly Curriculum	
Subject Matter	Week
General Introduction to Commercial Fisheries.	Week 1
A historical view of the development of fishing methods.	Week 2
The importance of fisheries in providing food.	Week 3
Fishing areas at the global and regional levels.	Week 4
Quantities and types of fish caught.	Week 5
Fish-producing countries and fish populations.	Week 6
Study of the behavior of fish populations.	Week 7
Environmental factors and their impact on commercial fisheries.	Week 8
Modern devices used in fish detection and their methods of operation.	Week 9
Modern types and methods of fishing.	Week 10
Types of nets used in fishing.	Week 11
Modern Fishing Vessels and Their Technologies.	Week 12
Means and methods of attracting fish.	Week 13
Legislation and commercial fishing laws.	Week 14
Public review and evaluation.	Week 15
Public review and evaluation.	Week 16

Weekly Laboratory Curriculum	
Subject Matter	Week
	Week 1
	Week 2
	Week 3
	Week 4
	Week 5
	Week 6
	Week 7

Learning and Teaching Resources		
Available at the library?	Half	
yes	The book "Commercial Fisheries", written by: Dr. Farhan Damad.	Required Texts
no	Researches, scientific theses, and taxonomic sites concerned with commercial fisheries.	Proposed texts
Food and Agriculture Organization (FAO) - http://www.fao.org/3/i9540ar/i9540ar		Websites

Grading Chart				
Definition	Tags %	Recognition	A- Excellent	Collection
Outstanding performance	90 - 100	Privilege	B – Very Good	Success Group (50 - 100)
Above average with some mistakes	80 - 89	Very good	C – Good	
Sound work with noticeable errors	70 - 79	Good	E - Satisfactory	
Fair but with major shortcomings	60 - 69	Medium	F - Sufficient	
Work meets minimum standards	50 - 59	Acceptable	FX – Failure	
More work is required but credit granted	(45-49)	Deposit (in processing)	F – Failure	Failure Group (0 – 49)
A great deal of work required	(0-44)	Fail	A- Excellent	
Note: Decimal places of marks above or below 0.5 will be rounded to the full score higher or lower (e.g. a mark of 54.5 will be rounded to 55, while a mark of 54.4 will be rounded to 54. The University has a policy of not condoning 54.5 near success failure", so the only adjustment of marks awarded by the original marks(s) would be the automatic rounding described above				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Aquatic organism enemies		Module Delivery	
Module Type	Core		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	AQOE210			
ECTS Credits	4			
SWL (hr/sem)	100			
Module Level	2	Semester of Delivery		2
Administering Department	Type Dept. Code	College	Type College Code	
Module Leader	Jassim Mohsen Abed		e-mail	Jassim.abd@uobasrah.edu.iq
Module Leader's Acad. Title	Professor		Module Leader's Qualification	Ph.D.
Module Tutor	Thamir katea Adday		e-mail	
Peer Reviewer Name	Name	e-mail	E-mail	
Scientific Committee Approval Date	2025-2026	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	1-Introducing the student to the main enemies of aquatic organisms and their biological characteristics. 2- Providing the student with the ability to diagnose common diseases and injuries in aquatic organisms. 3- Explain the impact of enemies on growth, productivity and environmental sustainability. 4- Developing the student's skills in developing preventive and treatment plans to limit the spread of enemies. 5- Enhancing student awareness of the importance of environmental and health management in fish farming and capture fisheries systems.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Describe the different types of natural and pathogenic enemies of aquatic organisms. 2- Analyze the mechanisms of infection and disease transmission in aquatic environments. 3- Assess the impact of enemies on aquatic health and fish production. 4- Apply laboratory and field diagnostic methods for common diseases. 5- Propose preventive, curative, and management strategies to reduce the impact of enemies and ensure sustainable production.
Indicative Contents المحتويات الإرشادية	The most prominent aspects of this guidance are: 1. Environmental guidance and maintaining ecological balance, which includes: Understanding food chains: This study teaches us that the presence of certain enemies is necessary, within certain limits, to maintain ecological balance and prevent overpopulation of certain species. Reducing invasive species: Guiding fishermen and fish farmers on how to deal with invasive organisms (such as introducing exotic fish that may wipe out native species) and explaining their danger to biodiversity. 2. Production and economic guidance (fish farming), which includes: Biosecurity for fish farms: Providing strict guidelines to farm owners on how to protect their ponds from parasites or predators that cause significant economic losses. Safe control methods: Guiding farmers towards using environmentally friendly control methods instead of excessive use of chemicals and antibiotics that pollute the water and affect consumer health. 3. Health and Preventive Guidance, which includes: Combating Zoonotic Diseases: Studying aquatic parasites and providing health guidance to communities surrounding waterways on how to prevent infection and proper fish cooking methods. Monitoring Water Quality: Raising awareness that chemical pollution and sewage are among the greatest threats to aquatic life, and guiding relevant authorities on how to test and recycle water to maintain a healthy environment for fish. 4. Legislative and Legal Guidance, which includes: Regulating Fishing Seasons: Instructing fishermen on the necessity of adhering to closed fishing periods to protect fish brood stock and fry from overfishing, which is classified as one of the human threats to the aquatic ecosystem.

	Preventing Destructive Methods: Criminalizing and educating the community about the dangers of fishing with poisons, electrofishing, or fine-mesh nets that completely decimate fish stocks.
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	48	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	52	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	3.5
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	100		

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered

Week 1	Introduction to the enemies of aquatic life
Week 2	Internal and external parasites
Week 3	Crustacean parasites and worms
Week 4	Insects and their larvae
Week 5	Insects and their larvae
Week 6	Amphibians and reptiles
Week 7	Predatory birds
Week 8	Predatory fishes
Week 9	Predatory mammals
Week 10	Dense aquatic plants that hinder fish movement and consume oxygen
Week 11	Invasive species
Week 12	Environmental enemies
Week 13	Prevention (Protected) Strategies
Week 14	Control and treatment methods
Week 15	The importance of studying enemies
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	General introduction, enemies of aquatic life in nature and the methods used by them
Week 2	Animal groups that are hostile to aquatic life
Week 3	The second group of enemies of aquatic life
Week 4	Group 3: Crustaceans of aquatic life
Week 5	Aquatic insects and their effects on organisms in the freshwater environment
Week 6	Aquatic insects and their effects on organisms in the marine environment
Week 7	Mollusca as hostile groups to aquatic life
Week 8	Echinoderms and their methods of affecting and attacking aquatic organisms
Week 9	Amphibians, methods of controlling them, and their danger to aquatic life.
Week 10	Reptiles, aquatic snakes, and turtles
Week 11	Aquatic birds and their danger to aquatic life
Week 12	Mammals and their hostile behavior towards aquatic life

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts		
Recommended Texts	Biological and ecological survey of some enemies of fishes in three fish farms in Iraq	yes
Websites	Links and numerous related research papers	

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.

Biostatistics Course Description | 2025–2026

University of Basrah - College of Agriculture



Bachelor's Degree (B.Sc.) – Fisheries and Marine Resources

Module Information			
Module Title	Biostatistics		Module Delivery
Module Type	Core		☒ Theory ☒ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code			
ECTS Credits			
SWL (hr/sem)			
Module Level	2	Semester of Delivery	
Administering Department		College	
Module Leader	Riyadh A. Irmayla	e-mail	riyadh.irmayla@uobasrah.edu.iq
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date		Version Number	1.0

Relation with other Modules			
Prerequisite module	Nothing	Semester	Nothing
Co-requisites module	Nothing	Semester	Nothing

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	- Introducing students to fundamental concepts of biostatistics. - Developing skills in data collection, organization, and presentation. - Interpreting and analyzing statistical data. - Learning the principles of statistical inference. - Acquiring skills in applying statistics to agricultural research. - Fostering critical thinking in the interpretation of scientific results.
Module Learning Outcomes	- Understand fundamental biostatistics concepts, the nature of statistical data, and the associated notation. - Distinguish between data types and variables, and understand their significance in scientific research. - Collect, organize, and present data using tables, frequency distributions, and appropriate graphical representations. - Calculate and interpret measures of central tendency, selecting the

	appropriate measure based on data characteristics and the presence of outliers. • Calculate and interpret measures of dispersion to understand data variability and homogeneity. • Apply principles of permutations and combinations to solve problems involving ordering and selection. • Understand and apply probability theory, including sample spaces, conditional probability, and independence. • Calculate and interpret correlation coefficients regarding the strength and direction of relationships, and distinguish between correlation and causation. • Apply simple linear regression analysis, formulate regression equations, interpret coefficients, and use them for prediction. • Understand the principles of statistical hypothesis testing, formulate null and alternative hypotheses, and make statistical decisions. • Select appropriate statistical tests based on data characteristics and apply t-tests, Chi-square (χ^2) tests, and F-tests. • Interpret statistical results and relate them to problems and applications in agricultural and life sciences research. • Utilize statistical methods to analyze research data in a manner that facilitates sound scientific conclusions. • Recognize the role of artificial intelligence in statistical applications, particularly in prediction and decision support. • Develop critical thinking and statistical problem-solving skills through practical applications, examples, and discussions.
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Learning and Teaching Strategies

Strategies	• Theoretical lectures in classrooms. • Presentations. • Group discussions. • Problem-based learning, inquiry-based learning, and brainstorming. • Learning based on assignments, reports, and projects.
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Student Workload (SWL)

Structured SWL (h/sem)		Structured SWL (h/w)	
Unstructured SWL (h/sem)		Unstructured SWL (h/w)	
Total SWL (h/sem)			

Module Evaluation					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	Continuous	
	Assignments	2	10% (10)	Continuous	
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	Week 8	
Summative assessment	Midterm Exam	2hr	10% (10)	Weeks 5 and 10	
	Final Exam	3hr	50% (50)	Week 16	
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	Introduction, Nature of Data and Statistical Symbols
Week 2	Tabular and Graphical Presentation
Week 3	Measures of Central Tendency
Week 4	Measures of Dispersion or Variation
Week 5	First Monthly Exam
Week 6	Permutations and Combinations
Week 7	Probability Theory
Week 8	Correlation
Week 9	Regression
Week 10	Second Monthly Exam
Week 11	Test of Hypothesis

Week 12	t - test
Week 13	Chi-square test
Week 14	F- test
Week 15	Artificial Intelligence AI General Review
Week 16	Final Exam

Learning and Teaching Resources		
	Text	Available in the Library?
Required Texts	Al-Rawi, Khashi' Mahmoud (1989). Introduction to Statistics, 469 pp.	yes
Recommended Texts		
Websites		

Grading Scheme				
مخطط الدرجات				
Group	Grade	Graduation Grade	Marks (%)	Definition
Success Group (50 - 100)	A	Excellent	90 - 100	Outstanding Performance
	B	Very Good	80 - 89	Above average with some errors
	C	Good	70 - 79	Sound work with notable errors
	D	Satisfactory	60 - 69	Fair but with major shortcomings
	E	Sufficient	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX	Failed (Under processing)	(45-49)	More work required but credit awarded
	F	Fail	(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

MODULE INFORMATION					
Module Title	Fish and Aquatic Organism Preservation Technologies			Module Delivery	
Module Type	Basic Theory Lab			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code					
ECTS Credits	5				
SWL (hr/sem)	125				
Module Level		UGx11 – Second	Semester of Delivery		First
Administering Department		Fisheries and Marine Resources	College	Agriculture	
Module Leader			e-mail		
Module Leader's Acad. Title		Professor	Module Leader's Qualification		PhD
Module Tutor	Prof. Fatima Abdul Hussein Mohammed		e-mail	fatima.sultan@uobasrah.edu.iq	
Peer Reviewer Name			e-mail		
Scientific Committee Approval Date			Version Number		

RELATION WITH OTHER MODULES			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

MODULE AIMS, LEARNING OUTCOMES AND INDICATIVE CONTENTS	
Module Objectives	- Identify the scientific principles of preserving fish and aquatic organisms and its importance in reducing post-harvest losses and maintaining product quality. - Understand the causes of spoilage in fish and aquatic products and the microbial, chemical, and enzymatic changes occurring after harvest. - Explain the principles of chilling, freezing, salting, drying, smoking, canning, packaging, and related preservation technologies.

	• Understand the effects of preservation methods on the sensory, chemical, microbial, and nutritional quality of aquatic products. • Develop the ability to select an appropriate preservation technology according to product type, storage duration, quality, and food-safety requirements. • Explain cold-chain principles and proper handling and transportation of preserved aquatic products. • Develop skills for evaluating the quality of fish and aquatic products before preservation, during storage, and after storage. • Recognize hygiene, food-safety, and good-practice principles in handling and processing aquatic products. • Introduce modern preservation technologies such as vacuum packaging, modified atmosphere, and selected non-thermal methods. • Develop the ability to analyze preservation results and compare preservation methods according to product quality and shelf life.
Module Learning Outcomes	After completing the course, the student will be able to: • Explain the concept and importance of preserving fish and aquatic organisms to reduce losses and extend shelf life. • Interpret the causes of fish spoilage and the associated microbial, chemical, and enzymatic changes during storage. • Distinguish traditional and modern preservation methods and explain the principle of each method. • Apply chilling procedures, ice handling, and cold-chain principles. • Explain freezing principles and the effects of freezing rate and frozen storage on product quality. • Apply the principles of salting, drying, smoking, and canning to aquatic-product preservation. • Select suitable packaging materials and methods for preserved aquatic products. • Measure selected quality indicators such as temperature, pH, moisture, and freshness indicators and interpret the results. • Analyze sensory, chemical, and microbial changes in aquatic products during storage. • Apply hygiene and food-safety principles in handling, preservation, and processing of aquatic products. • Prepare a scientific report and compare preservation methods according to product quality and shelf life.
Indicative Contents	• Concept and importance of fish and aquatic-organism preservation after harvest. • Fish composition, water, protein and lipid content, and their relationship to spoilage rate. • Post-mortem sensory, enzymatic, and chemical changes in fish. • Microbial spoilage, microbial sources, and factors affecting microbial growth. • Freshness and quality indicators of aquatic products and their evaluation. • Chilling, icing, and cold-chain principles. • Freezing: principles, methods, freezing rate, and effects of frozen storage. • Salting: types, methods, and mechanisms of water-activity reduction. • Drying: principles, methods, and effects on moisture and product quality. • Smoking: methods, components, preservation effects, and sensory changes. • Canning, thermal processing, and food-safety principles. • Packaging, preservatives, and shelf-life extension. • Quality evaluation during storage and sensory, chemical, and microbial changes. • Modern preservation technologies: vacuum packaging, modified atmosphere, and selected non-thermal methods. • Comprehensive review, selection of appropriate preservation technology, loss reduction, and sustainability.

LEARNING AND TEACHING STRATEGIES	
Strategies	• Interactive lectures. • Scientific discussion and dialogue. • Problem-based learning. • Cooperative learning and group work. • Student seminars and presentations. • Laboratory and practical applications. • Case studies related to preservation and processing of aquatic products. • Field visits to aquatic-product processing and preservation facilities when available. • E-learning and educational multimedia. • Scientific reports, short assignments, and discussion of results.

STUDENT WORKLOAD (SWL) – CALCULATED FOR 15 WEEKS			
Structured SWL (h/sem)	75	Structured SWL (h/w)	5
Unstructured SWL (h/sem)	50	Unstructured SWL (h/w)	3.33
Total SWL (h/sem)	125		

Relevant Learning Outcome					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO 1, 2, 8, 9
	Assignments	2	10% (10)	2 and 12	LO 3, 5, 7
	Seminar	1	10% (10)	Continuous	All LOs
	Project/Lab	1	10% (10)	13	LO 4, 6, 8, 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO 1–7
	Final Exam	3 hr	50% (50)	16	All LOs
			100% (100)		

WEEKLY THEORY SYLLABUS	
Week	Material Covered
Week 1	Introduction to fish and aquatic-organism preservation and post-harvest importance.
Week 2	Fish composition, water, protein and lipid content, and relationship to spoilage.
Week 3	Post-mortem changes: sensory, enzymatic, and chemical changes.
Week 4	Microbial spoilage, microbial sources, and factors affecting growth.
Week 5	Freshness and quality indicators and their evaluation.
Week 6	Chilling, icing, and cold-chain management.
Week 7	Freezing: principles, methods, and effects of frozen storage.
Week 8	Salting: types, methods, and mechanisms of water-activity reduction.
Week 9	Drying: principles, methods, and effects on moisture and quality.
Week 10	Smoking: methods, components, preservation effects, and sensory changes.
Week 11	Canning, thermal processing, and food-safety principles.
Week 12	Packaging, preservatives, and shelf-life extension.
Week 13	Quality evaluation during storage and sensory, chemical, and microbial changes.
Week 14	Modern preservation: vacuum packaging, modified atmosphere, and selected non-thermal technologies.
Week 15	Comprehensive review, selection of appropriate preservation technology, loss reduction, and sustainability.
WEEKLY LABORATORY SYLLABUS	
Week	Material Covered
Week 1	Laboratory introduction, safety, hygiene, equipment, and tools for aquatic-product preservation.
Week 2	Sensory examination of fish and recording freshness indicators and sensory attributes.
Week 3	Measurement of temperature, pH, and selected fish-quality indicators.
Week 4	Practical icing and chilling and monitoring product temperature and the cold chain.
Week 5	Practical freezing and monitoring product changes during frozen storage.
Week 6	Practical salting, calculation of salt concentration, and monitoring weight and moisture changes.
Week 7	Practical drying and measurement of changes in weight and moisture.
Week 8	Practical introduction to smoking and monitoring sensory changes.
Week 9	Introduction to canning principles, safe container handling, and thermal processing.
Week 10	Packaging practice and selection of suitable packaging materials.

LEARNING AND TEACHING RESOURCES		
	Text	Available in the Library?
Required Texts	Mishra, R. (2022). Handbook on Fish Processing and Preservation. CRC Press. Majumder, R. K., & Balange, A. K. (2023). Advances in Fish Processing Technologies: Preservation, Waste Utilization, and Safety Assurance. Apple Academic Press. Rathnakumar, K., & Kaavya, R. (2022). Textbook on Fish Processing Technology. New India Publishing Agency.	No
Recommended Texts	Connell, J. J. (1995). Control of Fish Quality. Fishing News Books. Hall, G. M. (Ed.). (1997). Fish Processing Technology. Blackie Academic & Professional. FAO resources on fish handling and preservation.	No
Websites		

GRADING SCHEME				
Group	Grade	Description	Marks %	Definition
Success Group (50–100)	A – Excellent	Excellent	90–100	Outstanding performance
	B – Very Good	Very Good	80–89	Above average with some errors
	C – Good	Good	70–79	Sound work with notable errors
	D – Satisfactory	Satisfactory	60–69	Fair performance with some shortcomings
	E – Sufficient	Sufficient	50–59	Work meets minimum criteria
Fail Group (0–49)	FX – Fail	Fail (under processing)	45–49	More work is required
	F – Fail	Fail	0–44	A considerable amount of work is required
Note: Decimal marks are rounded according to university policy. Near-pass failures are not condoned except for the stated automatic rounding.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
Module Title	Biochemistry		Module Delivery
Module Type	Core		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code			
ECTS Credits	5		
SWL (hr/sem)	75		
Module Level	2	Semester of Delivery	2
Administering Department	Food science	College	College of Agriculture
Module Leader	Abdulrahman H. Laftah	e-mail	abdulrahman.laftah@uobasrah.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	PhD
Module Tutor	Faleeha Hussein hasan	e-mail	faleeha.hussein@uobasrah.edu.iq
Peer Reviewer Name		e-mail	E-mail
Scientific Committee Approval Date		Version Number	1.0

Relation with other Modules			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

Module Objectives	The Biochemistry module provides students with fundamental knowledge of the chemical basis of life and the biochemical processes occurring in living organisms. It covers the structure and functions of biomolecules, enzymes, major metabolic pathways, nucleic acids, vitamins and minerals, and biochemical regulation, with emphasis on applications relevant to food science and nutrition.
Module Learning Outcomes	1- Explain the basic principles and terminology of biochemistry. 2- Describe the structure and biological functions of carbohydrates, lipids, proteins and nucleic acids. 3- Explain enzyme structure, classification, mechanisms and factors affecting enzyme activity. 4- Describe major pathways of carbohydrate metabolism and their regulation. 5- Explain lipid digestion, transport and metabolism, including fatty acid oxidation. 6- Describe amino acid and protein metabolism and the biochemical basis of nitrogen balance. 7- Explain DNA and RNA structure and the processes of replication, transcription and translation. 8- Identify the biochemical roles of vitamins and minerals and their importance in human nutrition. 9- Explain hormonal and cellular regulation of major metabolic pathways. 10- Apply biochemical principles to food science and nutritional problems. 11- Interpret basic biochemical measurements and relate them to physiological and nutritional status.
Indicative Contents	The module introduces the chemical foundations of biological systems, including water, pH, buffers and biological molecules. It then examines amino acids, proteins and enzymes, followed by carbohydrates and their metabolism, including glycolysis, the citric acid cycle and gluconeogenesis. Lipids and lipid metabolism are covered with emphasis on fatty acids and energy production. The module also addresses nucleotides and nucleic acids, DNA replication, transcription and translation, together with vitamins, minerals, hormonal regulation and integration of metabolism. The final topics connect biochemical concepts with food science, nutrition and basic clinical biochemical assessment.

Learning and Teaching Strategies

Strategies	Teaching and learning will combine interactive lectures, guided discussion, questioning, short formative quizzes, problem-solving activities, interpretation of biochemical pathways and simple laboratory demonstrations where applicable. Students will be encouraged to connect biochemical mechanisms with food, nutrition and human health and to use diagrams and pathway maps to explain complex processes.
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Student Workload (SWL) for 15 weeks

Structured SWL (h/sem)	75	Structured SWL (h/w)	5
Unstructured SWL (h/sem)	0	Unstructured SWL (h/w)	0
Total SWL (h/sem)	75		

Module Evaluation

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

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	Introduction to Biochemistry and Biological Molecules
Week 2	Water, pH, Buffers and Acid–Base Balance
Week 3	Amino Acids and Peptides
Week 4	Proteins: Structure, Properties and Functions
Week 5	Enzymes: Structure, Classification and Kinetics
Week 6	Carbohydrates: Structure, Classification and Functions
Week 7	Carbohydrate Metabolism: Glycolysis and the Citric Acid Cycle
Week 8	Gluconeogenesis and Regulation of Blood Glucose
Week 9	Lipids: Structure, Classification and Biological Functions
Week 10	Lipid Metabolism and Fatty Acid Oxidation
Week 11	Nucleotides and Nucleic Acids: DNA and RNA
Week 12	DNA Replication, Transcription and Translation
Week 13	Vitamins and Minerals in Biochemical Processes
Week 14	Hormonal Regulation and Integration of Metabolism
Week 15	Clinical Biochemistry and Biochemical Assessment of Health and Disease
Week 16	Final Examination

Delivery Plan (Weekly Lab. Syllabus)

	Material Covered
Week 1	Laboratory safety and preparation of biochemical solutions
Week 2	Measurement of pH and preparation of buffer solutions
Week 3	Qualitative tests for carbohydrates
Week 4	Qualitative tests for proteins and amino acids
Week 5	Determination of enzyme activity and factors affecting it
Week 6	Qualitative tests for lipids
Week 7	Basic biochemical analysis and interpretation of results

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts	Harper's Illustrated Biochemistry	Yes
Recommended Texts	Lehninger Principles of Biochemistry	Yes
Websites	Available online	

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

MODULE DESCRIPTION FORM

Course Information				
Delivery of the material		Computer 2		Article Title
☒ Theory ☐ Present ☐ Laboratory ☐ Educational ☒ practical ☐ Seminar		Essential		Material Type
		UOB203		Article Code
		3		ECTS Module
		75		SWL (Hour/SEM)
2	Semester		2	Material Level
College of Agriculture		college	Fisheries and Marine Resources Department	Management
mujtaba.tahir@uobasrah.edu.iq		Email	Dr. Mujtaba Abdul Wahab Tahir Course Leader	
PhD	Qualifications of the Subject Teacher		Lecturer	Subject Instructor Academy Title
		Email		Subject Instructor
		Email		Reference Name
1.0	Issue Number		01/09/2026	Date of Approval of the Scientific Committee

Relationship with other subjects			
	Semester	None	Prerequisites Module
	Semester	None	Common Requirements Module

Course Objectives, Learning Outcomes, and Instructional Contents		
1. Enhance students' skills in advanced use of Microsoft Office (Word, Excel, PowerPoint). 2. Train students to integrate Microsoft Office applications to create integrated and advanced projects. 3. Enable students to efficiently handle long documents and organize sections and classes using advanced tools in Word. 4. Develop students' abilities to prepare professional presentations using multimedia such as audio, video, and animation in PowerPoint. 5. Prepare students to accomplish integrated practical projects that effectively combine word processing, data analysis, and presentation skills.	Course Objectives	
1. Master advanced word processing skills: Ability to create and manage long documents, organize sections and chapters, insert and edit tables, and efficiently create automatic indexes and references using Microsoft Word. 2. Data analysis and management: Master basic and advanced equations and formulas, use graphs to summarize data and make decisions easier in Microsoft Excel. 3. Professional presentation design: The ability to design interactive and engaging slides using multimedia (audio, video, motion, and transitions) and visual diagrams in Microsoft PowerPoint. 4. Integration between office group apps: Integrate data, tables, and graphs from Excel, Word and PowerPoint to create integrated, interconnected projects and reports. 5. Implementation of comprehensive practical projects: Applying the skills acquired to produce professional reports and presentations that simulate the requirements of the labor market and academic environment.	Learning Outcomes for the Course	
• Part A – Advanced Document Processing (Microsoft Word): • Advanced formatting of paragraphs and texts using styles. • Divide the document into sections and control the headers and footers of different pages. • Automatic table and index production: Table of Contents, List of Shapes, and Table List. • Manage references, footnotes, and comments. [SSWL = 15 Hour] • Part B – Data Analysis and Spreadsheet Management (Microsoft Excel): • Use basic and advanced arithmetic, statistical, and logical functions (e.g., IF, VLOOKUP, COUNTIF, SUMIF). • Conditional Formatting, Sorting & Filtering. • Building and customizing charts to interpret results and analyze data. [SSWL = 15 Clock] • Part C – Presentations and Inter-Application Integration (Microsoft PowerPoint & Integration): • Advanced slide design and the use of the slide master (Slide Master). • Include multimedia elements (audio, video, Transitions & Animations).	How-to Contents	

• Link and integrate data between different programs (Object Linking and Embedding - OLE) to automatically transfer tables and graphs. • Preparing and implementing an integrated practical project that integrates the three skills (Word, Excel, and PowerPoint). [SSWL = 15 Clock] • Total SSWL (Direct Scheduled Hours): 45 hours (theoretical and practical). • Total Student Load (SWL): 75 hours (corresponding to 3 ECTS).	
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Learning and Teaching Strategies	
• Theoretical and applied lectures using presentations and interactive techniques. • Hands-on in-laboratory training to promote the direct application of skills. • Applied projects and individual and collective practical assignments. • Group discussions and workshops to stimulate interaction and exchange of experiences among students. • Problem-based learning to develop students' critical and creative thinking abilities.	Strategies

The student's academic load is calculated for 15 weeks			
3	SWL Regulator (h/w) Regular Academic Load of the Student Weekly	48	SWL (h/week) Student's regular academic load during the semester
1.8	Unregulated SWL (h/w) Student's irregular academic load per week	27	SWL (h/week) Student's irregular academic load during class
75			SWL (h/week) The student's total academic load during the semester

Assessment of the course					
Relevant Learning Outcomes	Week due	Weight(s)	Time/Number		
LO #1 & #2 & #10 & #11	5 & 10	10% (10)	2	Competitions	Formative Assessment
LO #3, #4, #6 and #7	2 & 12	10% (10)	2	Appointments	

				Projects/ Laboratory.	
LO #5, #8 and #10	13	(20) %20	1	Report	
LO #1 – #7	7	(10) %10	hours 2	Mid-Term Exam	Final
eat	16	(50) %50	hours 2	Final Exam	Evaluation
		100% (100°)	Overall Evaluation		

Theoretical Weekly Curriculum

Subject Matter	Week
Introduction to Microsoft Word	Week 1
Advanced tools in Word	Week 2
Introduction to Microsoft Excel	Week 3
Excel Formulas and Functions	Week 4
Introduction to Microsoft PowerPoint	Week 5
PowerPoint Effects and Transitions	Week 6
Integrated Applications 1	Week 7
Integrated Applications 2	Week 8
Long Document Management	Week 9
Advanced document formatting	Week 10
Pivot Tables	Week 11
Graphs & Statistics	Week 12
Custom Templates	Week 13
Multimedia in PowerPoint	Week 14
Review and Final Project	Week 15
Public Review	Week 16

Weekly Laboratory Curriculum

Subject Matter	
Week 1: Basic Word Interface and Formats	
Week 2: Styles and Sections in Word	
Week 3: Basics of Tables and Processes in Excel	
Week 4: Functions and Equations in Excel	
Week 5: Designing Basic PowerPoint Slides	
Week 6: Movement and Transitions in PowerPoint	
Week 7: Connecting and Integrating Word and Excel	
Week 8: Integrate Excel and Word into PowerPoint	
Week 9: Indexes and References in Word	
Week 10: Conditional Formatting and Fields in Excel	
Week 11: Pivot Tables	
Week 12: Charts and Charts in Excel	
Week 13: Master Slide and Master Slide Templates	
Week 14: Insert Media and Scenario into PowerPoint	
Week 15: Implementing and setting up an integrated project	

Learning and Teaching Resources		
Available at the library?	Half	
yes	The book "Commercial Fisheries", written by: Dr. Farhan Damad.	Required Texts
no	Researchers, Al-Khidr Ali Al-Khidr (2020) Fundamentals of Computer and Software. Al-Hajj , Ahmed Mohamed Ibrahim Mohamed , (2013) Learning the Basics of Computers , Noor Library	Proposed texts
https://alison.com/tag/computer-skills3		Websites

Grading Chart				
Definition	Tags %	Recognition	A- Excellent	Collection
Outstanding performance	90 - 100	Privilege	B – Very Good	Success Group (50 - 100)
Above average with some mistakes	80 - 89	Very good	C – Good	
Sound work with noticeable errors	70 - 79	Good	E - Satisfactory	
Fair but with major shortcomings	60 - 69	Medium	F - Sufficient	
Work meets minimum standards	50 - 59	Acceptable	FX – Failure	
More work is required but credit granted	(45-49)	Deposit (in processing)	F – Failure	Failure Group (0 – 49)
A great deal of work required	(0-44)	Fail	A- Excellent	
Note: Decimal places of marks above or below 0.5 will be rounded to the full score higher or lower (e.g. a mark of 54.5 will be rounded to 55, while a mark of 54.4 will be rounded to 54. The University has a policy of not condoning "near success failure", so the only adjustment of marks awarded by the original marks(s) would be the automatic rounding described above				