University of Basrah

First Cycle – Bachelor's degree (B.Sc.) -Agriculture sciences –Field crops

بكالوريوس علوم زراعية – المحاصيل الحقلية

Table of Contents | جدول المحتويات

1. Mission & Vision Statement

Vision statement

The discipline of agronomy, as part of the agricultural sciences, is taught through a carefully designed combination of coursework, laboratory experiences, research projects, and fieldwork. This blended approach provides students with a balanced understanding of the scientific methods used by agronomists, soil scientists, and crop physiologists to improve crop production and manage agricultural resources sustainably. Students gain knowledge in crop growth, soil fertility, irrigation practices, and modern farming technologies, preparing them to design practical solutions for agricultural challenges. Small class sizes within the agronomy program encourage close interaction between academic staff and students, fostering an informal, collaborative, and supportive learning environment that helps students reach their full potential.

Mission Statement

The academic staff of the Agronomy Department at the University of Basrah pursue a multifaceted mission. The program seeks to provide all agronomy students with a strong foundation in crop production, soil management, plant physiology, and agricultural systems, as well as opportunities to gain deeper expertise in areas such as crop breeding, sustainable agriculture, and precision farming. The curriculum and academic advising are designed to prepare graduates for their professional future — whether they choose careers as agricultural specialists, farm managers, researchers, or pursue advanced degrees in crop science and related fields.

In addition, the Agronomy Department supports other agricultural and life science programs by offering essential courses that contribute to degrees in plant protection, horticulture, and agricultural economics. Fieldwork, laboratory experiences, and applied research form a cornerstone of the department's mission, ensuring that students graduate with the practical skills, scientific knowledge, and problem-solving abilities necessary to contribute to food security, environmental stewardship, and agricultural innovation in Iraq and beyond.

2 . Program Specification

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

Agronomy is a wonderfully wide-ranging subject and is uniquely positioned to meet the challenges of modern agriculture.

The emphasis of the program is on understanding crop plants, soils, and the environment as a connected system, as well as the practices and technologies used to maximize crop productivity sustainably. The program integrates soil science, crop physiology, irrigation management, plant breeding, and modern farming techniques — all within the context of agricultural ecosystems.

The degree is popular; for some students, it is the breadth of the subject that appeals, while for others, it is a path to specialization in areas such as seed production, sustainable farming, or precision agriculture. Students also have the opportunity to transfer into related agricultural programs such as Plant Protection, Horticulture, or Agricultural Economics at the end of the first year.

Level 1 introduces students to the fundamentals of agronomy, including crop production principles, soil properties, and basic plant physiology, ensuring a solid foundation for progression into more advanced topics.

Level 2 focuses on program-specific core topics such as irrigation and drainage systems, soil fertility, plant nutrition, and weed management, preparing students for research-led subject-specialist modules at Levels 3 and 4.

The University of Basrah agronomy graduate is trained to appreciate how research informs teaching and to apply scientific knowledge to solve real-world agricultural problems.

At Level 3, students begin to explore advanced and specialized topics such as crop breeding, seed technology, sustainable farming systems, and precision agriculture. These modules help students develop their own interests and start to shape their career pathways.

At Level 4, students complete advanced modules that fully prepare them to graduate as agricultural engineers specializing in agronomy, equipped with both theoretical and practical skills.

From the first year, the research ethos is fostered through practical classes embedded in lecture modules, dedicated laboratory and fieldwork modules, seminars, and tutorials. There is a compulsory field course in Level 1, which students must pass to progress to Level 2, and additional optional field courses and internships available in Levels 2, 3, and 4.

In their final year, all students undertake an independent research project, which may be a data analysis project, field trial, greenhouse experiment, or laboratory-based study. This project allows

students to apply what they have learned and develop skills in experimental design, data interpretation, and scientific communication.

Program Objectives

1. **To provide a comprehensive education in agronomy** that emphasizes scientific reasoning and problem-solving across the disciplines of crop science, soil science, irrigation management, and sustainable agriculture.

2. **To prepare students for diverse career pathways** including professional positions in agricultural production, research institutions, extension services, agribusiness, and for graduate studies or professional training programs in crop production and related fields.
3. **To offer extensive hands-on training** in field techniques, laboratory analysis, farm machinery operation, soil and plant testing, and the use of precision agriculture technologies and statistical tools.
4. **To develop strong communication skills** by training students to effectively present scientific information in both written and oral formats, enabling them to engage with farmers, researchers, and policymakers.
5. **To enrich students' educational experience** through opportunities for undergraduate research, internships on experimental farms and agricultural companies, and collaborations with local and international agricultural projects.

3 . Student Learning Outcomes

Agronomy is the study of crop production, soil management, and the application of agricultural sciences to enhance food security and sustainability. Graduates acquire knowledge about the relationship between plants, soil, climate, and management practices, and apply this knowledge to design productive and environmentally sound farming systems.

The Department offers a Bachelor of Agricultural Sciences in Agronomy with a concentration in crop production and soil management. Additionally, the department offers service courses for students from other agricultural disciplines and supports pre-professional and extension programs. The agronomy curriculum and hands-on experiences are designed to prepare students for graduate studies, agricultural careers, research, and leadership roles in the agricultural sector.

Outcome 1 – Understanding of Crop and Soil Systems

Graduates will be able to describe crop growth processes, soil structure and fertility, and explain how plants, soil, water, and climate interact within agricultural ecosystems.

Outcome 2 – Oral and Written Communication

Graduates will be able to formally communicate the results of agronomic investigations and field trials through clear, professional oral presentations and scientific writing.

Outcome 3 – Laboratory and Field Skills

Graduates will be able to conduct soil and plant analyses, perform field experiments, and use scientific equipment, farm machinery, and computer technology while observing appropriate safety and environmental protocols.

Outcome 4 – Application of Scientific Knowledge

Graduates will be able to demonstrate an integrated understanding of crop production principles, including the historical and modern development of irrigation systems, fertilization methods, and sustainable farming practices.

Outcome 5 – Data Analysis and Decision-Making

Graduates will be able to apply quantitative skills to analyze data from field experiments using statistical software such as SPSS, GenStat, or R, and make science-based management recommendations.

Outcome 6 – Critical Thinking and Problem Solving

Graduates will be able to apply critical thinking skills to diagnose production constraints, design experiments, and develop innovative solutions for increasing crop yield and resource-use efficiency.

1.Academic Staff

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1 .Credits, Grading and GPA

Credits

The Agronomy Department at the University of Basrah follows the Bologna Process and uses the European Credit Transfer and Accumulation System (ECTS) for its degree program. The total number of ECTS required to earn the Bachelor of Agricultural Sciences in Agronomy is 240 ECTS, with students completing 30 ECTS per semester over four academic years.
Each 1 ECTS credit corresponds to 25 hours of total student workload, which includes both structured learning activities (lectures, laboratory sessions, fieldwork, and tutorials) and unstructured activities (self-study, assignments, and exam preparation). This ensures a balanced distribution of theoretical knowledge, practical training, and independent learning.

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 follow:

GRADING SCHEME مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors

(50 - 100)	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	FX – Fail	راسب - قيد المعالجة	(45-49)	More work required but credit awarded
(0 – 49)	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)

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

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

   CGPA = [(1st ^{m}odule score x ECTS) + (2nd ^{m}odule score x ECTS) + ……] / 240

2.Curriculum/Modules

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOB102	**English Language**	32	18	2		
MATH111	**Mathematics**	48	77	5		
UOB 104	**Democracy and Human rights**	32	18	2		
FICR115	**Field Crops**	78	97	7		
ANCH121	**Analytical Chemistry**	78	97	7		
ANPR123	**Animal Production**	78	97	7		

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
UOB101	**Arabic language**	32	18	2		
UOB103	**Computer**	48	72	3		
AGEC129	**Agricultural Economy**	33	92	5		
ENDR117	**Engineering Drawing**	48	127	7		
SOLL114	**Soil Science**	78	97	7		
PLSU118	**Plane surveying**	78	72	6		

Contact

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University of Basrah

First Cycle – Bachelor's Degree (B.Sc.) – Agricultural Sciences- Department of Field Crops

بكالوريوس – قسم محاصيل حقلية

Table of Contents

3. Contact

1. Overview

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

نظره عامه

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

2. Undergraduate Courses 2025-2024

Module 1

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	0	32	18
Description			
This section includes a description of the module, 100-150 words			

Module 1

Code	Course/Module Title	ECTS	Semester
MATH111	Mathematics	5	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
3	0	48	77
Description			
This section includes a description of the module, 100-150 words			

Module 2

Code	Course/Module Title	ECTS	Semester
UOB 104	Democracy and Human rights	2	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	0	**32**	18
Description			
This section includes a description of the module, 100-150 words			

Module 3

Code	Course/Module Title	ECTS	Semester
FICR115	**Field Crops**	7	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	3	78	97
Description			
This section includes a description of the module, 100-150 words			

Module 4

Code	Course/Module Title	ECTS	Semester
ANCH121	**Analytical Chemistry**	7	
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	3	78	97
Description			
This section includes a description of the module, 100-150 words			

Module 4

Code	Course/Module Title	ECTS	Semester
ANPR123	**Animal Production**	7	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	3	78	97

Description
This section includes a description of the module, 100-150 words

Module 40

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	0	32	18
Description			
This section includes a description of the module, 100-150 words			

Module 40

Code	Course/Module Title	ECTS	Semester
UOB103	Computer	3	2
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
1	2	48	27
Description			
This section includes a description of the module, 100-150 words			

Module 40

Code	Course/Module Title	ECTS	Semester
AGEC129	Agricultural Economy	5	2
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	0	33	92
Description			

This section includes a description of the module, 100-150 words

Module 40

Code	Course/Module Title	ECTS	Semester
ENDR117	Engineering Drawing	7	2
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
0	3	48	127
Description			
This section includes a description of the module, 100-150 words			

Module 40

Code	Course/Module Title	ECTS	Semester
SOLL114	Soil Science	7	2
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	3	78	97
Description			
This section includes a description of the module, 100-150 words			

Module 40

Code	Course/Module Title	ECTS	Semester
PLSU118	Plane surveying	6	2
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	3	78	72
Description			
This section includes a description of the module, 100-150 words			

Contact

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Mobile no.: 07709044992

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information **معلومات المادة الدراسية**					
Module Title	**English Language**			**Module Delivery**	
Module Type	**Core**			☒ **Theory**	
Module Code	**UOB102**			☒ **Lecture**	
ECTS Credits	**2**			☒ **Lab**	
SWL (hr/sem)	**32**			☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Level		**UGx11 1**	**Semester of Delivery**		**1**
Administering Department		**Type Dept. Code**	**College**	**Type College Code**	
Module Leader	**Name**		**e-mail**	**E-mail**	
Module Leader's Acad. Title		**Professor**	**Module Leader's Qualification**		**Ph.D.**
Module Tutor	**Name (if available)**		**e-mail**	**E-mail**	
Peer Reviewer Name		**Name**	**e-mail**	**E-mail**	
Scientific Committee Approval Date			**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	**Enabling Students to Access Scientific References: Learning English includes the ability to read and understand important research and studies in the field of agriculture, which enhances students' ability to benefit from these sources in their academic studies.** **Improving Scientific Communication Opportunities: Learning English allows students to communicate with international scientists and researchers, and to participate effectively in conferences and workshops that are often conducted in English.** **Enhancing Scientific Writing Skills: Learning English helps students write reports and scientific papers professionally, which is essential for publishing their work in international scientific journals.** **Utilizing Online Educational Resources: Learning English enables students to access training courses and agricultural curricula available online, which are often in English, thereby enhancing their educational opportunities.** **Enhancing Employment Opportunities: Mastery of English is a key skill that opens up wide job opportunities in the global market, especially in fields such as agriculture and project management. It also allows graduates to benefit from modern technological applications**
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**Understanding Terminology: Ability to recognize and understand the terminology used in the agricultural sector.** **Utilizing Modern Technologies: Ability to leverage and apply modern technologies in the agricultural field through the use of language skills.** **Effective Communication: Ability to communicate and interact with diverse environments within the agricultural sector.** **Applying Language Skills in the Job Market: Ability to use language skills to enter various job markets related to agriculture, facilitating connections between different disciplinary.**

Indicative Contents **المحتويات الإرشادية**	**Introduction to Agricultural Terminology** **Common agricultural terms and jargon.** **Vocabulary related to plant biology, soil science, pest management, and crop production.** **Reading and Understanding Scientific Literature** **Techniques for reading scientific papers and reports.** **How to interpret graphs, charts, and tables in agricultural studies.** **Summarizing and critiquing research articles.** **Understanding and Using Agricultural Data** **Analyzing and interpreting data related to agriculture.** **Writing about statistical results and research findings.** **Using language to explain complex data to non-specialists.** **Employment and Career Development** **Crafting CVs and cover letters for agricultural positions.** **Preparing for job interviews in English.** **Networking and professional growth in the global agricultural sector.**

Learning and Teaching Strategies **استراتيجيات التعلم والتعليم**	
Strategies	**Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.**

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	109	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	7
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	91	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	200		

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	Material Covered
Week 1	Agricultural Definition
Week 2	Agricultural Definition and terminology
Week 3	Tillage Definition and requirements
Week 4	Irrigation general view

Week 5	**Irrigation methods**
Week 6	**Fertilizers general view**
Week 7	**Mid-term Exam**
Week 8	**Fertilizers types- comparison between all types**
Week 9	**Symptoms of element deficiency in plants**
Week 10	**Hydroponic systems**
Week 11	**Hydroponic systems**
Week 12	**Hydroponic systems**
Week 13	**Plant parts**
Week 14	**Plant parts**
Week 15	**Plant parts and functions**
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) **المنهاج الاسبوعي للمختبر**	
Week	**Material Covered**
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources **مصادر التعلم والتدريس**		
	Text	**Available in the Library?**
Required Texts	**Oxford dictionary of agriculture and land management.**	**NO**
Recommended Texts	**gibsonburgagdept.weebly.com/uploads/2/3/5/5/23557960/plant_structure_and_functions_of_plants_-_pkt.pdf**	**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	**Democracy and Human rights**	**Module Delivery**
Module Type		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical
Module Code	**UOB 104**	
ECTS Credits	**2**	
SWL (hr/sem)	**32**	

			☐ Seminar		
Module Level		**UGx11 1**	**Semester of Delivery**		**1**
Administering Department		**Type Dept. Code**	**College**	**Type College Code**	
Module Leader	**Name : M.D. Widad Salem Muhammad**		**e-mail**	**E-mail: widad.mohammad@uobasrah.edu.iq**	
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	**Name (if available)**		**e-mail**	**E-mail**	
Peer Reviewer Name		**Name**	**e-mail**	**E-mail**	
Scientific Committee Approval Date			**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- Focusing on the fact that rights and freedoms are an integrated theory that has developed throughout the eras of history, and has gone through historical turning points and events that were embodied after a conflict between two trends. The first is based on the foundations that authority is an end and individualism is to serve the legal system in order to achieve its interests. This naturally focuses on restricting freedoms and rights.** **2- Focusing on the fact that the individual is a goal and that authority and the state achieve the individual's goal is a matter that occupied thought, leading to the laws embodying the idea of rights and freedoms in their current form and what religions and divine laws have added to it to form a basic source for this content.** **3- Trying to convey the idea that the importance of rights education comes from a comprehensive and continuous process targeting all peoples and nations and working to consolidate the fulfillment of rights and duties through education, training and media.**
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	**Introducing students to human rights and its concept.** **Introducing students to the characteristics and types of human rights** **Students' knowledge of the idea of human rights in history**

	Introducing students to the history of human rights **Students' knowledge of the historical development of the idea of human rights** **Introducing students to the intellectual contribution to human rights** **A detailed explanation of the intellectual contribution to human rights** **Definition of types of rights** **Explain and clarify the types of public freedoms** **Introducing students to international human rights agreements** **A detailed explanation of the position of some international agreements** **Introducing students to democracy** **Introducing students to human rights in regional documents**
Indicative Contents **المحتويات الإرشادية**	

Learning and Teaching Strategies **استراتيجيات التعلم والتعليم**	
Strategies	**The lesson includes two theoretical hours, the number of hours per week distributed over 15 weeks.**

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

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

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	Material Covered
Week 1	Human rights and its concepts
Week 2	Characteristics and types
Week 3	The historical development of the idea of human rights according to divine religions
Week 4	The historical development of the idea of human rights among ancient civilizations
Week 5	The historical development of the idea of human rights, in the contemporary period
Week 6	Intellectual contribution to the development of the idea of human rights in the West
Week 7	First-month exam
Week 8	Intellectual contribution to the development of the idea of human rights among Arabs
Week 9	Types of rights
Week 10	Types and public freedoms
Week 11	The position of some international agreements on human rights
Week 12	The position of some international agreements on human rights
Week 13	Democracy and public freedoms
Week 14	Human rights in declarations of rights and regional documents
Week 15	Second month exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**Material Covered**
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	**The emergence of the theory of public rights and freedoms**	**The emergence of the theory of public rights and freedoms**
Recommended Texts	**Public freedoms and human rights, Dr. Muhammad Saeed** **A collection of international documents on human rights issued by the United Nations** **Public freedoms in contemporary constitutional systems / Dr. Karim Youssef Kashakesh** **The importance of human rights in the Third World / Basil Youssef**	**Public freedoms and human rights, Dr. Muhammad Saeed** **A collection of international documents on human rights issued by the United Nations** **Public freedoms in contemporary constitutional systems / Dr. Karim Youssef Kashakesh** **The importance of human rights in the Third World / Basil Youssef**
Websites	**Scientific journals**	

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	**Field Crops**			**Module Delivery**	
Module Type	**Core**			**☒ Theory**	
Module Code	**FICR115**			**☒ Lecture**	
ECTS Credits	**7**			**☒ Lab**	
SWL (hr/sem)	**78**			**☐ Tutorial** **☐ Practical** **☐ Seminar**	
Module Level		**UGx11 1**	**Semester of Delivery**		**1**
Administering Department		**Field crops**	**College**	**Agriculture**	
Module Leader	**Dr. Zainab Ahmed Abdul-Razzaq**		**e-mail**	**zainab.ahmed@uobasrah.edu.iq**	
Module Leader's Acad. Title		**Lecture**	**Module Leader's Qualification**		**Ph.D.**

Module Tutor	**Dr. Zainab Ahmed Abdul-Razzaq**	**e-mail**	**E-mail: zainab.ahmed@uobasrah.edu.iq**
Peer Reviewer Name	**Name**	**e-mail**	**E-mail**
Scientific Committee Approval Date	**01/09/2025**	**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**	**Definition of field crop science, its economic importance, field crops, the most important classifications of field crops, and the impact of environmental conditions on field crop growth. Important agricultural processes in crop production are also introduced. Identify the most important field crops.**
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	**Defining field crop science, its economic importance, field crops, and their main classifications** **2 -Understanding the impact of environmental conditions and their effects on field crops.** **3 -Introducing students to seed dormancy and how to eliminate it.** **4- Introducing students to the most important weeds prevalent in agricultural fields.** **5- The agricultural cycle, its importance and benefits for plants, and how to design it** **6- Educating students about cultivated field crops.** **7 -Introducing students to the meaning of fertilizers, their types, and how to add fertilizers to crops.** **8- Introducing students to biological factors.**
Indicative Contents **المحتويات الإرشادية**	**The field crops course covers several main topics:** **1 .Definition of field crop science and its economic importance** **2-Field crops and their main classifications** **3- .The impact of environmental conditions on field crop growth** **4- .Introduction to important agricultural processes in crop production**

	5-. Crop rotations, the most important weeds prevalent in crop fields, and their impact on crops
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Learning and Teaching Strategies **استراتيجيات التعلم والتعليم**	
Strategies	**The main teaching strategy for this unit is to encourage students to participate in discussion, as well as a series of lectures and practical lessons designed to introduce them to field crop science. At the same time, their critical thinking skills will be refined and expanded through topics covered in the lectures. Including what are field crops, what is the classification of field crops, what are the appropriate conditions for the growth of field crops, and what are the agricultural processes followed to improve crop growth.**

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**	**114**	**Unstructured SWL (h/w)** **الحمل الدراسي غير المنتظم للطالب أسبوعيا**	**6**
Total SWL (h/sem) **الحمل الدراسي الكلي للطالب خلال الفصل**	**200**		

Module Evaluation **تقييم المادة الدراسية**					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	**6**	**15% (5)**	**Same week 1, 2, 3, 4**	**Same week 1, 2, 3, 4**
	Assignments	**6**	**10% (5)**	**2 and 12**	**LO #3, #4 and #6, #7**
	Projects / Lab.	**1**	**5% (10)**	**Continuous**	**All**

	Report	**6**	**10% (10)**	**13**	**LO #5, #8 and #10**
Summative assessment	**Midterm Exam**	**2hr**	**10% (10)**	**7**	**LO #1 - #7**
	Final Exam	**3hr**	**50% (50)**	**16**	**All**
Total assessment			**100% (100 Marks)**		

Delivery Plan (Weekly Syllabus) **المنهاج الاسبوعي النظري**	
Week	**Material Covered**
Week 1	**The concept of field crops science - divisions of field crops - scientific nomenclature**
Week 2	**The effect of environmental conditions and temperatures on plant growth and yield**
Week 3	**The effect of light on plants and photoperiod**
Week 4	**The effect of drought on plant growth and the damage caused by excess water.**
Week 5	**Soil, texture, types of water in the soil, how to infer the presence of salinity in the soil**
Week 6	**Exam 1**
Week 7	**Effect of salinity, how to infer the presence of salinity in the soil,**
Week 8	**Germination of field crop seeds - factors affecting germination -**
Week 9	**Seed dormancy, what causes it, and how to get rid of it**
Week 10	**Definition of jungles, methods of combating them, and the losses they cause**
Week 11	**The agricultural cycle, its importance and benefits for plants, and how to design it**
Week 12	**A field visit to nearby crop fields to learn about plants**
Week 13	**Fertilizers and fertilization - Types of fertilizers -**
Week 14	**Methods of adding fertilizers**
Week 15	**Life factors and studying the relationship between field crops and other organisms**
Week 16	**Exam 2**

Delivery Plan (Weekly Lab. Syllabus) **المنهاج الاسبوعي للمختبر**	
Week	**Material Covered**
Week 1	**Lab 1: The concept of field crops science - divisions of field crops - scientific nomenclature**
Week 2	**Lab 2: Soil service operations - 1 - plowing - benefits of plowing - machines used in the plowing process**

Week 3	**Lab 3: Soil Service Operations 2- Smoothing 3- Leveling 4- Laser Leveling- Advantages of Land Amendment**
Week 4	**Lab 4: operations - methods of cultivation - A - method of cultivation according to the method of placing seeds in the soil** **(in terms of performance).** **B - The method of cultivation according to the moisture content of the soil when sowing.**
Week 5	**Lab 5: C - The method of cultivation according to the irrigation system. Advantages and disadvantages of each method**
Week 6	**Lab 6: Exam 1**
Week 7	**Lab 7: Crop service operations - hoeing 3- grafting - grafting - planting depth - planting distances**
Week 8	**Lab 8 Germination of field crop seeds - factors affecting germination - types of germination** **Calculate the percentage of germination**
Week 9	**Conducting a laboratory experiment - Requirements and how to conduct germination tests - Writing a report**
Week 10	**Lab 10: Botanical description of cereal and leguminous crops - display models**
Week 11	**Lab 11: Botanical description of oil crops and sugar crops - display models**
Week 12	**Lab 12: A field visit to nearby crop fields to learn about plants**
Week 13	**Lab 13: (Irrigation and drainage) - Irrigation methods - General benefits for the construction of drains**
Week 14	**Lab 14: Fertilizers and fertilization - types of fertilizers - ways to add fertilizers**
Week 15	**Harvest - Early and Late Harvest Damage**
Week 16	**Lab 16: Exam2**

Learning and Teaching Resources **مصادر التعلم والتدريس**		
	Text	**Available in the Library?**
Required Texts	**Muhammad Amin Omid Nouri (1986). Principles of Field Crops. Ministry of Higher Education and Scientific Research. University of Basra. College of Agriculture.** **Al-Ansari, Majeed Mohsen et al. (1980). Principles of Field Crops. Ministry of Higher Education and Scientific Research.**	**Yes**
Recommended Texts	**Al-Ansari, Majeed Mohsen (1982). Field Crop Production. Ministry of Higher Education and Scientific Research. College of Agriculture, University of Baghdad.**	**yes**

Websites	**http://www.csdl.tamu.edu/FLORA/fsb/fsbfern1.htm** **http://www.botany.hawaii.edu/faculty/carr/equiset.htm**

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	**Core**	**☒ Theory** **☒ Lecture** **☐Lab**
Module Code	**MATH111**	
ECTS Credits	**5**	
SWL (hr/sem)	**48**	

		☐ Tutorial ☐ Practical ☐ Seminar			
Module Level			**Semester of Delivery**		**1**
Administering Department		**Type Dept. Code**	**College**	**Type College Code**	
Module Leader	**سمير خيري لازم**		**e-mail**	**samir.lazim@uobasrah.edu.iq**	
Module Leader's Acad. Title		**Professor**	**Module Leader's Qualification**		**M.S.C**
Module Tutor	**سمير خيري لازم**		**e-mail**	**samir.lazim@uobasrah.edu.iq**	
Peer Reviewer Name		**سمير خيري لازم**	**e-mail**	**samir.lazim@uobasrah.edu.iq**	
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. 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 تعقيدًا.**
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 طرقًا 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 بابسط 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**

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 يسلط 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	109	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	7
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	91	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	200		

Module Evaluation تقييم المادة الدراسية					
As		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	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		100% (100 Marks)

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	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 بابسط صورة ممكنة**
Week 6	**المشتقة – الصيغ العامة للأشتقاق – مشتقة الدالة البارامترية – التفاضل الضمني**
Week 7	**تطبيقات المشتقة لأيجاد 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**
Week 16	

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-تاليف 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	Analytical Chemistry			Module Delivery	
Module Type	Core			☒ Theory	
Module Code	ANCH121			☒ Lecture	
ECTS Credits	7			☒ Lab	
SWL (hr/sem)	78			☐ Tutorial ☐ Practical ☐ Seminar	
Module Level	UGx11 1		Semester of Delivery	1	
Administering Department	Crops Depratment		College	Agriculture college	
Module Leader	Maryam abdulbary		e-mail	mariam.ouraiby@uobasrah.edu.iq	
Module Leader's Acad. Title	Assistant Professor		Module Leader's Qualification	Master	
Module Tutor	Maryam abdulbary		e-mail	mariam.ouraiby@uobasrah.edu.iq	
Peer Reviewer Name			e-mail		
Scientific Committee Approval Date			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-Builds the effect of analytical chemistry and types of quantitative analysis methods 2-Uses all analytical chemistry tools

	3-Detects errors in chemical analysis, diagnoses its type, reduces its effect in the laboratory, and corrects it statistically
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	**The student will be able to:** **1-Explain the basics of analytical chemistry and the steps of analysis** **2-Compare qualitative and quantitative analysis** **3-Know acids and bases with their theories and explain their behaviors** **4-Explain volumetric analysis and express weight calculations** **5-Express methods of analysis by titration**
Indicative Contents **المحتويات الإرشادية**	**1-Scope of Analytical Chemistry: Searches for ever-improving means of measuring the chemical composition of natural and synthetic materials using techniques to identify the substances that may be present in a substance and to determine the exact amounts of the specific substance.** **2-Quantitative Analysis: Includes explanation of the technique that uses mathematical and statistical modeling, measurement, and research to understand the behavior** **3-acids and bases.** **4-Chemical Equilibrium: Refers to the state of a system in which the concentration of reactants and the concentration of products do not change over time.**

Learning and Teaching Strategies **استراتيجيات التعلم والتعليم**	
Strategies	**The modern teaching strategy includes achieving learning objectives in general and teaching chemical concepts in particular, as well as the difficulties students face in understanding and acquiring chemistry concepts, and addressing the difficulties by defining chemistry concepts and helping students acquire the correct chemical concepts..**

Student Workload (SWL) **الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا**			
Structured SWL (h/sem) **الحمل الدراسي المنتظم للطالب خلال الفصل**	**93**	**Structured SWL (h/w)** **الحمل الدراسي المنتظم للطالب أسبوعيا**	**6**
Unstructured SWL (h/sem) **الحمل الدراسي غير المنتظم للطالب خلال الفصل**	**57**	**Unstructured SWL (h/w)** **الحمل الدراسي غير المنتظم للطالب أسبوعيا**	**4**
Total SWL (h/sem)	**150**		

الحمل الدراسي الكلي للطالب خلال الفصل	

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

Delivery Plan (Weekly Syllabus) **المنهاج الاسبوعي النظري**	
Week	**Material Covered**
Week 1	**Introduction to Analytical Chemistry and Equivalent Gravimetry**
Week 2	**Volumetric analysis - solutions – calculations**
Week 3	**Methods of expressing concentration (molarity, standard, normality, weight and volume ratio)**
Week 4	**Acids and bases**
Week 5	**pH - Degree of ionization**
Week 6	**First exam**
Week 7	**Hydrolysis of salts - types of salts**
Week 8	**Buffered Solutions – Guides**
Week 9	**Setting the equivalence point**
Week 10	**Oxidation and reduction corrections**
Week 11	**Volumetric analysis processes**

Week 12	**Types of corrections**
Week 13	**Gravimetric analysis - Gravimetric coefficient**
Week 14	**Precipitating reagents - post-precipitation**
Week 15	**Second exam**
Week 16	

Delivery Plan (Weekly Lab. Syllabus) **المنهاج الاسبوعي للمختبر**	
Week	**Material Covered**
Week 1	**Laboratory safety and identification of glassware and equipment in analytical chemistry laboratories**
Week 2	**Determination of hydrochloric acid concentration using a standard solution of sodium carbonate**
Week 3	**Preparation and titration of sodium hydroxide solution**
Week 4	**Determine the mixture of carbonates and bicarbonates.**
Week 5	**The first test**
Week 6	**Determination of acidity of vinegar**
Week 7	**Sedimentary correction**

Learning and Teaching Resources **مصادر التعلم والتدريس**		
	Text	**Available in the Library?**
Required Texts	**Analytical Chemistry** **Fundamentals of Analytical Chemistry** **Principles and Practice of Analytical Chemistry**	**Yes**
Recommended Texts	**Modern Analytical Chemistry.**	**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**

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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information **معلومات المادة الدراسية**					
Module Title	**Animal Production**			**Module Delivery**	
Module Type	**Core**			**☒Theory**	
Module Code	**ANPR123**			**☐ Lecture**	
ECTS Credits	**7**			**☒ Lab**	
SWL (hr/sem)	**78**			**☐ Tutorial** **☐ Practical** **☐ Seminar**	
Module Level	**UGx11 1**	**Semester of Delivery**	**One**		
Administering Department	**Animal Production**	**College**	**Agriculture**		

Module Leader	**Prof. Dr. Alfred Sulaka Karomy Hana**	**e-mail**	**E-mail: alfred.solaka@uobasrah.edu.iq**
Module Leader's Acad. Title	**Professor**	**Module Leader's Qualification**	**Ph.D.**
Module Tutor		**e-mail**	**Email**
Peer Reviewer Name	**Name**	**e-mail**	**E-mail**
Scientific Committee Approval Date	**29/08/2025**	**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**	**Enables the student to gain knowledge:** **The importance of the science of the principles of animal production, which deals in detail with the economic importance of livestock and types of global and local livestock, and their management and care.** **Studying the types and importance of other farm animals such as buffaloes, sheep and goats, and their management and care.**
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	**Familiarity with general information about animal production and its economic and nutritional importance.** **Discuss the factors affecting production efficiency and how to improve it.** **Explain and clarify the obstacles facing livestock and ways to improve it.** **Introducing students to livestock, their types, and how to care for them.** **Introducing students to dual-purpose cattle and local and international sheep and goat breeds.** **Defining how to establish and care for a flock of sheep and goats.**

	Defining the specifications of global and local buffalo and their different breeds. **We are introducing students to the importance of poultry projects and meat and egg production.** **Providing an overview of Farm animals feed materials and the process for preparing balanced nutritional rations.** **Explanation and clarification of health programs for animals, how to prevent diseases and ways to improve the health of animals and increase their productivity.** **A detailed explanation of the importance of raising calves and heifers and providing the necessary needs for their rearing.** **A detailed description of the reproductive system of cows and a statement of its importance in the reproductive process, and how to increase the reproductive efficiency of the animal and increase the birth rate.** **Explain animal breeding and improvement programs and discuss the importance of breeding, selection, and exclusion of weak animals.** **A detailed explanation of the importance of camels and the equine species and how to manage and care for them.**
Indicative Contents **المحتويات الإرشادية**	**Indicative content includes the following.** **Disseminating the culture of livestock's nutritional and economic importance as a major source of agricultural wealth and having a major role in the Country's economy.** **Following modern methods and techniques in animal management, milking operations, and large animal slaughterhouses.** **Teaching students the role of successful management (human factor or the breeder himself) of small and large ruminant fields.** **Spreading the culture of benefiting from animal by-products such as manure waste and animal waste, and benefiting from animals in work.** **Identifying the types of farm animals and the most important projects related to their breeding.** **Solving administrative problems in cattle, sheep, and goat breeding fields.**

Learning and Teaching Strategies **استراتيجيات التعلم والتعليم**	
Strategies	**1. Enabling students to think and analyze topics related to the intellectual framework of the Principles of Animal Production subject** **2. Enabling students to think and analyze topics related to animal species and the most important projects related to their breeding.**

	3. Enabling students to think and analyze topics related to identifying administrative problems in animal fields and working to address them. **4. Enabling students to think and analyze to identify the role of management (the role of the human factor or the breeder himself) in the success of animal fields of various types.**

Student Workload (SWL) **الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا**			
Structured SWL (h/sem) **الحمل الدراسي المنتظم للطالب خلال الفصل**	**78**	**Structured SWL (h/w)** **الحمل الدراسي المنتظم للطالب أسبوعيا**	**5**
Unstructured SWL (h/sem) **الحمل الدراسي غير المنتظم للطالب خلال الفصل**	**97**	**Unstructured SWL (h/w)** **الحمل الدراسي غير المنتظم للطالب أسبوعيا**	**6**
Total SWL (h/sem) **الحمل الدراسي الكلي للطالب خلال الفصل**	**175**		

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	**A general introduction to animal production and its importance.**
Week 2	**Factors affecting the production efficiency of farm animals.**
Week 3	**Obstacles facing animal production in Iraq and ways to improve them.**
Week 4	**Cattle classification - global dairy cows - management and care.**
Week 5	**Dual-purpose cows - Iraqi cows - International breeds of sheep and goats. First Exam.**
Week 6	**Establishing and managing a flock of sheep and goats.**
Week 7	**Buffalo - general characteristics of buffalo - physiological characteristics - breeds of buffalo.**
Week 8	**Poultry birds - the economic importance of poultry projects- the production of eggs and meat.**
Week 9	**Nutrition and feed- Preparing animal feed.**
Week 10	**Health care for agricultural animals. Second Exam.**
Week 11	**The importance of raising calves and heifers in cow fields.**
Week 12	**The physiology of reproduction and artificial insemination.**
Week 13	**Genetic improvement in poultry. Third Exam.**
Week 14	**Other agricultural animals - camels - their management and care.**
Week 15	**Other Farm Animals - Horses - Fish - Their Management and Care.**
Week 16	**End of Semester Exam.**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر(الحقل Filed(	
Week	**Material Covered**
Week 1	**Lab 1: Visit the animal field (cow and sheep fields).**
Week 2	**Lab 2: Joint field operations for cows and sheep.**
Week 3	**Lab 3: Milking cows, learning about the lactation system of cattle and the automatic milking device.**
Week 4	**Lab 4: Suckling young calves.**
Week 5	**Lab 5: Learning about animal records.**
Week 6	**Lab 6: Scientific trip to one of the livestock projects.**
Week 7	**Lab 7: Methods of collecting semen and artificial insemination.**
Week 8	**Lab 8: Feed materials and feed composition.**

Week 9	**Lab 9: Animal housing.**
Week 10	**Lab 10: Parasite control and treatment.**

Learning and Teaching Resources **مصادر التعلم والتدريس**		
	Text	**Available in the Library?**
Required Texts	**Principles of Animal Production, written by Dr. Muzaffar Nafie Al-Sayegh - Dr. Taha Jassem Al-Taha - Dr. Suhaib Saeed Alwan Al-Zubaidi (1987).**	**Yes**
Recommended Texts	**Basics of animal production, written by A. Dr.. Ahmed Suleiman Mahmoud and A. Dr.. Mahmoud Riyad Al Mahdi (2013).**	**No**
Websites	**https://nicehatchincubators.com/the-principles-of-poultry-husbandry/**	

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**

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MODULE DESCRIPTION FORM

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Arabic language**			**Module Delivery**	
Module Type	**Basic**			☒ **Theory**	
Module Code	**UOB101**			☐**Lecture**	
ECTS Credits	**2**			☐ **Lab**	
SWL (hr/sem)	**32**			☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Level	**UGx11 1**		**Semester of Delivery**	**1**	
Administering Department	**Animal production**		**College**	**Agriculture**	
Module Leader	**Name**		**e-mail**	**E-mail**	
Module Leader's Acad. Title	**Professor**		**Module Leader's Qualification**	**Ph.D.**	
Module Tutor	**Wedad Salim Mohammad Al-Neam**		**e-mail**	**E-mail** **widad.mohammad@uobasrah.edu.iq**	
Peer Reviewer Name	**Name**		**e-mail**	**E-mail**	
Scientific Committee Approval Date	**01/06/2025**		**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**	**أهمية اللغة العربية للاختصاصات العلمية وميزتها بين اللغات الحية** **تجنب الاخطاء الشائعة وسلامة النطق**
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	**أن يتعرف الطالب على قواعد اللغة العربية** **أن يعرف الطالب كيفية بناء الجمل واستخراجها للعنوان المطلوب.**
Indicative Contents **المحتويات الإرشادية**	**تدرس اللغة العربية على عدة مستويات:** **المستوى النحوي: وهو المستوى الذي من خلاله يمكن معرفة المعنى التركيبي للنص.** **المستوى الصرفي وهو المستوى الذي يمكن من خلاله معرفة المعنى المتفرع على المعنى المعجمي،** **المستوى الدلالي: وهو المستوى الذي من خلاله يمكن معرفة دلالة الألفاظ (الجذر).** **المستوى الصوتي: وهو المستوى الذي يدرس الحروف والحركات والمقاطع الصوتية سواء كانت لفظا أو جزءا من لفظ.**

Learning and Teaching Strategies **استراتيجيات التعلم والتعليم**	
Strategies	**The main strategy that will be adopted in delivering this module are:** **1. Power point presentation (Data show).** **2. Explanation on the white board using different color markers.** **3. Discussions with the student during teaching.** **4. Interaction with students through daily problems practice through lecture.** **5. Solve different problems with more exercises.** **6. Submit assignment that develop student learning.**

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

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	Material Covered
Week 1	أهمية اللغة العربية
Week 2	للاختصاصات
Week 3	العلمية، وميزتها بين
Week 4	اللغات الحية
Week 5	سورة الكهف أسباب
Week 6	تفسير عشرون آية مع
Week 7	الحفظ
Week 8	قواعد اللغة
Week 9	العربية/قواعد في
Week 10	الإعراب
Week 11	المبتدأ والخبر
Week 12	الاحرف المشبهة

Week 13	**بالفعل**
Week 14	**الأفعال الناقصة**
Week 15	**المفاعيل**

Learning and Teaching Resources **مصادر التعلم والتدريس**		
	Text	**Available in the Library?**
Required Texts	**كتاب منهجي**	**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**

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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Computer**			**Module Delivery**	
Module Type	**Core**			☒ **Theory**	
Module Code	**UOB103**			☒ **Lecture**	
ECTS Credits	**3**			☒ **Lab**	
SWL (hr/sem)	**48**			☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Level	**UGx11 1**		**Semester of Delivery**	**1**	
Administering Department	**Type Dept. Code**		**College**	**Type College Code**	
Module Leader	**Name : Akram Abdel-Daem Ahmed Touma**		**e-mail**	**E-mail: akram.ahmed@uobasrah.edu.iq**	
Module Leader's Acad. Title	**Assit.lecture**		**Module Leader's Qualification**	**MSC**	
Module Tutor	**Name (if available)**		**e-mail**	**E-mail**	
Peer Reviewer Name	**Name**		**e-mail**	**E-mail**	
Scientific Committee Approval Date			**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	**Explain how the student uses the computer program and how to deal with its applications.**

Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	**Teaching students about the components of the calculator and how to use its programs and applications so that students have a comprehensive knowledge of the calculator.** **The student's knowledge of the basics of computer learning** **Teaching students the main components of the computer and its most important keys** **Knowledge of the components of the window system** **Students know how to create folders**
Indicative Contents **المحتويات الإرشادية**	

Learning and Teaching Strategies **استراتيجيات التعلم والتعليم**	
Strategies	**The lesson includes (2) hours of theory and (3) hours of practical - the number of weekly hours is approved, distributed over 15 weeks**

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

Module Evaluation **تقييم المادة الدراسية**					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	**2**	**10% (10)**	**5 and 10**	**LO #1, #2 and #10, #11**
	Assignments	**2**	**10% (10)**	**2 and 12**	**LO #3, #4 and #6, #7**
	Projects / Lab.	**1**	**10% (10)**	**Continuous**	**All**

	Report	**1**	**10% (10)**	**13**	**LO #5, #8 and #10**
Summative assessment	**Midterm Exam**	**2hr**	**10% (10)**	**7**	**LO #1 - #7**
	Final Exam	**3hr**	**50% (50)**	**16**	**All**
Total assessment			**100% (100 Marks)**		

Delivery Plan (Weekly Syllabus) **المنهاج الاسبوعي النظري**	
Week	**Material Covered**
Week 1	**Definition of computer** **Introduction to the study of computers and types of computers**
Week 2	**Main components of a computer** **The most important Special Keys on the keyboard**
Week 3	**WINDOWS SYSTEM**
Week 4	**Folders** **How to create a folder**
Week 5	**First month exam**
Week 6	**Properties**
Week 7	**Start and its components**
Week 8	**Paint program** **Paint Windows drawing window**
Week 9	**Notepad program**
Week 10	**WordPad program**
Week 11	**Who is smarter, computer or human?**
Week 12	**An overview of the Internet**
Week 13	**How can we know the file type from its extension?**
Week 14	**Copy the file without burning it**

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر	
Week	**Material Covered**
Week 1	**تطبيقات مباشرة على الحاسبة**
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	**There are no methodological books**	**There are no methodological books**
Recommended Texts	**Computer Curricula, Electronic Calculator Center,**	**Computer Curricula, Electronic Calculator Center,**
Websites	**No**	

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	**Agricultural Economy**	**Module Delivery**
Module Type	**Core**	☒ **Theory**
Module Code	**AGEC129**	☒ **Lecture**
ECTS Credits	**5**	☒ **Lab**
SWL (hr/sem)	**33**	☐ **Tutorial** ☐ **Practical**

			☐ Seminar		
Module Level		**UGx11 1**	**Semester of Delivery**		**1**
Administering Department		**Type Dept. Code**	**College**	**Type College Code**	
Module Leader	**Khawla Rashige Hassan**		**e-mail**	**Khawla.hassan@uobasrah.edu.iq**	
Module Leader's Acad. Title		**Assistant Prof.**	**Module Leader's Qualification**		**Ph.D.**
Module Tutor	**Name (if available)**		**e-mail**	**E-mail**	
Peer Reviewer Name		**Name**	**e-mail**	**E-mail**	
Scientific Committee Approval Date		**2/09/2025**	**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**	**Introducing the principles and basics of agricultural production economics and economic principles related to production, marketing, etc.**
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	**Agricultural economics contributes to providing students with the following knowledge:** **Introduction to agricultural economics and consumer behavior theory**
Indicative Contents **المحتويات الإرشادية**	

Learning and Teaching Strategies **استراتيجيات التعلم والتعليم**	
Strategies	**The method of presentation is based on economic theories and laws, supported by exercises and examples, to understand the mechanism of their work in managing**

	agricultural projects and developing income, whether at the level of the economic unit or the agricultural sector. **The course management is based on student interaction through analysis and reasoning of the results of economic calculations of costs and other economic variables.**

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

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

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	**Introduction to economics and consumer behavior theory**
Week 2	**The role of agricultural activity in the national economy**
Week 3	**Economics of agricultural production**
Week 4	**Production costs**
Week 5	**Agricultural prices**
Week 6	**Markets and their types**
Week 7	**the first exam**
Week 8	**Farm management**
Week 9	**Agricultural development**
Week 10	**Agricultural marketing**
Week 11	**Agricultural finance**
Week 12	**International agricultural organizations and their role in supporting the agricultural sector**
Week 13	**Climate changes and their impact on the agricultural sector**
Week 14	**Agricultural tourism**

Week 15	**Evaluation and management of agricultural projects**
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) **المنهاج الاسبوعي للمختبر**	
Week	**Material Covered**
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources **مصادر التعلم والتدريس**		
	Text	**Available in the Library?**
Required Texts	**الاقتصاد الزراعي/ د.عبد الوهاب مطر الداهري/وزارة التعليم العالي والبحث العلمي/1980**	**Yes**
Recommended Texts	**مباديء الاقتصاد الزراعي/د.احمد أبو اليزيد.**	**No**
Websites	**كتاب الاقتصاد الزراعي PDF - فور ريد | محمود سليم (4readlib.com)**	

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	**Soil Science**			**Module Delivery**	
Module Type	**Core**			**☒ Theory**	
Module Code	**SOLL114**			**☒ Lecture**	
ECTS Credits	**7**			**☒ Lab**	
SWL (hr/sem)	**78**			**☐ Tutorial** **☐ Practical** **☐ Seminar**	
Module Level		**UGx11 1**	**Semester of Delivery**		**1**
Administering Department		**Crop prpduction**	**College**	**College of Agriculture**	
Module Leader	**Wafaa Abdulameer Ahmed**		**e-mail**	**E-mail: wafa.ahmed@uobasrah.edu.iq**	

Module Leader's Acad. Title		**Assist. of Professor**	**Module Leader's Qualification**		**Ms. C.**
Module Tutor	**Name (if available)**		**e-mail**	**E-mail**	
Peer Reviewer Name		**Name**	**e-mail**	**E-mail**	
Scientific Committee Approval Date		**01/06/2025**	**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**	**Understanding Soil Formation:** **Learn about the processes of soil formation and the factors that influence soil development.** **Soil Properties and Classification:** **Identify and describe physical, chemical, and biological properties of soils.** **Understand soil classification systems and their significance.** **Soil Function and Ecosystem Services:** **Explore the role of soil in ecosystems, including its functions in water filtration, nutrient cycling, and carbon storage.** **Soil Management Practices:** **Examine sustainable soil management practices to enhance soil health and productivity.** **Impact of Soil on Agriculture:**

	Analyze how soil characteristics affect agricultural practices and crop production.
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	**Soil Conservation and Land Use:** **Identify practices for soil conservation and erosion control.** **Analyze the impact of land use changes on soil health.** **Environmental Impact:** **Evaluate the role of soils in environmental sustainability and ecosystem services.** **Assess the impact of pollutants on soil health and remediation strategies.** **Research and Practical Skills:** **Conduct soil sampling and laboratory analysis.** **Apply statistical methods to interpret soil data.** **Interdisciplinary Applications:** **Integrate knowledge from related fields such as agronomy, ecology, and geology.** **Discuss the implications of soil science in climate change and food security.** **.**
Indicative Contents **المحتويات الإرشادية**	**Soil formation and Soil genesis (20 hrs)** **physical properties (20 hrs)** **soil water(20 hrs)** **Colloid's properties and soil chemical properties (20 hrs)** **Salinity and alkalinity in the soil and the reclamation of salt-affected soils(20 hrs)** **Biological and biochemical properties of soil (20 hrs)** **Soil fertility and plant nutrition and Soil organic matter(20 hrs)** **Classification and management of soils in Iraq (10 hrs)** **Total hrs = 150= SSWL - (Exam hrs) = 150 - 4 = 146 hr (Time table hrs x 15 weeks)**

Learning and Teaching Strategies **استراتيجيات التعلم والتعليم**	
Strategies	**Here are some effective learning and teaching strategies for soil science:**

	1. Hands-On Experiments **Conduct soil sampling and analysis in the field.** **Use soil texture tests (e.g., ribbon test) to determine soil types.** **2. Field Trips** **Visit local farms, gardens, or conservation areas to observe soil in various contexts.** **Explore soil management practices in different ecosystems.** **3. Interactive Learning**

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**	**75**	**Unstructured SWL (h/w)** **الحمل الدراسي غير المنتظم للطالب أسبوعيا**	**5**
Total SWL (h/sem) **الحمل الدراسي الكلي للطالب خلال الفصل**	**150**		

Module Evaluation **تقييم المادة الدراسية**					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	**2**	**10% (10)**	**5 and 10**	**LO #1, #2 and #10, #11**
	Assignments	**2**	**10% (10)**	**2 and 12**	**LO #3, #4 and #6, #7**
	Projects / Lab.	**1**	**15% (10)**	**Continuous**	**All**
	Report	**1**	**5% (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	
Week	**Material Covered**
Week 1	**Soil formation**
Week 2	**Soil genesis**
Week 3	**physical properties**
Week 4	**physical properties**
Week 5	**soil water**
Week 6	**monthly exams**
Week 7	**Colloid's properties**
Week 8	**soil chemical properties**
Week 9	**Salinity and alkalinity in the soil**
Week 10	**the reclamation of salt-affected soils**
Week 11	**Biological and biochemical properties of soil**
Week 12	**Soil fertility and plant nutrition**
Week 13	**monthly exams**
Week 14	**Soil organic matter**
Week 15	**Classification and management of soils in Iraq**
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**Material Covered**
Week 1	**Moisture content measurement**
Week 2	**Measuring the particle and bulk density of soil and its porosity**
Week 3	**Estimation of percentages of sand, clay and silt and determination of soil texture**
Week 4	**Measurement of soil pH and soil salinity**
Week 5	**Determination of some positive dissolved ions in soil solution (Ca2+, Mg2+, Na+ and K+)**
Week 6	**Determination of some negative dissolved ions in soil solution (Cl-, CO3-2 and HCO3-)**
Week 7	**Exam**

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	**Fundamentals of Soil**	**Yes**
Recommended Texts	**Practices soil Science**	**yes**
Websites	**https://www.slideshare.net/SantoshFrnd1/agro-ecological-region-and-sub-rgions-of-india**	

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	**Engineering Drawing**			**Module Delivery**	
Module Type	**Core**				
Module Code	**ENDR117**			☒ **Lab**	
ECTS Credits	**7**			☒ **Tutorial**	
SWL (hr/sem)	**48**			☒ **Practical**	
Module Level	**UGx11 1**		**Semester of Delivery**	**2**	
Administering Department			**College**		
Module Leader	**Asmaa Abd Ala AL Aedan**		**e-mail**	**E-mail**	
Module Leader's Acad. Title	**Lecture**		**Module Leader's Qualification**	**Msc.**	
Module Tutor	**Ali Hussein Awad**		**e-mail**	**ali.awad@uobasrah.edu.iq**	
Peer Reviewer Name	**Assad Yousif Khudher**		**e-mail**	**E-mail assad.khudher@uobasrah.edu.iq**	
Scientific Committee Approval Date	**01/09/2025**		**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	• Working in the field of engineering drawing to create engineering plans and drawings • Obtaining the skills required for the post-graduation plan (postgraduate studies). • Applying for external tests by local/regional/international bodies. • Providing students with skills to work in scientific and research laboratories and study engineering drawing
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Learn about manual drawing tools and modern methods 2- Correct installation of the drawing board and implementation of the information table 3- Professional drawing of lines, curves, and circles 4- Drawing of projections 5- Other methods for drawing projections 6- Perspective drawing 7- Section drawing, shading, and drawing of hidden parts 8- Detailed drawing 9- Assembly drawing 10- Inking 11- Methods of saving drawing boards 12- Quick drawing 13- Documenting and authenticating the boards 14- Executive drawing 15- Learn about automated drawing
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. - Accuracy - Imagination - Clear ideas before starting to draw - Taking into account all dimensions including the dimensions of the size and the dimensions of the site - Take all the information, data and ratification Determine the shades of the cut, the vehicle, and the hidden parts - Setting details to read the painting and all process and assembly fees - Clean and take into account the conditions for saving paintings

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	-To practice in the first place and apply scientific conditions in drawing parts and mechanical systems - Watch models and models on reality (physics) to help imagine and apply - Evaluating the duties after completing them immediately Classical evaluation and the end of the course

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
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	5%(5)	5 and 10	All 3 h Structured
	Assignments	5	5% (5)	2 and 15	All 3 h Structured
	Projects / Lab.	10	20% (20)	Continuous	All hours Structured
	Report	0	0	0	
Summative assessment	Midterm Exam	2hr	10% (10)	7	The Structured after 7 week
	Final Exam	3hr	50% (50)	16	The Structured all 16-week
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي نظري +العملي (مختبر الرسم)	
Week	**Material Covered**
Week 1	**Introduction to engineering drawing tools**
Week 2	**Introduction to the types of engineering drawing lines**
Week 3	**How to plan and install a drawing board**
Week 4	**Engineering operations, part one, includes A- Bisecting a straight line and B- Bisecting an angle.**
Week 5	**Engineering operations, part two, includes: C- Draw a pentagon inside a circle.**
Week 6	**Engineering operations, part three, includes: D- Draw a hexagon given the side length and E- Draw a hexagon surrounding a circle**
Week 7	**Engineering operations, part four, includes: E- Draw an arc tangent to a straight line**
Week 8	**Engineering operations, part Five, includes: F- Draw an arc tangent to the circumference of a circle and a known straight line, and Draw a tangent to an interior circle.**
Week 9	**Dimensions of size and dimensions of the site**
Week 10	**Drawing of the projected (three faces)**
Week 11	**The drawing of the engineering (six faces)**
Week 12	**Perspective drawing (model)**
Week 13	**Draw the pieces and script**
Week 14	**The concept of detailed and assembly**
Week 15	**Inheritance**
Week 16	**The concept of drawing using the machine and Preparatory week before the Final Exam**

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	**الرسم الهندسي لطلبة كليات الزراعة. د. ناطق صبري حسن. 9**	**Yes**
Recommended Texts	**Engineering drawing for engineers and technicians**	**No**
Websites	**https://books-library.net/free-1020743869-download**	

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	**Plane surveying**			**Module Delivery**	
Module Type	**Core**			**☒ Theory**	
Module Code	**PLSU118**			**☒ Lecture**	
ECTS Credits	**6**			**☒ Lab**	
SWL (hr/sem)	**78**			**☐ Tutorial** **☐ Practical** **☐ Seminar**	
Module Level		**UG11 1**	**Semester of Delivery**		**1**
Administering Department		**Field Crops**	**College**	**Type College Code**	
Module Leader	**Mohanad A. ALSULAIMAN**		**e-mail**	**Mohanad.alsulaiman@uobasrah.edu.iq**	

Module Leader's Acad. Title		**Assistant Professor**	**Module Leader's Qualification**		**Ph.D.**
Module Tutor	**Name (if available)**		**e-mail**	**E-mail**	
Peer Reviewer Name		**Name**	**e-mail**	**E-mail**	
Scientific Committee Approval Date		**01/06/2025**	**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**	**Identify the method of drawing maps for areas and fields and identify the types of drawing scales and their design** **2- Identify the tools, units and measurement systems** **3- Identify the optical distance measuring devices, their parts, method of use and working principle** **4- Focus on knowing the parts and method of using the level and theodolite devices and the advantages of using them** **5- Measuring the quantities of excavation and backfill** **6- Measuring levels and chain leveling**
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	**Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks.** **Identify the method of drawing maps for areas and fields and identify the types of drawing scales and their design** **2- Identify the tools, units and measurement systems** **3- Identify the optical distance measuring devices, their parts, method of use and working principle** **4- Focus on knowing the parts and method of using the level and theodolite devices and the advantages of using them** **5- Measuring the quantities of excavation and backfill** **6- Measuring levels and chain leveling**
Indicative Contents	**Indicative content includes the following.**

المحتويات الإرشادية	
	Part A - Circuit Theory **DC circuits – Current and voltage definitions, Passive sign convention and circuit elements, Combining resistive elements in series and parallel. Kirchhoff's laws and Ohm's law. Anatomy of a circuit, Network reduction, Introduction to mesh and nodal analysis. [SSWL=15 hrs]** **AC circuits I – Time dependent signals, average and RMS values. Capacitance and inductance, energy storage elements, simple AC steady-state sinusoidal analysis. [15 hrs]** **AC Circuits II - Phasor diagrams, definition of complex impedance, AC circuit analysis with complex numbers. [SSWL=10 hrs]** **RL, RC and RLC circuits - Frequency response of RLC circuits, simple filter and band-pass circuits, resonance and Q-factor, use of Bode plots, use of differential equations and their solutions. Time response (natural and step responses). Introduction to second order circuits. [SSWL=15 hrs]** **Revision problem classes [SSWL=6 hrs]** **Part B - Analogue Electronics** **Fundamentals** **Resistive networks, voltage and current sources, Thevenin and Norton equivalent circuits, current and voltage division, input resistance, output resistance, coupling and decoupling capacitors, maximum power transfer, RMS and power dissipation, current limiting and over voltage protection. [SSWL=15 hrs]** **Components and active devices – Components vs elements and circuit modeling, real and ideal elements. Introduction to sensors and actuators, self-generating vs modulating type sensors, simple circuit interfacing. [SSWL=14 hrs]** **Diodes and Diode circuits – Diode characteristics and equations, ideal vs real. Signal conditioning, clamping and clipping, rectification and peak detection, photodiodes, LEDs, Zener diodes, voltage stabilization, voltage reference, power supplies. [SSWL=15 hrs]**

	Total hrs = 200 = SSWL - (Exam hrs) = 200 - 4 = 195 hr (Time table hrs x 15 weeks)

Learning and Teaching Strategies **استراتيجيات التعلم والتعليم**	
Strategies	**Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.**

Student Workload (SWL) **الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا**			
Structured SWL (h/sem) **الحمل الدراسي المنتظم للطالب خلال الفصل**	**200**	**Structured SWL (h/w)** **الحمل الدراسي المنتظم للطالب أسبوعيا**	**5**
Unstructured SWL (h/sem) **الحمل الدراسي غير المنتظم للطالب خلال الفصل**	**125**	**Unstructured SWL (h/w)** **الحمل الدراسي غير المنتظم للطالب أسبوعيا**	**8**
Total SWL (h/sem) **الحمل الدراسي الكلي للطالب خلال الفصل**	**200**		

Module Evaluation
تقييم المادة الدراسية

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

Total assessment	**100% (100 Marks)**		

Delivery Plan (Weekly Syllabus) **المنهاج الاسبوعي النظري**	
Week	**Material Covered**
Week 1	**Introduction and Definition of survey, types of surveys, its importance in agriculture, requirements for a good survey**
Week 2	**Measurement systems, units of measurement, accuracy in surveys, errors**
Week 3	**Drawing scales, types, features, how to doing it.**
Week 4	**Methods for measuring distances, from nature and from maps, direct methods for horizontal and diagonal distances**
Week 5	**Errors in survey work, methods of addressing and overcoming them**
Week 6	**Surveying by tape, station selection conditions, field book note**
Week 7	**Mid-term Exam + Indirect methods of measuring distances, how to use surveying devices for this purpose**
Week 8	**Measuring distances using electronic devices**
Week 9	**Areas, how to calculate them for regular and irregular shapes, calculate areas using some devices**
Week 10	**Leveling, its terminology, its importance in agriculture, the use of the level.**
Week 11	**Types of leveling, curvature and refraction phenomena and their treatment**
Week 12	**Methods for calculating point levels and elevation difference, direct and indirect**
Week 13	**Second exam+ working the longitudinal sectors, how to calculate the slope and draw the longitudinal section**
Week 14	**Calculation of excavation and backfill quantities**
Week 15	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) **المنهاج الاسبوعي للمختبر**	
Week	**Material Covered**
Week 1	**Lab 1: Drawing maps and how to put scale**
Week 2	**Lab 2: learning how to measure distance at plane and winding lands by different meters**

Week 3	**Lab 3: Applied how to erect and drop a column by several ways**
Week 4	**Lab 4: Application of distance measurement process using leveling device**
Week 5	**Lab 5: Measure distances by a leveling device**
Week 6	**Lab 6: Apply Leveling and chain leveling**
Week 7	**Lab 7: Calculation of excavation and backfill quantities**

Learning and Teaching Resources **مصادر التعلم والتدريس**		
	Text	**Available in the Library?**
Required Texts	**Plane Survey a methodical book**	**Yes**
Recommended Texts	**Surveying-to New Age International Pvt Ltd Publishers (2006)-A.M. Chandra**	**No**
Websites	**https://www.britannica.com/technology/surveying**	

Grading Scheme

مخطط الدرجات

Group	**Grade**	**التقدير**	**Marks %**	**Definition**
Success Group (50 - 100)	**A - Excellent**	**امتياز**	**90 - 100**	**Outstanding Performance**
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