



Ministry of Higher Education and
Scientific Research

Kirkuk University / college of
Agriculture

Department of Forestry



Academic Program and
Course Description Guide
Department of Forestry
Kirkuk University /College
of Agriculture

2024

Academic Program Description

University Name: Kirkuk

Faculty/Institute: College of Agriculture

Scientific Department: Forests sciences

Academic or Professional Program Name: B.Sc. Forests sciences

Final Certificate Name: B.Sc. Agricultural Sciences (Forests sciences)

Academic System: Semester

Description Preparation Date: 02 / 04 / 2024

File Completion Date: 02 / 04 / 2024



Signature:

Head of Department Name: Assist. Prof. Dr. Mateen Yilmaz Izaldin

Date: 02 / 04 / 2024





Signature:

Scientific Associate Name:

Prof. Dr. Ammar Qahtan Shanoon

Date: 02 / 04 / 2024

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department: Dr. Ahmed I. Samir

Date: 04/04/2024

Signature:





Approval of the Dean

Dr. Osama I. Ahmed

04/04/2024

Course Description

1. Program Vision

Working to expand and sustain green cover due to its economic, protective and social benefits for the region and its residents by graduating specialized and trained cadres in forest sciences.

2. Program Mission

Strengthening the department's contribution to the advancement of the agricultural, forestry and industrial situation in terms of the use of wood as a raw material in many major industries and the environment as one of the main factors contributing to its preservation, through the department's various scientific activities, the product of the teaching staff, and the good scientific level of its graduates.

3. Program Objectives

- Graduating specialized cadres trained in various forest sciences capable of serving society.
- Developing scientific curricula related to forest sciences and other sciences that influence them.
- Contributing to solving forest problems inside Iraq through research, studies and discussion circles.
- Increase awareness of the local community through introductory brochures, seminars, intensive training courses, and community involvement in its operations.
- Developing the scientific level through cultural exchange and twinning programs and training courses with counterparts from international institutions.

4. Program Accreditation

The program seeks to obtain program accreditation.

5. Other external influences

Coordination with relevant agricultural departments as well as private sector participation.

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	11	11	18.64	Basic
College Requirements	18	44	30.50	Basic
Department Requirements	30	87	50.84	Basic
Summer Training	1	Satisfied	-	Basic
Other				

* This can include notes whether the course is basic or optional.

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			Theoretical	Practical
First year/first semester	COMP111	Applications in computers 1	-	3
	MATH112	mathematics	2	-
	GEOL113	Geologist	2	3
	PRAN114	Principles of animal production	2	3
	GEPL115	General plant	2	3
	ENGL116	English language 1	1	-

	GEFO117	Forest principles	2	3
	HURI118	Human rights	2	-
First year/second semester	STAT121	Statistics	2	3
	GEEC122	General economics	2	-
	ORCH123	organic chemistry	2	3
	PLMO124	Plant morphology and anatomy	2	3
	SURV125	space	1	3
	COMP126	Applications in computers 2	-	3
	GEDR127	Engineering drawing	-	3
Second year/first semester	DEND211	Classification of forest trees	2	3
	BICH212	Biochemistry	2	3
	MIBI213	Principles of microbiology	2	3
	FOMA214	Forest machinery	2	3
	GENE215	heredity	2	3
	TRAG216	Transfer of agricultural techniques	2	-
	COMP217	Applications in computers 3	-	3
	CRBE218	Baath Party crimes	2	-
Second year/second semester	FOSO221	Forest soil	2	3
	PRSI222	Principles of forest development	2	3
	ECOL223	Environment and climate	2	3
	FOEN224	Forest insects	2	3
	NARA225	Natural pastures	2	3
	COMP226	Applications in computers 4	-	3
	FRDE227	Freedom and democracy	2	-
	ENGL228	English 2	1	-
Third year/first semester	FOME311	Forest measurements	2	3
	FOUT312	Forest investment	2	3
	FONU313	Forest nurseries	2	3
	FOPH314	The sedge of forest trees	2	3
	FOPO315	Forest policy	2	-
	FOPA316	Forest diseases	2	3
	RESE317	Remote sensation	2	3

Third year/second semester	WIAN321	wild animals	2	3
	PLAN322	afforestation	2	3
	WAPE323	River basin management	2	3
	EXDE324	Design and analysis of experiments	2	3
	TOUR325	Tourism and parks	2	–
	WOSC326	Wood science	2	3
	ENGL327	English 3	1	–
Fourth year/first semester	SILV411	Forest development systems	2	3
	FOPL412	Forest planning	2	3
	WOIN413	Wood industry	2	3
	FOPT414	Forest maintenance	2	3
	FOEC415	Forest economy	2	–
	REPR416	Graduation research project	–	3
	FOEC417	Forest environment	2	3
	ENGL418	English 4	1	–
Fourth year/second semester	FOPR421	Evaluation of forest projects	2	3
	FOMA422	Forest management	2	3
	FOEN423	Forest engineering	2	3
	TRBR424	Breeding and improving trees	2	3
	WOPR425	Wood preservation	2	3
	REPR426	Graduation research project	–	3
	SEMI427	Seminars	1	–

8. Expected learning outcomes of the program

Knowledge

- 1– Introducing the student to theories related to various forest sciences.
- 2– Understanding forest creation and care.
- 3– Understanding and solving problems and obstacles related to forests.

4- Enabling the student to understand forest sciences and equipping various relevant departments with specialized scientific cadres

5- Teaching students the management methods used in industrial forest construction projects.

6- Teaching students to diagnose forest trees infected with diseases and insects and find ways to combat them.

Skills

1- Providing the student with the skills to carry out forest construction operations and methods of caring for them.

2- Preparing agricultural cadres capable of dealing with forest trees, spreading their cultivation, and how to sustain the areas cultivated in them.

3- Enabling the student to be able to diagnose the problems facing forests.

4- Qualifying students to advance the forest situation that the department is interested in in its study programs.

Ethics

1- Having the ability to ask questions and answer them in the classroom.

2- Defining the problem and its solution.

3- Learn the correct ways of thinking.

4- A case study in graduation research and how to solve it.

9. Teaching and Learning Strategies

1- Using the method of delivering information through the lecture, using the whiteboard, a data display device, an interactive lecture, and displaying an educational video that provides the opportunity to watch field or laboratory operations.

2- Involving students in obtaining information by asking them to submit scientific reports on specific paragraphs of the curriculum, ensuring the expansion of the student's cognitive ability and training him on means of accessing information to maintain the up-to-datedness of his information in the future.

3- Training students in the method of logical discussion to reach results, as well as the method of deduction.

4- Training the student on educational commitment to behavior inside the lecture hall, in the laboratory, field, or greenhouses, ensuring the prevalence of sound behavior in the educational institution and after graduation.

5- Learning through applied field practices and providing the opportunity for students to apply knowledge in the field.

10. Evaluation methods

- 1- Daily exams.
- 2- Reports.
- 3- Monthly exams.
- 4- Practical exams.
- 5- The final exam, both theoretical and practical.
- 6- Summer training in government departments and submitting a report.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)	Number of the teaching staff	
	General	Special		Staff	Lecturer
Professor	Forest sciences	Wood tree insects		1	
Assistant Professor	Forest sciences	Wood science		1	
Assistant Professor	Horticulture and landscaping	Ornamental plants		1	
Assistant Professor	Law	Civil Law		1	
lecturer	Food industry	Food industry		1	
lecturer	Law	Civil Law		1	

Assistant lecturer	Forest sciences	Insects and forest protection			1	
Assistant lecturer	Horticulture and landscaping	Horticulture and landscaping			1	
Assistant lecturer	Geography	Geographic information systems and remote sensing			1	

Professional Development

Mentoring new faculty members

A regular meeting of the Department Council is held twice a month in order to convey the directives of the Dean of the College as well as the directives of the Department Head regarding department matters, following up on students and the progress of the educational process, as well as encouraging them for scientific research. We also communicate with them through social media to guide them.

Professional development of faculty members

Annual plans are developed to update course curricula through the department's Curriculum Modernization Committee. A semi-annual plan is also prepared for the research that the department's staff seeks to accomplish and the use of modern teaching and evaluation methods that employ modern communication technology, as well as the results of teaching methods research.

12. Acceptance Criterion

The department sets a plan for accepting students according to capacity, the number of teaching staff, and the provision of academic supplies. On this basis, the department requests the specified number of students to join it, but achieving the required number is affected by several factors, including the number of

students accepted into the college distributed through central admission in the Ministry, and the student's desire for the specialty in which he wishes to complete his studies.

13. The most important sources of information about the program

- 1- Methodological books on free education.
- 2- Internet resources through the Internet Division.
- 3- Reference books, master's theses, and doctoral theses in the department and college libraries.

14. Program Development Plan

- 1- Concluding joint cooperation agreements with relevant agricultural institutions for the purpose of creating job opportunities for graduates of the Department of Forestry Sciences, as well as providing those institutions with the results of scientific research reached by researchers in the department.
- 2- Taking advantage of agricultural companies in the private sector to utilize their capabilities to enhance the learning process for students in the department as well as creating job opportunities for graduates.
- 3- Providing the department's laboratories with modern laboratory equipment and benefiting from them to supplement the department's financial inputs by operating those laboratories to serve agricultural institutions and private sector companies after paying the financial fees.
- 4- Increasing the rate of scientific publishing by the department's faculty, especially in scientific journals classified within the international databases.
- 5- Providing the department's staff with scientific specializations, including two teachers, by creating attractive factors for them, and working to encourage the current staff to advance academically to higher ranks.

Program Skills Outline

Program Skills Outline															
				Required program Learning outcomes											
Year/ Level	Course Name	Course code	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First year/ first semester	Applications in computers 1	COMP111		*	*	*	*	*	*	*	*	*	*	*	
	mathematics	MATH112													
	Geologist	GEOL113													
	Principles of animal production	PRAN114													
	General plant	GEPL115													
	English language 1	ENGL116													
	Forest principles	GEFO117													
	Human rights	HURI118													
First year/ Second semester	Statistics	STAT121		*	*	*	*	*	*	*	*	*	*	*	
	General economics	GEEC122													
	organic chemistry	ORCH123													
	Plant morphology and anatomy	PLMO124													
	surveying	SURV125													
	Applications in computers 2	COMP126													
	Engineering drawing	GEDR127													
	Classification of forest trees	DEND211	*	*	*	*	*	*	*	*	*	*	*	*	
	Biochemistry	BICH212													

Second Year/ first semester	Principles of microbiology Forest machinery heredity Transfer of agricultural techniques Applications in computers 3 Baath Party crimes	MIBI213 FOMA214 GENE215 TRAG216 COMP217 CRBE218														
	Forest soil Principles of forest development Environment and climate Forest insects Natural pastures Applications in computers 4 Freedom and democracy English 2	FOSO221 PRSI222 ECOL223 FOEN224 NARA225 COMP226 FRDE227 ENGL228	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Third Year/ first semester	Forest measurements Forest investment Forest nurseries The sedge of forest trees Forest policy Forest diseases Remote sensation	FOME311 FOUT312 FONU313 FOPH314 FOPO315 FOPA316 RESE317	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Third Year/ Second semester	wild animals afforestation River basin management Design and analysis of experiments Tourism and parks Wood science English 3	WIAN321 PLAN322 WAPE323 EXDE324 TOUR325 WOSC326 ENGL327	*	*	*	*	*	*	*	*	*	*	*	*	*
fourth year/ first semester	Forest development systems Forest planning Wood industry Forest maintenance Forest economy Graduation research project Forest environment English 4	SILV411 FOPL412 WOIN413 FOPT414 FOEC415 REPR416 FOEC417 ENGL418	*	*	*	*	*	*	*	*	*	*	*	*	*
fourth year/ second semester	Evaluation of forest projects Forest management Forest engineering Breeding and improving trees Wood preservation Graduation research project Seminars	FOPR421 FOMA422 FOEN423 TRBR424 WOPR425 REPR416 SEMI427	*	*	*	*	*	*	*	*	*	*	*	*	*

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form

1. Course Name:

Computer/1

2. Course Code:

COMP111

3. Semester / Year:

first semester/ first year

4. Description Preparation Date:

28/03/2024

5. Available Attendance Forms:

Mandatory

6. Number of Credit Hours (Total) / Number of Units (Total)

(3) Hours, Number of units (1)

7. Course administrator's name (mention all, if more than one name)

Name: Assist Prof. Basira Abdullah Ahmed Email: baseraabdullah@uokirkuk.edu.iq

8. Course Objectives

Introducing the student to the components of the computer, explaining the units of information input and graduation, and providing and developing the student's abilities by using the main applications in the computer

9. Teaching and Learning Strategies

Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Identifying the computer and its parts, turning the computer on/off	Knowledge	lecture	Daily and monthly exam, attendance and reports
2	3	Computer parts, input/output units, memory, central processing unit	Knowledge	lecture	Daily and monthly exam, attendance and reports
3	3	Central Processing Unit (C.P.U), main functions, motherboard (M/B) and how to communicate with computer parts	Knowledge	lecture	Daily and monthly exam, attendance and reports
4	3	Input units	Knowledge	lecture	Daily and monthly exam,

		(mouse/keyboard), output units (Monitor), memory (RAM, ROM)	ge, skills and attitudes		attendance and reports
5	3	Secondary memory, hard disk parts, how to store information on the disk, information about the disk	knowledge	lecture	Daily and monthly exam, attendance and reports
6	3	Introduction to the operating system (Windows), application software	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports
7	3	Practical exam (1)	knowledge	lecture	Daily and monthly exam, attendance and reports
8	3	Windows - use the mouse, minimize/maximize windows - close windows, close windows, exit windows	knowledge	lecture	Daily and monthly exam, attendance and reports
9	3	Moving windows from one place to another, controlling window size (width/height), taskbar - date, time	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	3	Organizing the address list - Copying images and texts - Splitting web pages - Printing web pages - Search engines - How to search for information on the network - Using the search button in the toolbar -	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	3	MY COMPUTER Desktop, Create a shortcut icon for an application or file, Recycle Bin - Window Explorer, Format floppy disks	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

12	3	Install files - select/choose folder, create folder - rename, delete file/folder, copy file/folder, move file/folder	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	3	Screen settings - screen saver, change mouse cursor - double transfer speed control	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	3	Software Installation and Uninstallation, Disk Information, Help Request) HELP	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	3	Practical exam (1)	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Basic Principles of Computers/Magdi Abdull Al-Wahdi/ Fourth Edition 2019
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including
Electronic References, Websites	International journals .

Course Description Form

1. Course Name:	
Mathematics 1	
2. Course Code:	
MATH112	
3. Semester / Year:	
1 st semester / First year /2023–2024	
4. Description Preparation Date:	
31/3/2024	
5. Available Attendance Forms:	
Classroom attendant	
6. Number of Credit Hours (Total) / Number of Units (Total)	
5	
7. Course administrator's name (mention all, if more than one name)	
Name: Susan Ibrahim Hassan Email: susanilh@uokirkuk.edu.iq	
8. Course Objectives	
Course Objectives	<ul style="list-style-type: none"> • Acquire the necessary knowledge of the physical object and understand the meaning and whys of each mathematical concept. • Apply the steps to solve the mathematical problem by analyzing the problem and developing a solution plan. • Helping the student learn more about new sciences in the learning environment. • It helps develop deductive thinking, reasoning and contemplation skills.
9. Teaching and Learning Strategies	
Strategy	<ul style="list-style-type: none"> • Encourage students to participate in the lesson by solving problems and interacting with the materials actively. • Providing opportunities for students to apply mathematical concepts in real-life contexts. • Creating inspiring and intriguing mathematical challenges to motivate students and encourage them to develop their mathematical skills. • Encourage students to work together in groups to solve mathematical problems and discuss ideas. • Provide immediate and constructive feedback to students on their performance and understanding of the material.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Understand the basic concepts of real numbers and intervals including natural numbers, integers, decimals, and rational numbers.	Real numbers and intervals	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
2	2	Ability to apply mathematical concepts in solving a variety of problems related to linear and quadratic inequalities	Linear and quadratic inequalities	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
3	2	Ability to apply mathematical concepts in solving a variety of problems related to absolute and fractional inequalities	Absolute and Fractional Inequalities	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
4	2	An ability to accurately draw simple functions and understand the relationship between the equation and form of a function.	Drawing simple functions, incrementing and decreasing functions	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
5	2	Understand mathematical patterns related to even, odd, and symmetrical functions, such as symmetry and symmetry.	Even and odd and conflicting functions, some common functions	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
6	2	An ability to apply trigonometric functions in solving practical and realistic problems.	Trigonometric functions, laws of trigonometric functions	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
7	2	exam			
8	2	Develop the ability to analyze geometrically drawn functions, determine their domains and extent, and understand how value changes affect the shape of a graph.	Domain and range of functions drawn (geometrically)	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
9	2	Learn how to determine the range of variability	Domain and range of functions mathematically	Solving exercises on the board	Student discussion, board

		of a function and the set of values it takes.		with participation of student.	solution, daily exam and homework solutions.
10	2	Understand the basics of the ends of functions and apply it effectively in solving mathematical problems.	Find the ends of the functions	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
11	2	Learn the concept of continuity of functions and know the conditions necessary for a function to be continuous at a certain point or in a specific set of points.	Continuity of functions	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
12	2	Know the derivative in general and understand the mathematical definition of the derivative.	Derivation by definition	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
13	2	It helps students understand the laws of derivatives comprehensively and practically and enables them to use them efficiently in solving a variety of mathematical problems.	Derivative laws	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
14	2	Knowledge of integration and its importance in mathematics and scientific and engineering applications, including understanding the concept of space under the curve and the area between two curves.	Integration	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
15	2		Exam		

11. Course Evaluation

Daily Exam, Participation and Attendance (5%) + Monthly Exam (35%) + Final Exam (60%)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Calculus by Thomas
Main references (sources)	Calculus by James Stewart
Recommended books and references (scientific journals, reports...)	Introduction to Mathematical Statistics" by Robert V. Hogg, Joseph W. McKean, and Allen T
Electronic References, Websites	KhanAcademy (https://www.khanacademy.org/)

Course Description General Geology

1. Course Name:

Principle of **General Geology**

2. Course Code:

GEOL113

3. Semester / Year:

First semester/ First year

4. Description Preparation Date:

٢/0٤/2024

5. Available Attendance Forms:

Mandatory

6. Number of Credit Hours (Total) / Number of Units (Total)

(5) Hours, Number of units (3)

7. Course administrator's name (mention all, if more than one name)

Name: Dr. Ali hakeem dohan **Email:** Alihakeem [@uokirkuk.edu.iq](mailto:Alihakeem@uokirkuk.edu.iq)

8. Course Objectives

The study of geology enables us to know the types of soil, its composition, source and characteristics, discover the sources and depths of groundwater, and establish agricultural canals.

9. Teaching and Learning Strategies

Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability, and conduct scientific visits to agricultural projects.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Introduction to geology - the concept of its origin and branches	knowledge	lecture	Daily and monthly exam, attendance and reports
2	5	Geological phenomena and how they arise	knowledge	lecture	Daily and monthly exam, attendance and reports
3	5	Minerals and their classification methods	knowledge	lecture	Daily and monthly exam, attendance and reports
4	5	Weathering: its types and its relationship to soil formation	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	5	Rock cycle in nature, igneous rocks	knowledge	lecture	Daily and monthly exam, attendance and reports
6	5	Sedimentary rocks	Knowledge, skill and	lecture	Daily and monthly exam, attendance and reports

			attitude		
7	5	Classification of sedimentary rocks	knowledge	lecture	Daily and monthly exam, attendance and reports
8	5	Classification of Metamorphic rocks	knowledge	lecture	Daily and monthly exam, attendance and reports
9	5	Water cycle: surface water	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	5	underground water	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	5	Minerals and natural rocks in Iraq	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	5	Natural resources survey	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	5	The relationship of geology to soil	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	5	Rock erosion	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	5	Transport and deposition of rocks	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The science of geology is of great importance in agriculture and the environment. It helps in studying soil and determining its chemical, physical and mechanical properties. It is concerned with lands and their components. It also helps in understanding the relationship between the geological characteristics of the soil and the plants that can be grown in it.

Moreover, geology helps uncover natural resources such as groundwater, gemstones, precious metals, oil and natural gas, which is the basis for sustainable agriculture and economic growth anywhere.

Geology also helps in studying natural and geographical areas and sites of environmental influence, and helps in identifying activities.

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	General Geology , written by Dr. Abdul Hadi Al-Sayegh and Dr. Farouk Al-Omari
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including Kirkuk University Journal of Agricultural Sciences
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:	
Principles of Animal Production	
2. Course Code:	
PRAN114	
3. Semester / Year:	
First Semester / First year	
4. Description Preparation Date:	
٢٠٢٤-٣-٢٩	
5. Available Attendance Forms:	
mandatory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
5Hours / 3 Unit	
7. Course administrator's name (mention all, if more than one name)	
Name: Mohammed Madhi Zinalabidin Email: mehmetmadhi@uokirkuk.edu.iq	
8. Course Objectives	
Course Objectives	<ul style="list-style-type: none"> • The student gets to know the basic principles of animal production through a brief knowledge of: • The course aims to teach the student how to care for farm animals as well as carry out field operations • Introducing the student to numbering animals, making animal records, and providing fodder caring for newborn animals
9. Teaching and Learning Strategies	
Strategy	<p>Preparing a student with a brief knowledge of the basic principles of animal production through a brief knowledge of:</p> <ul style="list-style-type: none"> • The economic importance of wealth as well as the identification of products, eggs and breeding Sheep, cattle and buffalo.

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Recognize the economic importance Livestock and their relationship With economic integration And the future potential for expanding livestock production in this wealth	Economic importance Livestock and their relationship With economic integration And the future potential for expanding livestock production in this wealth	Lecture, demonstrations and interactive discussion	Oral and written tests, daily and monthly practical tests, and scientific reports
2	2	Identify the location of agricultural animals (livestock) in the animal kingdom	Agricultural animals (livestock) in the animal kingdom		
3	2	Identifying cows and buffalo - economic importance - international, Arab and local species	Cows and buffalo economic importance - international, Arab and local species		
4	2	Learn about the management and care of dairy cows, beef cows and dual-purpose cows	Management and care of dairy cows, beef cows and dual-purpose cows		
5	2	Exam	Exam		
6	2	Getting to know the buffalo: economic importance - origin of the	Economic importance - origin of the buffalo - distribution in the		

		buffalo – istribution in the world – production	world – production		
7	2	Identifying sheep and goats – methods of classifying them and some international types	Sheep and goats – methods of classifying them and some international types		
8	2	Identifying local species (sheep and goats) and establishing a sheep herd	local species (sheep and goats) and establishing a sheep herd		
9	2	Identifying poultry and its economic importance - and the origins from which it was bred - and classifying poultry in the world	Poultry and its economic importance - and the origins from which it was bred - and classifying poultry in the world		
10	2	Exam	Exam		
11	2	Learn about egg production and meat production	Egg production and meat production		
12	2	Learn about poultry management and care - nutrition - fodder – physiology, reproduction and artificial insemination	Poultry management and care - nutrition - fodder – physiology, reproduction and artificial insemination		
13	2	Identifying fertilization, pregnancy and birth in cows	Fertilization, pregnancy and birth in cows		

14	2	Learn about field operations in dairy and beef cow fields	field operations in dairy and beef cow fields		
15	2	Identify improvement Genetics of farm animals- Camel horses (origin - types - Education methods)	Genetics of farm animals- Camel horses (origin - types - Education methods)		

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	Principles of Animal Production” written by: Dr. Muhammad Ali Makki
Electronic References, Websites	

Course Description Form

1. Course Name:					
General plant					
2. Course Code:					
GEPL115					
3. Semester / Year:					
First semester/First year					
4. Description Preparation Date:					
28/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name:AKO GHAZI SATTAR E-mail akoghazi@uokirkuk.edu.iq					
8. Course Objectives					
. The course aims to introduce the student to the tissue structures found in plants and the processes that occur within plants such as photosynthesis, catabolism and construction processes, components of the plant cell, types and stages of cell division.					
9. Teaching and Learning Strategies					
Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability, and conduct scientific visits to agricultural projects.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	General introduction	knowledge	lecture	Daily and monthly exam, attendance and reports
2	5	The benefits are economic	knowledge	lecture	Daily and monthly exam, attendance and reports
3	5	Pure and mixed forests	knowledge	lecture	Daily and monthly exam, attendance and reports
4	5	Selection of species for afforestation: Selection of local and introduced tree species	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	5	Types of forests in the Arab world	knowledge	lecture	Daily and monthly exam, attendance and reports
6	5	Stages of tree development	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports
7	5	Selection of species for afforestation: Selection of local and introduced tree species	knowledge	lecture	Daily and monthly exam, attendance and reports
8	5	The impact of environmental factors on forests	knowledge	lecture	Daily and monthly exam,

					attendance and reports
9	5	Division of forest types	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	5	Botanical characteristics: forests as a diagnostic factor, plant succession, types of succession	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	5	Biological factors: soil revival, competition, parasitism (mechanical and biological), mutual relationships between animals	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	5	The most common types of trees in natural forests	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	5	Local and introduced trees in forests	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	5	The difference between forests in the Arab world and other countries	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	5	Practical visits to different forests and observing the effects of living and non-living environmental conditions	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:

English language 1 / beginner level

2. Course Code:

ENGL116

3. Semester / Year:

First semester/first year

4. Description Preparation Date:

31/03/2024

5. Available Attendance Forms:

Mandatory

6. Number of Credit Hours (Total) / Number of Units (Total)

1 hour

7. Course administrator's name (mention all, if more than one name)

Name: Berevan Qader Omar **Email:** beree.omer@gmail.com

8. Course Objectives

Teaching this curriculum aims to make the student familiar with the English language as an international language that help the student get benefits from it in his scientific life widely .

9. Teaching and Learning Strategies

It is a semi-integrated curriculum for the beginner level that includes the necessary basics for learning English language in a simplified way with exercises. It includes nouns, verbs, interrogatives, adjectives, and adverbs.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	Introduction to part of speech in English	Knowledge	lecture	Exercise
2	1	Nouns in English	Knowledge	lecture	Exercise
3	1	Singular and plural	Knowledge	lecture	Exercise
4	1	Question words	Knowledge	lecture	Exercise
5	1	Tense of verbs	Knowledge	lecture	Exercise
6	1	Present simple for beginner	Knowledge	lecture	Quiz
7	1	Present continuous for beginner	Knowledge	lecture	Exercise
8	1	Past simple for beginner	Knowledge	lecture	Exercise
9	1	Past continuous for beginner	Knowledge	lecture	Exercise

10	1	adjectives	Knowledge	lecture	quiz
11	1	Pronouns	Knowledge	lecture	quiz
12	1	adverbs	Knowledge	lecture	Exercise
13	1	Adverb of frequency	Knowledge	lecture	Exercise
14	1	Some & any	Knowledge	lecture	Exercise
15	1	Modal verbs	Knowledge	lecture	Quiz

11.Course Evaluation

Semester endeavor (40 marks): 15 marks for the first month exam + 5 marks for quiz
15 marks for second month exam + 5 marks for quiz
Final exam (60 marks)

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	New headway plus (beginner student book written by : john and liz soars
Main references (sources)	Cambridge press
Recommended books and references (scientific journals, reports...)	My English library website
Electronic References, Websites	You tube and some useful websites

Course Description Form

1. Course Name:					
General Forestry					
2. Course Code:					
GEFO117					
3. Semester / Year:					
First semester/first year					
4. Description Preparation Date:					
29/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: MOHAMMED ALBAYATI E-mail albayatiiu@uokirkuk.edu.iq					
8. Course Objectives					
The course aims to familiarize itself with the science of forest principles and its relationship with other Gabonese sciences					
9. Teaching and Learning Strategies					
Verbal communication with students and motivation for teamwork in the learning process and use of communication skills...					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Definitions and terminology	Definitions and terminology for forest science	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
2	5	economic importance	Forest economic importance	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
3	5	Forest tree development	Forest tree development and conservation	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
4	5	Forest divisions	Forest divisions: depending on the shape of the leaves,	Lecture, presentations	Verbal, editorial, daily and monthly

			source, methods of multiplication, age, dominant species, purpose of creation, wood type	and interactive discussion	tests and scientific reports
5	5	Distribution of forests	Distribution of the world's forests	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
6	5	deciduous forests	deciduous forests	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
7	5	coniferous forests	coniferous forests	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
8	5	bamboo forests	bamboo forests	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
9	5	Iraq's forests	Iraq's natural forests	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
10	5	pure and mixed forests	Iraq's pure and mixed forests	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
11	5	reproduction	Forestry reproduction	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
12	5	sexual reproduction	sexual reproduction	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

13	5	asexual reproduction	asexual reproduction vegetative	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
14	5	nurseries	forest nurseries	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
15	5	forest nurseries	Types of forest nurseries	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	General Forestry
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:

Human rights and democracy

2. Course Code:

HURI118

3. Semester / Year:

first semester/first year

4. Description Preparation Date:

28/03/2024

5. Available Attendance Forms:

Mandatory

6. Number of Credit Hours (Total) / Number of Units (Total)

(2) Hours, Number of units (2)

7. Course administrator's name (mention all, if more than one name)

Name: Assist Prof. Basira Abdullah Ahmed Email: baseraabdullah@uokirkuk.edu.iq

8. Course Objectives

To make the student able to recognize human rights in internal laws and international charters, and to become familiar with the concept of democracy, the various systems of elections, and the means of assigning authority

9. Teaching and Learning Strategies

Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The historical stages through which the idea of human rights passed	Knowledge	lecture	Daily and monthly exam, attendance and reports
2	2	Humanrights in constitution documents International human rights documents	Knowledge	lecture	Daily and monthly exam, attendance and reports
3	2	Human rights in Islamic law are political and social, and the state's responsibility	Knowledge	lecture	Daily and monthly exam, attendance and reports

		guarantee them is positive right to life, the right physical integrity, the right privacy,			
4	2	The right to nationality right to abolish slavery and slavery The right to self-determination	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	2	Guarantees to prevent attacks on human rights	knowledge	lecture	Daily and monthly exam, attendance and reports
6	2	1-Human rights guarantees in Islamic law	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports
7	2	the right to movement Intellectual rights and freedoms	knowledge	lecture	Daily and monthly exam, attendance and reports
8	2	The concept of freedom, the concept of anarchy, the concept of democracy, the historical development of the concept of democracy in the Mesopotamian civilization	knowledge	lecture	Daily and monthly exam, attendance and reports
9	2	The pillars of democracy, the basic conditions of the democratic system and its characteristics	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	2	Features of the democratic system, types democracy	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	2	Forms of the system: indirect democracy, democracy, concept, and manifestations	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	2	Different systems of election	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	2	Democracy applications	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

14	2	Civil,society,democratic values and its functions	Knowled ge, skill	lecture	Daily and monthly exam, attendance and reports
15	2	The report on human rights in Islam comprehended and surpassed all hypothetical trends, ancient and modern	Knowled ge, skill	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Human Rights and Democracy / Dr. Ghassan Karim Majhab, Amjad Zein Al-Abidin Tohm
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including
Electronic References, Websites	International journals .

Course Description Form

1. Course Name:					
Principles of Statistics					
2. Course Code:					
STAT121					
3. Semester / Year:					
Second semester/ First year					
4. Description Preparation Date:					
31/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
Theory=(2) Hours & Practical = (3) Hours , Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Dr. Salah Jasim Amin Email: dr.salahjasim@uokirkuk.edu.iq					
8. Course Objectives					
The course aims to introduce students to the principles of statistics and its types, how to display tables and graphical representation of data, as well as to identify the most important statistical methods used (measures of central tendency and dispersion, etc.) and to make the student able to use different statistical methods correctly to solve statistical problems, as well as to analyze data statistically					
9. Teaching and Learning Strategies					
Explanation and clarification lecture method student groups.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	knowledge	Introduction to statistics, its definition, and its divisions	lecture	Exam
2	5	knowledge	The nature of statistical data and symbols	lecture	Exam
3	5	Knowledge & skills	Tabular display and graphical representation	lecture	Exam
4	5	Knowledge & skills	Tabular display and graphical representation	lecture	Exam

5	5	Knowledge & skills	measures of central tendency (arithmetic mean and harmonic mean) for ungrouped data and classified data	lecture	Exam
6	5	Knowledge & skills	measures of central tendency (median, mode) for ungrouped data and classified data	lecture	Exam
7	5	Knowledge & skills	measures of central tendency (geometric mean, square mean) for ungrouped data and classified data	lecture	Exam
8	5	Knowledge & skills	Measures of absolute dispersion (range, mean deviation)	lecture	Exam
9	5	Knowledge & skills	Measures of absolute dispersion (variance, standard deviation)	lecture	Exam
10	5	Knowledge & skills	Measures of relative dispersion: (coefficient of variation)	lecture	Exam
11	5	Knowledge & skills	Torsion measures and oblate measures	lecture	Exam
12	5	Knowledge & skills	Hypothesis testing	lecture	Exam
13	5	Knowledge & skills	t distribution	lecture	Exam
14	5	Knowledge & skills	Chi-square distribution	lecture	Exam
15	5	Knowledge & skills	Simple regression and correlation	lecture	Exam

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Introduction to Statistics, written by Dr. Khasha Mahmoud Al-Rawi (1989)
Main references (sources)	Introduction to descriptive statistics, written by Prof. Dr. Muhammad Ahmed Shalabi
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals
Electronic References, Websites	Different sites on the Internet

Course Description Form

1. Course Name:					
Agricultural Economic Principles					
2. Course Code:					
GEEC122					
3. Semester / Year:					
Second semester/ First year					
4. Description Preparation Date:					
28/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(2) Hours, Number of units (2)					
7. Course administrator's name (mention all, if more than one name)					
Name: Prof. Dr. khattab Abdullah Mohammed Email: khattab1981@uokirkuk.edu.iq					
8. Course Objectives					
The course aims to raise the level of students' knowledge about general concepts in the economy in general and its types, economic systems and the importance of the agricultural sector among other economic sectors, identifying the most important problems facing it and ways to reduce them, and displaying and marketing agricultural commodities.					
9. Teaching and Learning Strategies					
Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability, and conduct scientific visits to agricultural projects.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	General concepts in economics	knowledge	lecture	Daily and monthly exam, attendance and reports
2	2	Types of economy, economic systems, productive resources	knowledge	lecture	Daily and monthly exam, attendance and reports
3	2	The importance of the agricultural sector	knowledge	lecture	Daily and monthly exam, attendance and reports
4	2	Economic characteristics of contemporary agriculture	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	2	Risk and uncertainty in agricultural work	knowledge	lecture	Daily and monthly exam, attendance and reports
6	2	Production function	Knowledge,	lecture	Daily and monthly exam,

			skill and attitude		attendance and reports
7	2	Demand for agricultural commodities and its types	knowledge	lecture	Daily and monthly exam, attendance and reports
8	2	Factors affecting demand for agricultural commodities	knowledge	lecture	Daily and monthly exam, attendance and reports
9	2	Elasticity of demand and its types	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	2	Display agricultural commodities	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	2	Factors affecting the supply of agricultural commodities	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	2	Flexibility of supply and its types	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	2	Agricultural production function	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	2	Economic problems: unemployment	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	2	Economic problems: inflation	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Principles of Agricultural Economics, written by Ali Jadoua Al-Sharaf
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including Kirkuk University Journal of Agricultural Sciences
Electronic References, Websites	International journals included in Scopus

1. Name of Rapporteur					
Organic chemistry					
2. Symbol of decision					
ORCH123					
3. Chapter/year					
Second semester/First year					
4. Date of preparation of this description					
28/03/2024					
5. Forms of presence available					
Mandatory					
6. Number of hours (total)/ number of units (total)					
(5) hours of (2) hours for the theoretical part and (3) hours for the practical part number of units (3)					
7. Name of the course administrator (if more than one name is mentioned)					
Name: M.; Memorial of Ahmad Hassan e-mail: thikra.ahmed@uokirkuk.edu.iq					
8. Objectives of the decision					
Organic chemistry of the second stage deals with the study and determination of physical constants of organic compounds such as the degree of fusion, boiling and others and knowledge of how to purify the organic compound by laboratory methods and how to separate compounds from each other and detect the unknown organic compound by color methods has been interacted between the practical and theoretical aspect of the student to benefit from the greatest amount of information ** Knowledge of this area					
9. Teaching and learning strategies					
1- describe methods of assigning physical constants to organic compounds such as the degree of fusion ** And boiling. 2- Describe the general methods of purification 3 - Study and identify methods of separation and detection of the unknown organic compound					
.10					
Method of assessment	Way of learning	Name of unit or subject	Required learning outcomes	Hours	The week
Daily and monthly exam, attendance and reports	Lecture	Definition of organic chemistry, its importance and the types of interactions used in it	Knowledge	5	1

Daily and monthly exam, attendance and reports	Lecture	Study of alkane-saturated hydrocarbon compounds	Knowledge	5	2
Daily and monthly exam, attendance and reports	Lecture	Study of unsaturated alkene hydrocarbon compounds	Knowledge	5	3
Daily and monthly exam, attendance and reports	Student groups	Study of saturated and unsaturated hydrocarbon compounds	Knowledge and skill	5	4
Daily and monthly exam, attendance and reports	The lecture	Study of non-alkene hydrocarbon compounds	Knowledge	5	5
Daily and monthly exam, attendance and reports	Lecture	Study of aromatic hydrocarbon compounds	Knowledge and skill	5	6
Daily and monthly exam, attendance and reports	Lecture	The first month exam	Knowledge	5	7
Daily and monthly exam, attendance and reports	Lecture	** Alcohol and methods of preparation	Knowledge	5	8
Daily and monthly exam, attendance and reports	Lecture	** Phenols have their properties and methods of preparation	Knowledge and skill	5	9
Daily and monthly exam, attendance and reports	Lecture	Reactions of alcohol and phenols	Knowledge and skill	5	10

Daily and monthly exam, attendance and reports	The lecture	Aldehydes have their properties and methods of preparation	Knowledge and skill	5	11
Daily and monthly exam, attendance and reports	Lecture	Ketones have their properties, methods of preparation and reactions of aldehydes and ketones	Knowledge and skill	5	12
Daily and monthly exam, attendance and reports	Lecture	Second month exam	Knowledge and skill	5	13
Daily and monthly exam, attendance and reports	Lecture	Carboxylic acids have their properties and methods of preparation	Knowledge and skill	5	14
Daily and monthly exam, attendance and reports	Lecture	The Secretary and the effective group	Knowledge and skill	5	15

11. Evaluation of the decision

Quarterly pursuit score of (40%) distributed (10) scores for daily preparation, participation and reporting, and (30) monthly exam score of two monthly exams per exam (15) score, and the final exam score of (60%)

12. Sources of learning and teaching

Lectures prepared by the teacher based on the relevant books and references.	Required books (methodology, if any)
General organic chemistry Dr. Ahmad Fathi Sayed Ahmed	Principal references (sources)
Iraqi academic scientific journals, including the Journal of Kirkuk University of Science	Recommended books and supporting references (scientific journals, reports...)
International magazines within the Scopus absorbers	Electronic references, Internet sites

Model description of the decision

Course Description Form

1. Course Name:

Principles of Plant Anatomy

2. Course Code:

PLMO124

3. Semester / Year:

Second semester/First year

4. Description Preparation Date:

28/03/2024

5. Available Attendance Forms:

Mandatory

6. Number of Credit Hours (Total) / Number of Units (Total)

(5) Hours, Number of units (3)

7. Course administrator's name (mention all, if more than one name)

Name: Assist. Prof. Dr. Mateen Yilmaz Izaldin Al-Bayati

Email: uk_mateen@uokirkuk.edu.iq

8. Course Objectives

The course aims to teach the student anatomy, its branches, and its relationship to other sciences such as plant diseases, physiology, environment, and others. The student also learns about the very precise specifications and precise classification of medicinal plants used in the manufacture of drugs, food, fibers, wood, etc.

9. Teaching and Learning Strategies

Teaching the student how to dissect a plant and explain its organs, tissues, and cells, the function of each of them, and their relationship to each other.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	The apparent appearance of the plant - the root system (its types, functions, and modifications)	knowledge	lecture	Daily and monthly exam, attendance and reports
2	5	Stem (types, functions, mutations, distribution) - buds	knowledge	lecture	Daily and monthly exam, attendance and reports
3	5	Papers (types, functions, Its modifications, distribution)	knowledge	lecture	Daily and monthly exam, attendance and reports
4	5	Meristematic tissues (types and locations). Their presence in	Knowledge and skills	lecture	Daily and monthly exam, attendance and reports

		plants and their functions)			
5	5	Permanent tissues (types, locations, and most important features)	knowledge	lecture	Daily and monthly exam, attendance and reports
6	5	Secretory structures (types, functions and environmental importance)	Knowledge and skills	lecture	Daily and monthly exam, attendance and reports
7	5	Epidermal tissue (epidermal cells and stomata)	knowledge	lecture	Daily and monthly exam, attendance and reports
8	5	Xylem and phloem - vascular bundle and its types	knowledge	lecture	Daily and monthly exam, attendance and reports
9	5	The anatomical structure of the root of a young monocot and dicotyledonous plant - The anatomical structure of the root of an old plant	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	5	The anatomical structure of the root of a young monocot and dicotyledonous plant - The anatomical structure of the stem of an old monocot and dicotyledonous plant	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	5	Growth rings	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	5	Sapwood and hardwood	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	5	Vascular connection between the root and the stem	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	5	Vascular cambium (cambium cell structure, cambium activity, cork cambium and formation of prederm, protective	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

		tissue in plants, wound cork and lenticels)			
15	5	The anatomical structure of a monocot leaf and a dicot leaf - defoliation	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Basics of plant Anatomy
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including Kirkuk University Journal of Agricultural Sciences
Electronic References, Websites	International journals included in Scopus

Course Description Plane surveying

1. Course Name:					
Surveying					
2. Course Code:					
SURV125					
3. Semester / Year:					
Second semester/first year					
4. Description Preparation Date:					
۲/0۴/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Dr. Ali hakeem dohan Email: Alihakeem @uokirkuk.edu.iq					
8. Course Objectives					
<p>Introducing the student to the general basics of surveying and preparing him so that he has the ability to manage surveying technicians and engineers working on civil projects. Introducing the student to using some surveying devices, such as the Level device and the Theodolite device, so that he can perform the simple surveying work he needs in civil works, such as measuring levels or measuring a specific angle. Giving the student priorities for advanced surveys, such as surveying roads and measuring coordinates. This enables the student, if he wishes, to develop his capabilities in the future through courses or study so that he can be a professional surveyor and perform advanced surveying work.</p> <p>Giving the student the basic principles of surveying, training him on the use of surveying tools, and acquiring the following skills:</p> <p>Introduction to various surveying sciences Using modern surveying equipment to obtain meteorology Calculating coordinates and determining locations</p>					
9. Teaching and Learning Strategies					
Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability, and conduct scientific visits to agricultural projects.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Definition of space, its types, branches and how it develops	knowledge	lecture	Daily and monthly exam, attendance and reports
2	5	Basic principles of space Units of measurement	knowledge	lecture	Daily and monthly exam, attendance and reports

		(its parts, multiples) scale, (types, methods of application)	knowledge	lecture	Daily and monthly exam, attendance and reports
3	5	Surveying using the measuring wheel (on the map and on the ground)	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
4	5	Longitudinal measurements and longitudinal measuring tools	knowledge	lecture	Daily and monthly exam, attendance and reports
5	5	Scanning with tape	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports
6	5	Cadastral errors, their types and sources	knowledge	lecture	Daily and monthly exam, attendance and reports
7	5	Methods for measuring horizontal distances directly Knowing the obstacles that prevent measurement	knowledge	lecture	Daily and monthly exam, attendance and reports
8	5	Methods of dropping columns	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
9	5	Methods of indirect measurement through a device Settlement	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	5	Distance whiskers method and shadow method	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	5	Anvar method	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	5	Settlement methods	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	5	Topographical area	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	5	Application of measuring distances using theodolite	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The goals can be summarized through the following points:

1. Establishing the required locations on the ground based on known points
2. Identify and determine the locations of agricultural lands and their heights above sea level

- . 3. Finding land areas according to their types directly or through maps
- . 4. Giving an idea about water resources and their distance from agricultural lands
- . 5. Assist in designing irrigation and drainage networks and constructing dams and water tanks
6. Planning the locations of agricultural roads of all types and the boundaries of forest divisions
7. Determine the types and densities of vegetation cover in different areas using aerial photographs and remote sensing methods
8. Providing the necessary information for constructing agricultural buildings
9. Providing the necessary information for making contour lines, terraces, and corrugations on slopes
10. Assist in determining the boundaries of soil units when classifying lands.

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Principle of plane and Topographic Surveying written by Dr. Riad Saleh Al-Khafaf
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including Kirkuk University Journal of Agricultural Sciences
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:

Computer/2

2. Course Code:

COMP126

3. Semester / Year:

second semester/ first year

4. Description Preparation Date:

28/03/2024

5. Available Attendance Forms:

Mandatory

6. Number of Credit Hours (Total) / Number of Units (Total)

(3) Hours, Number of units (1)

7. Course administrator's name (mention all, if more than one name)

Name: Assist Prof. Basira Abdullah Ahmed Email: baseraabdullah@uokirkuk.edu.iq

8. Course Objectives

Developing the student's abilities to master making tables and writing mathematical equations via the computer

9. Teaching and Learning Strategies

Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Run Microsoft Word - open a new document - save the working page - make a backup copy - close a file - open a stored file	Knowledge	lecture	Daily and monthly exam, attendance and reports
2	3	Inverting the language between Latin and Arabic - preparing an Arabic and Latin paragraph - preview before printing - printing the worksheet - specifying the text - font and size -	Knowledge	lecture	Daily and monthly exam, attendance and reports

		underlining - changing letter case			
3	3	Moving and copying information - Word clipboard - Search and replace - Numbers and bullets - Spell checker - Undo - Reverse undo - Page setup - Page margins - Text alignment - Line spacing	Knowledge	lecture	Daily and monthly exam, attendance and reports
4	3	Inserting a table - Inserting rows and columns - Selecting the row/column - Selecting the table - Adding borders and deleting cells - Shading the frame	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	3	Merge and split cells - Split the table - Change the height and width of cells - Auto fit - Repeat the table title - Header and footer - Sorting text	knowledge	lecture	Daily and monthly exam, attendance and reports
6	3	Page numbering - writing code - toolbar - drawing - deleting drawing shapes - filling - drawing line color - inserting, editing, deleting and moving the image	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports
7	3	Microsoft Excel: Run it - Excel worksheet - Enter data - Save the file - Print the worksheet - Exit the program	knowledge	lecture	Daily and monthly exam, attendance and reports
8	3	Practical exam	knowledge	lecture	Daily and monthly exam, attendance and reports
9	3	Selecting cells - types of data - using mathematical formulas to select data - relative and	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

		absolute addresses - formulas that produce error values - moving cells - copying data Move or copy a worksheet and replace - move to a cell - delete cells - erase/insert a row or column			
10	3	Organizing the address list - Copying images and texts - Splitting web pages - Printing web pages - Search engines - How to search for information on the network - Using the search button in the toolbar -	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	3	Modify the height of a row or column - show and hide the row or column	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	3	Rename the worksheet - font type, size and style	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	3	Shape numbers - align data - add borders	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	3	Fill cells - sort data - create a chart	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	3	Edit Created Layout - Header/Footer Insert and remove a page break	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11. Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Computer basics and office applications (Part second) / Ziad Muhammad Aboudi, Ghassan Hamid Abdel Majeed, Mustafa Diao Al-Hassan
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including
Electronic References, Websites	International journals .

Course Description Form

1. Course Name:	
Engineering drawing	
2. Course Code:	
GEDR127	
3. Semester / Year:	
second semester /first year	
4. Description Preparation Date:	
31/3/2024	
5. Available Attendance Forms:	
Is mandatory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
((3) hours for the practical part, number of units (3)	
7. Course administrator's name (mention all, if more than one name)	
Name: MA-NIHAYAT HUSSEIN AMEEN Email: mnas_int@uokirkuk.edu.iq	
8. Course Objectives	
Course Objectives	<p>1. Introducing a student to general concepts and definitions in drawing. Engineering drawing is considered a language with rules and foundation that can only be practiced by those who have studied it properly. The extent of achievement in depends on practice and complete accuracy.</p> <p>2. Introduce the student to the basics of dimension and basic measurements</p> <p>Skill objectives for introducing the student to examples of dimensions, measurements, projection and engineering design.</p>
9. Teaching and Learning Strategies	
Strategy	<p>Understand all the engineering properties of an entity or product in a clear and correct manner. Through education and full knowledge of the basics and scientific engineering concepts.</p> <p>2- Presenting questions about the topic to demonstrate students' understanding through their answers</p> <p>3- Conducting daily and monthly exams, preparing practical reports, and descriptive homework assignments</p>

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
١	3	Lectures + exercises and practical observations	. historical overview of the science of engineering drawing and its principles Definitions and explanation of scientific terms	Lectures + applications and drawings	Daily questions + tests
٢	3	Lectures + exercises and practical observations	Representing objects by reducing and enlarging measurements Examples of scale operations	Lectures + applications and drawings	Daily questions + tests
٣	3	Lectures + exercises and practical observations	Modern and basic multi-purpose drawing tools Basics of using tools	Lectures + applications and drawings	Daily questions + tests
٤	3	Lectures + exercises and practical observations	Identify the types of lines used in engineering drawings, the rules for implementing them, arranging the drawing paper and data table, and writing numbers and letters	Lectures + applications and drawings	Daily questions + tests
٥	3	Lectures + exercises and practical observations	Engineering operations (dividing lines and erecting columns), direct drawings, connecting future lines, arcs, and tangents Examples and drawings	Lectures + applications and drawings	Daily questions + tests
٦	3	Lectures + exercises and practical observations	Regular polygons, parabolas and ellipses Examples and drawings	Lectures + applications and drawings	Daily questions + tests
٧	3	Lectures + exercises and practical observations	Examination	Lectures + applications and drawings	Daily questions + tests
٨	3	Lectures + exercises and practical observations	Projective drawing/drawing	Lectures + applications and drawings	Daily questions + tests

			sections parallel to basic levels		
٩	3	Lectures + exercises and practical observations	Determine the position of the drop on the plate Examples and drawings	Lectures + applications and drawings	Daily questions + tests
١٠	3	Lectures + exercises and practical observations	(Intersections in projections)	Lectures + applications and drawings	Daily questions + tests
١١	3	Lectures + exercises and practical observations	Basic rules for setting dimensions	Lectures + applications and drawings	Daily questions + tests
١٢	3	Lectures + exercises and practical observations	Geometric perspective – axonometric projection	Lectures + applications and drawings	Daily questions + tests
١٣	3	Lectures + exercises and practical observations	Sectional projections	Lectures + applications and drawings	Daily questions + tests
١٤	3	Lectures + exercises and practical observations	Rules for drawing engineering sectors	Lectures + applications and drawings	Daily questions + tests
١٥	3	Lectures + exercises and practical observations	Examination	Lectures + applications and drawings	Daily questions + tests

11. Course Evaluation

Daily and monthly tests

Participate by asking questions and opening scientific discussions related to the academic subject

Student activities through research, reports, and home and class assignments

And illustrations related to the study material

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Introduction to engineering drawing for students of the College of Agriculture - Dr. Spokesman Sabri Hassan. Mosul University Press
Main references (sources)	The Internet in general
Recommended books and references (scientific journals, reports...)	Messages and theses, ancient and modern
Electronic References, Websites	Iraqi academic journals, Research gate,

Course Description Form

1. Course Name:					
Forest Dendrology					
2. Course Code:					
FOEN224					
3. Semester / Year:					
Second semester/second year					
4. Description Preparation Date:					
29/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: MOHAMMED ALBAYATI E-mail albayatiiu@uokirkuk.edu.iq					
8. Course Objectives					
9. Teaching and Learning Strategies					
Verbal communication with students and motivation for teamwork in the learning process and use of communication skills...					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Foundations of veganism	Foundations of veganism and some partitioning terminology	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
2	5	Objectives of Plant Division	Objectives of Plant Division Science and its Relationship to Other Science	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
3	5	Historical Profile	Historical Profile of Veganism	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
4	5	Foundations of plant development	Foundations of plant development	Lecture, presentations and	Verbal, editorial, daily and monthly tests and

			and basic trends of development	interactive discussion	scientific reports
5	5	classification mattresses	Large and small classification mattresses	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
6	5	Principles of Plant	Principles of Plant Designation for Forest Tree	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
7	5	Common classification	Common classification systems in the world	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
8	5	Plant Diagnosis	Plant Diagnosis of Forest Tree	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
9	5	Qualities, classification	Qualities, classification manuals and types	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
10	5	Certified qualities	Certified qualities in plant classification	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
11	5	Basic classification	Basic classification principles for tree parts	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
12	5	Classification of the Kingdom's	Classification of the Kingdom's plant and forest location	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
13	5	gymnosperms	gymnosperms	Lecture,	Verbal, editorial,

				presentations and interactive discussion	daily and monthly tests and scientific reports
14	5	angiosperms	angiosperms	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
15	5	Global Forest Tree Classification	Global Forest Tree Classification Keys	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Forest Dendrology
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

1. Name of Rapporteur					
Biochemistry					
2. Decision code					
BICH212					
3. Chapter/year					
Secondyear/ first semester					
4. Date of preparation of this description					
28/03/2024					
5. Forms of presence available					
Mandatory					
6. Number of hours (total)/ number of units (total)					
(5) hours of (2) hours for the theoretical part and (3) hours for the practical part, number units (3)					
7. Name of the course administrator (if more than one name is mentioned)					
Name: Mohammed Abdul Aziz Lateef email: mahammdazyz@uokirkuk.edu.iq					
8. Objectives of the decision					
** Have an understanding of the basic topics in biochemistry and their applications in the field of laboratories with appropriate knowledge of the different axes of chemistry.					
9. Teaching and learning strategies acquire a reasonable level of chemical knowledge commensurate with what is recognized among the different universities of the world, especially the sober ones.					
Method of assessment	Way of learning	Name of unit or subject	Required learning outcomes	Hours	The week
Daily and monthly exam, attendance and reports	Lecture	Biochemistry and its fields The components of the living cell and its functions	Knowledge	5	1
Daily and monthly exam, attendance and reports	Lecture	Carbohydrates – their importance is defined by their sections	Knowledge	5	2
Daily and monthly exam, attendance and reports	Lecture	Single sugars - similar In monosaccharides - the derivatives of monosaccharides - the ring structure of sugars	Knowledge	5	3
1					

Daily and monthly exam, attendance and reports	Student groups	Low-lying polysaccharides – their reduced and unreduced types	Knowledge and skill	5	4
Daily and monthly exam, attendance and reports	Scientific trips to some departments in the province	Many homogeneous and heterogeneous sugars	Knowledge	5	5
Daily and monthly exam, attendance and reports	Lecture	The first month exam	Knowledge and skill	5	6
Daily and monthly exam, attendance and reports	Lecture	Fat – define its importance – fatty acids its sections – their composition – their interactions – geometric similarities to fatty acids	Knowledge	5	7
Daily and monthly exam, attendance and reports	Lecture	Fat sections – simple fats – types (oils, fats and candles) – their composition – fat constants	Knowledge	5	8
Daily and monthly exam, attendance and reports	Lecture	And the shape and shape of the boat – the shape of it	Knowledge and skill	5	9
Daily and monthly exam, attendance and reports	Lecture	Amino acids – their sections – their structures – amino	Knowledge and skill	5	10

		acid properties – their interactions			
Daily and monthly exam, attendance and reports	Student groups	Peptides – proteins – defined by their sections – protein synthesis levels – denera	Knowledge and skill	5	11
Daily and monthly exam, attendance and reports	Lecture	Second month exam	Knowledge and skill	5	12
Daily and monthly exam, attendance and reports	Lecture	Nucleic acids – their importance as nucleotides – their functions – their composition – types of nucleic acids	Knowledge and skill	5	13
Daily and monthly exam, attendance and reports	Lecture	Enzymes – defined – the mechanism of action of the enzyme – classified – inert and active enzymes – factors affecting the speed of the enzymatic reaction	Knowledge and skill	5	14
Daily and monthly exam, attendance and reports	Lecture	Explain the lock and key theory	Knowledge and skill	5	15

10. Evaluation of the decision

Quarterly pursuit score of (40%) distributed (10) scores for daily preparation, participation and reporting, and (30) monthly exam score of two monthly exams per exam (15) score, and the final exam score of (60%)

11. Sources of learning and teaching

Lectures prepared by the teacher based on the relevant books and references.	Required books (methodology, if any)
Chemical by the Dalai Lama	Principal references (sources
Iraqi academic scientific journals, including the Journal of the University of Kirkuk for Chemical Sciences Biochemistry and its fields	Recommended books and supporting references (scientific journals, reports...)
International magazines and Scopas absorption magazines	Electronic references, Internet sites

Model description of the decision

Course Description Form

1. Course Name:

Principle of microbiology

2. Course Code:

MIBI213

3. Semester / Year:

first semester/second year

4. Description Preparation Date:

03/04/2024

5. Available Attendance Forms:

Mandatory

6. Number of Credit Hours (Total) / Number of Units (Total)

(5) Hours, Number of units (3)

7. Course administrator's name (mention all, if more than one name)

Name: Dr. kawther hkeem ibraheim **Email:** microbiology_1975@uokirkuk.edu.iq

8. Course Objectives

The course aims to raise the level of students' knowledge about the microbiology projects and how to distinguish between them practically and culturing with acknowledging how characterization laboratory.

9. Teaching and Learning Strategies

Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability, and conduct scientific visits to agricultural projects.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	<ul style="list-style-type: none"> - Introduction to microbiology - Know general aspect of microbiology <p style="margin-left: 20px;">Know the important scientists contributed in development of microbiology</p>	Introduction and the historical development of microbiology	lecture	Daily and monthly exam, attendance and reports- Making quizzes - Discussion
2	5	<ul style="list-style-type: none"> - How to classifying bacteria - Know the general structure of bacteria <p style="margin-left: 20px;">Know the physiology of bacteria</p>	The classification of microorganisms Nutritional requirements of bacteria	lecture	Daily and monthly exam, attendance and reports
3	5	Microbial control Sterilization and Disinfection	- Know the different types of microbial control	lecture	Daily and monthly exam,

			How to use the sterilization techniques for medical equipments		attendance and reports
4	5	Structure of bacteria components	knowledge	Lecture.working in lab as group	Daily and monthly exam, attendance and reports
5	5	Classification of bacteria	Classification of bacteria depending on family,class,order,genus	Lecture working in lab as group	Daily and monthly exam, attendance and reports
6	5	History,Classification of fung	Intensive study fungi.structure,nutartion ,physiology	Lecture working in lab as group	Daily and monthly exam, attendance and reports
7	5	History ,Classification of yeast	Intensive study fungi.structure,nutrition ,physiology	Lecture working in lab as group	Daily and monthly exam, attendance and reports
8	5	History ,Classification of algae	Intensive study fungi.structure,nutrition ,physiology	Lecture working in lab as group	Daily and monthly exam, attendance and reports
9	5	History ,Classification of protozoa	Intensive study fungi.structure,nutrition ,physiology classification,Knowledge, skill	Lecture working in lab as group	Daily and monthly exam, attendance and reports
10	5	History ,Classification of virus	Intensive study fungi.structure,nutrition ,physiology,classification Knowledge, skill	Lecture working in lab as group	Daily and monthly exam, attendance and reports
11	5	Control of microorganism	Factores on microorganism growth,control,prevention	Lecture working in lab as group	Daily and monthly exam, attendance and reports
12	5	antibiotic	Study types of antibiotics ,classification act work with site effects on it	Lecture working in lab as group	Daily and monthly exam, attendance and reports
13	5	pathogenesis	Doses of effect and type of toxins for each bacteria and workss	Lecture working in lab as group	Daily and monthly exam,

					attendance and reports
14	5	Microorganism in food	Study types of microorganisms with acts in food and benefits and disadvantages	Lecture working in lab as group	Daily and monthly exam, attendance and reports
15	5	Micro in water, air, industrial	Types and classification for each one and works and distribution in environments and works	Lecture working in lab as group	Daily and monthly exam, attendance and reports

11. Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	<p>Whitman, William B; Rainey, Fred; Kämpfer, Peter; Trujillo, Martha; Chun, Jonsik; Devos, Paul; Hedlund, Brian; Dedysh, Svetlana (eds.) (2015). <i>Bergey's Manual of Systematics of Archaea and Bacteria</i>. John Wiley and Sons.</p> <p>4- Richard A. Harvey, Cynthia Nau Cornelissen and Bruce D. Fisher. <i>Microbiology</i>. (Lippincott's Illustrated Reviews) 3rd edition. 2014</p> <p>5- Bailey and Scott's. (2014). <i>Diagnostic microbiology</i>. Elsevier, 2014.</p> <p>6-- Brock TD. Madigan M. Martinko J. et al. editors: <i>Biology of microbiology</i>. Upper Saddle River, NJ. 2009. Prentice Hall</p>
Recommended books and references (scientific journals, reports...)	Web sites of Microbiology

Course Description Form

1. Course Name:	
Forest machinery	
2. Course Code:	
FOMA214	
3. Semester / Year:	
First semester /second year	
4. Description Preparation Date:	
31/3/2024	
5. Available Attendance Forms:	
Is mandatory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
(5) hours, (2) hours for the theoretical part and (3) hours for the practical part number of units (٣)	
7. Course administrator's name (mention all, if more than one name)	
Name: MA-NIHAYAT HUSSEIN AMEEN Email: mnas_int@uokirkuk.edu.iq	
8. Course Objectives	
Course Objectives	definition, qualifying and training students theoretically, practically and Introducing a student to general concepts and definitions in forest machinery, motivating him with deductive skills and introducing the student arithmetic problems
9. Teaching and Learning Strategies	
Strategy	<p>1-Identifying the components and parts of forest machines and machines, identifying the engine parts, devices and systems associated with them, and how to create productivity and energy and shift towards more mechanical harvesting technology for these machines.</p> <p>2- Presenting questions about the topic to demonstrate students' understanding through their answers</p> <p>3- Conduct daily and monthly examinations and prepare practical reports</p>
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
١	٣+٢	Lectures + exercises and practical observations	introduction and definition of forest machinery sciences + identifying the types of pullers and their general specifications	Lectures + teaching-learning aids	Daily questions + tests
٢	٣+٢	Lectures + exercises and practical observations	Basics of forestry tractor classification + learning about the main parts of forestry machinery	Lectures + teaching-learning aids	Daily questions + tests
٣	٣+٢	Lectures + exercises and practical observations	Types of combustion engines (examples of types of engines) + learning about engine parts, operation and maintenance	Lectures + teaching-learning aids	Daily questions + tests
٤	٣+٢	Lectures + exercises and practical observations	Transmission devices + mathematical applications	Lectures + teaching-learning aids	Daily questions + tests
٥	٣+٢	Lectures + exercises and practical observations	The methods used when transferring and converting movement in agricultural machinery and equipment + identifying the parts of the devices and systems and maintaining them	Lectures + teaching-learning aids	Daily questions + tests
٦	Examination	Examination	Examination	Examination	Examination
٧	٣+٢	Lectures + exercises and practical observations	identify engine parts (types) Lubrication systems in engines + mathematical applications	Lectures + teaching-learning aids	Daily questions + tests
٨	٣+٢	Lectures + exercises and practical observations	Identify engine parts (types) Cooling systems in engines + training on driving the tug and connecting machines to the tug	Lectures + teaching-learning aids	Daily questions + tests
٩	٣+٢	Lectures + exercises and practical observations	Forest land evacuation equipment + identification of	Lectures + teaching-learning aids	Daily questions + tests

			equipment (calibration and maintenance)		
١٠	٣+٢	Lectures + exercises and practical observations	Forest land plowing equipment + training on equipment (calibration and maintenance)	Lectures + teaching-learning aids	Daily questions + tests
١١	٣+٢	Lectures + exercises and practical observations	Forest cutting equipment and dropping technology + the use of forest machinery in plantation forests	Lectures + teaching-learning aids	Daily questions + tests
١٢	٣+٢	Lectures + exercises and practical observations	Forestry tree transport equipment + conducting a study on safety in cutting wood	Lectures + teaching-learning aids	Daily questions + tests
١٣	Semester exam	Lectures + exercises and practical observations	Forest tree protection equipment + economic feasibility study for agricultural projects	Examination	Daily questions + tests
١٤	٣+٢	A field visit to the fields	Firefighting equipment + familiarization with the land management program	Lectures + teaching-learning aids	Daily questions + tests
١٥	٣+٢	Examination	Examination	Examination	Examination

11. Course Evaluation

Daily and monthly tests

Participate by asking questions that are models of scientific discussions related to the academic subject

Submissions activities through new work and scientific reports

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	. Agricultural equipment - Ministry of Agriculture - Dr. Abdul Muti Al-Khafaf -. 1981/General Authority for Agricultural Education and Extension - Baghdad - Iraq 3- Principles of Soil Physics. Lal ana Shukla. 2004. USA. 4- Environment of Soil Physics. D. Hillel. 2004 USA.
Main references (sources)	The Internet in general
Recommended books and references (scientific journals, reports...)	Messages and theses, ancient and modern
Electronic References, Websites	Iraqi academic journals, Research groups, USGS

Course Description Form

1. Course Name:					
Genetics					
2. Course Code:					
GENE215					
3. Semester / Year:					
First Semester/second year					
4. Description Preparation Date:					
28/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Asst. Prof. Dr. Hussein Abdullah Ahmed Email: husseinabdullah@uokirkuk.edu.iq					
8. Course Objectives					
The aim of the article is to acquaint the student with the principles of genetics and the laws that regulate this science, introduce the student to the basic principles and ways of applying Mendelian laws of heredity in life, elevate the student's understanding of ways to improve breeding in plants, mechanisms of genetic information transfer among microorganisms, familiarize the student with the extent of inheritance and transmission of traits from one generation to another, and ways to improve generations.					
9. Teaching and Learning Strategies					
The student or learner should be able to improve cognitive objectives by introducing them to the types of genetic material at the beginning and the nucleus's reality, the mechanism of genetic material transmission from one generation to another, examining cells under the microscope, the skills objectives specific to the program, introducing the student to how traits are passed from one generation to another, the student's ability to interpret genetic outcomes, as well as applications of genetics.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Knowledge and skills	Introduction to Genetics Dominant and Recessive Alleles Monohybrid Cross and Mendel's First Law Dihybrid Cross and Mendel's Second Law	Explanation, presentation of the model, and the lecture.	Daily and monthly exam, attendance and reports
2	5	Knowledge and skills	Genetics Fundamentals	Explanation, presentation of the model, and the lecture.	Daily and monthly exam, attendance and reports
3	5	Knowledge and skills	The chemical basis of heredity	Explanation, presentation of the model, and the	Daily and monthly exam, attendance and reports

				lecture.	
4	5	Knowledge and skills	Levels of DNA organization in chromosomes	Explanation, presentation of the model, and the lecture.	Daily and monthly exam, attendance and reports
5	5	Knowledge and skills	Genes	Explanation, presentation of the model, and the lecture.	Daily and monthly exam, attendance and reports
6	5	Knowledge and skills	Genetic mutations	Explanation, presentation of the model, and the lecture.	Daily and monthly exam, attendance and reports
7	5	Knowledge and skills	Deoxyribonucleic acid replication	Explanation, presentation of the model, and the lecture.	Daily and monthly exam, attendance and reports
8	5	Knowledge and skills	RNA cloning	Explanation, presentation of the model, and the lecture.	Daily and monthly exam, attendance and reports
9	5	Knowledge and skills	Protein biosynthesis	Explanation, presentation of the model, and the lecture.	Daily and monthly exam, attendance and reports
10	5	Knowledge and skills	Polymerase chain reaction techniques	Explanation, presentation of the model, and the lecture.	Daily and monthly exam, attendance and reports
11	5	Knowledge and skills	Cellular division	Explanation, presentation of the model, and the lecture.	Daily and monthly exam, attendance and reports
12	5	Knowledge and skills	Linkage, crossing over, and chromosomal mapping	Explanation, presentation of the model, and the lecture.	Daily and monthly exam, attendance and reports
13	5	Knowledge and skills	Cytoplasmic genetics	Explanation, presentation of the model, and the lecture.	Daily and monthly exam, attendance and reports
14	5	Knowledge and skills	Quantitative genetics and heritability coefficient, population genetics	Explanation, presentation of the model, and the lecture.	Daily and monthly exam, attendance and reports
15	5	Knowledge and skills	Genetic Engineering	Explanation, presentation of the model, and the lecture.	Daily and monthly exam, attendance and reports

11. Course Evaluation

The grade for the semester endeavor is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (10) grade for the practical semester exams, and (20) for the theoretical semester exams, and the final exam grade is from (60%), and the final practical exam is (20) The final theoretical exam is (40) marks

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	The lecturer prepares lectures based on relevant books and references.
Main references (sources)	Introduction to Genetics / Assistant Professor Dr. Abbas Hussein Maghir Al-Rubaie / 2016 Theoretical Part Plant Genetics / Dr. Ghassan Ayyash, Dr. Mohammed Sleiman, and Mrs. Farah Aloush / 2016 Practical Part
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including Kirkuk University Journal of Agricultural Sciences
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Transfer of agricultural techniques					
2. Course Code:					
TRAG216					
3. Semester / Year:					
First semester/ Second year					
4. Description Preparation Date:					
28/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(2) Hours, Number of units (2)					
7. Course administrator's name (mention all, if more than one name)					
Name: Prof. Dr. khattab Abdullah Mohammed Email: khattab1981@uokirkuk.edu.iq					
8. Course Objectives					
The graduating student will be able to deal with agricultural technology, determine which one is appropriate for local conditions, or adapt it for imported ones, and possess the skills that will help him transfer it to farmers' fields, apply it to them, and address the problems that hinder its application.					
9. Teaching and Learning Strategies					
Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability, and conduct scientific visits to agricultural projects.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Definition of agricultural techniques	knowledge	lecture	Daily and monthly exam, attendance and reports
2	2	Classification of agricultural techniques	knowledge	lecture	Daily and monthly exam, attendance and reports
3	2	The importance of agricultural techniques	knowledge	lecture	Daily and monthly exam, attendance and reports
4	2	Methods of transferring agricultural technologies	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	2	Classification of methods of transferring agricultural technologies	knowledge	lecture	Daily and monthly exam, attendance and reports

6	2	Characteristics of workers in transferring agricultural technologies	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports
7	2	The role of modern technologies in agricultural development	knowledge	lecture	Daily and monthly exam, attendance and reports
8	2	Adopting agricultural technologies	knowledge	lecture	Daily and monthly exam, attendance and reports
9	2	Categories of adoptees	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	2	Factors affecting the adoption of agricultural technologies	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	2	Advantages of technology and speed of adoption	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	2	Agricultural cognitive systems	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	2	Characteristics of the agricultural sector	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	2	Change agent	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	2	Electronic agricultural extension	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	principles of Agricultural extension, written by Abdullah Al-Samarrai
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including Kirkuk University Journal of Agricultural Sciences
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:

Computer/3

2. Course Code:

Comp217

3. Semester / Year:

first semester/ second year

4. Description Preparation Date:

28/03/2024

5. Available Attendance Forms:

Mandatory

6. Number of Credit Hours (Total) / Number of Units (Total)

(3) Hours, Number of units (1)

7. Course administrator's name (mention all, if more than one name)

Name: Assist Prof. Basira Abdullah Ahmed Email: baseraabdullah@uokirkuk.edu.iq

8. Course Objectives

Developing the student's abilities to master making tables and writing mathematical equations via the computer

9. Teaching and Learning Strategies

Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Run Microsoft Word - open a new document - save the working page - make a backup copy - close a file - open a stored file	Knowledge	lecture	Daily and monthly exam, attendance and reports
2	3	Inverting the language between Latin and Arabic - preparing an Arabic and Latin paragraph - preview before printing - printing the worksheet - specifying the text - font and size -	Knowledge	lecture	Daily and monthly exam, attendance and reports

		underlining - changing letter case			
3	3	Moving and copying information - Word clipboard - Search and replace - Numbers and bullets - Spell checker - Undo - Reverse undo - Page setup - Page margins - Text alignment - Line spacing	Knowledge	lecture	Daily and monthly exam, attendance and reports
4	3	Inserting a table - Inserting rows and columns - Selecting the row/column - Selecting the table - Adding borders and deleting cells - Shading the frame	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	3	Merge and split cells - Split the table - Change the height and width of cells - Auto fit - Repeat the table title - Header and footer - Sorting text	knowledge	lecture	Daily and monthly exam, attendance and reports
6	3	Page numbering - writing code - toolbar - drawing - deleting drawing shapes - filling - drawing line color - inserting, editing, deleting and moving the image	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports
7	3	Microsoft Excel: Run it - Excel worksheet - Enter data - Save the file - Print the worksheet - Exit the program	knowledge	lecture	Daily and monthly exam, attendance and reports
8	3	Practical exam	knowledge	lecture	Daily and monthly exam, attendance and reports
9	3	Selecting cells - types of data - using mathematical formulas to select data - relative and	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

		absolute addresses - formulas that produce error values - moving cells - copying data Move or copy a worksheet and replace - move to a cell - delete cells - erase/insert a row or column			
10	3	Organizing the address list - Copying images and texts - Splitting web pages - Printing web pages - Search engines - How to search for information on the network - Using the search button in the toolbar -	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	3	Modify the height of a row or column - show and hide the row or column	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	3	Rename the worksheet - font type, size and style	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	3	Shape numbers - align data - add borders	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	3	Fill cells - sort data - create a chart	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	3	Edit Created Layout - Header/Footer Insert and remove a page break	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11. Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Computer basics and office applications (Part second) / Ziad Muhammad Aboudi, Ghassan Hamid Abdel Majeed, Mustafa Diao Al-Hass
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including
Electronic References, Websites	International journals .

Course Description Form

1. Course Name:					
The crimes of the Baath regime in Iraq					
2. Course Code:					
CRBA218					
3. Semester / Year:					
First Semester / second year					
4. Description Preparation Date:					
31\3\2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2 hours / 2 units					
7. Course administrator's name (mention all, if more than one name)					
Name: m. shahad jumaa mohammad Email: shahadjumaa@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives		<p>The course aims to introduce the student to the crimes committed by the Baath regime and the punishments.</p> <p>The decisions issued against the perpetrators of crimes, the types of international crimes and their impact on the citizenry. And mass graves.</p>			
9. Teaching and Learning Strategies					
Strategy		<p>To make the learner able to know the types of international crimes and their impact on the people from a psychological, social and religious perspective and the punishments issued against the perpetrators of such crimes, as well as to know the oppression, abuse, murder and intimidation committed by the previous regime against Iraqi society.</p>			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	2	Learn about the concept of crimes and their categories	Crimes of the Baath regime according to the Iraqi Supreme Criminal Court Law in 2005	Lecture and discussion	Oral examination and essay
2	2	Identify the types of international crimes	Crimes of the Baath regime according to the Iraqi Supreme Criminal Court Law in 2005	=	=
3	2	Learn about the decisions issued by Supreme Criminal Court	Crimes of the Baath regime according to the Iraqi Supreme Criminal Court Law in 2005	=	=
4	2	Identify the mechanisms of psychological crimes.	Psychological and social crimes and their effects	=	=
5	2	Identify the effects of psychological crimes	Psychological and social crimes and their effects	=	=
6	2	Identify social crimes	Psychological and social crimes and their effects	=	=
7	2	Identify violations of Iraqi laws. And learning about places of prisons detention of the Baath regime.	Psychological and social crimes and their effects		
8	2	exam			
9	2	Identifying military and radioactive contamination and mine explosions	Environmental crimes of Baath regime in Iraq	=	=
10	2	Recognizing the destruction of cities and villages (scorched earth policy)	Environmental crimes of Baath regime in Iraq	=	=
11	2	Learn about draining marshes razing palm groves, trees and crops	Environmental crimes of Baath regime in Iraq	=	=
12	2	exam			
13	2	Identifying mass Graves	Mass grave crimes	=	=
14	2	Identification of genocide graves related to the Iran-Iraq War of 1980-1988 AD	Mass grave crimes	=	=

15	2	Identifying the genocidal graves of victims of the 1991 Shaabaniya uprising	Mass grave crimes	=	=
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11. Course Evaluation

The semester endeavor is (40%) distributed (10) grades for daily preparation and participation, (30) monthly exams, with two monthly exams for each exam (15) grades, and the final exam grade is (60%).

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	The crimes of the Baath regime in Iraq
Main references (sources)	International responsibility for committing the crime of genocide - The geography of the marshes and swamps in southern Iraq - Environmental crimes of the Baath regime in Iraq - Mass graves , a people under the soil
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Forest soil

1. Course Name:

Principle of Forest soil

2. Course Code:

FOSO221

3. Semester / Year:

Second semester/ Second year

4. Description Preparation Date:

2/02/2024

5. Available Attendance Forms:

Mandatory

6. Number of Credit Hours (Total) / Number of Units (Total)

(5) Hours, Number of units (3)

7. Course administrator's name (mention all, if more than one name)

Name: Dr. Ali hakeem dohan **Email:** Alihakeem [@uokirkuk.edu.iq](mailto:Alihakeem@uokirkuk.edu.iq)

8. Course Objectives

This course description provides a necessary summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, as soil forms the foundation on which trees and entire forests have been built for millions of years. Soil is an important component of forest and woodland ecosystems as it helps regulate important ecosystem processes, such as nutrient uptake, decomposition, and water availability. The soil helps stabilize trees and provides them with water and nutrients. Trees and other plants, in turn, play an important role in the formation of new soil, as leaves and other plants rot and decompose.

However, the relationship between soil and forests is much more complex and broad than that. Soil and forest are intrinsically interconnected, and each has enormous impacts on the other and on the wider environment. Interactions between forests and forest soils help maintain the environmental conditions required for agricultural production. These positive impacts are far-reaching and ultimately help ensure a productive food system, improve rural livelihoods, and preserve the integrity of the environment in the face of change.

9. Teaching and Learning Strategies

Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability, and conduct scientific visits to agricultural projects.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	A historical overview of the development of soil study	knowledge	lecture	Daily and monthly exam, attendance and reports
2	5	Soil-forming minerals	knowledge	lecture	Daily and monthly exam,

					attendance and reports
3	5	Rocks that make up forest soil	knowledge	lecture	Daily and monthly exam, attendance and reports
4	5	Weathering of rocks, minerals and soil formation	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	5	Concepts of soil science and forestry	knowledge	lecture	Daily and monthly exam, attendance and reports
6	5	Column of forest soil	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports
7	5	Minerals that make up forest soil	knowledge	lecture	Daily and monthly exam, attendance and reports
8	5	Formation and development of forest soils	knowledge	lecture	Daily and monthly exam, attendance and reports
9	5	Physical characteristics of forest soil and soil moisture	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	5	Chemical characteristics of forest soil	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	5	Maintaining forest soil fertility - forest fires	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	5	Biochemical characteristics of forest soil	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	5	Degradation and maintenance of forest soils	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	5	Forest soil classification	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	5	Determine the organizational property of forest soil	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The goals can be summarized through the following points:

The purpose of teaching the curriculum:

1/ Giving the student an idea about forest soil, the effect of forests on soil formation, and the chemical and biological properties of the soil

2/ Enabling students to know the types of forest soils

3/ Familiarity with the types of soils and the distinction between forest soils and agricultural soils

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Principle of Forest soil , written by Dr. Essam Abdel Sattar Siddiq
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including Kirkuk University Journal of Agricultural Sciences
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Foundations of forest development					
2. Course Code:					
PRSI222					
3. Semester / Year:					
Second semester/second year					
4. Description Preparation Date:					
28/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name:AKO GHAZI SATTAR E-mail akoghazi@uokirkuk.edu.iq					
8. Course Objectives					
<p>. Methods of cutting and propagating forests and the operations performed on trees during growth.</p> <p>. Growth in trees, physiology of wood formation. General, physical and physical characteristics of wood. Uses of wood, its products, and methods of preserving them</p>					
9. Teaching and Learning Strategies					
Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability, and conduct scientific visits to agricultural projects.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	General introduction	knowledge	lecture	Daily and monthly exam, attendance and reports
2	5	The benefits are economic	knowledge	lecture	Daily and monthly exam, attendance and reports
3	5	Pure and mixed forests	knowledge	lecture	Daily and monthly exam, attendance and reports
4	5	Selection of species for afforestation: Selection of local and introduced tree species	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	5	Types of forests in the Arab world	knowledge	lecture	Daily and monthly exam, attendance and reports
6	5	Stages of tree development	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports
7	5	Selection of species for afforestation: Selection of local and introduced tree species	knowledge	lecture	Daily and monthly exam, attendance and reports

8	5	The impact of environmental factors on forests	knowledge	lecture	Daily and monthly exam, attendance and reports
9	5	Division of forest types	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	5	Botanical characteristics: forests as a diagnostic factor, plant succession, types of succession	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	5	Biological factors: soil revival, competition, parasitism (mechanical and biological), mutual relationships between animals	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	5	The most common types of trees in natural forests	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	5	Local and introduced trees in forests	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	5	The difference between forests in the Arab world and other countries	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	5	Practical visits to different forests and observing the effects of living and non-living environmental conditions	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:

Ecology and climate

2. Course Code:

ECOL223

3. Semester / Year:

second semester/ second year

4. Description Preparation Date:

31/03/2024

5. Available Attendance Forms:

Mandatory

6. Number of Credit Hours (Total) / Number of Units (Total)

(5) Hours, Number of units (3)

7. Course administrator's name (mention all, if more than one name)**Name:** Berevan Qader Omar **Email:** beree.omer@gmail.com**8. Course Objectives**

Teaching this subject aims to familiarize the student with the surrounding environment and the most important environmental risks present in forests. It also aims to enable the student to understand the various elements of climate and to follow modern and accurate methods in measuring these elements because of their importance and direct impact on agriculture.

9. Teaching and Learning Strategies

The strategy includes familiarize the student with environmental science and its parts, as well as the factors surrounding it. It also includes highlighting climate and its importance for plants in general and forests in particular, in addition to studying the elements of climate and learning about the devices used to measure them.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Introduction and a brief explanation of the radiation measuring devices	Knowledge	lecture	Report
2	5	The historical development of	Knowledge and skills	lecture	Seminar

		ecology and measuring the temperature of air and soil			
3	5	Parts of ecology and measuring the humidity	Knowledge	lecture	Seminar
4	5	The factors of environment and measuring the dew	Knowledge and skills	lecture	Quiz
5	5	Radiation and measuring the speed and the direction of wind	Knowledge	lecture	Seminar
6	5	The temperature and recording the rain level devices	Knowledge and skills	lecture	Quiz
7	5	Air pressure and measuring the speed and direction of clouds	Knowledge	lecture	Quiz
8	5	Type of winds and its effect on plants	Knowledge , and skills	lecture	Seminar
9	5	The water and the air pressure and measuring the air pressure	Knowledge	lecture	seminar
10	5	Classifying the plants according to its need to water and the effect of climate on the air contamination	Knowledge	lecture	quiz
11	5	Fire , types of fire and its effect on the agricultural lands	Knowledge and skills	lecture	quiz
12	5	Geological layers	Knowledge	lecture	seminar
13	5	Bio factors and the effect of climate phenomenon on plants	Knowledge	lecture	quiz
14	5	Plant succession and the effect of climate on the agriculture	Knowledge	lecture	report

15	5	Contamination and making a tour to climate center in the university of kirkuk	Knowledge	lecture	Quiz
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11.Course Evaluation

Semester endeavor (40 marks): 25 marks The theoretical part: 20 marks Two monthly exams, 5 marks Reports
15 marks Practical part: 10 marks monthly exams, 5 marks student practical activity
Final quest (60 marks): 40 marks theoretical questions, 20 marks practical questions

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Introduction to ecology / dr. ali salim shwawra Some new researches about climate.
Main references (sources)	Environment and climate magazine
Recommended books and references (scientific journals, reports...)	International periodicals and magazines in Clarvit and Scopus containers
Electronic References, Websites	International periodicals and magazines Clarvit and Scopus containers

Course Description Form

1. Course Name:					
Forest Entomology					
2. Course Code:					
FOEN224					
3. Semester / Year:					
Second semester/second year					
4. Description Preparation Date:					
29/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: MOHAMMED ALBAYATI E-mail albayatiiu@uokirkuk.edu.iq					
8. Course Objectives					
The decision aims to familiarize itself with forest tree entomology and the most important methods of combating forest insects in Iraq					
9. Teaching and Learning Strategies					
Verbal communication with students and motivation for teamwork in the learning process and use of communication skills...					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	The location and importance of classified insects	classified insects	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
2	5	Distribution and spread of insects in Iraq	Distribution of insects	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
3	5	Exterior of insects	Exterior of insects (head, chest, abdomen)	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
4	5	Internal anatomy of insects: digestive	Internal anatomy of	Lecture, presentations	Verbal, editorial, daily and monthly

		system	insects	and interactive discussion	tests and scientific reports
5	5	Evolution and proliferation of insects in the forest	Evolution and proliferation of insects	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
6	5	Insects and environment	Insects and environment: (bio-efficiency, environmental resistance)	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
7	5	Clans and varieties	Clans and forest insect varieties	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
8	5	Bioequilibrium, environmental resistance	Bioequilibrium, environmental resistance effect - numerical explosions	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
9	5	Detection and diagnosis	Detection and diagnosis of insect injuries	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
10	5	Forest insect resistance	Forest insect resistance: indirect methods (physical, biological, agricultural, legislative)	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
11	5	Direct methods	Direct methods (mechanical, direct biological, chemical)	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
12	5	Integrated resistance	Integrated forest insect	Lecture, presentations	Verbal, editorial, daily and monthly

			resistance	and interactive discussion	tests and scientific reports
13	5	Forest tree insects	Forest tree insects: leaf eaters - juicy absorbents	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
14	5	Miasmatic tissue insects	Miasmatic tissue insects: foreskin beetles - oncologists	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
15	5	Wood insects	Wood insects, bark and their types	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Forest Entomology, Sabah Muhammad Swilm, Ismail Najm al-Ma '1981
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:

Natural pastures

2. Course Code: Natural pastures

NARA225

3. Semester / Year:

Second semester/second year

4. Description Preparation Date:

28/03/2024

5. Available Attendance Forms:

Mandatory

6. Number of Credit Hours (Total) / Number of Units (Total)

(5) Hours, Number of units (3)

7. Course administrator's name (mention all, if more than one name)

Name:AKO GHAZI SATTAR E-mail akoghazi@uokirkuk.edu.iq

8. Course Objectives

The aim of studying natural pastures is to know the importance and distribution of natural pastures in the Arab world and to study the causes of the deterioration of natural pastures and how to treat them.

9. Teaching and Learning Strategies

Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability, and conduct scientific visits to agricultural projects.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	General introduction	knowledge	lecture	Daily and monthly exam, attendance and reports
2	5	The importance and distribution of natural pastures in the world and the Arab world	knowledge	lecture	Daily and monthly exam, attendance and reports
3	5		knowledge	lecture	Daily and monthly exam, attendance and reports
4	5	Causes of deterioration of natural pastures	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	5	Manifestations of degradation of natural pastures	knowledge	lecture	Daily and monthly exam, attendance and reports
6	5	Geographical plant regions in the Arab world and their pastoral importance	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports
7	5	Fodder production in natural pastures in the Arab world	knowledge	lecture	Daily and monthly exam, attendance and reports
8	5	Definition of natural and artificial grasslands	knowledge	lecture	Daily and monthly exam,

					attendance and reports
9	5	Pastoral ecosystem	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	5		Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	5	Some plants of the	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	5	Poaceae family	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	5		Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	5	Botanical description of the legume family	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	5	Some plants of the legume family	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Computer/3					
2. Course Code:					
Comp217					
3. Semester / Year:					
Second Year/first Semester					
4. Description Preparation Date:					
30/3/2024					
5. Available Attendance Forms:					
6. Number of Credit Hours (Total) / Number of Units (Total)					
3 hourse / 1					
7. Course administrator's name (mention all, if more than one name)					
Name:Basira Abdullah Ahmed Email: baseraabdullah@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives			<ul style="list-style-type: none"> • Developing the student's abilities master making tables and writ mathematical equations via computer 		
9. Teaching and Learning Strategies					
Strategy		<p style="text-align: center;">1- Explanation and clarification 2- Lecture method 3-Use of computer lab</p>			
10. Course Structure					
Week	Hour s	Required Learning Outcomes	Unit or	Learning method	Evaluation method

			subject name		
	3	Microsoft Power Point presentation program - Run Power Point Presentation window - Create presentation - Create a title slide - Control the location and size of text boxes - Font type - Save the presentation - Close a file - Open stock presentation			1
		Add a new slide - move between slides - delete a slide - repeat a slide - set up pages - design template control slide background - number slides - insert an image - create bulleted slide - create an image and text slide - create a two-column text slide			2
		Tables - Create a layout and text slide - Create your organization chart slide - Layout (chart) - Create an image and text slide - Create blank slide - Change the slide type			3
		Slide show methods - rearrange slides - animation effects - add slides from another presentation - adding audio or video clips - slide transitions			4
		Practice timing - slide show - in the slide show window commentator's notes - handout line spacing - print the presentation			5
		file, lecture and exam			6
		Introduction to the Internet - What is the Internet - Its definition, origin and development - How to connect to the Internet - Internet addresses and URL concepts - Internet specific terminology			7

		age, lecture, exam Explanation of the inclusion b lecture and exam			8
		Browsing and search service opening the browser - browsi window - hyper links - w addresses - changing the start pa - canceling the display of imag and pages - closing the browser a disconnecting browsing, stori favorite pages			9
		Organizing the address list Copying images and texts - Splitti web pages - Printing web page Search engines - How to search information on the network - Usi the search button in the toolbar -			10
		E-mail services - sending a messa - sending attachments with t message - storing the message the drafts folder - reading message - reading a messa containing an attachment - repli to the message - passing a messa to another user			11
		Cancel a message - print a messa - create a folder - move a messa from one folder to another - sto electronic addresses in the addre book - use addresses stored in t address book - add a digi signature - exit the program			12
		Microsoft Access - What is database - Definition of Micros Access - Terms specific to databas - Running the Microsoft program			13
		Primary key - save the log - clo the database - display the data the table - move between the desi view window and the data pa view window - enter data into t table - change the orientation of t data page view window			14

		Practical exam, lecture exam			15

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports ... etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Computer basics and off applications (Part Four) / Zi Muhammad Aboudi, Ghassan Ham Abdel Majeed, Mustafa Daa Hassani
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	ps://ar.wikipedia.org/wiki/%D9% %D8%A7%D9%8A%D9%83%D8% 1%D9%88%D8%B3%D9%88%D9 81%D8%AA_%D8%A5%D9%83% %B3%D9%84

Course Description Form

1. Course Name:

Democracy

2. Course Code:

FRDE227

3. Semester / Year:

second semester/ second year

4. Description Preparation Date:

28/03/2024

5. Available Attendance Forms:

Mandatory

6. Number of Credit Hours (Total) / Number of Units (Total)

(1) Hours, Number of units (1)

7. Course administrator's name (mention all, if more than one name)

Name: Assist Prof. Basira Abdullah Ahmed Email: baseraabdullah@uokirkuk.edu.iq

8. Course Objectives

Know the importance of studying freedom and democracy.

9. Teaching and Learning Strategies

Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	The concept of freedom, the concept of anarchy, the concept of democracy, the historical	Knowledge	lecture	Daily and monthly exam, attendance and reports
2	1	Forms of the system: indirect	Knowledge	lecture	Daily and monthly exam, attendance and reports
3	1	Civil, society,	Knowledge	lecture	Daily and monthly exam, attendance and reports
4	1	The concept of freedom	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	1	The concept of anarchism	knowledge	lecture	Daily and monthly exam, attendance and reports
6	1	The basic conditions of a democratic system and its	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

		characteristics	and attitude		
7	1	Features of the democratic system	knowledge	lecture	Daily and monthly exam, attendance and reports
8	1	development of the concept of democracy in the Mesopotamian civilization	knowledge	lecture	Daily and monthly exam, attendance and reports
9	1	The pillars of democracy, the basic conditions of the democratic system	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	1	Features of the democratic system, types democracy	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	1	democracy, democracy, concept, and manifestations	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	1	Different systems of election	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	1	Democracy applications	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	1	democratic values and functions	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	1	The report on human rights in Islam comprehended and surpassed all hypothetical	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Human Rights and Democracy / Dr. Ghassan Karim Majhab, Amjad Zein Al-Abidin Tohm
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including
Electronic References, Websites	International journals .

Course Description Form

1. Course Name:

English language 2 / elementary level

2. Course Code:

ENGL228

3. Semester / Year:

Second semester/second year

4. Description Preparation Date:

31/03/2024

5. Available Attendance Forms:

Mandatory

6. Number of Credit Hours (Total) / Number of Units (Total)

1 hour

7. Course administrator's name (mention all, if more than one name)

Name: Berevan Qader Omar **Email:** beree.omer@gmail.com

8. Course Objectives

Teaching this curriculum aims to make the student familiar with the English language as it is a global language from which the student will get benefit widely in his academic life.

This curriculum is an extension of what the student learned in the first stage.

9. Teaching and Learning Strategies

It is a semi-integrated curriculum for the elementary level that includes the basics necessary for learning the English language in a simplified way with exercises. It includes nouns, verbs, verb tenses, interrogatives, prepositions, and expression of quantities.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	Verb to be (auxiliary verbs)	Knowledge	lecture	Exercise
2	1	Possessive adjectives	Knowledge	lecture	Exercise
3	1	Singular and plural	Knowledge	lecture	Exercise
4	1	Question words	Knowledge	lecture	Exercise
5	1	Tense of verbs	Knowledge	lecture	Exercise
6	1	Present simple for elementary level	Knowledge	lecture	Quiz
7	1	Present continuous	Knowledge	lecture	Exercise

		for elementary level			
8	1	Adverb of frequency	Knowledge	lecture	Exercise
9	1	Expression of quantity	Knowledge	lecture	Exercise
10	1	How many? Some & any	Knowledge	lecture	quiz
11	1	Past simple for elementary level	Knowledge	lecture	quiz
12	1	Comparative and superlative	Knowledge	lecture	Exercise
13	1	Past continuous for elementary level	Knowledge	lecture	Exercise
14	1	Preposition	Knowledge	lecture	Exercise
15	1	Irregular verbs	Knowledge	lecture	Quiz

11.Course Evaluation

Semester endeavor (40 marks): 15 marks for the first month exam + 5 marks for quiz
15 marks for second month exam + 5 marks for quiz
Final exam (60 marks)

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	New headway plus (elementary student book) / written by : Liz and John Soars / Oxford university press
Main references (sources)	Cambridge press
Recommended books and references (scientific journals, reports...)	My English library website
Electronic References, Websites	You tube and some useful websites

Course Description Form

1. Course Name:					
Forest Measuring					
2. Course Code: Natural pastures					
FOME311					
3. Semester / Year:					
First semester/third year					
4. Description Preparation Date:					
28/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Mahdi hadi E-mail					
8. Course Objectives					
It aims to prepare Gabonese cadres specializing in forest measurements					
9. Teaching and Learning Strategies					
Verbal communication with students and urging them to work together in the learning process and use written communication skills to increase assimilation as well as the method of brainstorming to attract students' attention and activate the strategy of thinking according to the student's ability, and conduct scientific visits to agricultural projects					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Metrology's relationship	Metrology's relationship with other forest sciences	lecture	Daily and monthly exam, attendance and reports
2	5	Measurement errors	Measurement errors in forest measurements	lecture	Daily and monthly exam, attendance and reports
3	5	Units used for measurement	Units used for measurement and their systems	lecture	Daily and monthly exam, attendance and reports
4	5	Tree variables	Tree variables (diameter at dbh, diameter at different levels, veneer. Total Height - Crown Center Height - Crown Length - Crown Width	lecture	Daily and monthly exam, attendance and reports
5	5	Diameter Measuring	Tree Diameter Measuring Devices	lecture	Daily and monthly exam, attendance and reports
6	5	Tree veneer measurement	Tree veneer measurement devices	lecture	Daily and monthly exam, attendance and reports

7	5	Height Measuring	Tree Height Measuring Devices	lecture	Daily and monthly exam, attendance and reports
8	5	Methods of extracting	Methods of extracting tree shape - shape factor - division factor - shape point factor	lecture	Daily and monthly exam, attendance and reports
9	5	Tree Size	Tree Size - Wooden Trunks - Standing Trees	lecture	Daily and monthly exam, attendance and reports
10	5	Methods of Estimating	Methods of Estimating Tree Size Mathematical Equations, Taping Equations, Graphic Method	lecture	Daily and monthly exam, attendance and reports
11	5	Size tables	Size tables (local - standard - shape factor tables) in both mathematical and graphic ways	lecture	Daily and monthly exam, attendance and reports
12	5	Leg analysis method	Leg analysis method (growth in the country - growth in height - growth in size). - Tree variables (tree schedules - base area - average diameter - height - size	lecture	Daily and monthly exam, attendance and reports
13	5	Production Schedules - Weights Schedules	Production Schedules - Weights Schedules	lecture	Daily and monthly exam, attendance and reports
14	5	inventory	inventory	lecture	Daily and monthly exam, attendance and reports
15	5	(simple random inventory - class inventory)	(simple random inventory - class inventory)	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Forest investment					
2. Course Code:					
FOUT312					
3. Semester / Year:					
First semester/third year					
4. Description Preparation Date:					
31/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Lecturer Dr. Osamah Ibrahim Ahmed Email: osama_alzaidbagy@uokirkuk.edu.iq					
8. Course Objectives					
The student's knowledge of forest engineering, which deals with all engineering works and constructions that take place within the forest land or its surroundings, which aim to serve the forest and facilitate benefiting from forest activities, including forest roads and their annexes, and then service and investment buildings and forest protection systems.					
9. Teaching and Learning Strategies					
<ol style="list-style-type: none"> 1. Identify the productive side of forests. 2. Identify methods of investing in forests and their types. 3. Identify the correct mechanisms for cutting trees and trimming trunks. 4. Identifying the yards collecting and selling wood and their economic feasibility. 5. Learn about wood preservation processes. 					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	An introductory overview of forest investment	Knowledge	lecture	Daily reports
2	5	cut down trees	Knowledge and skills	lecture	Daily exam and reports
3	5	Processing cut logs	Knowledge and skills	lecture	Daily exam and reports
4	5	Transporting logs	Knowledge and skills	lecture	Daily exam and reports
5	5	Timber collection yards	Knowledge and skills	lecture	Daily exam and reports
6	5	Storage and drying of wood	Knowledge and skills	lecture	Daily exam and reports
7	5	Various cuts in forests	Knowledge and skills	lecture	Daily exam and reports
8	5	Uses of woody branches and roots	Knowledge and skills	lecture	Daily reports

9	5	Tourism investment	Knowledge	lecture	Daily reports
10	5	Educational investment	Knowledge	lecture	Daily reports
11	5	Preventive investment	Knowledge	lecture	Daily reports
12	5	Forest imports	Knowledge	lecture	Daily exam and reports
13	5	Carbon harvesting within forests	Knowledge and skill	lecture	Daily exam and reports
14	5	Sustainability in forests	Knowledge and skill	lecture	Daily exam and reports
15	5	Student reports	Knowledge	lecture	Daily reports

11.Course Evaluation

Semester endeavor (40 marks): 25 marks The theoretical part: 20 marks Two monthly exams, 5 marks Reports
15 marks Practical part: 10 marks monthly exams, 5 marks student practical activity

Final quest (60 marks): 40 marks theoretical questions, 20 marks practical questions

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	(Forest Investment) Book
Main references (sources)	(Forest products investment) Book
Recommended books and references (scientific journals, reports...)	International periodicals and magazines in Clarvit and Scopus containers
Electronic References, Websites	International periodicals and magazines in Clarvit and Scopus containers

Course Description Form

1. Course Name:					
Forest nurseries					
2. Course Code: Natural pastures					
FONU313					
3. Semester / Year:					
First semester/third year					
4. Description Preparation Date:					
28/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name:AKO GHAZI SATTAR E-mail akoghazi@uokirkuk.edu.iq					
8. Course Objectives					
. Producing good seedlings of excellent varieties and seedlings of large plants. Paying attention to high-yielding mothers, with their suitability to environmental conditions and their freedom from diseases and insects, to represent the first basis for the spread of the species, its preservation, and the expansion of its cultivation by increasing the resulting numbers through vegetative propagation.					
9. Teaching and Learning Strategies					
Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability, and conduct scientific visits to agricultural projects.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	General introduction	knowledge	lecture	Daily and monthly exam, attendance and reports
2	5	Chapter One: Forest seed trees - seeds, fruits, types of seeds	knowledge	lecture	Daily and monthly exam, attendance and reports
3	5	Chapter Two: Seed collection, selection of seed trees, seed trees	knowledge	lecture	Daily and monthly exam, attendance and reports
4	5	, forest production areas, seed collection time, seed collection methods, seed collection tools.	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	5	Chapter Three: Seed extraction methods, seed extraction devices	knowledge	lecture	Daily and monthly exam, attendance and reports
6	5	Chapter Five: Seed propagation, methods and types of propagation, types of trees and their propagation, uses of growth regulators.	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports

7	5	, factors affecting urban propagation	knowledge	lecture	Daily and monthly exam, attendance and reports
8	5	Chapter Six: Nurseries, choosing the nursery site, nursery area, nursery planning, nursery fencing, nursery land preparations, individualization beds, nursery buildings.	knowledge	lecture	Daily and monthly exam, attendance and reports
9	5	Chapter Seven: Vessels	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	5	Chapter Eight: Prose, time of prose, methods of prose, types of prose, depth of prose,	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	5	maintenance of shrines	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	5	Nursery expenses or costs - the costs of producing seedlings	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	5	Factors affecting nurseries	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	5	Types of nurseries	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	5	Causes of deterioration in some nurseries	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Forest tree trees					
2. Course Code:					
FOPH314					
3. Semester / Year:					
First semester/Third year					
4. Description Preparation Date:					
28/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name:AKO GHAZI SATTAR E-mail akoghazi@uokirkuk.edu.iq					
8. Course Objectives					
. The course aims to introduce the student to the processes that occur within plants, such as photosynthesis, respiration, and the relationship of water and plants to transpiration processes					
9. Teaching and Learning Strategies					
Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability, and conduct scientific visits to agricultural projects.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	General introduction	knowledge	lecture	Daily and monthly exam, attendance and reports
2	5	Plant anatomy	knowledge	lecture	Daily and monthly exam, attendance and reports
3	5	Photosynthesis	knowledge	lecture	Daily and monthly exam, attendance and reports
4	5	Breathing	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	5	Carbohydrates	knowledge	lecture	Daily and monthly exam, attendance and reports
6	5	Leaf pollution in autumn	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports
7	5	Fats, terpenes and natural compounds	knowledge	lecture	Daily and monthly exam, attendance and reports
8	5	Nitrogen compounds	knowledge	lecture	Daily and monthly exam, attendance and reports

9	5	Mineral nutrition and salt absorption	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	5	- Transport in plants	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	5	The relationship between water and plants - transpiration	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	5	Absorption, transport and their relationship with water	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	5	Sexual reproduction in gymnosperms	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	5	Sexual reproduction in covered seeds	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	5	So the evidence is valid	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Forest Policy					
2. Course Code:					
FOPO315					
3. Semester / Year:					
First semester/third year					
4. Description Preparation Date:					
29/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: MOHAMMED ALBAYATI E-mail albayatiiu@uokirkuk.edu.iq					
8. Course Objectives					
The decision aims to inform forestry policy science and its role between Gabonese science and society					
9. Teaching and Learning Strategies					
Verbal communication with students and motivation for teamwork in the learning process and use of communication skills...					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Forestry Policy Position in State Policy	Forestry Policy	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
2	2	Natural foundations of forest policy	Natural foundations of forest policy	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
3	2	Historical overview of the emergence of forest policy science	Historical overview of the emergence	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
4	2	Introduction to forest	Gabonese	Lecture,	Verbal, editorial,

		policy science and a course between Gabonese science and society	science and society	presentations and interactive discussion	daily and monthly tests and scientific reports
5	2	Forest Policy Duties and Objectives	Duties and Objectives	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
6	2	Contributors to forest policy goals	forest policy goals	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
7	2	Means of achieving forest policy	Means of achieving	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
8	2	forestry policy	Types forestry policy	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
9	2	Roles that have passed through forests over time	forests over time	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
10	2	Direct and indirect forest benefits	forest benefits	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
11	2	Forests and other related sciences	Forests related sciences	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
12	2	Iraq's forests and world's forests and data	Iraq's forests and world's forests	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

13	2	Scientific production and consumption of forest products	consumption of forest products	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
14	2	The most important wood products consumed in Iraq	important wood products consumed in Iraq	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
15	2	Economic foundations of Iraq's forest policy and forest laws	Iraq's forest policy and forest laws	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Forestry Policy, Abdul Mahdi Gabr, 1982
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Forest Pathology					
2. Course Code:					
FOPA316					
3. Semester / Year:					
First semester/Third year					
4. Description Preparation Date:					
29/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: MOHAMMED ALBAYATI E-mail albayatiiu@uokirkuk.edu.iq					
8. Course Objectives					
The decision aims to introduce forestry pathology and the most important methods of combating forestry diseases in Iraq					
9. Teaching and Learning Strategies					
Verbal communication with students and motivation for teamwork in the learning process and use of communication skills...					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	History of forest pathology	forest pathology	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
2	5	Importance of Forest Tree Diseases	Forest Tree Diseases	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
3	5	Losses caused by forest diseases	diseases Losses caused	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
4	5	Types of live and non-live pathogens	live and non-live pathogens	Lecture, presentations and	Verbal, editorial, daily and monthly tests and scientific

				interactive discussion	reports
5	5	Stages of disease development and detection	disease development	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
6	5	Wood rot fungi and trees	Wood rot fungi	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
7	5	Colored fungi for wood and wood trees	Colored fungi for wood	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
8	5	The impact of environmental factors on the development of plant disease	environmental factors on the development of plant disease	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
9	5	Tree pathology diseases agent	Tree pathology diseases agent	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
10	5	Diseases caused by white fungi, cystic, bazidi, deficient	white fungi, cystic, bazidi, deficient	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
11	5	Diseases caused by Miroheiza and their types	Miroheiza and their types	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
12	5	Diseases caused by bacteria	Diseases by bacteria	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
13	5	Diseases caused by	Diseases by	Lecture,	Verbal, editorial,

		viruses	viruses	presentations and interactive discussion	daily and monthly tests and scientific reports
14	5	Diseases caused by nematodes	Diseases by nematodes	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
15	5	Diseases caused by floral plants	Diseases by floral plants	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Atlas Forest Disease 2020
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Remote sensing					
2. Course Code:					
RESE317					
3. Semester / Year:					
First semester/ third year					
4. Description Preparation Date:					
31/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Berevan Qader Omar			email: beree.omer@gmail.com		
8. Course Objectives					
<p>Providing the agricultural student with specialized knowledge and applied skills in the science of remote sensing (remote sensing), because of the importance of this modern science in all scientific fields, especially the field of agriculture and forestry.</p>					
9. Teaching and Learning Strategies					
<p>The strategy includes an integrated definition of the concept of remote sensing, or what is called remote sensing, and then studying the types of satellites and their features, as well as a study of the properties of the images captured by these satellites, and also how to upload images of the study area and analyze them in a way that suits the desired study or research.</p>					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Introduction of remote sensing and its history then a brief information about the USGS	Knowledge	lecture	Daily exam and reports
2	5	Remote sensing model and its physical base and how to create an account on USGS	Knowledge and skills	lecture	Daily exam and reports

3	5	Remote sensing from earth and space and how to download images	Knowledge and skills	lecture	Daily exam and reports
4	5	Properties of the information collected by remote sensing devices and how to prepare the image for study	Knowledge and skills	lecture	Daily exam and reports
5	5	The colure theory and how to combine the bands	Knowledge and skills	lecture	Daily exam and reports
6	5	How to analyze the data	Knowledge and skills	lecture	Daily exam and reports
7	5	Spectral reflectivity properties of plants	Knowledge and skills	lecture	Daily exam and reports
8	5	Spectral reflectivity properties of soil and subset the study area	Knowledge and skills	lecture	Daily reports
9	5	Spectral reflectivity properties of water and classifying the images (supervised classification)	Knowledge and skills	lecture	Daily exam and reports
10	5	Types of satellite and unsupervised classification	Knowledge	lecture	Daily exam and reports
11	5	American, French and Indian satellite and measuring the NDVI	Knowledge	lecture	Daily exam and reports
12	5	Properties of the collected images	Knowledge	lecture	Daily exam and reports
13	5	The radar and photographic sensors	Knowledge and skill	lecture	Daily exam and reports
14	5	Enhancing the data	Knowledge and skill	lecture	Daily exam and reports
15	5	Classifying the data	Knowledge and skill	lecture	Daily exam and reports

11.Course Evaluation

Semester endeavor (40 marks): 25 marks The theoretical part: 20 marks Two monthly exams, 5 marks Reports
15 marks Practical part: 10 marks monthly exams, 5 marks student practical activity
Final quest (60 marks): 40 marks theoretical questions, 20 marks practical questions

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	(Fundamental of remote sensing) Book by Dr. jumma dawood
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Main references (sources)	Geographical information system (practical application in geographic analyzing) Book By omar abdullah al qasab
Recommended books and references (scientific journals, reports...)	The united state geological survey (USGS)
Electronic References, Websites	International periodicals and magazines in Clarvit and Scopus containers

Course Description Form

1. Course Name:					
Wild animals					
2. Course Code:					
WIAN321					
3. Semester / Year:					
Second Semester/ third year					
4. Description Preparation Date:					
2024-3-30					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
5 Hours / 3 Unit					
7. Course administrator's name (mention all, if more than one name)					
Name: Mohammed Madhi Zinalabidin Email: mehmetmadhi@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives	<ul style="list-style-type: none"> • The student gets to know the basic principles of wild animals through a brief knowledge of: • Introducing the student to wild animals and migratory wild birds • As well as identifying the types of forests and the ability to design artificial reserves and create atmospheres Close to its natural atmosphere 				
9. Teaching and Learning Strategies					
Strategy	Preparing a student with a brief knowledge of the basic principles of wild animals through a brief knowledge of: <ul style="list-style-type: none"> • Make the learner able to distinguish between wild animals and learn about their ways of living in their environments And their original habitats. 				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Learn about the introduction and definition of wild animals and a	The introduction and definition of wild animals and brief idea about	Lecture, Demonstratio and interactiv discussion	Oral and written tests, daily and monthl

		brief idea about fossils	fossils		practical tests, and scientific reports
2	2	Learn about fishing and its development over time	Fishing and development over time	=	=
3	2	Identify the relationship of wildlife science to other sciences	The relationship wildlife science to other sciences	=	=
4	2	Identifying the role of wild animals in forests and animal ecology – some terminology	The role of wild animals in forests and animal ecology some terminology	=	=
5	2		Exam	=	=
6	2	Identify the factors that help the spread of animals and the factors that limit the spread of animals	The factors that help the spread of animals and the factors that limit the spread of animals	=	=
7	2	Identifying wild animals in Iraq	Wild animals in Iraq	=	=
8	2	Learn about animal classification And scientific nomenclature	Animal classification And scientific nomenclature	=	=
9	2	Identify animal variation and classify the animal world	Animal variation and classify the animal world	=	=
10	2		Exam	=	=
11	2	Learn about some suggestions for	Some suggestions for developing the idea of wild	=	=

		developing the idea of wild animals among the people	animals among the people		
12	2	Identify birds and bird migration	Birds and bird migration	=	=
13	2	Identify the factors that negatively affect wild animals and study the benefits and harms of wild animals	The factors that negatively affect wild animals and study the benefits and harms of wild animals	=	=
14	2	Identify the role of forests, agricultural and natural fields in sheltering wild animals	the role of forests, agricultural and natural fields in sheltering wild animals	=	=
15	2	Identify the scientific environmental factors affecting wild animals	the scientific environmental factors affecting wild animals	=	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	A journey into the animal world Dr. Harun Yahya Atlas of Animals Dr. Fadia Kanhoush
Electronic References, Websites	

Course Description Form

1. Course Name:					
Afforestation					
2. Course Code:					
PLAN322					
3. Semester / Year:					
Second semester/Third year					
4. Description Preparation Date:					
28/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name:AKO GHAZI SATTAR E-mail akoghazi@uokirkuk.edu.iq					
8. Course Objectives					
<p>Afforestation contributes to improving air quality and reducing soil erosion while mitigating the effects of climate change Planting 50 billion trees across the Middle East is equivalent to reclaiming 200 million hectares of degraded land.</p>					
9. Teaching and Learning Strategies					
<p>Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability, and conduct scientific visits to agricultural projects.</p>					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	General introduction	knowledge	lecture	Daily and monthly exam, attendance and reports
2	5	Artificial afforestation	knowledge	lecture	Daily and monthly exam, attendance and reports
3	5	Afforestation	knowledge	lecture	Daily and monthly exam, attendance and reports
4	5	Afforestation goals	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	5	Bare-rooted seedlings and covered seedlings (surrounded by the dirt clod)	knowledge	lecture	Daily and monthly exam, attendance and reports
6	5	Preparing the planting sites	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports
7	5	Planting distances and planting plan	knowledge	lecture	Daily and monthly exam, attendance and reports

8	5	Selection of species for afforestation	knowledge	lecture	Daily and monthly exam, attendance and reports
9	5	Gymnosperm planting methods and angiosperm planting methods	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	5	Afforestation in natural forests	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	5	Windbreaks and protective package	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	5	Afforestation to stabilize sand	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	5	Afforestation in Iraq	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	5	Sand stabilization methods	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	5	Windbreak and protective package	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Forest Measuring					
2. Course Code:					
WAPE323					
3. Semester / Year:					
Second semester/Third year					
4. Description Preparation Date:					
29/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: MOHAMMED ALBAYATI E-mail albayatiiu@uokirkuk.edu.iq					
8. Course Objectives					
The decision aims to introduce forestry pathology and the most important methods of combating forestry diseases in Iraq					
9. Teaching and Learning Strategies					
Verbal communication with students and motivation for teamwork in the learning process and use of communication skills...					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Introduction to Iraq's most important basins and rivers	important basins and rivers	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
2	5	River Basin Land Problems	River Basin Land	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
3	5	Nature's water and energy cycle	water and energy cycle	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
4	5	Water balance in drainage basins	Water balance	Lecture, presentations and	Verbal, editorial, daily and monthly tests and scientific

				interactive discussion	reports
5	5	Aquatic drainage basin forms	Aquatic forms	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
6	5	Rainfall	Rainfall types	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
7	5	Filtration and water movement on the ground	Filtration and water movement	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
8	5	Runoff	Runoff	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
9	5	Flow measurement in rivers	Flow in rivers	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
10	5	Management of vegetation in aquatic areas	Management of aquatic areas	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
11	5	forestry and water	forestry and water	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
12	5	Erosion operations and their control	Erosion control	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
13	5	Forests and the quality of the water	Forests and water	Lecture, presentations	Verbal, editorial, daily and monthly

		they produce	produce	and interactive discussion	tests and scientific reports
14	5	Forests and flood types	Forests and flood	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
15	5	Sources of river basins planning and application	basins planning and application	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Forest Measuring
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Design and analysis of agricultural experiments					
2. Course Code:					
EXDE324					
3. Semester / Year:					
Second season / third year					
4. Description Preparation Date:					
٢٠٢٤-٢٠٢٧					
5. Available Attendance Forms:					
weekly					
6. Number of Credit Hours (Total) / Number of Units (Total)					
30 hour / 3 unit					
7. Course administrator's name (mention all, if more than one name)					
Name: Asst. Prof. Dr. Ismail Younis Hasan Email= ismail.younis@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives		<ul style="list-style-type: none"> Learn about some statistical concepts Increasing students' knowledge of important statistical measures, which are measures of central tendency and measures of dispersion Students' knowledge of methods for designing and analyzing agricultural experiments, including one-way experiments Identify methods for comparing averages and determining significance Identify methods for designing factorial experiments 			
9. Teaching and Learning Strategies					
Strategy		<ul style="list-style-type: none"> Explanation and clarification Giving lectures Use presentation tools Play videos and photos Daily and monthly exams 			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Some statistical terms and concepts related to the science of designing and analyzing experiments	Some statistical terms and concepts related to the science of designing and analyzing experiments	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
2	5	Completely randomized design	Completely randomized design	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
3	0	Completely randomized design	Completely randomized design	Lecture, demonstrations	daily and monthly practical tests,

				and interactive discussion	
4	5	Completely randomized design	Completely randomized design	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
5	5	Multiple comparisons of means	Multiple comparisons of means	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
6	5	Multiple comparisons of means	Multiple comparisons of means	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
7	5	Randomized complete block design	Randomized complete block design	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
8	5	Randomized complete block design	Randomized complete block design	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
9	5	Latin square design	Latin square design	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
10	5	Multi-factor experiments	Multi-factor experiments	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
11	5	Multi-factor experiments	Multi-factor experiments	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
12	5	Multi-factor experiments	Multi-factor experiments	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
13	5	Multi-factor experiments	Multi-factor experiments	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
14	5	Multi-factor experiments	Multi-factor experiments	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
15	5	Analysis of covariance	Analysis of covariance	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Design and analysis of agricultural experiments - written by Dr. Humbled Mahmoud Al-Rawi
Main references (sources)	Design and analysis of agricultural experiments - written by Dr. Humbled Mahmoud Al-Rawi
Recommended books and references (scientific journals, reports...)	International journals within Scopus containers
Electronic References, Websites	https://www.mdpi.com/journal/agriculture/special_issues/2G5YP36HYR

Course Description Form

1. Course Name:					
Tourism and parks					
2. Course Code:					
TOUR325					
3. Semester / Year:					
Second Semester – Third Year					
4. Description Preparation Date:					
1-4-2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2					
7. Course administrator's name (mention all, if more than one name)					
Name: d. kota anwer mohammed Email: kootaanwer@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives	<ul style="list-style-type: none"> • Make the student familiar with iraqi tourist attractions • Make him able to guide tourists • Learn about the factors that attract tourists 				
9. Teaching and Learning Strategies					
Strategy	Raising the level of the student and learn about the basics of tourism and how to maintain it				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	knowledge	Introduction and definition of tourism	lecture	Exam and attendance
2	2	knowledge	Outdoor hiking and forests	lecture	Exam and attendance

3	2	knowledge	Preparing forest lands For hiking	lecture	Exam and attendance
4	2	knowledge	Choose a suitable Location for hiking and Recreation	lecture	Exam and attendance
5	2	knowledge	Natural method for Hiking and recreation	lecture	Exam and attendance
6	2	knowledge	Coastal schools in the World	lecture	Exam and attendance
7	2	knowledge	Who is a tourist and How is not tourist	lecture	Exam and attendance
8	2	knowledge	Types of tourism	lecture	Exam and attendance
9	2	knowledge	Tourism leisure and Recreational facilities	lecture	Exam and attendance
10	2	knowledge	Providing water for Tourist facilities	lecture	Exam and attendance
11	2	knowledge	Electricity	lecture	Exam and attendance
12	2	knowledge	Roads of tourist forests	lecture	Exam and attendance
13	2	knowledge	The role of tourism In the economy	lecture	Exam and attendance
14	2	knowledge	Tourism in Arabic Countries	lecture	Exam and attendance
15	2	knowledge	Tourism in Iraq	lecture	Exam and attendance

11. Course Evaluation

The semester grade is 40, divided into 10 grades for daily preparation and participation and 30 Grades with 2 monthly exams ,each exam 15 grades , the final exam score is 60 %.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures after teaching based on books and Methodological references
Main references (sources)	
Recommended books and references (scientific journals, reports...)	Related scientific and agriculture journals ;including Kirkuk agriculture university journal
Electronic References, Websites	Foreign magazines and sources translated On internet

Course Description Form

1. Course Name:					
Wood Science					
2. Course Code:					
WOSC326					
3. Semester / Year:					
Secound semester/third year					
4. Description Preparation Date:					
31/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Lecturer Dr. Osamah Ibrahim Ahmed Email: osama_alzaidbagy@uokirkuk.edu.iq					
8. Course Objectives					
<p>The student's knowledge of wood, which constitutes more than 90% of the mass of trees and which will form the basic material for many uses and industries. The student is introduced to the technological characteristics of wood (chemical, physical, anatomical, and mechanical), and then cell division and growth in trees. The variations in the mentioned characteristics within the tree will also be addressed. Individual and within species and factors affecting variation.</p>					
9. Teaching and Learning Strategies					
<ol style="list-style-type: none"> 1. Identify the technological characteristics of wood. 2. Determine the optimal type and age for each wooden industry. 3. Determine the variations in wood and the influence of surrounding factors on that. 4. Conducting studies and research to improve the qualities of wood. 					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	An introductory overview of the science of wood and the vocabulary of the material	Knowledge	lecture	Daily reports
2	5	Chemical properties of wood	Knowledge and skills	lecture	Daily exam and reports
3	5	Plant Cell	Knowledge and skills	lecture	Daily exam and reports
4	5	Growth in plants	Knowledge and skills	lecture	Daily exam and reports
5	5	Stages of plant cell formation	Knowledge and skills	lecture	Daily exam and reports
6	5	Annual growth rings	Knowledge and skills	lecture	Daily exam and reports

7	5	Physical characteristics	Knowledge and skills	lecture	Daily exam and reports
8	5	Density and specific gravity	Knowledge and skills	lecture	Daily reports
9	5	Absorption of vibrations in timber	Knowledge and skills	lecture	Daily reports
10	5	Acoustic conductivity of wood	Knowledge	lecture	Daily reports
11	5	Electrical conductivity and thermal insulation of wood	Knowledge	lecture	Daily reports
12	5	Mechanical qualities	Knowledge	lecture	Daily exam and reports
13	5	Wood root system	Knowledge and skill	lecture	Daily exam and reports
14	5	Bark	Knowledge and skill	lecture	Daily exam and reports
15	5	Variation	Knowledge and skill	lecture	Daily reports

11.Course Evaluation

Semester endeavor (40 marks): 25 marks The theoretical part: 20 marks Two monthly exams, 5 marks Reports
15 marks Practical part: 10 marks monthly exams, 5 marks student practical activity

Final quest (60 marks): 40 marks theoretical questions, 20 marks practical questions

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	(wood as raw material) Book
Main references (sources)	(Principle of wood technology) Book
Recommended books and references (scientific journals, reports...)	International periodicals and magazines in Clarvit and Scopus containers
Electronic References, Websites	International periodicals and magazines in Clarvit and Scopus containers

Course Description Form

1. Course Name:

English language 3/ pre- intermediate level

2. Course Code:

ENGL327

3. Semester / Year:

second semester/ third year

4. Description Preparation Date:

31/03/2024

5. Available Attendance Forms:

Mandatory

6. Number of Credit Hours (Total) / Number of Units (Total)

1 hour

7. Course administrator's name (mention all, if more than one name)**Name:** Berevan Qader Omar **Email:** beree.omer@gmail.com**8. Course Objectives**

Teaching this curriculum aims to make the student familiar with the English language as it is a global language from which the student will benefit widely in his academic life. This curriculum is an extension of what the student learned in the first and second stages.

9. Teaching and Learning Strategies

It is a semi-integrated curriculum for the pre-intermediate level, which includes the necessary basics for learning the English language for the pre-intermediate level, along with exercises. It includes interrogative articles and four types of verb tenses, with an explanation of each tense in the form of the affirmative, negative, and question. It also includes how to Expressing quantities, articles, and indefinite in the English language, comparative and superlative adjectives, and identifying verb forms in the English language.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	Question words	Knowledge	lecture	Exercise
2	1	Present simple for pre- intermediate level	Knowledge	lecture	Exercise

3	1	Present continuous for pre- intermediate level	Knowledge	lecture	Exercise
4	1	Past simple for pre- intermediate level	Knowledge	lecture	Exercise
5	1	Past continuous for pre- intermediate level	Knowledge	lecture	Exercise
6	1	Expression of quantity	Knowledge	lecture	Quiz
7	1	Articles	Knowledge	lecture	Exercise
8	1	Comparative and superlative	Knowledge	lecture	Exercise
9	1	Have to	Knowledge	lecture	Exercise
10	1	Introduction to modal auxiliary verbs	Knowledge	lecture	quiz
11	1	Should	Knowledge	lecture	quiz
12	1	Must	Knowledge	lecture	Exercise
13	1	Verb pattern 1	Knowledge	lecture	Exercise
14	1	Verb pattern 2	Knowledge	lecture	Exercise
15	1	Irregular verbs	Knowledge	lecture	Quiz

11.Course Evaluation

Semester endeavor (40 marks): 15 marks for the first month exam + 5 marks for quiz
15 marks for second month exam + 5 marks for quiz
Final exam (60 marks)

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	New headway plus (elementary student book) / written by : John and Liz Soars / Oxford university press
Main references (sources)	Cambridge press
Recommended books and references (scientific journals, reports...)	My English library website
Electronic References, Websites	You tube and some useful websites

Course Description Form

1. Course Name:					
Silviculture					
2. Course Code:					
SILV411					
3. Semester / Year:					
first semester/Fourth year					
4. Description Preparation Date:					
29/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Shaheen Abbas E-mail : shahinkifre@uokirkuk.edu.iq					
8. Course Objectives					
<p>Knowledge of the biological properties and features of trees in the forest is essential to the application of the processes of sustainability and care and include the processes of cleaning, editorial, improvement, mitigation and regionalization, correctly and meaningfully whether it be in natural or artificial forests that are pure from them and mixed, evergreen or falling leaves, of equal ages or different ages.</p>					
9. Teaching and Learning Strategies					
<ol style="list-style-type: none"> 1. Identify the location of trees inside the forest. 2. Recognize the classification of trees within the forest. 3. Identify the classification of trees for the purpose of mapping forest management. 4. Classification of trunks for European forest research institutions 5. Recognize the economic feasibility of development forest systems projects 					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Developmental Terms for Growth	Developmental Terms for Growth	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
2	5	Cleaning Cut	Cleaning Cut	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
3	5	Enhancement cut	Enhancement cutting	Lecture, presentations	Verbal, editorial, daily and monthly

				and interactive discussion	tests and scientific reports
4	5	Rescue cut	Rescue cut	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
5	5	Editorial cut	Editorial cut	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
6	5	Mitigation cut	Mitigation cut	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
7	5	pruning	pruning	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
8	5	Forest Lighting Length of Light	Forest Lighting Length of Light	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
9	5	Development classification of forest trees	Development classification of forest trees	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
10	5	Forest renovation methods	Forest renovation methods	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
11	5	Classification of Shadlyn Ten-Year Forest System	Classification of Shadlyn Ten-Year Forest System	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
12	5	Visit his field to the	Visit his field	Lecture,	Verbal, editorial,

		forests of dibs	to the forests of dibs	presentations and interactive discussion	daily and monthly tests and scientific reports
13	5	Density in forests in general	Density in forests in general	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
14	5	High forests and low forests	High forests and low forests	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
15	5	Cascade in forests in general	Cascade in forests in general	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Forest Development, Yawz Shafiq Abdullah, 1988. Plant Breeding and Improvement, Fouad Razak Al Baraki, 2020
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Forest Planning					
2. Course Code:					
F0PL412					
3. Semester / Year:					
First Semester/fourth Year					
4. Description Preparation Date:					
29/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number Of Credit Hours (Total) / Number Of Units (Total)					
(5) Hours, Number Of Units (3)					
7. Course Administrator's Name (Mention All, If More Than One Name)					
Name: Mahdi Hadi E-Mail					
8. Course Objectives					
9. Teaching And Learning Strategies					
Enabling Students To Prepare Programs And Plans For Education And Improvement Of Different Types Of Forestry.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit Or Subject Name	Learning Method	Evaluation Method
1	5	Main Methods Of Forest	Main Methods Of Forest Planning: Sustained Production	Lecture, Presentations And Interactive Discussion	Verbal, Editorial, Daily And Monthly Tests And Scientific Reports
2	5	Permanent Production Forms	Permanent Production Forms - Permanent Production Types	Lecture, Presentations And Interactive Discussion	Verbal, Editorial, Daily And Monthly Tests And Scientific Reports
3	5	Means Of Regulating Production In Forests	Means Of Regulating Production In Forests	Lecture, Presentations And Interactive Discussion	Verbal, Editorial, Daily And Monthly Tests And Scientific Reports
4	5	Brawl Sizes: Dawl Sizes - Production	Brawl Sizes: Dawl Sizes -	Lecture, Presentations	Verbal, Editorial, Daily And

		Tables	Production Tables	And Interactive Discussion	Monthly Tests And Scientific Reports
5	5	Types Of User's Production Precautions	Types Of User's Production Precautions - Ideal Production Schedules Sports Function Production Schedules	Lecture, Presentations And Interactive Discussion	Verbal, Editorial, Daily And Monthly Tests And Scientific Reports
6	5	Forest Location Grade: Methods For Classification And Assessment Of Site Grade	Forest Location Grade: Methods For Classification And Assessment Of Site Grade	Lecture, Presentations And Interactive Discussion	Verbal, Editorial, Daily And Monthly Tests And Scientific Reports
7	5	Sources Of Collection Of Location-Grade Data	Sources Of Collection Of Location-Grade Data	Lecture, Presentations And Interactive Discussion	Verbal, Editorial, Daily And Monthly Tests And Scientific Reports
8	5	Ways To Number Site Guide Curves - Classification Of Site Curves Totals	Ways To Number Site Guide Curves - Classification Of Site Curves Totals	Lecture, Presentations And Interactive Discussion	Verbal, Editorial, Daily And Monthly Tests And Scientific Reports
9	5	Developing Storage And Treadmill Density: Characteristics Of Developing Storage	Developing Storage And Treadmill Density: Characteristics Of Developing Storage	Lecture, Presentations And Interactive Discussion	Verbal, Editorial, Daily And Monthly Tests And Scientific Reports
10	5	Tree Density - Developing Storage	Tree Density - Developing	Lecture, Presentations	Verbal, Editorial, Daily And

		Measurement Methods	Storage Measurement Methods	And Interactive Discussion	Monthly Tests And Scientific Reports
11	5	Growth: Brawl Growth - Growth Elements	Growth: Brawl Growth - Growth Elements	Lecture, Presentations And Interactive Discussion	Verbal, Editorial, Daily And Monthly Tests And Scientific Reports
12	5	Factors Influencing Growth - Growth Curves In Brawls	Factors Influencing Growth - Growth Curves In Brawls	Lecture, Presentations And Interactive Discussion	Verbal, Editorial, Daily And Monthly Tests And Scientific Reports
13	5	Express Growth	Ways To Express Growth	Lecture, Presentations And Interactive Discussion	Verbal, Editorial, Daily And Monthly Tests And Scientific Reports
14	5	Ways To Estimate Current And Future Growth	Ways To Estimate Current And Future Growth	Lecture, Presentations And Interactive Discussion	Verbal, Editorial, Daily And Monthly Tests And Scientific Reports
15	5	Actual Forest Growth Tables	Actual Forest Growth Tables	Lecture, Presentations And Interactive Discussion	Verbal, Editorial, Daily And Monthly Tests And Scientific Reports

11.Course Evaluation

The Grade For The Semester Examination Is (40%), Divided Into (10) Grades For Daily Preparation, Participation, And Submitting Reports, (30) Grades For Monthly Exams, With Two Monthly Exams For Each Exam (15) Grades, And The Grade For The Final Exam Is (60%).

12.Learning And Teaching Resources

Required Textbooks (Curricular Books, If Any)	Lectures Prepared By The Teacher Based On Relevant Books And References.
Main References (Sources)	
Recommended Books And References (Scientific Journals, Reports...)	
Electronic References, Websites	International Journals Included In Scopus

Course Description Form

1. Course Name:					
Wooden industries					
2. Course Code:					
WOIN413					
3. Semester / Year:					
First semester/forth year					
4. Description Preparation Date:					
31/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Lecturer Dr. Osamah Ibrahim Ahmed Email: osama_alzaidbagy@uokirkuk.edu.iq					
8. Course Objectives					
The student's knowledge of wood products, products that use wood as an essential part of their manufacture, industry methods, international product specifications, methods of measuring them, and then methods for developing wood industries and their future.					
9. Teaching and Learning Strategies					
<ol style="list-style-type: none"> 1. Identifying wood industries and their development over time. 2. Identify the types of wood products and their uses. 3. Learn about the methods of manufacturing these products. 4. Research and studies to sustain and develop wood industries 5. Identify the economic feasibility of these projects. 					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	A historical overview of wood industries	Knowledge	lecture	Daily exam and reports
2	5	Wood Adhesive 1	Knowledge and skills	lecture	Daily exam and reports
3	5	Wood Adhesive 2	Knowledge and skills	lecture	Daily exam and reports
4	5	Production of round wood and mine wood	Knowledge and skills	lecture	Daily exam and reports
5	5	Rail Road Ties Production	Knowledge and skills	lecture	Daily exam and reports
6	5	Lumders Manufacture	Knowledge and skills	lecture	Daily exam and reports
7	5	Glued Laminated Timbers	Knowledge and skills	lecture	Daily exam and reports
8	5	Veneer Manufacture	Knowledge and skills	lecture	Daily exam and reports

9	5	Particle Board	Knowledge and skills	lecture	Daily exam and reports
10	5	Wood - cement Board	Knowledge	lecture	Daily exam and reports
11	5	Gypsum – Wood Board	Knowledge	lecture	Daily exam and reports
12	5	Wood Fiber Board	Knowledge	lecture	Daily exam and reports
13	5	Pulp & Paper Manufacture	Knowledge and skill	lecture	Daily exam and reports
14	5	Destructive carbonization and distillation of wood	Knowledge and skill	lecture	Daily exam and reports
15	5	Treatments on used wood	Knowledge and skill	lecture	Daily exam and reports

11.Course Evaluation

Semester endeavor (40 marks): 25 marks The theoretical part: 20 marks Two monthly exams, 5 marks Reports
15 marks Practical part: 10 marks monthly exams, 5 marks student practical activity
Final quest (60 marks): 40 marks theoretical questions, 20 marks practical questions

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	(Wooden Productins) Book
Main references (sources)	(Wooden production) Book
Recommended books and references (scientific journals, reports...)	Forest Product Journal
Electronic References, Websites	International periodicals and magazines in Clarvit and Scopus containers

Course Description Form

1. Course Name:					
Forest Protection					
2. Course Code:					
FOPT414					
3. Semester / Year:					
First semester/fourth year					
4. Description Preparation Date:					
29/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: MOHAMMED ALBAYATI E-mail albayatiiu@uokirkuk.edu.iq					
8. Course Objectives					
The purpose of the course is to prepare forestry maintenance specialized forestry cadres. Forest conservation methods of all factors...					
9. Teaching and Learning Strategies					
Enabling students to maintain and combat forests in vital ways					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Knowledge of forest conservation science	forest conservation science	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
2	5	Identification of types of forest fires	forest fires	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
3	5	Identifying fire behavior	fire behavior	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
4	5	Fire Environment Recognition	Environment Recognition	Lecture, presentations	Verbal, editorial, daily and monthly

				and interactive discussion	tests and scientific reports
5	5	Identification of factors affecting forest fires	factors affecting forest fires	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
6	5	Identification of firefighting methods	firefighting methods	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
7	5	Identification of fire lines and firecrackers	fire lines and firecrackers	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
8	5	Adverse Fire Identification	Adverse Fire	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
9	5	Learn about modern fire studies	modern fire studies	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
10	5	Identification of gases and fumes affecting forests	gases and fumes affecting forests	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
11	5	Identify the types of smoke-loaded fog	types of smoke-loaded fog	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
12	5	Identifying the impact of toxic gases on forests	toxic gases on forests	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
13	5	Recognize Climate	Climate	Lecture,	Verbal, editorial,

		Factors	Factors	presentations and interactive discussion	daily and monthly tests and scientific reports
14	5	Identification of freezing factors	freezing factors	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
15	5	Identification of forest biodiversity factors	forest biodiversity factors	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Forest Maintenance - Yawz Shafiq Abdullah – 1982
Recommended books and references (scientific journals, reports...)	International forest protection journals 2020
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Forest economy					
2. Course Code:					
FOEC415					
3. Semester / Year:					
first Semester – Fourth Year:					
4. Description Preparation Date:					
1-4-2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2					
7. Course administrator's name (mention all, if more than one name)					
Name: d. kota anwer mohammed Email: kootaanwer@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives	<ul style="list-style-type: none"> • Make the Student aware of what forests are as global resource • The economy • How to use forests for recreation • How to invest in and improve forests 				
9. Teaching and Learning Strategies					
Strategy	Raising the level of the Student and learn about the basics of tourism and how to maintain it				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1	2	knowledge	The emergence of the science Of forest economics	lecture	Exam and attendance
2	2	knowledge	Scarcity of wood, causes and treatments	lecture	Exam and attendance
3	2	knowledge	Types of forest projects and th costs	lecture	Exam and attendance
4	2	knowledge	Objectives of projects in Forests	lecture	Exam and attendance
5	2	knowledge	Determine the economics Cutting cycle of the forest	lecture	Exam and attendance
6	2	knowledge	Income generated in Forestry projects	lecture	Exam and attendance
7	2	knowledge	Calculating success and failure In small projects using Mathematical equation	lecture	Exam and attendance
8	2	knowledge	Investing in the forest	lecture	Exam and attendance
9	2	knowledge	Selling forest products	lecture	Exam and attendance
10	2	knowledge	Markets in which the forest Economy is represented	lecture	Exam and attendance
11	2	knowledge	Diseases that affect trees in Forests	lecture	Exam and attendance
12	2	knowledge	Causes of fires and extent of Damage to trees according To type and age	lecture	Exam and attendance
13	2	knowledge	How to treat diseases that Affect trees	lecture	Exam and attendance
14	2	knowledge	Causes of forest fires and How to avoid them	lecture	Exam and attendance
15	2	knowledge	An overview of the forests In Iraq and the types of trees In them	lecture	Exam and attendance

11. Course Evaluation

The semester grade is 40, divided into 10 grades for daily preparation and participation and 30

Grades with 2 monthly exams ,each exam 15 grades , the final exam score is 60 %.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures after teaching based on books a Methodological references
Main references (sources)	
Recommended books and references (scientific journals, reports...)	Related scientific and agriculture journa ;including Kirkuk agriculture university journal
Electronic References, Websites	Foreign magazines and sources translate On internet

Course Description Form

1. Course Name:

Research Project

2. Course Code:

REPR426

3. Semester / Year:

Second semester/fourth year

4. Description Preparation Date:

29/03/2024

5. Available Attendance Forms:

Mandatory

6. Number of Credit Hours (Total) / Number of Units (Total)

(1) Hours, Number of units (3)

7. Course administrator's name (mention all, if more than one name)

Name: MOHAMMED ALBAYATI E-mail albayatiiu@uokirkuk.edu.iq

8. Course Objectives

The course aims to identify methods of conducting seminars and collecting research sources. and their scientific summaries and narrative methods.

9. Teaching and Learning Strategies

Enabling students to prepare Gabonese projects that keep pace with modern scientific progress

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Knowledge of scientific research	scientific research	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
2	3	Identifying the reasons for scientific research	reasons for scientific research	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
3	3	Knowledge of the conditions for conducting	conducting scientific research	Lecture, presentations and	Verbal, editorial, daily and monthly tests and scientific

		scientific research		interactive discussion	reports
4	3	Identification of certified classifications for scientific research	certified classifications for scientific research	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
5	3	Knowledge of scientific research curricula	scientific research curricula	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
6	3	Knowledge of scientific research tools	scientific research tools	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
7	3	Learn about the steps of scientific research	steps of scientific research	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
8	3	Recognize data collection methods in practice	collection methods in practice	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
9	3	Identification and correction of data analysis	correction of data analysis	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
10	3	Knowledge of scientific research departments	research departments	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
11	3			Lecture,	Verbal, editorial,

		Learn how to write scientific research	write scientific research	presentations and interactive discussion	daily and monthly tests and scientific reports
12	3	Identification of import of research sources	research sources	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
13	3	Identification of import of research sources	import of research sources	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
14	3	To learn how to write research and use scientific applications	scientific applications	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
15	3	final examination.	final examination.	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Scientific Research Directory, Riad Aziz Hadi 2016. Steps to Write Scientific Research, Al Bayan Center for Studies...
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:	Forest ecology
2. Course Code:	FOEC417
3. Semester / Year:	First semester/ forth year
4. Description Preparation Date:	31/03/2024
5. Available Attendance Forms:	Mandatory
6. Number of Credit Hours (Total) / Number of Units (Total)	(5) Hours, Number of units (3)
7. Course administrator's name (mention all, if more than one name)	
Name: dr. Shahin Abbas Mustafa	
Name: Berevan Qader Omar	email: beree.omer@gmail.com
8. Course Objectives	<p>This curriculum aims to introduce the student to the most important pillars necessary for the forest environment and how to deal with the problems surrounding them in a scientifically studied manner, and to prepare an agroforestry engineer who is aware of the importance of forests on the environment and is aware of the importance of maintaining the environmental balance in forests because of its importance in various fields, especially Maintaining food security.</p>
9. Teaching and Learning Strategies	<p>The strategy includes an integrated definition of the forest environment and its most important characteristics, and identification of the ecosystem, the environmental environment, and the food chain, as well as the most important environmental problems facing forests, their causes, and ways to avoid them and protect forests from the resulting damages.</p>
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Introduction to ecology and the problems that faces forest environment	Knowledge	lecture	Daily exam and reports
2	5	Eco system and desertification	Knowledge and skills	lecture	Daily exam and reports
3	5	Food chain and desertification factors	Knowledge and skills	lecture	Daily exam and reports
4	5	The relationship between components of the natural environment and the human	Knowledge and skills	lecture	Daily exam and reports
5	5	Eco balance and deterioration of eco system	Knowledge and skills	lecture	Daily exam and reports
6	5	Unbalanced eco system and deterioration the natural forest	Knowledge and skills	lecture	Daily exam and reports
7	5	Carbon and nitrogen cycle and deterioration of artificial forest	Knowledge and skills	lecture	Daily exam and reports
8	5	Natural pastures and forest conservation	Knowledge and skills	lecture	Daily reports
9	5	Agricultural land and food production and the effect of light on forest	Knowledge and skills	lecture	Daily exam and reports
10	5	Forest pollution and the effect of temperature on forest	Knowledge	lecture	Daily exam and reports
11	5	Components of a polluted environment and the dangers of pollution	Knowledge	lecture	Daily exam and reports
12	5	Forest climate pollution	Knowledge	lecture	Daily exam and reports
13	5	Water pollution	Knowledge and skill	lecture	Daily exam and reports
14	5	Air pollution	Knowledge and skill	lecture	Daily exam and reports
15	5	Soil pollution	Knowledge and skill	lecture	Daily exam and reports

11.Course Evaluation

Semester endeavor (40 marks): 25 marks The theoretical part: 20 marks Two monthly exams, 5 marks Reports
15 marks Practical part: 10 marks monthly exams, 5 marks student practical activity
Final quest (60 marks): 40 marks theoretical questions, 20 marks practical questions

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	(ecology) Book by Dr. muhemmed sulaiman abido
Main references (sources)	(ecology for agricultural college) Book By dr . hikmat abbas al aany and dr. raad hashim bakir
Recommended books and references (scientific journals, reports...)	International periodicals and magazines in Clarvit and Scopus containers
Electronic References, Websites	International periodicals and magazines in Clarvit and Scopus containers

Course Description Form

1. Course Name:

English language 4/ intermediate level

2. Course Code:

ENGL418

3. Semester / Year:

First semester/ fourth year

4. Description Preparation Date:

31/03/2024

5. Available Attendance Forms:

Mandatory

6. Number of Credit Hours (Total) / Number of Units (Total)

1 hour

7. Course administrator's name (mention all, if more than one name)**Name:** Berevan Qader Omar **Email:** beree.omer@gmail.com**8. Course Objectives**

Teaching this curriculum aims to make the student familiar with the English language as it is a global language from which the students will benefit widely in their academic life. This curriculum is an extension of what the students learned in the previous three stages.

9. Teaching and Learning Strategies

It is a semi-integrated curriculum for the intermediate level, which includes the necessary basics for learning the English language for the intermediate level, along with exercises. It includes auxiliary verbs and four types of verb tenses, with an explanation of each tense in the form of the affirmative, negative, and question. It also includes an introduction to the modal verbs regarding permission, Obligation and how to make offer and request, as well as an introduction to the future tense.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	Introduction to modal auxiliary verbs	Knowledge	lecture	Exercise
2	1	Tenses and auxiliary verbs	Knowledge	lecture	Exercise

3	1	Negative and auxiliary verbs	Knowledge	lecture	Exercise
4	1	Question and auxiliary verbs	Knowledge	lecture	Exercise
5	1	Present simple for intermediate level	Knowledge	lecture	Exercise
6	1	Present continuous for intermediate level	Knowledge	lecture	Quiz
7	1	Past simple for intermediate level	Knowledge	lecture	Exercise
8	1	Past continuous for intermediate level	Knowledge	lecture	Exercise
9	1	Modal verbs	Knowledge	lecture	Exercise
10	1	Modal verbs of obligation and permission	Knowledge	lecture	quiz
11	1	Should, ought to , must	Knowledge	lecture	quiz
12	1	Making request	Knowledge	lecture	Exercise
13	1	Making offers	Knowledge	lecture	Exercise
14	1	Introduction to future	Knowledge	lecture	Exercise
15	1	Future with facts and predictions	Knowledge	lecture	Quiz

11.Course Evaluation

Semester endeavor (40 marks): 15 marks for the first month exam + 5 marks for quiz
15 marks for second month exam + 5 marks for quiz
Final exam (60 marks)

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	New headway plus (elementary student book) / written by : Liz and John Soars / Oxford university press
Main references (sources)	Cambridge press
Recommended books and references (scientific journals, reports...)	My English library website
Electronic References, Websites	You tube and some useful websites

Course Description Form

1. Course Name:					
Forest Project					
2. Course Code:					
FOPR421					
3. Semester / Year:					
Second semester/fourth year					
4. Description Preparation Date:					
29/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: MOHAMMED ALBAYATI E-mail albayatiiu@uokirkuk.edu.iq					
8. Course Objectives					
The course aims to prepare Gabonese cadres specializing in studying Gabonese projects. And bring out specialized cadres in...					
9. Teaching and Learning Strategies					
Enabling students to prepare and evaluate Gabonese projects that keep pace with modern scientific progress					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Recognize the public foundations. FOR THE ASSESSMENT OF GABON's PROJECTS	THE ASSESSMENT OF GABON's PROJECTS	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
2	5	Recognize the reasons for the scarcity of timber in the world	timber in the world	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
3	5	Identification of methods for estimating project costs and revenues	costs and revenues	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
4	5	Learn how to invest	invest for	Lecture,	Verbal, editorial,

		for projects	projects	presentations and interactive discussion	daily and monthly tests and scientific reports
5	5	Identification of the use of financial standards in project evaluation	project evaluation	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
6	5	Learn about supply and demand methods	supply and demand	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
7	5	Find out how to market a project or products and choose ways to distribute them	project or products and choose ways to distribute them	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
8	5	Recognize a range of considerations for Gabonese product distribution routes	Gabonese product distribution routes	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
9	5	Identification of the economic development of Gabon's enterprises	development of Gabon's enterprises	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
10	5	Identification of the evaluation stages of Gabon's projects	stages of Gabon's projects	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
11	5	Learn how to apply treasure theories in determining income, consumption and investment	points in projects	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
12	5	Learn how to analyze tie points in projects		Lecture, presentations and	Verbal, editorial, daily and monthly tests and

				interactive discussion	scientific reports
13	5	Project Input & output Identification	Input & output	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
14	5	Public and private standards for project evaluation	project evaluation	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
15	5	Recognize the fundamentals of the discount and methods of sensitivity analysis for Gabon's economic projects	Gabon's economic projects	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Agen Burgham, Mohammed Abdul Karim - Foundations of Project Evaluation and Financial Management 2010
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Forest Management					
2. Course Code:					
FOMA422					
3. Semester / Year:					
Second semester/fourth year					
4. Description Preparation Date:					
29/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Mahdi Hadi E-mail					
8. Course Objectives					
The purpose of the course is to prepare Gabonese cadres specializing in the science of forest management					
9. Teaching and Learning Strategies					
Verbal communication with students and urging them to work together in the learning process and use written communication skills to increase assimilation as well as the method of brainstorming to attract students' attention and activate the strategy of thinking according to the student's ability, and conduct scientific visits to agricultural projects.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	forest managemen	Introduction to forest managemen	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
2	5	Regulation	Regulation: Cadastral Organization - Volume Organization - Means of Regulation	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
3	5	Main Regional Units	Main Regional Units - Educational Organization	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

			Units		
4	5	Production	Production: Classification of production equations - Current production estimate	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
5	5	Direct method	Direct method - Indirect method of estimating production	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
6	5	Method of estimating	Method of estimating future production	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
7	5	Method of distribution	Method of distribution of diameters in the tree	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
8	5	life cycles	life cycles	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
9	5	Types of Life Cycles	Types of Life Cycles - Financial Life Cycle	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
10	5	Lifecycle	Lifecycle for the largest volume production - economic lifecycle	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
11	5	forest land	Projected forest land value	Lecture, presentations and interactive	Verbal, editorial, daily and monthly tests and scientific reports

				discussion	
12	5	Forest Assessment	Ideal Forest - Forest Assessment (PNW, IRR)	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
13	5	Multiple Uses of the Forest Sports Methods Used in Forest Management	Multiple Uses of the Forest Sports Methods Used in Forest Management	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
14	5	linear programming	linear programming	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
15	5	Coded programming	Coded programming	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Forest Management
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Forest Engineering					
2. Course Code:					
FOEN423					
3. Semester / Year:					
Second semester/forth year					
4. Description Preparation Date:					
31/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Lecturer Dr. Osamah Ibrahim Ahmed Email: osama_alzaidbagy@uokirkuk.edu.iq					
8. Course Objectives					
The student's knowledge of forest engineering, which deals with all engineering works and constructions that take place inside or around the forest land and which aim to serve the forest and facilitate benefiting from forest activities, including forest roads and their annexes, and then service and investment buildings and forest protection systems.					
9. Teaching and Learning Strategies					
1. Learn about the science of forest engineering and its relationship to various forestry activities.					
2. Identify forest roads, their types, and the facilities attached to them.					
3. Identify methods for draining rainwater and melting snow.					
4. Service facilities within forests					
5. Identify the economic feasibility of these projects.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	An introduction to forest engineering	Knowledge	lecture	Daily exam and reports
2	5	Standards for the construction of forest roads	Knowledge and skills	lecture	Daily exam and reports
3	5	Degradation of forest roads, maintenance and treatments	Knowledge and skills	lecture	Daily exam and reports
4	5	Retaining walls in forests	Knowledge and skills	lecture	Daily exam and reports
5	5	Roads and bridges on forest roads	Knowledge and skills	lecture	Daily exam and reports
6	5	Drainage of rainwater and streams	Knowledge and skills	lecture	Daily exam and reports

7	5	Forest protection	Knowledge and skills	lecture	Daily exam and reports
8	5	Field visits	Knowledge and skills	lecture	Daily reports
9	5	Tourist facilities in forests	Knowledge and skills	lecture	Daily exam and reports
10	5	Educational and cultural facilities within forests	Knowledge	lecture	Daily exam and reports
11	5	Forest water harvesting	Knowledge	lecture	Daily exam and reports
12	5	Forest investment facilities	Knowledge	lecture	Daily exam and reports
13	5	Forest design	Knowledge and skill	lecture	Daily exam and reports
14	5	Natural reserves within forests	Knowledge and skill	lecture	Daily exam and reports
15	5	International standards for establishing forest facilities	Knowledge and skill	lecture	Daily exam and reports

11.Course Evaluation

Semester endeavor (40 marks): 25 marks The theoretical part: 20 marks Two monthly exams, 5 marks Reports
15 marks Practical part: 10 marks monthly exams, 5 marks student practical activity
Final quest (60 marks): 40 marks theoretical questions, 20 marks practical questions

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	(Forest Engineering) Book
Main references (sources)	(Forest & Forestry Engineering) Book
Recommended books and references (scientific journals, reports...)	Forest Engineering Journal
Electronic References, Websites	International periodicals and magazines in Clarvit and Scopus containers

Course Description Form

1. Course Name:					
Forest Breeding					
2. Course Code:					
TRBR424					
3. Semester / Year:					
Second semester/fourth year					
4. Description Preparation Date:					
29/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: MOHAMMED ALBAYATI E-mail albayatiiu@uokirkuk.edu.iq					
8. Course Objectives					
The course aims to prepare Gabonese cadres specializing in education. Improving forests through the use of programmers..					
9. Teaching and Learning Strategies					
Enabling students to prepare programs and plans for education and improvement of different types of forestry.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Knowledge of Public Foundations	Public Foundations	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
2	5	Identify the location of trees in the Botanic Kingdom	Botanic Kingdom	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
3	5	Recognize methods of variation in trees	Recognize methods of variation	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
4	5	Recognize the differences of quarrels	Recognize the differences	Lecture, presentations and	Verbal, editorial, daily and monthly tests and scientific

				interactive discussion	reports
5	5	Learn how to perpetuate brawls	quarrels	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
6	5	Identification of the genetic origins of Iraq's forestry tree	Identification of the genetic	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
7	5	Identification of the genetic origins of Iraq's forestry tree	origins of Iraq's forestry tree	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
8	5	Identification of variations between trees and their families	trees and their families	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
9	5	Identification of other organisms living in forests	organisms living in forests	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
10	5	Identify the location of evolution of breeds	evolution of breeds	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
11	5	Identification of Tree Ground Breeds	Ground Breeds	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
12	5	Learn about tree breeding methods	tree breeding methods	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
13	5	Learn About Election Methods	Election Methods	Lecture, presentations	Verbal, editorial, daily and monthly

				and interactive discussion	tests and scientific reports
14	5	Identification of election systems	election systems	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
15	5	Get to know the basics of election	basics of election	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Forest Development, Yawz Shafiq Abdullah, 1988. Plant Breeding and Improvement, Fouad Razak Al Baraki, 2020
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Wood Preservation					
2. Course Code:					
WOPR425					
3. Semester / Year:					
Second semester/Fourth year					
4. Description Preparation Date:					
29/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Shaheen Abbas E-mail : shahinkifre@uokirkuk.edu.iq					
8. Course Objectives					
The student's knowledge of the science of wood conservation, which touches on the process of treating wood with appropriate chemicals and permeating it into wood for the purpose of increasing its resistance to insects and fungi and increasing its use and use in furniture and mobilization wood industry.					
9. Teaching and Learning Strategies					
1. Recognize wood conservation science and its relationship to wood biodegradation and processing.					
2. Recognize preservatives, types, methods of use and fit them with wood.					
3. Materials and methods used to preserve wood against fire (fire)					
4. Method used in wood conservation operations against fungi and insects					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Profile on Wood Conservation	Profile on Wood Conservation	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
2	5	Degradation of wood with fungi in general	Degradation of wood with fungi in general	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
3	5	Wood degradation with wood excavators	Wood degradation with wood	Lecture, presentations and	Verbal, editorial, daily and monthly tests and scientific

			excavators	interactive discussion	reports
4	5	Degradation of wood with bacteria in general	Degradation of wood with bacteria in general	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
5	5	Degradation of timber by marine neighborhoods	Degradation of timber by marine neighborhoods	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
6	5	Needs of rotting fungi	Needs of rotting fungi	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
7	5	The Hycroscopic Property of Dirty Timber	The Hycroscopic Property of Dirty Timber	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
8	5	Timber protection from decomposition	Timber protection from decomposition	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
9	5	Wood is divided by comparison to fungi	Wood is divided by comparison to fungi	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
10	5	Factors affecting the speed of degradation of wood	Factors affecting the speed of degradation of wood	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
11	5	Materials used in wood preservation	Materials used in wood preservation	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
12	5	Field visits to the timber plant	Field visits to the timber	Lecture, presentations	Verbal, editorial, daily and monthly

			plant	and interactive discussion	tests and scientific reports
13	5	Wood preservation methods in general	Wood preservation methods in general	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
14	5	Characteristic manifestations of brown mold fungi	Characteristic manifestations of brown mold fungi	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
15	5	distinctive manifestations. To infect white mold fungi	distinctive manifestations. To infect white mold fungi	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Forest Development, Yawz Shafiq Abdullah, 1988. Plant Breeding and Improvement, Fouad Razak Al Baraki, 2020
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Seminar					
2. Course Code:					
SEMI427					
3. Semester / Year:					
Second semester/fourth year					
4. Description Preparation Date:					
29/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(1) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: MOHAMMED ALBAYATI E-mail albayatiiu@uokirkuk.edu.iq					
8. Course Objectives					
The course aims to identify methods of conducting seminars and collecting research sources. and their scientific summaries and narrative methods.					
9. Teaching and Learning Strategies					
Enabling students to prepare a scientific definition of scientific topics related to forests					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	Identify ways. Selection of topics	Selection of topics	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
2	1	Learn how to prepare applied curricula	prepare applied curricula	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
3	1	Recognize data collection methods	collection methods	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
4	1	Learn how to prepare research	prepare research	Lecture, presentations	Verbal, editorial, daily and monthly

		briefs	briefs	and interactive discussion	tests and scientific reports
5	1	Learn how to review scientific sources	review scientific sources	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
6	1	Learn how to collect and analyses research data	analyses research data	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
7	1	Learn how to tab analyzed data	analyzed data	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
8	1	Identifying methods of analysis of their types	methods of analysis of their types	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
9	1	Learn how to interpret results	interpret results	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
10	1	Learn how to interpret research's scientific findings	research's scientific findings	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
11	1	Learn how to meet or list scientific information for research	list scientific information for research	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
12	1	Learn about the types of publishing methods and international and local magazines	international and local magazines	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
13	1	Learn how to evaluate	evaluate	Lecture,	Verbal, editorial,

		research	research	presentations and interactive discussion	daily and monthly tests and scientific reports
14	1	Learn about the final evaluation methods of articles	evaluation methods of articles	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
15	1	Knowledge of the student's final assessment	student's final assessment	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Scientific Research Directory, Riad Aziz Hadi, 2016. Steps to write scientific research,. Al-Bayan Centre for Studies...
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus