Academic Program Description Form

University Name: **University of Mosul**

Faculty/Institute: **College of Agriculture and Forestry**

Scientific Department: **Forest Sciences Department**

Academic or Professional Program Name: **B.Sc.**

Final Certificate Name: **Forest Sciences B.Sc.**

Academic System: **Semesters**

Description Preparation Date: 5\5\2025

File Completion Date: 5\5\2025

Signature:

Head of Department Name:

Prof. Asst. Dr.Sumod Husain Ali

Date: 5\5\2025

Signature:

Scientific Associate Name:

Prof. Dr.

Date: 5\5\2025

The file is checked by:

Director of the Quality Assurance and University Performance

Department: **Assistant Lecturer : Oday Abdulhadi Adday**

Quality Assurance Unit Head: Asst. Dr. Ramia Amer Khalil

Date:

Signature:

Approval of the Dean

Prof. Dr. Ali Farouq Al-Ma'athedi

1. Program Vision

To be a leader in education and scientific research in the field of forestry sciences, and to contribute effectively to community service and sustainable development, in accordance with the highest international academic standards.

2. Program Mission

Qualifying highly qualified graduates in forestry sciences, through applied academic programs and research directed towards the sustainability of ecosystems, with a commitment to developing postgraduate programs that keep pace with environmental challenges and contribute to serving the community and the local and global labor market.

3. Program Objectives

1. **Qualifying Specialized Scientific Cadres**
Preparing scientifically and practically qualified agricultural engineers in the field of forestry sciences, capable of meeting the challenges of the profession and serving the community efficiently.
2. **Promoting Sustainability in Bioresource Management**
Developing educational and training programs focused on the sustainable use of forest resources as products of economic and environmental value.
3. **Preparing Engineers Specialized in Natural Resource Management**
Empowering graduates to manage public lands, such as national parks and reserves, and to address environmental issues such as forest fires and global warming.
4. **Disseminating Knowledge and Modern Technologies**
Promoting scientific research and training in the fields of afforestation and forest rehabilitation using modern technology.
5. **Contributing to Combating Desertification and Developing Vegetation Cover**
Implementing afforestation and environmental restoration projects aimed at combating desertification and limiting sand encroachment.
6. **Raising Awareness of the Importance of Food Security and Sustainable Development**
Integrating the concepts of sustainability and professional ethics into academic programs, while enhancing students' environmental awareness.
7. **Developing Communication Skills**
Training students in effective communication skills for employment in relevant government and private sectors.

8. Enhancing research and analytical skills
Developing students' abilities to interpret research results and evaluate agricultural and forestry projects.

9. Improving natural resource management
Enhancing graduates' ability to assess soil and water properties and utilize them appropriately under various environmental conditions.

10. Improving the quality of forest products and supporting sustainable industries
Working to improve the quality of forest products and promote related industries to support environmentally responsible production.

11. Enhancing cooperation with various institutions
Developing research and applied cooperation with state institutions and the private sector to serve the public interest through specialized scientific cadres.

4. Program Accreditation

The application for program accreditation has been submitted.

5. Other external influences

The family problems facing students negatively affect the students' performance in the academic program

Extracurricular activities help students achieve greater achievements in implementing the academic program

The economic situation of students and their involvement in work to save money negatively affects their academic performance

The student's learning competence in his preparatory studies is one of the most important indicators of excellence in the performance of the academic program

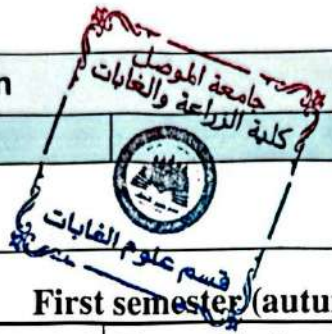
6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*

Institution Requirements	11	20	11.83431953	
College Requirements	9	27	15.97633136	
Department Requirements	37	122	72.18934911	
Summer Training	1			
Other				

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

7. Program Description



The first stage

First semester (autumn)

Name of the academic subject	Material symbol	Theoretical hours	Practical hours	Units
Chemistry	CHEM106	2	3	3.5
Principles of Forestry	PRFO140	2	3	3.5
Surveying	SURV120	2	3	3.5
Mathmatics	MATH104	2	-	2
English Language 1	ENGL101	2	-	2
Geology	GEOL132	2	3	2.5
General Botany	GEBO119	2	3	3.5
Democracy and Human Rights	DEHR100	2	-	2

The second semester (spring)

Name of the academic subject	Material symbol	Theoretical hours	Practical hours	Units

Arabic Language 1	ARAL102	2	-	2
Principles of Animal Production	PRAP114	2	3	3.5
Engineering Drawing	ENGD118	-	3	1.5
Principles of Agricultural Economy	PAEC115	2	-	2
Organic Chemistry	ORCH105	2	3	3.5
Computer Application 1	COMA103	2	-	2
Statistical	STAT109	2	3	3.5

The second stage

First semester (autumn)				
Name of the academic subject	**Material symbol**	**Theoretical hours**	**Practical hours**	**Units**
Computer Application 2	COMA203	2	-	2
Universal Education 2	UNED252	2	-	2
Forest Machinery	FOMA253	2	3	3.5
Biochemistry	BICH204	2	3	3.5
Principles of Microbiology	PRMB205	2	3	3.5
Genetics	GENT212	2	3	3.5
Forest Trees Taxonomy	DEND254	2	3	3.5
Crimes of the defunct Baath Party	CBAP200	2	-	2

The second semester (spring)				
Name of the academic subject	Material symbol	Theoretical hours	Practical hours	Units
Agriculture Technology Transferred	AGTT255	2	-	2
Environment and climate	ENCL318	2	3	3.5
Forest Soil	FOSO256	2	3	3.5
Natural Pastures	NAPA257	2	3	3.5
Principles of Sylviculture	PRSY258	2	3	3.5
Forests Insects	FOIN259	2	3	3.5
English Language 2	ENGL201	2	-	2
Arabic Language 2	ARAL102	2		2

third stage

First semester (autumn)				
Name of the academic subject	Material symbol	Theoretical hours	Practical hours	Units
Wildlife	WILI396	2	3	3.5
Forest Disease	FODI397	2	3	3.5
Design and analysis of agricultural experiments	DAAE302	2	3	3.5
Forest Policy	FOPO398	2	3	3.5
Forest investment	FOIN399	2	3	3.5
Forest Nurseries	FONU300	2	3	3.5
Remote Sensing	RESE352	2	3	3.5
		2	3	3.5

The second semester (spring)				
Name of the academic subject	Material symbol	Theoretical hours	Practical hours	Units
Forest measurements	FOME301	2	3	3.5
Forest planting	FOPL302	2	3	3.5
Watershed Management	WAMA303	2	3	3.5
Wood Science	WOSC304	2	3	3.5
Frosts Physiology	FRPH305	2	3	3.5
Tourism and parks	TOPA306	2		2

The fourth stage

First semester (autumn)				
Name of the academic subject	Material symbol	Theoretical hours	Practical hours	Units
Forest Planning	FOPL497	2	3	3.5
Forest Economic	FOEC498	2	-	2
Wood Industries	WOIN499	2	3	3.5
Forest Protection	FOPR400	2	3	3.5
Research Project 1	REPR402	-	3	1.5
Silvicultural system	SISY401	2	3	3.5
Seminar	SEMN404	1	-	1
The second semester (spring)				
Name of the academic	Material symbol	Theoretical hours	Practical hours	Units

subject				
Wood Preservation	WOPR402	2	3	3.5
Forest Project Evaluation	FOPE403	2	3	3.5
Forest Management	FOMA404	2	3	3.5
Forest Trees Breeding	FOTB405	2	3	3.5
Forest Engineering	FOEN406	2	3	3.5
Research Project 2	REPR403	-	3	1.5

8. Expected learning outcomes of the programme	
Knowledge	
The student should be able to explain biodiversity, its importance, and how to preserve natural resources in the environment	**A5**
A6	
The student should be able to explain the basics of applied sciences related to agricultural sciences, food, natural resources, environment, and biological systems	**A7**
The student should be able to explain the basics of agricultural engineering and the principles of planning and implementing the agricultural process	**A9**
A10	
The student should be able to explain the basics of integrated management of various pests and pathogens and the most important modern methods used for control	**A11**
The student should be able to learn about the various scientific methods for	**A13**

developing resources, facilities and agricultural sectors	
The student should be able to explain biodiversity and its importance in preserving natural materials, indicating the importance of the safety and quality of agricultural products. Food and quality and safety programs related to that in a manner that meets food laws and legislation	A14
The student should be able to explain the principles of planning and implementing agricultural operations and know what the market needs through analyzing supply and demand prices	A15
The student should be able to explain the stages and basic elements of planning and implementing agricultural and cultural operations and activities in agricultural communities	A16
The student should be able to compare what the market needs by analyzing supply and demand prices	A18
The student should be able to explain the relationship of macro and microeconomics and statistics to agricultural production	A19
The student should be able to explain the principles of basic and applied sciences and modern technologies related to agricultural, land, water, and environmental sciences	A20
The student should be able to enumerate the chemical groups of pesticides, taking into account local and international legislation and controls that are informed by safety standards for their use and their impact on the quality and safety of agricultural and food products .	A26
The student should be able to identify forests and other tree species, their distribution, and the plants and wildlife associated with them	A58
The student should be able to understand how tree biology and conservation concepts influence forest management and biodiversity	A59
The student should be able to explain ecological concepts and principles including the structure and function of ecosystems, plant and animal communities, competition,	A60

diversity, population dynamics, succession, disturbances, and nutrient cycling .	
The student will be able to become familiar with how federal, state, and local laws and regulations govern the practice of forestry and forestry operations	A63
The student should be able to understand the management, ownership, organization, human resources and legal aspects of forest management institutions	A64
The student should be able to understand forest policy, its historical context and the processes through which it is developed	A65
The student should be able to familiarize himself with the Forest Code and recognize the responsibility to adhere to ethical standards in making decisions regarding forests on behalf of others .	A66
The student will be able to identify the different harvesting, transporting and processing systems used in managing forest resources and producing forest products	A67
The student should be able to understand how mathematical programming techniques and regional impact analyzes can be used in making decisions related to forests	A68
The student will be able to understand how resource conditions and social demands interact under various market and non-market structures to influence the valuation and availability of forest-related goods and services .	A69
The student will be able to understand how the presence of market externalities, ecosystem services, and non-market goods and services influence forestry decisions and resource conditions .	A70
Mental (intellectual) skills	B
The student should be able to propose commercial production plans for plant, animal and food crops in accordance with market systems by assessing the economic situation of the market and knowing its needs .	B4
The student should be able to predict the status of plant pests and diseases, specifying methods for monitoring and investigating field counts, the rate and severity	B10

of infection .	
The student should be able to plan and manage agricultural projects free of diseases and pests in accordance with quality and safety standards	B14
The student should be able to manage agricultural projects in accordance with quality and safety standards and free of diseases and pests	B15
The student should be able to determine and measure land areas and conduct spatial analysis	B48
The student should be able to develop and evaluate management plans with multiple objectives and constraints	B49
The student should be able to develop silvicultural traits appropriate to management objectives	B50
The student should be able to design and implement comprehensive and appropriate inventories of forest resources	B51
The student will be able to analyze forest stock information and predict the conditions of forests and trees in the future	B52
Professional (practical) skills	C
The student must be able to prepare scientific research and studies in his field of specialization in Arabic and English	C3
The student should be able to use laboratory equipment and computers to predict the outbreak of plant pests and epidemics and operate and maintain agricultural machinery used in combating pests and plant diseases .	C6
The student should be able to develop appropriate practical methods for the biological control of pests and plant disease pathogens and the breeding of parasites, predators	C8

and antagonistic organisms to find the best appropriate solutions to combat them .	
The student will be able to use effective concepts, models, and techniques to produce and analyze forest resource plans, from logging to landscaping	C56
The student should be able to apply basic methods and applications of mathematics, linear programming, and statistics to analyze and solve problems related to forest sciences .	C57
The student will be able to master concepts related to tree pests and diseases, and use them to evaluate the health/productivity of trees and forests .	C58
The student will be able to conduct assessments of the forest and ecosystem situation	C59
The student will be able to use computers and other technologies to communicate, measure, analyze, and solve problems related to forest sciences	C60
Communication and IT skills (general skills)	D
The student should be able to use computer programs to analyze and present data and information in the agricultural field	D1
The student must be able to develop his cognitive, professional, and research capabilities in his field of specialization	D4
The student should be able to be proficient in self-learning, writing reports, and working within the agricultural team	D9
The student should be able to deal efficiently with appropriate audio-visual means in presenting data and information related to the environment	D16
The student should be able to educate the community about the importance of increasing green cover as a contribution to reducing environmental pollution and improving it and its impact on the health, psychological and social condition of the	D21

community.	
Attitudes/beliefs (values, autonomy, responsibility)	E
The student should be able to suggest ways to preserve the environment and natural resources of the local community	E1
The student should be able to contribute to enhancing understanding and awareness of the meaning of professionalism at work and to bear legal, ethical and social responsibility.	E2
The student must be able to bear responsibility for completing work efficiently and be keen on professional ethics	E5

9.Teaching and Learning Strategies

Interactive lectures, brainstorming, dialogue and discussion, field training, practical exercises, and field applications

10.Evaluation methods

Short tests, semester exams, evaluation of reports, evaluation of discussion, evaluation of research reports

11.Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (If applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor		2			2	

Assistant Professor		4			4	
Teacher		5			5	
assistant teacher		7			7	

Professional Development
Mentoring new faculty members
✓ Developing skills to enhance self-confidence, a positive orientation towards a culture of quality and requirements, enhancing a sense of responsibility, and belief in the spirit of teamwork and its role in achieving and developing job sense and moral conscience. . ✓ Evaluating academic courses and plans in coordination with academic departments to ensure that they meet labor market requirements ✓ Possessing the skills of guiding and guiding students . ✓ The ability to produce educational materials according to quality specifications, including academic curricula, media, lectures and educational supplies.
Professional development of faculty members
Briefly describe the academic and professional development plan and arrangements for faculty such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

12.Acceptance Criterion
(Setting regulations related to enrollment in the college or institute, whether central admission or others)

13.The most important sources of information about the program
State briefly the sources of information about the program.

14.Program Development Plan

جامعة الموصل
كلية الزراعة والغابات
قسم علوم الغابات