Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
Accreditation Department

Academic Program and Course Description Guide

2025

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

Concepts and terminology:

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

Course Description: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

Program Vision: An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

Program Mission: Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

Program Objectives: They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

Curriculum Structure: All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name: Diyala

Faculty/Institute: Agriculture

Scientific Department: Soil science and Water Resources

Academic or Professional Program Name: Soil science and Water Resources

Final Certificate Name: Bachelor's degree in Agriculture/ Soil science and Water Resources

Academic System: Semester

Description Preparation Date: 24/02/2025

File Completion Date: 15/01/2025

Signature:

Head of Department Name:

Assist Prof.Dr. Ahmed Bahjat Khalaf

Date:15/01/2025

Signature:

Scientific Associate Name:

Prof.Dr. Mohammed Ali Abood

Date:15/01/2025

The file is checked by: Prof.Dr. Basem Rahem Bader

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date: 15/01/2025

Signature:

Approval of the Dean

Prof.Dr. Raaed Ibrahim Khalil

17-2-2025

1. **Program Vision**
The department aspires to leadership and excellence in the fields of soil science, water and environmental resources, and achieving the highest levels of education and scientific research to serve the community.

2. **Program Mission**
Preparing a distinguished staff that keeps pace with scientific development and quality to meet the requirements of the labor market and contribute to the advancement of the agricultural sector. The department aspires to contribute to the development of agricultural awareness for farmers and those interested in the field of agriculture through the objectives of the program.

3. **Program Objectives**
1. Using and innovating modern educational methods in order to deliver information in a better and clearer manner and to provide greater scope for students' understanding and awareness. 2. Ensure that the titles of fourth-year students' graduation research projects are documented. 3. Paying attention to research plans for postgraduate students and directing them towards modernity, originality, innovation and what meets market requirements. 4. Opening opportunities to develop the teaching and educational staff by holding seminars and workshops and enrolling in continuing education courses. 5. Commitment to quality standards and their application to improve performance rates and raise the scientific level to the highest levels.

4. **Program Accreditation**
Does the program have program accreditation? And from which agency?

5. Other external influences

Is there a sponsor for the program?

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	11	21	11.67	Basic
College Requirements	15	43.5	24.17	Basic
Department Requirements	37	115.5	64.16	Basic
Summer Training	Nothing	Nothing	Nothing	Basic
Other	Nothing	Nothing	Nothing	Basic

* 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 stage	SSD-1101	Surveying and Engineering Drawing	2	3
	UD04	Democracy and Human rights	2	3
	COA-1102	Organic Chemistry	2	3
	SSD-1103	Principles of Soil Science	2	3
	UD01	English Language	2	-
	FCD-1101	Principles of Field Crop	2	-
	SSD-1205	General Physics	2	3
	SSD-1206	Principles of Geology	1	3
	APD-1201	Principles of Animal production	2	-
	UD03	Computer	2	-
	UD02	Arabic Language	1	3
	COA-1202	Mathematics and Statistics	-	3
Second stage	BIOC205	Biochemistry	2	3
	PRSS208	Principles of Soil Science	2	3
	PRIM209	Principles of microbiology	2	3
	SOEM210	Soil Ecology and Meteorology	2	3
	VEGP206	Vegetable production	1	3
	APPC202	Applications in Computer 3	-	3
	ENGL201	Specialization English Language(2)	2	-
	PRPP207	Principles of plant protection	2	3

	CBRI204	The crimes of the Baath regime in Iraq	**2**	**-**
	SPWA214	Soil, plant and water analysis	**2**	**3**
	AGEM212	Agricultural equipment and machinery	**2**	**3**
	PRAE211	Principles of Agriculture extension	**2**	**-**
	PLAP215	Plant physiology	**2**	**3**
	LALG216	Lands Leveling and grading	**2**	**3**
	PRIS213	Principles of Statistics	**2**	**3**
	APPC203	Applications in Computer 4	**-**	**3**
	ARAL217	Arabic language	**2**	**-**
Third stage	SOIP304	Soil physics	**2**	**3**
	ORMS305	Organic matter in Soil	**2**	**3**
	IRRG306	Irrigation	**2**	**3**
	SOWP307	Soil and water pollution	**2**	**3**
	EXDA302	Experimental designs and analysis	**2**	**3**
	SOIC308	Soil Chemistry	**2**	**3**
	ECNS303	Economics of Natural Resources	**3**	**-**
	REMS309	Remote sensing	**2**	**3**
	SOIS310	Soil Salinity	**2**	**3**
	SOIM311	Soil morphology	**2**	**3**
	DRAI312	Drainage	**2**	**3**
	SOMI313	Soil mineralogy	**2**	**3**
	SOIF314	Soil Fertility	**2**	**3**
	ENGL301	Specialization English Language(3)	**2**	**-**
Fourth stage	SOSC403	Soil survey and classification	**2**	**3**
	SOWC402	Soil & Water Conservation	**2**	**3**
	SWPR404	Soil-Water-Plant Relationship	**2**	**3**
	HYWR405	Hydrology & Water Resource	**2**	**3**
	IRST406	Irrigation systems technologies	**2**	**3**
	ENGL401	Specialization English Language(4)	**2**	**-**
	SEMN407	Seminars	**1**	**-**
	GRRP408	Graduate research project	**-**	**3**
	SOIM410	Soil microbiology	**2**	**3**
	SOMA411	Soil management	**2**	**3**
	DESE412	Desertification	**2**	**-**
	PLAN413	Plant Nutrition	**2**	**3**
	FERT414	Fertilizers technology	**2**	**3**
	LANR415	Land Reclamation	**2**	**3**
	CRRP409	Graduate research project	**-**	**3**

8. Expected learning outcomes of the program

Knowledge

1. Enabling students to obtain knowledge and understanding of the intellectual and applied framework in agricultural sciences in general and soil sciences and water resources in particular.
2. Enabling students to obtain knowledge and understanding of agricultural requirements in accordance with international standards.
3. Informing students about modern techniques in agriculture by showing films, scientific research, and modern agricultural methods

Skills

1. Using the display screen in classrooms
2. Enabling students to visit the library and the Internet
3. Show illustrative pictures of various types of soil
4. Visit weather stations in the geographical area

Ethics

Theoretical tests

Practical tests

Reports and studies

Daily and monthly tests with multiple-choice questions for academic subjects.

Participation marks for difficult competition questions for students.

9. Teaching and Learning Strategies

1- Brainstorming

2- Thinking strategy according to the student's ability. Example (If the student is able to learn the correct concept of water management, he will acquire the skill of managing and organizing his personal life.

3- Critical thinking strategy in learning. Critical Thinking is a term that symbolizes the highest levels of thinking, which aims to pose a problem and then analyze it logically to reach the desired solution.

10. Evaluation methods

Theoretical tests

Practical tests

Reports and studies

Daily and monthly tests with multiple-choice questions for academic subjects.

Participation marks for difficult competition questions for students.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor	Soil science and Water Resources	Microbiology/ soil and water			1	
Professor	Soil science and Water Resources	Soil Chemistry			1	
Professor	Soil science and Water Resources	Soil Physics			1	
Professor	Soil science and Water Resources	Soil Fertilizer and Fertility			1	
Assis. Professor	Soil science and Water Resources	Plant Nutrition			1	
Assis. Professor	Forests	Forests/ Remote sensing			1	
Assis. Professor	Plant Protection	Insects			1	
Assis. Professor	Soil science and Water Resources	Soil Chemistry			2	
Assis. Professor	Electrical and electronic engineering	Laser and optoelectronics engineering			1	
Lecturer	Soil science and Water Resources	Soil Fertilizer and Fertility			1	
Lecturer	Machines and machines	Machines and machines			1	

Lecturer	Plant Protection	Plant Protection			1	
Lecturer	Biology	Plant Physiology			1	
Lecturer	Soil science and Water Resources	Soil Physics			1	
Assis. Professor	engineering	Mechanical			1	
Lecturer	Agricultural economics and extension	Agricultural economics and extension			1	
Assis.Lecturer	Biology	Animal			1	
Assis.Lecturer	Computer Engineering	Computer Engineering			1	
Assis.Lecturer	Soil science and Water Resources	Soil survey and classification			1	
Assis.Lecturer	Horticulture	designing gardens			1	
Assis.Lecturer	Horticulture	Fruit			1	
Assis.Lecturer	Master of Science	Master of Science			1	
Assis.Lecturer	Biology	Biology			1	
Assis.Lecturer	Chemistry	Chemistry			1	

Professional Development

Mentoring new faculty members

Urging new teachers to participate in the development courses held by the university and college, as well as to participate in practical lessons as a listener to learn from the old professors teaching methods, classroom management, and dealing with students.

Professional development of faculty members

Directing teachers to participate in conferences, workshops, and seminars, especially international ones, as well as emphasizing their involvement in development courses held by the university and college to increase knowledge of modern learning methods and keep pace with development.

12.	**Acceptance Criterion**
Central admission by the Ministry of Higher Education and Scientific Research after the student graduates from the sixth grade of middle school and chooses the College of Agriculture, then competes for the scientific section according to the average.	

13.	**The most important sources of information about the program**
1- Academic research 2- Central Library 3- Books and resources related to the department 4- The Internet 5- The accumulated scientific experiences of the department's staff 6- Feedback from the labor market	

14.	Program Development Plan
Addressing weaknesses that may appear during the implementation of academic programs and developing executive plans for development and improvement.	

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First stage First semester	SSD-1101	Surveying and Engineering Drawing	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	UD04	Democracy and Human rights	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	COA-1102	Organic Chemistry	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SSD-1103	Principles of Soil Science	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	UD01	English Language	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	FCD-1101	Principles of Field Crop	Basic	√	√	√	√	√	√	√	√	√	√	√	√
First stage Second semester	SSD-1205	General Physics	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SSD-1206	Principles of Geology	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	APD-1201	Principles of Animal production	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	UD03	Computer	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	UD02	Arabic Language	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	COA-1202	Mathematics and Statistics	Basic	√	√	√	√	√	√	√	√	√	√	√	√

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
Second stage First semester	BIOC205	Biochemistry	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PRSS208	Principles of Soil Science	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PRIM209	Principles of microbiology	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SOEM210	Soil Ecology and Meteorology	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	VEGP206	Vegetable production	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	APPC202	Applications in Computer 3	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	ENGL201	Specialization English Language (2)	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PRPP207	Principles of plant protection	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	CBRI204	The crimes of the Baath regime in Iraq	Basic	√	√	√	√	√	√	√	√	√	√	√	√
Second stage Second semester	SPWA214	Soil, plant and water analysis	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	AGEM212	Agricultural equipment and machinery	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PRAE211	Principles of Agriculture extension	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PLAP215	Plant physiology	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	LALG216	Lands Leveling and grading	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PRIS213	Principles of Statistics	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	APPC203	Applications in Computer 4	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	ARAL217	Arabic language	Basic	√	√	√	√	√	√	√	√	√	√	√	√

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
Third stage First semester	SOIP304	Soil physics	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	ORMS305	Organic matter in Soil	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	IRRG306	Irrigation	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SOWP307	Soil and water pollution	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	EXDA302	Experimental designs and analysis	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SOIC308	Soil Chemistry	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	ECNS303	Economics of Natural Resources	Basic	√	√	√	√	√	√	√	√	√	√	√	√
Third stage Second semester	REMS309	Remote sensing	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SOIS310	Soil Salinity	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SOIM311	Soil morphology	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	DRAI312	Drainage	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SOMI313	Soil mineralogy	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SOIF314	Soil Fertility	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	ENGL301	Specialization English Language (3)	Basic	√	√	√	√	√	√	√	√	√	√	√	√

Program Skills Outline														
				Required program Learning outcomes										
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
Fourth stage First semester	SOSC403	Soil survey and classification	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SOWC402	Soil & Water Conservation	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SWPR404	Soil-Water-Plant Relationship	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	HYWR405	Hydrology & Water Resource	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	IRST406	Irrigation systems technologies	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	ENGL401	Specialization English Language(4)	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SEMN407	Seminars	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	GRRP408	Graduate research project	Basic	√	√	√	√	√	√	√	√	√	√	√	√
Fourth stage Second semester	SOIM410	Soil microbiology	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	SOMA411	Soil management	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	DESE412	Desertification	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	PLAN413	Plant Nutrition	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	FERT414	Fertilizers technology	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	LANR415	Land Reclamation	Basic	√	√	√	√	√	√	√	√	√	√	√	√
	CRRP409	Graduate research project	Basic	√	√	√	√	√	√	√	√	√	√	√	√

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