Academic Program Description Form

University Name: Tikrit University

Faculty/Institute: College of Agriculture

Scientific Department: Soil and Water Resources Sciences

Academic or Professional Program Name: Bachelor of Agricultural Sciences/ Soil and Water Resources Sciences

Final Certificate Name: Bachelor of Agricultural Sciences/ Soil and Water Resources Sciences

Academic System: Season

Description Preparation Date: 14/9/2025

File Completion Date: 14/9/2025

Signature:

Head of Department Name:

professor Dr. Mohammed J. Farhan

Date: 14.9.2025

Signature:

Scientific Associate Name:

Professor Dr. Mohammed saleh Mohammed

Date: 14.9.2025

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Professor Dr. Maysaloon Wail Ibraheem

Date: 14.9.2025

Signature:

Approval of the Dean

Dr. Sami Khader Saeed

Date: 14/9/2025

1. Program Vision

The Department of Soil Science and Water Resources aspires to be a leader among its counterpart departments in the country through its scientific staff and graduates, and by providing consultations, research, and community service in the fields of soil science and water resources.

2. Program Mission

The Department of Soil Science and Water Resources seeks to supply society with scientific competencies and qualified graduates in both theoretical and applied aspects of soil science and water resources, and to provide rigorous research and consultations to workers in the agricultural sector.

3. Program Objectives

1. Qualify students theoretically and practically through specialized curricula and courses.
2. Grant a Bachelor's degree in Soil Science and Water Resources with specializations in soil fertility and fertilizers, soil chemistry, soil physics, soil survey and classification, and soil microbiology, to provide the labor market with graduates possessing the necessary knowledge and skills in sustainable and effective soil and water resource management.
3. Qualify and train students scientifically and practically in all fields of soil science and water resources to contribute to improving, developing, and increasing agricultural production and efficient investment of natural resources.
4. Consolidate water consumption rationalization techniques and introduce new lands into the agricultural area where water shares were not previously secured by adopting modern irrigation techniques.
5. Encourage researchers in innovation by adding courses to develop mental skills, economic and social planning, constructive dialogue, and decision-making within education development programs.
6. Conduct research to address and solve agricultural problems using technical means.

4. Program Accreditation

nothing

5. Other external influences

nothing

6 Program Structure				
Program Structure	Number of Courses	Credit hours	Percentage	Reviews•
Institution Requirements	**9**	**9**	**% 15.25**	None
College Requirements	**13**	**30**	**% 22.03**	None
	37	**108**	**% 62.71**	None
Department Requirements				
Summer Training	Basic	None	0	None
Other	None	None	None	None

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	AGRSS03	Principles of Chemistry	2	3
	AGRSS05	Physics	2	3
	AGRSS07	Principles of Field Crops	2	3
	AGRSS19	Principles of Animal Production	2	3
	AGRSS02	Mathematics 1	2	-
	UOT004	Human Rights and Public Freedoms	1	-
	AGRSS04	Engineering Drawing	-	3
	UOT002	Specialized English Language 1	1	-
	AGRSS03	Organic Chemistry	2	3
	AGRSS01	Principles of Geology	2	3
	AGRSS08	Fruit Production	1	3
	AGRSS09	Principles of Agricultural Economics	2	-
	AGRSS02	Mathematics 2	2	-
	UOT003	Computer Applications 1	-	3
	AGRSS06	Plane Surveying	1	3
	UOT021	Specialized English Language 2	1	-
Second	AGRSS33	Biochemistry	2	3
	AGRSS10	Principles of Soil Science	2	3
	AGRSS11	Principles of Statistics	2	3
	AGRSS14	Principles of Microbiology	2	3
	AGRSS12	Soil Environment and Meteorology	2	3
	AGRSS13	Vegetable Production	1	3
	UOT031	Computer Applications 2	-	3
	AGRSS16	Soil, Water, and Plant Analysis	2	3
	AGRSS15	Principles of Plant Protection	2	3
	AGRSS18	Agricultural Machinery and Tools	2	3
	AGRSS17	Principles of Agricultural Extension	2	-
	AGRSS19	Plant Physiology	2	3
	AGRSS06	Land Leveling and Grading	2	3
	UOT005	Freedom and Democracy	1	-
Third	AGRSS20	Soil Physics	2	3
	AGRSS21	Soil Organic Matter	2	3
	AGRSS22	Soil Fertility	2	3
	AGRSS23	Irrigation	2	3
	AGRSS24	Soil Chemistry	2	3
	AGRSS25	Soil and Water Pollution	2	3

	AGRSS26	Design and Analysis of Experiments	2	3
	AGRSS27	Plant Improvement	2	3
	AGRSS28	Soil Salinity	2	3
	AGRSS29	Soil Morphology	2	3
	AGRSS30	Drainage	2	3
	AGRSS31	Soil Minerals	2	3
	AGRSS32	Natural Resource Economics	3	-
	UOT031	Computer Applications 3	-	3
Fourth	AGRSS34	Soil Survey and Classification	2	3
	AGRSS35	Soil and Water Conservation	2	3
	AGRSS38	Soil Microbiology	2	3
	AGRSS39	Soil-Water-Plant Relationship	2	3
	AGRSS36	Hydrology and Water Resources	2	3
	AGRSS37	Irrigation System Technologies	2	3
	AGRSS40	Graduation Research Project	-	3
	AGRSS41	Soil Management	2	3
	AGRSS42	Desertification	2	-
	AGRSS43	Plant Nutrition	2	3
	AGRSS44	Fertilizer Technologies	2	3
	AGRSS45	Land Reclamation	2	3
	AGRSS46	Seminars	1	-
	AGRSS47	Graduation Research Project	-	3

8. Expected learning outcomes of the program

A. Knowledge

1. Design, implement, and manage various agricultural projects.
2. Manage fertilization and use modern technologies in this field for agricultural projects.
3. Plan, design, and maintain traditional and modern irrigation systems.
4. Plan, design, and manage drainage networks for agricultural lands.
5. Optimize water resource management and rationalize its use.
6. Develop bio-fertilization methods within the concepts of clean and sustainable agriculture.

B. Skills

1. Practice learned skills in soil, water, and plant analysis.
2. Operate modern tools and devices used in the field of soil, water, and plant analysis.
3. Ability to evaluate and assess irrigation and drainage projects.
4. Apply quality standards and health/environmental requirements in fertilizer and nutrient management.

C.Ethics

1. Thinking skills according to the student's ability; aiming to believe in tangible facts, understanding when, what, and how to think, and improving problem-solving abilities.

2. Observation and perception.
3. Analysis, interpretation, and persuasion.
4. Preparation and evaluation.

9. Teaching and Learning Strategies

1. Explanation and clarification.
2. Lecture method.
3. Student groups.
4. Practical lessons in laboratories.
5. Scientific trips to follow up on irrigation and drainage projects in Iraq.
6. Self-learning method.

10. Evaluation methods

Discussion, report writing, scientific essays, oral presentations, teamwork skills, project completion, and self-assessment.

11. Faculty

No.	Full Name	Academic Title	Degree	Email
1	Abdul Kareem Aribi Saba	Professor	PhD	alkurtany@tu.edu.iq
2	Iyad Abdullah Khalaf	Professor	PhD	aiad2017@tu.edu.iq
3	Basim Shakir Ubaid	Professor	PhD	basimalobaidy@tu.edu.iq
4	Mohammed Jarallah Farhan	Professor	PhD	mojafd79@tu.edu.iq
5	Aws Mamdouh Khairo	Professor	PhD	awsskhairo@tu.edu.iq
6	Salah Al-Deen Hammadi Mahdi	Professor	PhD	salahaldeen@tu.edu.iq
7	Ammar Saadi Ismail	Assistant Professor	PhD	ammaryahya@tu.edu.iq
8	Hudhaifa Maan Najm	Assistant Professor	PhD	hudhaifaalhamandi@tu.edu.iq
9	Muna Mohammed Ibrahim	Assistant Professor	PhD	munamohammed3@tu.edu.iq
10	Yasir Hamood Ajrash	Lecturer	PhD	yasirhmood@tu.edu.iq
11	Hiba Abdullah Kareem	Lecturer	PhD	hiba_Kreem@tu.edu.iq
12	Mahmoud Ahmed Latif	Lecturer	PhD	mhoo_218@tu.edu.iq
13	Imad Tariq Dahham	Lecturer	PhD	imadtarriq@tu.edu.iq
14	Hiba Mohammed Yousif	Lecturer	PhD	hibaalmohameed@tu.edu.iq
15	Ahmed Abdullah Fattah	Lecturer	PhD	ahmed.abd.fatah@tu.edu.iq
16	Sahar Naseer Musa	Lecturer	PhD	sahar.n.musa@tu.edu.iq
17	Amer Ali Al-Salim	Lecturer	PhD	dr.amer.alsalim@tu.edu.iq
18	Rowayda Khalid Saber	Lecturer	PhD	rowyda.khaild1@tu.edu.iq
19	Nameer Hamid Yassin	Assistant Lecturer	Master's	nameer2019@tu.edu.iq
20	Ru'a Qais Mahmoud	Assistant Lecturer	Master's	ruaa.q010@tu.edu.iq
21	Abdullah Arkan Khalid	Assistant Lecturer	Master's	Abdullah_sciencesoil@tu.edu.iq
22	Ali Abdulkreem Qasim	Assistant Lecturer	Master's	aliabdulkreem@tu.edu.iq
23	Ahmed Muath Ahmed	Assistant Lecturer	Master's	Ahmed.m.ahmed@tu.edu.iq
24	Omar Kadhim Alawi	Assistant Lecturer	Master's	omar.k.alewi@tu.edu.iq
25	Hiba Abd Mohi	Assistant Lecturer	Master's	heba.a.mustafa@tu.edu.iq
26	Zina Laith Salah	Assistant Lecturer	Master's	zina.l.so23@tu.edu.iq
27	Oday Naji Sami	Assistant Lecturer	Master's	oday.naji.c44@tu.edu.iq
28	Raghad Qasim Kadhim	Assistant Lecturer	Master's	raghadraghad@tu.edu.iq

Mentoring new faculty members
Briefly describes the process used to mentor new, visiting, full—time, and part—time faculty at the institution and department level.
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)
central

13. The most important sources of information about the program
State briefly the sources of information about the program.
1. The college and university website 2. University guide 3. Central Library 4. The most important books and sources for the department 5.Textbooks 6. Internet

14. Program Development Plan
1. Periodic review of curricula to address scientific gaps. 2. Surveying labor market needs regarding modern irrigation methods. 3. Developing performance measurement systems to include field tests. 4. Integrating AI and environmental sustainability into core courses. 5. Integrate artificial intelligence and environmental sustainability into core courses to keep pace with global developments in animal production.

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
1	AGRSS03	Principles of Chemistry	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS05	Physics	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS07	Principles of Field Crops	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS19	Principles of Animal Production	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS02	Mathematics 1	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	UOT004	Human Rights and Public Freedoms	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS04	Engineering Drawing	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	UOT002	Specialized English Language 1	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS03	Organic Chemistry	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS01	Principles of Geology	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS08	Fruit Production	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS09	Principles of Agricultural Economics	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS02	Mathematics 2	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	UOT003	Computer Applications 1	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS06	Plane Surveying	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	UOT021	Specialized English Language 2	Basic	*	*	*	*	*	*	*	*	*	*	*	*

2	AGRSS33	Biochemistry	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS10	Principles of Soil Science	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS11	Principles of Statistics	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS14	Principles of Microbiology	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS12	Soil Environment and Meteorology	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS13	Vegetable Production	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	UOT031	Computer Applications 2	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS16	Soil, Water, and Plant Analysis	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS15	Principles of Plant Protection	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS18	Agricultural Machinery and Tools	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS17	Principles of Agricultural Extension	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS19	Plant Physiology	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS06	Land Leveling and Grading	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
3	UOT005	Freedom and Democracy	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS20	Soil Physics	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS21	Soil Organic Matter	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS22	Soil Fertility	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS23	Irrigation	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS24	Soil Chemistry	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*

	AGRSS25	Soil and Water Pollution	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS26	Design and Analysis of Experiments	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS27	Plant Improvement	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS28	Soil Salinity	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS29	Soil Morphology	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS30	Drainage	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS31	Soil Minerals	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS32	Natural Resource Economics	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	UOT031	Computer Applications 3	Basic	*	*	*	*	*	*	*	*	*	*	*	*
4	AGRSS34	Soil Survey and Classification	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS35	Soil and Water Conservation	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS38	Soil Microbiology	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS39	Soil-Water-Plant Relationship	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS36	Hydrology and Water Resources	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS37	Irrigation System Technologies	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS40	Graduation Research Project	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS41	Soil Management	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS42	Desertification	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS43	Plant Nutrition	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS44	Fertilizer Technologies	Basic	*	*	*	*	*	*	*	*	*	*	*	*

	AGRSS45	Land Reclamation	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS46	Seminars	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	AGRSS47	Graduation Research Project	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*

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