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: Basrah

Faculty/Institute: Agriculture

Scientific Department: Agricultural Machines and Equipment.

Academic or Professional Program Name: Bachelor of Agricultural Sciences

Final Certificate Name: Bachelor in Agricultural Machinery and Equipment

Academic System: Semester

Description Preparation Date: 5/10/2024

File Completion Date: / /2025

Signature:	**Signature:**
Head of Department Name:	**Scientific Associate Name:**
Date:	**Date:**

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

Approval of the Dean

1. Program Vision

We aspire to be a prestigious program on a global level in education, research, and innovation in the development of agricultural machinery and equipment technology. We aim to contribute to the development of a sustainable and resource-efficient future of agriculture by graduating a generation of qualified and creative experts who contribute to the development of innovative solutions for global agricultural challenges.

2. Program Mission

We strive to provide an inspiring educational environment that encourages innovation and scientific research, while promoting communication and collaboration with the industry and the local community. This approach aims to empower and equip students with the knowledge and skills necessary to become pioneers and innovators in the field of agricultural machinery and equipment design and development. Our goal is to cultivate qualified leaders who contribute to improving the performance of the agricultural sector and enhancing sustainability and development.

3. Program Objectives

1. Providing high-quality education that combines theoretical knowledge and practical skills in the fields of agricultural machinery and equipment design, development, and maintenance..

2. Equipping students with the necessary skills to provide innovative and sustainable technological solutions to improve the efficiency and productivity of agricultural operations.

3. Promoting scientific research in the development and improvement of agricultural machinery and equipment technologies to support continuous advancements in performance and productivity..

4. Creating an educational environment that encourages innovation, critical thinking, and fosters interaction with the industry and the local community.

5 Enhancing awareness of the importance of sustainability in the design and use of agricultural machinery and equipment, and motivating students to adopt environmentally friendly practices in their solutions.

6 Graduating qualified and inspiring professionals who contribute to the development and application of modern technology in the agricultural sector to enhance food security and sustainable development. They will possess the ability to work in various agriculture-related sectors both locally and internationally.

4. Program Accreditation

Not find

5. Other external influences

Not find

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	8	16	%9	Basic
College Requirements	9	28	%16	Basic
Department Requirements	43	131.5	%75	Basic
Summer Training	YES			Basic
Other				

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

7. Program Description

The stage/ the semester	Course Code	Course Name	Credit Hours	
			theoretical	practical
The second / first	001820	Static mechanics	2	3

The second / first	001820	Mineralogy	2	3
The second / first	001820	Principles of plant protuction	2	3
The second / first	001820	Agricultural equipment & machinery	2	3
The second / first	0C1820	Agricultural economics	2	-
The second / first	001820	Lands leveling and amendment	2	3
The second / first	001820	Industrial drawing	-	3
The second / first	U01820	Computer applications 2	-	3
The second / first	001820	Engineering workshop 2	-	3
The second / first	U01820	Crimes of the defunct Ba'ath Party.	2	-
The second / second	002820	Dynamic mechanics	2	3
The second / second	002820	Soil physics	2	3
The second / second	002820	Pesticides	2	3
The second / second	002820	Principles of food industries	2	3
The second / second	0C2820	Principles of animal production	2	3
The second / second	0C2820	Statics	2	3
The second / second	U02820	Arabic language/2	2	-
The second / second	U02820	Specialized English language.	2	-
The third / first	001830	Thermodynamics	2	3
The third / first	001830	Internal Combustion Engine	2	3
The third / first	001830	Animal Production Mechanization	2	3

The third / first	001830	Horticutures equipment	2	3
The third / first	001830	Fluid Mechanics	2	3
The third / first	001830	Irrigation and drainage systems	2	3
The third / second	002830	Tractors performance mechanics	2	3
The third / second	002830	Swing and fertilizing equipment	2	3
The third / second	002830	Irrigation and drainage equipment	2	3
The third / second	002830	Design of agricultural equipment	2	3
The third / second	002830	Soil preparation equipment	2	3
The third / second	0C2830	Experimental design and analysis	2	3
The fourth / first	001840	Plant protection equipment	2	3
The fourth / first	001840	Heavy machinery and equipment	2	3
The fourth / first	001840	Hydraulic equipment and systems	2	3
The fourth / first	001840	Food processing equipment	2	3
The fourth / first	001840	Agricultural tractors electricity	2	3
The fourth / first	001840	Agricultural buildings	2	3
The fourth / first	001840	Agricultural Projects	–	3
The fourth / second	002840	Harvest equipment	2	3
The fourth / second	002840	Post-harvest equipment	2	3
The fourth / second	002840	Economics of agricultural	2	3

		machinery management		
The fourth / second	002840	Maintenance of tractors and agricultural equipment	2	3
The fourth / second	002840	Feed production equipment	2	3
The fourth / second	002840	Seminar	1	-
The fourth / second	002840	Agricultural Projects	-	3

8. Expected learning outcomes of the program

Knowledge	
1. Types of machinery and equipment in modern agriculture and how to efficiently utilize them. **2.The physical, engineering, and technical principles of agricultural machinery and equipment operation.** **3.Operation and maintenance techniques necessary for agricultural machinery and equipment.** **4.Challenges and issues related to the use of machinery and equipment in agriculture and how to address them.**	
Skills	
1. Skills in designing and developing agricultural machinery and equipment to enhance efficiency and reduce costs. **2.Critical thinking and problem-solving skills in the field of agricultural machinery and equipment.** **3.Systematic thinking skills and implementation of technological solutions to improve agricultural operations.** **4.Management and leadership skills in operating and maintaining agricultural machinery and equipment.**	

Ethics	
1.Awareness of the importance of continuous learning and keeping up with the application of technology to improve agricultural productivity and achieve sustainability. 2.Commitment to occupational safety and health in the use and maintenance of agricultural machinery and equipment. 3.Awareness of the importance of environmental sustainability and social responsibility while using agricultural machinery and equipment. 4.Ability to conduct oneself ethically in the agricultural profession and contribute to the sustainable and responsible development of the sector. 5.Dedication to serving the agricultural sector and the community.	

9. Teaching and Learning Strategies

1. Enhancing the connection between theory and practice:
- Integrating theoretical lectures with practical activities through conducting experiments and observations in laboratories and fields.
- Organizing field visits to farms, factories, and agricultural companies.

2. Continuous diagnostic and guidance assessment:
- Utilizing multiple assessment methods such as tests, practical projects, and assignments.
- Providing personal assessment to measure students' progress and offering feedback to enhance their performance in using agricultural machinery and equipment.
- Identifying areas in which students need improvement and guiding them towards further development.

3. Problem-solving-based learning:
- Presenting realistic and specific problems and challenges related to the design and development of agricultural equipment, and encouraging students to seek innovative solutions.

- **Fostering innovation and guiding students to utilize the knowledge and skills they have acquired to find practical solutions to the challenges faced by the agricultural sector.**

4. **Technology-driven learning:**
- **Incorporating modern technologies and engineering software in teaching the concepts of agricultural machinery and equipment design.**
- **Providing interactive teaching tools such as 3D models and computer simulations to illustrate engineering concepts.**

5. **Active interaction:**
- **Encouraging students to participate in discussions and study groups related to topics concerning agricultural machinery and equipment.**
- **Employing interactive activities such as field studies or scientific visits to factories and agricultural companies.**

6. **Cooperative learning:**
- **Organizing scientific activities and group projects that promote interaction among students and improve their communication and teamwork skills.**
- **Facilitating knowledge and experience exchange among students by forming multidisciplinary work teams to find realistic solutions to real problems encountered in the agricultural mechanization sector.**

7. **Self-directed learning:**
- **Encouraging students to read more about agricultural engineering topics and stay updated on advancements in agricultural machinery and equipment.**
- **Guiding students to reliable sources of knowledge.**

10. Evaluation methods

1. **Tests and Questionnaires:**
- **Using final and midterm exams to assess students' understanding of theoretical concepts and practical applications.**

- **Distributing questionnaires to measure students' satisfaction with the quality of teaching, course materials, and the learning environment.**

2. **Projects and Reports:**
- **Evaluating students' performance through design and development projects of agricultural machinery and equipment, and analyzing the quality of the proposed solutions.**
- **Requesting reports from students about their practical experiences and applied projects.**

3. **Practical Assessment:**
- **Assessing students' performance during practical training and workshops, and observing their practical application of concepts and skills.**
- **Utilizing specific criteria to evaluate students' performance in practical tasks, such as designing and maintaining agricultural equipment.**

4. **Discussions and Presentations:**
- **Evaluating students' participation in classroom discussions and seminars, and assessing their application of theoretical concepts in solving practical problems.**
- **Assessing students' presentations and evaluating the clarity and comprehension of concepts and skills related to agricultural machinery and equipment.**

5. **Assessment of Personal and Technical Abilities:**
- **Assessing the development of students' personal abilities, such as initiative, innovative thinking, and teamwork.**
- **Evaluating students' technical abilities in using engineering software and design tools to develop agricultural machinery and equipment.**

6. **Practical Training Assessment:**
- **Assessing students' performance during practical training periods in institutions and agricultural companies, and observing their application of acquired skills and concepts in the program.**

11. Faculty

Faculty Members

faculty members	Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
		General	Special			Staff	Lecturer
Dr. Majid Saleh Hamoud	Professor	Agricultural Machinery	Machine and Agricultural Power Engineering			1	0
Dr. Sadiq Jabbar Mohsen	Professor	Soil Management	Fertilizer Machinery and Equipment			1	0
Mr. Samir Khair Lazem	Professor	Physics	Agricultural Physics			1	0
Dr. Salem Ajr Bandar	Professor	– Machinery and Agricultural Equipment	Agricultural Machinery and Equipment			1	0
Dr. Majid Hazem Rashk	Professor	Machinery and Agricultural Equipment	Agricultural Machinery and Equipment			1	0
Dr. Aqeel Jouni Nasser	Professor	Soil Management	Plowing Equipment and Machinery			1	0
Dr. Asaad Youssef Khudair	Assistant Professor	– Agricultural Machinery	Livestock Machinery Management			1	0

Dr. Mortada Abdulazim Abdulnabi	Assistant Professor	Soil and Water Sciences	Soil Management			1	0
Dr. Marwan Nouri Ramadan	– Assistant Professor	Field Crops	Field Crop Production			1	0
Dr. Haider Abdulhussain Shanann	Lecturer	Agricultural Machinery	Agricultural Machinery			1	0
Dr. Diaa Sbahi Ashour	Lecturer	Soil and Water Sciences	Soil Management			1	0
Dr. Hussein Abdul Kareem Safi	Lecturer	– Field Crops	Field Crop Production			1	0
Dr. Akram Abdul Daim Ahmed	Lecturer	– Field Crops	– Field Crop Machinery			1	0
Mr. Farqad Mortada Hamid	Lecturer	Agricultural Machinery	Agricultural Machinery			1	0
Ms. Asmaa Abdullah Ahmed	Lecturer	Agricultural Machinery	Agricultural Machinery			1	0
Mr. Abbas Abdulhussain Mashael	Lecturer	Animal Production	Animal Production			1	0
Mr. Ali Abdul Majid Alwan	Lecturer	Agricultural Machinery	Agricultural Machinery			1	0

Mr. Ahmed Kazem Mohammed	Assistant Lecturer	– Field Crops	Field Crop Production			1	0
Mr. Qusay Samir Sabah	Assistant Lecturer	Field Crops	Field Crop Production			1	0
Mr. Ali Hussein Awad	Assistant Lecturer	Field Crops	Field Crop Production			1	0
Mr. Mustafa Fadel Hussein	Assistant Lecturer	Soil and Water Sciences	Soil Management			1	0
Mr. Abdulahad Abbas Salem	Assistant Lecturer	Soil and Water Sciences	Soil Management			1	0
Mr. Ammar Musa Salem	Assistant Lecturer	Agricultural Machinery	Agricultural Machinery			1	0

Professional Development

Mentoring new faculty members

Professional guidance for new faculty members relies on providing them with the necessary information to succeed in their academic roles. This is achieved through the following:

1. Introduction to the university and its policies:
   New faculty members are introduced to the university's vision, mission, organizational structure, policies, and procedures. The aim is to clarify the overall goal of the university and guide new members towards its achievement.
2. Empowering new members with knowledge of their rights and responsibilities:
   New members should have a clear understanding of their rights and duties within the university. This includes laws and regulations related to teaching, research, and university service.

3. **Introduction to university facilities and services:**
   New members should be familiar with the facilities and services available at the university. This includes libraries, laboratories, research centers, and technological resources.
4. **Enhancing awareness of program quality and academic accreditation:**
   New members should understand the importance of academic accreditation and quality standards. This includes providing information about evaluation and accreditation processes.
5. **Introduction to scientific research and professional development programs:**
   New members should be acquainted with scientific research programs and the opportunities available to them. This includes the electronic research system, rewards, and promotions.

Professional development of faculty members

1. **Continuing Education and Teaching Skills Development:**

- **Organizing workshops and specialized training sessions for faculty members to enhance their teaching skills and educational guidance.**
- **Encouraging faculty members to participate in self-learning and professional development programs online or through courses and seminars offered by other universities or specialized organizations.**
- **Providing support and funding for participation in workshops and scientific conferences to exchange experiences and acquire new knowledge.**

2. **Research and Scientific Publishing:**

- **Providing support and incentives for faculty members to publish scientific research in peer-reviewed journals and participate in national and international scientific conferences.**
- **Offering assistance resources to develop new research projects and collaborate with industry sectors and relevant institutions.**

3. **Interaction with Industry and the Community:**

- **Encouraging faculty members to interact with the local industry and community through scientific consultations and participation in technological development projects.**
- **Organizing joint workshops and seminars with companies related to the program to exchange knowledge and identify labor market needs.**

4. **Assessment and Monitoring:**

- **Conducting periodic evaluations of faculty members' performance and monitoring their progress in achieving professional development goals.**

- **Providing constructive feedback and assistance in identifying areas that need improvement and further development.**

5. **Resource Provision and Support:**

- **Providing financial and technical support to faculty members for research projects, technological development, and educational projects.**
- **Supplying necessary resources and human resources to support professional development and scientific research activities.**

12. Acceptance Criterion

There is only one criterion for accepting students into this program, which is the overall grade point average (GPA) from their secondary school education in the science track. Students are admitted according to the centralized admission process in the Ministry of Higher Education and Scientific Research

13. The most important sources of information about the program

1.https://www.cab.uobasrah.edu.iq/

2.https://www.facebook.com/profile.php?id=100054214161235&mibextid=ZbWKwL

14. Program Development Plan

Here is a proposed development plan for the Bachelor's program in Agricultural Machinery and Equipment, aimed at improving the quality of education, enhancing the student experience, and aligning it with the needs of the job market and the aspirations of the agricultural industry:

1. **Continuous Monitoring and Evaluation:**
   Conduct regular program assessments to measure the achievement of objectives and identify areas that need improvement. This includes analyzing curriculum and course materials, teaching and assessment methods, infrastructure, and facilities.
2. **Industry and Job Market Needs Assessment:**
   Conduct interviews and surveys with employers and professionals in the agricultural industry to identify the skills and knowledge that need to be enhanced in students. Evaluate technological advancements and innovations in the field of agricultural machinery and equipment and incorporate them into the curriculum.

3. **Curriculum and Course Material Updates:**
   Develop and update the curriculum to include the latest advancements in agricultural engineering and technology. Add new courses that cover topics such as artificial intelligence, sustainability, and robotic control techniques in agriculture.
4. **Enhancing Practical Experiences:**
   Expand opportunities for practical training and learning through partnerships with the industry and local farms. Establish advanced laboratories equipped with state-of-the-art technologies to enable students to experience and apply theoretical concepts.
5. **Promoting Research and Innovation:**
   Promote scientific research in various areas of agricultural machinery and equipment by providing support to students and faculty members. Create platforms for knowledge exchange and collaboration among students, researchers, and industry professionals to foster innovation and develop new solutions.
6. **Strengthening Teaching Skills:**
   Provide training programs and workshops for faculty members to enhance their teaching skills and utilize best educational practices. Encourage faculty members to participate in academic and industrial research and development activities.

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
The second / first	001820	Static mechanics	**Basic**				✓			✓					
The second / first	001820	Mineralogy	**Basic**			✓				✓					
The second / first	001820	Principles of plant protuction	**Basic**			✓									
The second / first	001820	Agricultural equipment & machinery	**Basic**			✓				✓					
The second / first	0C1820	Agricultural economics	**Basic**				✓		✓					✓	
The second / first	001820	Lands leveling and amendment	**Basic**			✓					✓				

The second / first	001820	Industrial drawing	**Basic**			✓				✓					
The second / first	U01820	Computer applications 2	**Basic**			✓				✓					
The second / first	001820	Engineering workshop 2	**Basic**			✓				✓				✓	
The second / first	U01820	Crimes of the defunct Ba'ath Party.	**Basic**			✓									✓
The second / second	002820	Dynamic mechanics	**Basic**			✓				✓					
The second / second	002820	Soil physics	**Basic**			✓			✓						
The second / second	002820	Pesticides	**Basic**			✓			✓						

The second / second	002820	Principles of food industries	**Basic**			✓			✓						
The second / second	0C2820	Principles of animal production	**Basic**			✓				✓					
The second / second	0C2820	Statics	**Basic**			✓				✓					
The second / second	U02820	Arabic language/2	**Basic**				✓				✓			✓	
The second / second	U02820	Specialized English language.	**Basic**			✓				✓					
The third / first	001830	Thermodynamics	**Basic**			✓									

The third / first	001830	Internal Combustion Engine	**Basic**			✓									
The third / first	001830	Animal Production Mechanization	**Basic**			✓									
The third / first	001830	Horticutures equipment	**Basic**			✓									
The third / first	001830	Fluid Mechanics	**Basic**			✓									
The third / first	001830	Irrigation and drainage systems	**Basic**			✓				✓					
The third / second	002830	Tractors performance mechanics	**Basic**			✓				✓					

The third / second	002830	Swing and fertilizing equipment	**Basic**				✓			✓					
The third / second	002830	Irrigation and drainage equipment	**Basic**				✓			✓					
The third / second	002830	Design of agricultural equipment	**Basic**				✓				✓			✓	
The third / second	002830	Soil preparation equipment	**Basic**			✓				✓					
The third / second	0C2830	Experimental design and analysis	**Basic**				✓				✓				
The fourth / first	001840	Plant protection equipment	**Basic**			✓				✓					

The fourth / first	001840	Heavy machinery and equipment	**Basic**			✓				✓					
The fourth / first	001840	Hydraulic equipment and systems	**Basic**			✓				✓					
The fourth / first	001840	Food processing equipment	**Basic**			✓				✓				✓	
The fourth / first	001840	Agricultural tractors electricity	**Basic**			✓				✓					
The fourth / first	001840	Agricultural buildings	**Basic**			✓			✓					✓	
The fourth / first	001840	Agricultural Projects	**Basic**								✓			✓	
The fourth / second	002840	Harvest equipment	**Basic**			✓				✓					

The fourth / second	002840	Post-harvest equipment	**Basic**			✓				✓					
The fourth / second	002840	Economics of agricultural machinery management	**Basic**				✓			✓				✓	
The fourth / second	002840	Maintenance of tractors and agricultural equipment	**Basic**				✓				✓				✓
The fourth / second	002840	Feed production equipment	**Basic**			✓				✓					
The fourth / second	002840	Seminar	**Basic**				✓				✓				✓

The fourth / second	002840	Agricultural Projects	**Basic**								✓			✓	