

**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

Introduction:

The faculty members in the Department of Horticulture and Landscape Engineering at the College of Agriculture – Al-Qasim Green University aim to ensure that students acquire a profound understanding of agricultural sciences through an integrated blend of coursework, experiential learning, research activities, and fieldwork. The teaching approaches adopted for students are designed to develop a balanced understanding of the scientific methods used by agricultural scientists to make observations, formulate ideas, and establish theories related to horticultural plants living on our planet. The program also enhances coherence and alignment among courses within the Agricultural Sciences – Horticulture and Landscape Engineering curriculum and fosters a close working relationship between faculty members and students.

Concepts and terminology:

Academic Program Description:

A research-oriented mindset is fostered and strengthened from the outset through practical applications, which are either embedded within lecture modules or delivered through dedicated practical sessions, research seminars, and tutorials. A compulsory field course is offered in Level 3, which students must successfully complete to advance to Level 4. All students undertake an independent research project, which may take the form of a stand-alone research study or a data-analysis project based on experimental fieldwork or laboratory investigation

Horticulture and Landscape Engineering encompasses the study of vegetable science, fruit science, ornamental plant science, and medicinal and aromatic plants. Graduates develop a solid understanding of the scientific foundations of agricultural engineering and apply this foundational knowledge to a broader conceptual framework. The

department offers Bachelor's, Master's, and Doctoral degrees in Agricultural Sciences with a focus on Agricultural Engineering, including fruit crops, vegetable crops, ornamental plants, landscape engineering, medicinal and aromatic plants, and plant tissue culture technology.

The curriculum and practical experiences in agricultural engineering are designed, in part, to prepare students for advanced agricultural programs, postgraduate studies, careers in the agricultural sector, and teaching professions.

Program Vision: The College of Agricultural Sciences fulfills a multifaceted mission at Al-Qasim Green University. The program aims to provide all agricultural science students with a solid foundation in the fundamental principles of agricultural sciences, along with a deeper understanding of a specific area of concentration within the field. The curriculum and instructional methods are designed to prepare graduates for their future careers—whether they choose to work as field agricultural scientists specializing in plant science or related disciplines, or to pursue advanced degrees in agricultural sciences.

The Agricultural Sciences Program also delivers the essential foundational knowledge required to support the propagation, production, and improvement of horticultural plants, as well as the associate-level qualification in agricultural sciences. In addition, agricultural science courses offer applied field and laboratory scientific experiences for students seeking to fulfill higher education requirements.

Program Mission: Horticulture and Landscape Engineering is an impressively broad discipline. The program focuses on the plant as an integrated whole, encompassing all related aspects—ranging from the production, improvement, and breeding of vegetable crops under open-field and protected cultivation, to fruit trees, medicinal and aromatic plants, ornamental plants, landscape engineering, and the micropropagation of plants through plant tissue culture techniques.

This degree is highly popular—valued by some for the breadth of its subject matter, and by others as a pathway to specialization and employment in both the private and public sectors.

Program Objectives:

- To provide comprehensive education in agricultural sciences with an emphasis on scientific thinking and problem-solving within the specialization of Horticulture and Landscape Engineering.
- To prepare students for a wide range of post-baccalaureate pathways, including graduate studies, training programs, or entry-level positions across all agricultural sectors.
- To offer intensive practical training in electronic technology, statistical analysis, laboratory skills, and field techniques.
- To provide thorough training in written and oral communication of scientific information.
- To enrich students with alternative learning opportunities in agricultural sciences through undergraduate research, internships, and study-abroad programs.

Program structure:

The first phase included the Bologna Process for the 2024-2025 academic year.

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSW L	USSW L	ECTS	Type	Pre-request
AGR112	Engineering Drawing	63	62	5	B	/
HOR1101	Principles of science Soil	63	62	5	B	/
HOR1102	Plane Surveying	78	72	6	B	/
HOR1103	General botany	63	62	5	C	/
AGR111	Organic Chemistry	63	62	5	B	/
UNI111	Arabic Language	33	17	2	B	/
UNI112	Democracy and Human Rights	33	17	2	B	/

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSW L	USSW L	ECTS	Type	Pre-request
HOR1204	Micobiology	63	87	6	B	/
HOR1205	Principles of Statistics	63	112	7	B	/
AGR123	Principles of Agriculture Economy	33	117	6	B	/
HOR1206	Agricultural Equipment & Machinery	63	87	6	B	/
UNI124	Computer 1	63	12	3	B	/
UNI123	English Language I	33	17	2	B	/

Second Year**Semester 3 | 30 ECTS | 1 ECTS = 25 hrs**

Code	Module	SSW L	USSW L	ECTS	Typ e	Pre-request
HOR2107	Plant Anatomy	63	87	6	B	/
HOR2108	Plant Physiology	63	112	7	B	/
HOR2109	Foundation of Landscape Architecture	33	117	6	B	/
HOR2110	Plant Genetics	63	87	6	B	/
UNI215	Arabic Language 2	63	12	3	B	/
UNI216	Crimes of the Baath Regime in Iraq	33	17	2	B	/

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSW L	USSW L	ECTS	Typ e	Pre-request
HOR2211	Ecology and Sustainable agriculture	63	62	5	C	/
HOR2212	Plant Nutrition	63	62	5	C	/
HOR2213	Weeds Control	63	62	5	C	/
HOR2214	Nurseries & Propagation Plant	63	62	5	C	/
HOR2215	Organic Agriculture	63	62	5	C	/
UNI227	Computer 2	63	12	3	B	Computer I
UNI228	English 2	33	17	2	B	English I

Third Year

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSW L	USSW L	ECTS	Type	Pre-request
HOR3116	Vegetables Production 1	63	62	5	C	/
HOR3117	Floriculture 1	63	62	5	C	
HOR3118	Deciduous Fruits 1	63	62	5	C	/
HOR3119	Medicines & Aromatics Plants	63	62	5	C	/
HOR3120	Experimental Design & Analysis	63	62	5	C	إحصاء
HOR3021	Horticulture Plant Diseases	63	62	5	C	/

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSW L	USSW L	ECTS	Type	Pre-request
HOR3222	Vegetables Production 2	63	62	5	C	/
HOR3223	Floriculture 2	63	62	5	C	
HOR3224	Deciduous Fruits 2	63	62	5	C	مشاتل واکثار
HOR3225	Horticulture Plant Insects	63	62	5	C	/
HOR3226	Plant Breeding	63	62	5	C	وراثه نبات
HOR3227	Plant Growth Regulators	63	62	5	C	/

Fourth Year
Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSW L	USSW L	ECTS	Type	Pre-request
HOR4128	Ever Green Fruits	63	62	5	C	/
HOR4129	Protect Cultivation	63	62	5	C	خضر 2
HOR4130	Landscape Gardening	63	62	5	C	تصميم حدائق
HOR4131	Farms Management	63	62	5	C	/
HOR4132	Soil Fertility & Fertilizers	63	62	5	C	/
HOR4133	Plant Tissue Culture	63	62	5	C	منظمات نمو

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSW L	USSW L	ECTS	Type	Pre-request
HOR4234	Horticulture Storage & Preservation	63	62	5	C	
HOR4235	Seeds Production	63	62	5	C	تربية نبات
HOR4236	Date Palms Production	63	62	5	C	/
HOR4237	Viticulture & Small Fruits Production	63	62	5	C	فاكهة نفضية 1
HOR4238	Biotechnology	63	62	5	C	
HOR4239	research project & Seminars	32	93	5	C	/

Learning Outcomes:

Outcome 1: Identification of Relationships

Graduates will be able to explain plant structure and function, as well as cellular components, and describe how these components interact within the living cell.

Outcome 2: Oral and Written Communication

Graduates will be able to formally communicate the results of agricultural investigations using effective oral and written communication skills.

Outcome 3: Laboratory and Field Studies

Graduates will be able to conduct laboratory experiments and field studies using scientific equipment and computer technology while adhering to appropriate safety protocols.

Outcome 4: Scientific Knowledge

Graduates will be able to demonstrate a balanced understanding of how scientific knowledge develops, including the historical evolution of foundational theories and laws, as well as the nature of science.

Outcome 5: Data Analysis

Graduates will be able to demonstrate scientific quantitative skills, such as the ability to perform basic data analyses.

Outcome 6: Critical Thinking

Graduates will be able to apply critical thinking and problem-solving skills to develop a research project or paper.

Teaching and learning strategies:

- ☐ Enhancing the quality of the academic program by utilizing the available resources and actively striving to meet the requirements for academic accreditation.
- ☐ Strengthening engagement with stakeholders in both the public and private agricultural sectors in alignment with the interests and objectives of the academic program.
- ☐ Providing all modern technologies that support contemporary teaching systems, enabling faculty members to effectively achieve the program's goals.
- ☐ Identifying the needs of the agricultural community and the labor market and positioning them as fundamental drivers for development and success in serving society.
- ☐ Establishing collaborative research and academic partnerships with counterpart departments in advanced local, regional, and international colleges and universities.

Academic Program Description Form

University Name: Al-Qasim Green University

Faculty/Institute: Faculty of Agriculture

Scientific Department: The Department of Horticulture and Landscape Engineering

Academic or Professional Program Name: . Bachelor of Agricultural Sciences

.....

Final Certificate Name: .. Bachelor of Agricultural Sciences

Academic System: Bologna.....

Description Preparation Date: Bologna Process

File Completion Date: 30/4/2025

Signature:

Head of Department

Name: Ali Ibadi Manea

Date: 30/4/2025

Signature:

Scientific Associate Name:

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

The College of Agriculture, Department of Horticulture and Landscape Engineering, seeks to produce graduates in the field of agricultural sciences (horticulture) to work in the private sector or government departments and to benefit from the specialization in the practical and applied field.

2. Program Mission

Working to prepare and graduate leading scientific and leadership competencies in the field of agricultural sciences and developing the knowledge base in the field of scientific research in agricultural sciences in horticulture and garden engineering to serve the local, regional and international community, as well as training and refining students' minds scientifically, intellectually and practically, and emphasizing social and cultural values and responding to the requirements of the local market.

3. Program Objectives

1. To provide a comprehensive education in agricultural sciences that focuses on scientific thinking and problem-solving across a range of agricultural disciplines.
2. To prepare students for a wide range of post-baccalaureate pathways, including graduate studies, vocational training programs, or entry-level jobs in any area of agriculture.
3. To provide intensive practical training in electronic technology, statistical analysis, laboratory skills, and field techniques.
4. To provide comprehensive training in the written and oral communication of scientific information.

5. To enrich students with alternative educational opportunities in agricultural sciences through undergraduate research, internships, and study abroad.

4. Program Accreditation

Non

5. Other external influences

Non

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	50	240 ECTS	100%	
College Requirements	11	34 ECTS	22%	Basic
Department Requirements	39	206	78%	core
Summer Training	Yes			
Other	–			

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
UGI	AGR112	Engineering Drawing	2	2
	HOR1101	Principles of science Soil	2	2
	HOR1102	Plane Surveying	2	2
	HOR1103	General botany	2	2
	AGR111	Organic Chemistry	2	2
	UNI111	Arabic Language	2	2
	UNI112	Democracy and Human Rights	2	2
	HOR1204	Micobiology	2	2
	HOR1205	Principles of Statistics	2	2
	AGR123	Principles of Agriculture Economy	2	
	HOR1206	Agricultural Equipment & Machinery	2	2
	UNI124	Computer 1	2	2
	UNI123	English Language I	2	2
UGII	Principles of Statistics			
	Plant Anatomy	HOR2107	2	2
	Plant Physiology	HOR2108	2	2
	Foundation of Landscape Architecture	HOR2109	2	2
	Plant Genetics	HOR2110	2	2
	Arabic Language 2	UNI215	2	
	Crimes of the Baath Regime in Iraq	UNI216	2	
	Ecology and Sustainable agriculture	HOR2211	2	2
	Plant Nutrition	HOR2212	2	2
	Weeds Control	HOR2213	2	2
	Nurseries & Propagation Plant	HOR2214	2	2
	Organic Agriculture	HOR2215	2	2
	Computer 2	UNI227	2	2
	English 2	UNI228	2	
UGIII	Vegetables Production 1	HOR3116	2	2
	Floriculture 1	HOR3117	2	2
	Deciduous Fruits 1	HOR3118	2	2

	Medicins & Aromatics Plants	HOR3119	2	2
	Experimental Design & Analysis	HOR3120	2	2
	Horticulture Plant Diseases	HOR3021	2	2
	Vegetables Production 2	HOR3222	2	2
	Floriculture 2	HOR3223	2	2
	Deciduous Fruits 2	HOR3224	2	2
	Horticulture Plant Insects	HOR3225	2	2
	Plant Breeding	HOR3226	2	2
	Plant Growth Regulators	HOR3227	2	2
UGIV	Ever Green Fruits	HOR4128	2	2
	Protect Cultivation	HOR4129	2	2
	Landscape Gardening	HOR4130	2	2
	Farms Management	HOR4131	2	2
	Soil Fertility & Fertilizers	HOR4132	2	2
	Plant Tissue Culture	HOR4133	2	2
	Horticulture Storage & Preservation	HOR4234	2	2
	Seeds Production	HOR4235	2	2
	Date Palms Production	HOR4236	2	2
	Viticulture & Small Fruits Production	HOR4237	2	2
	Biotechnology	HOR4238	2	2
	research project & Seminars	HOR4239		

8. Expected learning outcomes of the program	
Knowledge	
Learning Outcomes	Outcome 1: Identifying Complex Relationships Graduates will be able to describe the structure and function of plants and cellular components and explain how they interact in a living cell. Outcome 2: Oral and Written Communication

	Graduates will be able to formally communicate the results of agricultural investigations using oral and written communication skills. Outcome 3: Laboratory and Field Studies Graduates will be able to conduct laboratory experiments and field studies, using scientific equipment and computer technology while adhering to appropriate safety protocols. Outcome 4: Scientific Knowledge Graduates will be able to demonstrate a balanced understanding of how scientific knowledge develops, including the historical development of theories, foundational laws, and the nature of science. Outcome 5: Data Analysis Graduates will be able to demonstrate quantitative scientific skills, such as the ability to perform basic data analysis. Outcome 6: Critical Thinking Graduates will be able to use critical thinking and problem-solving skills to develop a research project or paper.
Skills	
Learning Outcomes 2	1. To introduce students to the practical skills of establishing and managing greenhouses, open fields, and horticultural facilities. 2. To introduce students to the skills of garden design, propagation of ornamental plants, and management of agricultural nurseries. 3. To introduce students to the skills of using modern agricultural technologies, including irrigation, pest control, and plant tissue culture techniques. 4. To enable students to acquire the skills and experience of working with laboratory equipment while conducting applied research in laboratories, such as the tissue culture laboratory.

	5. To introduce students to the skills of diagnosing nutrient deficiencies, methods of treating them, and methods of fertilizer application. 6. To provide students with experience in controlling agricultural pests and diseases while preserving the ecosystem and biodiversity.
Ethics	
Learning Outcomes 4	Developing students' abilities to share ideas, cultivate noble values, foster teamwork, tolerance, dedication to work, and prioritize the common good over personal gain. Developing values of conserving natural resources, promoting responsible consumption, and protecting the ecosystem. Instilling the values of food security and self-sufficiency. Fostering a sense of belonging to the land and encouraging the growth of small and medium-sized enterprises to address the challenges of migration.

9. Teaching and Learning Strategies

1. Explaining the academic material to students in detail.
2. Involving students in completing assignments and reports, preparing presentations, and conducting field and laboratory experiments.
3. Discussing and engaging in dialogue about the content of each course and completing assignments and graduation projects.
4. Enhancing the quality of the academic program by utilizing available resources and striving diligently to meet academic accreditation requirements.

5. Identifying the needs of the agricultural community and making them a fundamental criterion for development and success in serving the agricultural community.
6. Encouraging research and academic collaboration with similar colleges and departments in neighboring countries and globally, and benefiting from their expertise to develop the agricultural sector.

10. Evaluation methods

Daily oral and written exams
 Monthly exams
 Report writing
 Completion of homework
 Conducting experiments and field exercises
 End-of-term exam.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			No. Staff	
Professor	Horticulture	Vegetable Crops			3	
Professor	Horticulture	Floriculture			1	
Professor	Horticulture	Fruit crops			3	
Professor	Plant Protect	Plant Protect			1	

Asst. Professor	Horticulture	Vegetable Crops			2	
Asst. Professor	Horticulture	Fruit crops			7	
Asst. Professor	Horticulture	Medicinal Plants			1	
Asst. Professor	Plant Protect	Plant Protect			2	
Asst. Professor	science	Medicinal Plants			1	
Asst. Professor	science	Chemical			1	
،Lecturer	Horticulture	Vegetable Crops			2	
،Lecturer	Horticulture	Fruit crops			4	
،Lecturer	Horticulture	Floure culture			3	
،Lecturer	Plant Protect	Plant Protect			3	
،Lecturer	Field Crops	Field Crops			1	
،Lecturer	Law	Law			1	
،Lecturer	Materials Engineering	Polymers			1	

Asst. Lecturer	Horticulture	Vegetable Crops			4	
Asst. Lecturer	Horticulture	Fruit crops			1	
Asst. Lecturer	Horticulture	Floure culture			2	

Professional Development

Mentoring new faculty members

Keeping pace with global developments, accessing modern resources, and utilizing modern technologies in teaching; Linking lessons and lectures to the current job market; Collaborative research; Attending seminars, workshops, and discussions with graduate students; Joint supervision with professors holding higher academic ranks in the implementation of graduation projects; Participating in permanent and temporary committees such as the examination committee, the academic evaluation committee, the educational guidance committee, and others; Encouraging them to respect the opinions of the department's administrative officials and the academic committee, and to abide by its decisions.

Professional development of faculty members

Involving them in a course on competency testing, teaching methods, computer proficiency, and Arabic language skills; annual evaluation and recognition of achievements; and addressing weaknesses in research and scientific fields.

12. Acceptance Criterion

The annual student admission plan is based on the department's capacity, the number of teaching staff, and the availability of classrooms and scientific laboratories. Accordingly, the department requests a specific

number of students annually for enrollment. Admission is influenced by several factors, including: the student's preference for the chosen specialization and the number of students admitted to the college according to the central admission system followed by the Ministry of Higher Education and Scientific Research.

13. The most important sources of information about the program

- https://agre.uoqasim.edu.iq/horticulture_landscapePlanning.aspx
 - <https://uokirkuk.edu.iq/agriculture/index.php/en/departments-and-divisions/college-departments/horticulture-department>
 - <https://cals.cornell.edu/school-integrative-plant-science/school-sections/sips-horticulture-section>
 - <https://www.britannica.com/science/olericulture>
 - <https://horticulture.ces.ncsu.edu/floriculture/>
 - <https://www.britannica.com/science/horticulture/Ornamental-horticulture>
 - <https://agr.univsul.edu.iq/departments/horticulture/>
 - <https://hortharyana.gov.in/en>
 - <https://horticulture.umn.edu/>
- Textbooks Scientific journals
Artificial intelligence
Websites

14. Program Development Plan

- Keeping pace with curriculum development in line with similar departments in local and international colleges and universities.

- Engaging the university in developing optimal solutions to problems facing the public and private sectors in the agricultural field.
- Holding workshops, seminars, seminars, and cultural events within Iraq and participating in international events outside Iraq.
- Addressing the shortage in the academic structure by facilitating opportunities for department members to complete their postgraduate studies (Master's and PhD) within and outside Iraq.
- Providing the department with new young staff members after some members retire or are transferred to other locations for various reasons.

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

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

Course Description Form

1. Course Name:					
2. Course Code:					
3. Semester / Year:					
4. Description Preparation Date:					
5. Available Attendance Forms:					
6. Number of Credit Hours (Total) / Number of Units (Total)					
7. Course administrator's name (mention all, if more than one name)					
Name:					
Email:					
8. Course Objectives					
Course Objectives			• • •		
9. Teaching and Learning Strategies					
Strategy					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

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...)					
Electronic References, Websites					