

Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation

Academic Program Specification Form For The Academic

University: Anbar

College : Agriculture

Department : Horticulture and Landscape Gardening

Date of Form Completion :



Dean's Name:

Dr. Idham Ali Abed

Date:

Dean's Assistant For
Scientific Affairs:

Dr. Mohammed Hamdan
Edan

Date:



Head of Department

Dr. Sameer Abed Ali

Date :

Signature



Signature

Signature

Quality Assurance And University Performance

Manager Date : / 6 / 11 / 2022

Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	University of Anbar-College of Agriculture
2. University Department/Centre	Horticulture and Landscape Gardening
3. Programme Title	Agriculture Vocabulary
4. Title of Final Award	Bachelor, Master and Doctorate of Agriculture
5. Modes of Attendance offered	Other
6. Accreditation	Study plan for the fourth stage
7. Other external influences	Related laws and guidelines
8. Date of production/revision of this specification	1 / 6 / 2022
9. Aims of the Programme	
- Improving the scientific level of the department, students and faculty.	
- Providing a better teaching environment for students and teachers.	
- Creating appropriate opportunities to meet the department's need for scientific competencies.	
- Improvement and expansion in response to the labor market and community service	
- Improving the scientific level of the department, students and faculty	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

- A. Knowledge and Understanding
- A1. Enable students to obtain knowledge and understanding of the intellectual and applied framework in agricultural sciences in general and horticultural sciences and landscaping in particular.
- A2. Understand the methods of growing horticultural plants and methods of field management.
- A3. Knowledge of scientific problem solving skills.
- A4. Enabling the student to understand the talk about horticulture sciences and the processing of various related departments. with scientific cadres Specialized.

B1. Subject-specific skills B1. Use of the projector screen in classrooms. Specialized.

- B2. Enable students to visit the library and the Internet
- B3. Show illustrations of various horticultural crops.
- B4. Visit horticultural stations in the geographical area.

Teaching and Learning Methods

- Providing students with the basics and topics related to the knowledge and systems described in A.
- Clarification and explanation of the study materials by the academic staff in theory and practice (laboratories and fields).
- Conducting scientific field visits for students to horticultural projects and facilities within the geographical area, accompanied by the teaching staff.

Assessment methods

- Quarterly exams.
- Monthly exams.
- Homework.
- Graduation research discussion exams.

- C. Thinking Skills
- C 1- Asking general questions during the lessons.
- C. - Assigning students reports on various agricultural topics.
- C. - Discussing and directing graduation research for third and fourth stage students.

Teaching and Learning Methods

- Sending students for training in the relevant state institutions.
- Training students with experiences that mimic reality.

Assessment methods

- Daily and monthly tests with multiple-choice questions for the subjects.
- Participation scores for difficult competition questions for students.
- Assigning and evaluating some classroom activities.

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1 - Enabling students to use the curricula.

D2 - enable students to pass work tests.

D3 - Enable students to pass professional exams organized by international bodies.

D 4 - To enable students to develop continuous self-development after graduation.

Teaching and Learning Methods

- Providing students with the additional basics related to the outputs of thinking and analysis.

- Forming a group to discuss various agricultural issues.

- Asking thinking questions during the lectures, including (what, how, when and why).

- Preparing students for homework that requires subjective explanations in causal ways.

Assessment Methods

- Daily exams with discussion questions inside the lecture.

- The degree of participation in the questions related to the subject.

- Specific grades for field assignments and reports.

11. Programme Structure

Level/Year	Course or Module Code	Course or Module Title	Number of hours	
			Theoretical	Practical
First	AH 1910	Principles of the food industry	3	2
First	AH 1911	Agricultural machineries and equipment's	3	2
First	AH 1912	Surveying	3	1
First	AH 1913	mathematics	-	2
First	AH 1914	general botany	3	2
First	AH 1915	Principles of Agronomy	3	2
First	AH 1916	Principles of soil	3	2
First	AH 1917	Organic chemistry	3	2
First	AH 1918	Principles of Animal production	3	2
First	AH 1919	Statistics	3	1

First	AH 1910	Principles of Agric. economics	-	2
First	AH 1911	Engineering Drawing	-	3
First	AH19112	English language 1	1	-
First	AH19113	Human rights	1	-
First	AH 19114	Computers 1	3	3
Second	AH1920	principles of microbiology	3	2
Second	AH1921	Plant ecology	3	2
Second	AH1922	Organic farming	3	2
Second	AH1923	Garden design principles	3	2
Second	AH1924	Plant genetic	3	2
Second	AH1925	Horticulture plant insects	1	3
Second	AH1926	plant nutrition	3	2
Second	AH1927	Biochemistry	3	2
Second	AH1928	Plant anatomy	3	2
Second	AH1929	Plant physiology	3	2
Second	AH19210	Nurseries and propagation	3	2
Second	AH19211	Principles of Agric. extension	2	-
Second	AH19212	Weed and weeds control	3	2
Second	AH19213	Computers 3	-	3
Second	AH19214	Arabic language	2	-
Second	AH19215	Freedom and democracy	1	-
Second	AH1930	Deciduous fruits 1	3	2
Second	AH1931	Vegetables production 1	3	2
Third	AH1932	Floriculture 1	1	3
Third	AH1933	experimental design and analysis	3	2

Third	AH1934	plant growth regulators	3	2
Third	AH1935	Irrigation and drainage	3	2
Third	AH1936	deciduous fruits 2	3	2
Third	AH1937	vegetables production 2	3	2
Third	AH1938	Floriculture2	1	3
Third	AH1939	Beekeeping	3	2
Third	AH19310	Diseases of horticultural plants	1	3
Third	AH19311	Plant breeding	3	2
Third	AH19312	Medicinal and aromatic plants	3	2
Third	AH1940	Plant tissue culture	3	2
Third	AH1941	Evergreen fruits	3	2
Fourth	AH1942	Vegetable seed production	3	2
Fourth	AH1943	Agric. Under controlled condition	3	2
Fourth	AH1944	Gardens engineering	1	3
Fourth	AH1945	Farm management	3	2
Fourth	AH1946	Production of grapes and small fruits	3	2
Fourth	AH1947	Date palms production	3	2
Fourth	AH1948	Biotechnologies	3	2
Fourth	AH1949	Harvesting and storing horticultural crops	3	2
Fourth	AH19410	Soil fertility and fertilizers	3	2
Fourth	AH1950	Adv. plant genetic	3	2
Fourth	AH1951	Adv. plant breeding	3	2
Master	AH1952	Adv. experimental design and analysis	3	2
Master	AH1953	Adv. English language	3	2
Master	AH1954	Research methods	3	2

Master	AH1955	Research project	-	3
Master	AH1956	Seminars 1	1	-
Master	AH1957	Adv. plant physiology	3	2
Master	AH1958	Adv. soil fertility and fertilizers	3	2
Master	AH1959	Software for designing and analyzing experiments 1	3	2
Master	AH19510	Adv. plant ecology	3	2
Master	AH19511	Adv. English language	1	-
Master	AH19512	Optional Lesson	3	2
Master	AH19513	Seminars 2	1	-
Master	AH1960	Adv. plant genetic	3	2
Master	AH1961	Adv. soil fertility	3	2
Master	AH1962	Adv. Weed control	3	2
Master	AH1963	Computer applications	-	3
Master	AH1964	Adv. English language	1	-
Master	AH1965	Seminars 3	1	-
Master	AH1966	Adv. fodder crops	3	2
Master	AH1967	Adv. Plant physiology	3	2
Master	AH1968	Adv. vegetables production	3	2
Master	AH1969	Optional Lesson	3	2
Master	AH1960	Adv. plant genetic	3	2
Master	AH1961	Adv. soil fertility	3	2
Doctorate	AH1962	Adv. Weed control	3	2
Doctorate	AH1963	Computer applications 2	-	3
Doctorate	AH1964	Adv. English language 1	1	-

Doctorate	AH1965	Seminars	1	-
Doctorate	AH1966	Adv. fodder crops	3	2
Doctorate	AH1967	Adv. plant physiology	3	2
Doctorate	AH1968	Adv. vegetables production	3	2
Doctorate	AH1969	Optional Lesson 1	3	2
Doctorate	AH19610	Optional Lesson 2	3	2
Doctorate	AH19611	Adv. English language 2	1	-

13. Personal Development Planning

- Enable the student to use self-empowerment skills.
- Ability to analyze and give instructions.
- Practical problem solving skills.
- Knowledge and understanding.
- Teaching students to use the planning and implementation of landscaping.
- Teaching students to prepare vegetable fields and conduct agricultural operations.
- Teaching students to plant evergreen and deciduous fruit trees and to conduct service operations.
- Teaching students to propagate plants using modern methods of plant propagation by tissue culture.
- Teaching students to propagate plants by seed and vegetatively in the vegetable canopy.
- Teaching students to grow vegetables in greenhouses in protected agriculture

14. Admission criteria .

- Approval of the admission of students applying to study in the Department of Horticulture and Landscape Engineering through a central committee in the college that depends on:
 - Standards of the Ministry of Higher Education and Scientific Research.
 - the average .
 - the desire .

15. Key sources of information about the programme

- It matches the latest study requirements for horticulture and landscaping.
- Provides students with the necessary requirements for their needs in the job and practical competitive market.
- It narrows the gap between academic skills and professional skills.
- Teaching students practical skills in establishing agricultural fields, public gardens, and private and home gardens.

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1- Teaching Institution	University of Anbar
2- University Department / Center	College of Agriculture – Department of Horticulture and Landscape Gardening
3- Course title/code	Ornamental plant
4- Programme(s) to which it contributes	1- Microsoft Word 2- Microsoft Power point 3- Microsoft Excel 4- Classroom 5- You tube
5- Modes of Attendance offered	1- theoretical material : It is given by a program classroom 2- 50% given in presence and 50% given by a program classroom
6- Semester/Year	Spring semester / 2019
7- Number of hours tuition (total)	30 hours
8- Date of production/revision of this Specification	15-5-2019
9- Aims of the Course	
1- Ornamental botany investigates the different types of plants	
2- Study of the morphological description of plants suitable for the climatic conditions of Iraq	
Studying the need of ornamental plants for fertilization, pruning and service operations in general	
Studying the plant and structural elements and integrating them to produce a scientific garden	

10- Learning Outcomes, Teaching ,Learning and Assessment Method
<p>A- Knowledge and Understanding</p> <ol style="list-style-type: none"> 1- That the student recognize the importance of scientific study and the practical side. 2 - That the student be familiar with the methods of multiplication. 3 - That the student recognize the tools used in the practical aspect. 4 - That the student recognize the importance of ornamental plants in eliminating drought and tempering the climate temperature
<p>B- Subject-specific skills</p> <ol style="list-style-type: none"> 1- Familiarize the student with the dates of planting, spraying, fertilization methods, and the use of organizations. 2- Increasing the student's ability to gather information. 3- The student should be fully familiar with plants and service methods
Teaching and Learning Methods
<ol style="list-style-type: none"> 1-He has the skill to deal with modern laboratory equipment to carry out scientific research . 2- Conduct laboratory experiments. 3- Direct dialogue with students by asking them questions. 4- Homework (writing scientific reports). 5- Learning through applied field practices.
Assessment methods
<ol style="list-style-type: none"> 1- Monthly exams. 2- Rapid Exams . 3- Evaluation through class activity. 4- By preparing scientific reports and making use of information networks. 5- final exams.
C- thinking skills
<ol style="list-style-type: none"> 1- Cultivating human values for a sense of responsibility by preserving the areas planted with grapes and increasing their areas in his country and other countries. 2- Cultivating noble values and ethical dealings during agricultural work, such as honesty, love of work and sincerity in it, and to feel that the human being everywhere is his goal in terms of providing him with safe food. 3- Making the student feel that food production is a collective responsibility, and as an agricultural engineer, he must prepare himself for collective work in agricultural projects and stay away from narrow personal interest. 4- Make the student feel that the Earth is a small green village, and maintaining it is a collective human responsibility.
Teaching and Learning Methods
<ol style="list-style-type: none"> 1- Through lectures. 2- Direct meeting with students (conversations). 3- Scientific trips to different agricultural work sites.

4- Hosting specialized professors to increase the scientific level of students.

Assessment methods

1- Monthly written exams.

2- Direct oral exams.

3- Through classroom and home activities.

D-General and Transferable Skills (other skills relevant to employability and personal development)

D1-To provide the graduate student with the skills of delivering scientific lectures to farmers after graduating.

D2- Providing the graduate student with leadership and administrative skills in order to work in scientific research centers for the agricultural sector.

D3- Providing the graduate student with skills to transfer modern technology to the country.

D4-Providing the student with scientific research skills to continue communicating with the latest information in the field of grape production abroad and trying to transfer what is new and useful to the country.

1- Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
First	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Definition of ornamental science / its development and importance	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Second	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Ornamental science and ornamental plants	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Third	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Study of environmental factors that affect the growth of ornamental plants such as light, temperature and humidity	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Study of the internal factors that affect the growth of ornamental plants, such as the ratio of nitrogen to carbon, enzymes, and others	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifth	2	First month exam			
Sixth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Rose (Shrub rose) Study of three types and varieties of successful rose in Iraq...Rose pruning	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Seventh	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Special breeding plants.. Chrysanthemum (breeding and its varieties)	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Eighth	2	1- Computer 2-Modern mobile device 3-Observations and field	Special breeding plants.. Carnations (breeding and varieties)	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples

Ninth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Flowering bulbs: calendula, crinum, dahlia, iris, amaryllis, narcissus	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Tenth	2	Second month exam			
Eleven	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Annuals - their divisions Study of winter and summer yearbooks	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Twelfth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Perennial herbal flowers .. salvia, violet, calendula	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Thirteen	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Methods of sexual reproduction, asexual, spores, tissue culture	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourteenth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Medicinal and aromatic plants .. Active substances, volatile oils	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifteen	2	Third month exam			

1- Infrastructure	
Required reading: - CORE TEXTS - COURSE MATERIALS - OTHER	1-Al-Saidi, I. H. M. 2000. Production of grapes 2000. College of Agriculture and Forestry - University of Mosul. 2-Al-Saidi, I. H. M. 1982. Cultivation and production of vineyards. College of Agriculture and Forestry - University of Mosul 3-Hassan, J. A. and M. A. Salman. The production of grapes 1989. Jabbar Abbas and. College of Agricultural Engineering Sciences - University of Baghdad
Special requirements	(include for example workshops, periodicals, IT software, websites)
Community-based facilities (include for example, guest Lectures , internship , field studies)	-

1- Admissions	
Pre-requisites	-
Minimum number of students	12 Students
Maximum number of students	16 Students



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الأستاذ الدكتور
سمير عبد علي صالح
رئيس قسم البستنة وهندسة الحدائق

٢٠١٤ / ١١ / ٢٤

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1- Teaching Institution	University of Anbar
2- University Department / Center	College of Agriculture – Department of Horticulture and Landscape Gardening
3- Course title/code	Viticulture and Small Fruits
4- Programme(s) to which it contributes	1- Microsoft Word 2- Microsoft Power point 3- Microsoft Excel 4- Classroom 5- You tube
5- Modes of Attendance offered	1- theoretical material : It is given by a program classroom 2- 50% given in presence and 50% given by a program classroom
6- Semester/Year	Spring semester / 2019
7- Number of hours tuition (total)	30 hours
8- Date of production/revision of this Specification	15-5-2019
9- Aims of the Course	
1- Identifying the most important strategic grape varieties growing in the conditions of Iraq	
2- Identify the environmental conditions suitable for the growth of grapes	
3- Learn about the most important ways to grow grapes	
4- Learn about the most important methods of pruning and breeding grapes	

10- Learning Outcomes, Teaching ,Learning and Assessment Method
<p>A- Knowledge and Understanding</p> <p>A1- The student should be familiar with the science of grapes and their production methods .</p> <p>A2- The student should be familiar with the ways to multiply grapes</p> <p>A3- The student should be familiar with the methods of raising and pruning grapes.</p> <p>A4- The student should be familiar with the environmental conditions suitable for the growth of grapes.</p> <p>A5- He has knowledge of the methods of breeding and improving grapes.</p> <p>A6- He has knowledge of other supporting sciences such as physiology, fruit storage, anatomy and plant classification.</p>
<p>B- Subject-specific skills</p> <p>B1- He has the skill to deal with modern laboratory equipment to carry out scientific research.</p> <p>B2- He has the skill to work in the field and establish and maintain vineyards.</p> <p>B3- He has the skill to use the agricultural machinery required by the modern cultivation of grapes.</p>
Teaching and Learning Methods
<p>1-He has the skill to deal with modern laboratory equipment to carry out scientific research .</p> <p>2- Conduct laboratory experiments.</p> <p>3- Direct dialogue with students by asking them questions.</p> <p>4- Homework (writing scientific reports).</p> <p>5- Learning through applied field practices.</p>
Assessment methods
<p>1- Monthly exams.</p> <p>2- Rapid Exams .</p> <p>3- Evaluation through class activity.</p> <p>4- By preparing scientific reports and making use of information networks.</p> <p>5- final exams.</p>
C- thinking skills
<p>1- Cultivating human values for a sense of responsibility by preserving the areas planted with grapes and increasing their areas in his country and other countries.</p> <p>2- Cultivating noble values and ethical dealings during agricultural work, such as honesty, love of work and sincerity in it, and to feel that the human being everywhere is his goal in terms of providing him with safe food.</p> <p>3- Making the student feel that food production is a collective responsibility, and as an agricultural engineer, he must prepare himself for collective work in agricultural projects and stay away from narrow personal interest.</p> <p>4- Make the student feel that the Earth is a small green village, and maintaining it is a collective human responsibility.</p>

Teaching and Learning Methods

- 1- Through lectures.
- 2- Direct meeting with students (conversations).
- 3- Scientific trips to different agricultural work sites.
- 4- Hosting specialized professors to increase the scientific level of students.

Assessment methods

- 1- Monthly written exams.
- 2- Direct oral exams.
- 3- Through classroom and home activities.

D-General and Transferable Skills (other skills relevant to employability and personal development)

- D1-To provide the graduate student with the skills of delivering scientific lectures to farmers after graduating.
- D2- Providing the graduate student with leadership and administrative skills in order to work in scientific research centers for the agricultural sector.
- D3- Providing the graduate student with skills to transfer modern technology to the country.
- D4-Providing the student with scientific research skills to continue communicating with the latest information in the field of grape production abroad and trying to transfer what is new and useful to the country.

1- Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
First	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Grapes and their economic importance and nutritional value	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Second	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Grape classification	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Third	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Preparing a nursery for the propagation of grapes in various ways	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Suitable environment for farming	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifth	2	First month exam			
Sixth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	The phenotypic structure of the grape tree	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Seventh	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Annual cycle of grape vine growth	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Eighth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Grape propagation	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Ninth	2	1- Computer 2-Modern mobile device	Breeding and pruning grapes	Electronic lectures and practical application in	Questions, discussions and examples

		3-Observations and field applications		laboratories and fields	
Tenth	2	Second month exam			
Eleven	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Study of the small fruits (strawberry, raspberry, blackberry, blueberry, currant, cosberry, cranberry) in terms of their importance and the appropriate environment for them, their propagation, cultivation and service processes	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Twelfth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Methods of cultivation and production of strawberry, raspberry, blackberry, currant, blueberry, cranberry and service and harvest operations	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Thirteenth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Growing grapes on the slopes in northern Iraq	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourteenth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Some agricultural service operations for grapes	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifteen	2	Third month exam			

1- Infrastructure	
Required reading: - CORE TEXTS - COURSE MATERIALS - OTHER	1-Al-Saidi, I. H. M. 2000. Production of grapes 2000. College of Agriculture and Forestry - University of Mosul. 2-Al-Saidi, I. H. M. 1982. Cultivation and production of vineyards. College of Agriculture and Forestry - University of Mosul 3-Hassan, J. A. and M. A. Salman. The production of grapes 1989. Jabbar Abbas and. College of Agricultural Engineering Sciences - University of Baghdad
Special requirements	(include for example workshops, periodicals, IT software, websites)
Community-based facilities (include for example, guest Lectures , internship , field studies)	-

1- Admissions	
Pre-requisites	-
Minimum number of students	20 Students
Maximum number of students	50 Students



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الأستاذ الدكتور
سمير عبد علي صالح
رئيس قسم البستنة وهندسة الحدائق

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This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1- Teaching Institution	University of Anbar
2- University Department / Center	College of Agriculture – Department of Horticulture and Landscape Gardening
3- Course title/code	Ecology plant

4- Programme(s) to which it contributes	1- Microsoft Word 2- Microsoft Power point 3- Microsoft Excel 4- Classroom 5- You tube
5- Modes of Attendance offered	1- theoretical material : It is given by a program classroom 2- 50% given in presence and 50% given by a program classroom
6- Semester/Year	Spring semester / 2020
7- Number of hours tuition (total)	30 hours
8- Date of production/revision of this Specification	30-12-2020
9- Aims of the Course	
1- Plant ecology searches for environmental factors and their relationship to crops.	
2- It includes knowledge of climatic factors, soil factors, and biological factors	

3- Knowing the appropriate environment for each crop of agricultural crops.
4- Knowing the damages of temperature and intensity of lighting to crops.
5- Study of environmental pollution.
6- Identifying the water needs and the factors that affect the water needs of the crop.

10- Learning Outcomes, Teaching ,Learning and Assessment Method
<p>A- Knowledge and Understanding</p> <p>A1- The student should be familiar with the science of grapes and their production methods .</p> <p>A2- The student should be familiar with the ways to multiply grapes</p> <p>A3- The student should be familiar with the methods of raising and pruning grapes.</p> <p>A4- The student should be familiar with the environmental conditions suitable for the growth of grapes.</p> <p>A5- He has knowledge of the methods of breeding and improving grapes.</p> <p>A6- He has knowledge of other supporting sciences such as physiology, fruit storage, anatomy and plant classification.</p>
<p>B- Subject-specific skills</p> <p>B1- He has the skill to deal with modern laboratory equipment to carry out scientific research.</p> <p>B2- He has the skill to work in the field and establish and maintain vineyards.</p> <p>B3- He has the skill to use the agricultural machinery required by the modern cultivation of grapes.</p>
<p>Teaching and Learning Methods</p> <p>1-He has the skill to deal with modern laboratory equipment to carry out scientific research .</p> <p>2- Conduct laboratory experiments.</p> <p>3- Direct dialogue with students by asking them questions.</p> <p>4- Homework (writing scientific reports).</p> <p>5- Learning through applied field practices.</p>
<p>Assessment methods</p> <p>1- Monthly exams.</p> <p>2- Rapid Exams .</p> <p>3- Evaluation through class activity.</p> <p>4- By preparing scientific reports and making use of information networks.</p> <p>5- final exams.</p>
<p>C- thinking skills</p> <p>1- Cultivating human values for a sense of responsibility by preserving the areas planted with grapes and increasing their areas in his country and other countries.</p> <p>2- Cultivating noble values and ethical dealings during agricultural work, such as honesty, love of work and sincerity in it, and to feel that the human being everywhere is his goal in terms of providing him with safe food.</p>

3- Making the student feel that food production is a collective responsibility, and as an agricultural engineer, he must prepare himself for collective work in agricultural projects and stay away from narrow personal interest.

4- Make the student feel that the Earth is a small green village, and maintaining it is a collective human responsibility.

Teaching and Learning Methods

1- Through lectures.

2- Direct meeting with students (conversations).

3- Scientific trips to different agricultural work sites.

4- Hosting specialized professors to increase the scientific level of students.

Assessment methods

1- Monthly written exams.

2- Direct oral exams.

3- Through classroom and home activities.

D-General and Transferable Skills (other skills relevant to employability and personal development)

D1-To provide the graduate student with the skills of delivering scientific lectures to farmers after graduating.

D2- Providing the graduate student with leadership and administrative skills in order to work in scientific research centers for the agricultural sector.

D3- Providing the graduate student with skills to transfer modern technology to the country.

D4-Providing the student with scientific research skills to continue communicating with the latest information in the field of grape production abroad and trying to transfer what is new and useful to the country.

1- Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
First	2	1- Computer 2-Modern mobile device 3- Observations and field applications	Grapes and their economic importance and nutritional value	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Second	2	1- Computer 2-Modern mobile device 3- Observations and field applications	Grape classification	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Third	2	1- Computer 2-Modern mobile device 3- Observations and field applications	Preparing a nursery for the propagation of grapes in various ways	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourth	2	1- Computer 2-Modern mobile device 3- Observations and field applications	Suitable environment for farming	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifth	2	First month exam			
Sixth	2	1- Computer 2-Modern mobile device 3- Observations and field applications	The phenotypic structure of the grape tree	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Seventh	2	1- Computer 2-Modern mobile device 3- Observations and field applications	Annual cycle of grape vine growth	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Eighth	2	1- Computer 2-Modern mobile device	Grape propagation	Electronic lectures and practical application in	Questions, discussions and examples

		3- Observations and field applications		laboratories and fields	
Ninth	2	1- Computer 2-Modern mobile device 3- Observations and field applications	Breeding and pruning grapes	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Tenth	2	Second month exam			
Eleven	2	1- Computer 2-Modern mobile device 3- Observations and field applications	Study of the small fruits (strawberry, raspberry, blackberry, blueberry, currant, cosberry, cranberry) in terms of their importance and the appropriate environment for them, their propagation, cultivation and service processes	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Twelfth	2	1- Computer 2-Modern mobile device 3- Observations and field applications	Methods of cultivation and production of strawberry, raspberry, blackberry, currant, blueberry, cranberry and service and harvest operations	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Thirteen	2	1- Computer 2-Modern mobile device	Growing grapes on the slopes in	Electronic lectures and practical	Questions, discussions and examples

		3- Observations and field applications	northern Iraq	application in laboratories and fields	
Fourteenth	2	1- Computer 2-Modern mobile device 3- Observations	Some agricultural service operations	Electronic lectures and practical application in	Questions, discussions and examples

1- Infrastructure

Required reading: - CORE TEXTS - COURSE MATERIALS - OTHER	1-Al-Saidi, I. H. M. 2000. Production of grapes 2000. College of Agriculture and Forestry - University of Mosul. 2-Al-Saidi, I. H. M. 1982. Cultivation and production of vineyards. College of Agriculture and Forestry - University of Mosul 3-Hassan, J. A. and M. A. Salman. The production of grapes 1989. Jabbar Abbas and. College of Agricultural Engineering Sciences - University of Baghdad
Special requirements	(include for example workshops, periodicals, IT software, websites)
Community-based facilities (include for example, guest Lectures , internship , field studies)	-

1- Admissions

Pre-requisites	-
Minimum number of students	Students 20
Maximum number of students	Students 50



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الأستاذ الدكتور
سمير عياد علي صالح
رئيس قسم البستنة وهندسة الحدائق

٢٠١٢ / ٥ / ٢١ - ٢

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1- Teaching Institution	University of Anbar
2- University Department / Center	College of Agriculture – Department of Horticulture and Landscape Gardening
3- Course title/code	Plant tissue culture
4- Programme(s) to which it contributes	1- Microsoft Word 2- Microsoft Power point 3- Microsoft Excel 4- Classroom 5- You tube
5- Modes of Attendance offered	1- theoretical material : It is given by a program classroom 2- 50% given in presence and 50% given by a program classroom
6- Semester/Year	Autumn / 2019
7- Number of hours tuition (total)	30 hours
8- Date of production/revision of this Specification	15-5-2019
9- Aims of the Course	
1- Using it in the field of plant breeding and improvement and conservation of genetic resources.	
2- Rapid multiplication of plants.	
3- Production of secondary compounds and medicinal drugs.	

4- Producing virus-free plants.

10- Learning Outcomes, Teaching ,Learning and Assessment Method

A- Knowledge and Understanding

- A1- The student should be familiar with the science of plant tissue culture.
- A2- The student should be familiar with the application of plant tissue culture technology.
- A3- The student should be familiar with the propagation of plants using modern methods.
- A4- The student should be familiar with the environmental conditions suitable for the growth of plants in the laboratory.
- A5- He has knowledge of the methods of preparing culture media in the laboratory.
- A6- He has knowledge of other supporting sciences such as physiology, fruit storage, anatomy and plant classification.

B- Subject-specific skills

- B1- He has the skill to deal with modern laboratory equipment to carry out scientific research.
- B2- He has the skill to work in the field and establish and maintain vineyards.
- B3- He has the skill to use the agricultural machinery required by the modern cultivation of grapes.

Teaching and Learning Methods

- 1-He has the skill to deal with modern laboratory equipment to carry out scientific research .
- 2- Conduct laboratory experiments.
- 3- Direct dialogue with students by asking them questions.
- 4- Homework (writing scientific reports).
- 5- Learning through applied field practices.

Assessment methods

- 1- Monthly exams.
- 2- Rapid Exams .
- 3- Evaluation through class activity.
- 4- By preparing scientific reports and making use of information networks.
- 5- final exams.

C- thinking skills

- 1- Cultivating human values for a sense of responsibility by preserving the areas planted with grapes and increasing their areas in his country and other countries.
- 2- Cultivating noble values and ethical dealings during agricultural work, such as honesty, love of work and sincerity in it, and to feel that the human being everywhere is his goal in terms of providing him with safe food.
- 3- Making the student feel that food production is a collective responsibility, and as an agricultural engineer, he must prepare himself for collective work in agricultural projects and stay away from narrow personal interest.
- 4- Make the student feel that the Earth is a small green village, and maintaining it is a collective human responsibility.

Teaching and Learning Methods

- 1- Through lectures.
- 2- Direct meeting with students (conversations).
- 3- Scientific trips to different agricultural work sites.
- 4- Hosting specialized professors to increase the scientific level of students.

Assessment methods

- 1- Monthly written exams.
- 2- Direct oral exams.
- 3- Through classroom and home activities.

D-General and Transferable Skills (other skills relevant to employability and personal development)

- D1-To provide the graduate student with the skills of delivering scientific lectures to farmers after graduating.
- D2- Providing the graduate student with leadership and administrative skills in order to work in scientific research centers for the agricultural sector.
- D3- Providing the graduate student with skills to transfer modern technology to the country.
- D4- Providing the student with scientific research skills to continue communicating with the new information and trying to transfer what is new and useful to the country.**

1- Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
First	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Introduction and history of plant tissue culture	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Second	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Physiological factors affecting growth and morphogenesis	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Third	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Using tissue culture for plant propagation techniques	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Applications for plant cell and tissue culture in the field of plant breeding and improvement to produce healthy plants from infections with specific pathogens.	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifth	2	First month exam			
Sixth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Secondary Metabolites Production	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Seventh	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Callus cultures	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Eighth	2	1- Computer 2-Modern mobile device	Plant tissue culture application	Electronic lectures and practical application in	Questions, discussions and examples

		3-Observations and field applications		laboratories and fields	
Ninth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Isolation and of Culture of Protoplast	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Tenth	2	Second month exam			
Eleven	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Embryo Culture : Embryogenesis	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Twelfth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Somatic Embryogenesis	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Thirteen	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Anther and pollen culture	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourteenth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Synthetic Seed Technology	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifteen	2	Third month exam			

1- Infrastructure	
Required reading: - CORE TEXTS - COURSE MATERIALS - OTHER	1-Al-Saidi, I. H. M. 2000. Production of grapes 2000. College of Agriculture and Forestry - University of Mosul. 2-Al-Saidi, I. H. M. 1982. Cultivation and production of vineyards. College of Agriculture and Forestry - University of Mosul 3-Hassan, J. A. and M. A. Salman. The production of grapes 1989. Jabbar Abbas and. College of Agricultural Engineering Sciences - University of Baghdad
Special requirements	(include for example workshops, periodicals, IT software, websites)
Community-based facilities (include for example, guest Lectures , internship , field studies)	-

1- Admissions	
Pre-requisites	-
Minimum number of students	20 Students
Maximum number of students	50 Students



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الأستاذ الدكتور
سمير عبد علي صالح
رئيس قسم البستنة وهندسة الحدائق

٢٠١٤ / ١١ / ٢٤

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1- Teaching Institution	University of Anbar
2- University Department / Center	College of Agriculture – Department of Horticulture and Landscape Gardening
3- Course title/code	Principle of horticulture
4- Programme(s) to which it contributes	1- Microsoft Word 2- Microsoft Power point 3- Microsoft Excel 4- Classroom 5- You tube
5- Modes of Attendance offered	1- theoretical material : It is given by a program classroom 2- 50% given in presence and 50% given by a program classroom
6- Semester/Year	Autumn semester / 2020
7- Number of hours tuition (total)	30 hours
8- Date of production/revision of this Specification	30-12-2020
9- Aims of the Course	
	1-Identifying the most important strategic horticultural plants growing in the conditions of Iraq
	2- Identify the appropriate environmental conditions for the growth of horticultural plants
	3- Learn about the most important methods of propagation of horticultural plants

4- Identify the most important horticultural facilities used in the cultivation of horticultural plants

10- Learning Outcomes, Teaching ,Learning and Assessment Method

A- Knowledge and Understanding

- A1- The student should be familiar with the sciences of fruits and palms and their production methods .
- A2- The student should be familiar with the science of vegetable crops and methods of production
- A3- The student should be familiar with the science of ornamental plants and methods of production .
- A4- The student should be familiar with the sciences of gardening engineering and the methods of its implementation .
- A5- He has knowledge of methods of breeding and improving horticultural crops .
- A6- He has knowledge of other supporting sciences such as physiology, fruit storage, anatomy and plant classification .

B- Subject-specific skills

- B1- He has the skill to deal with modern laboratory equipment to carry out scientific research .
- B2- He has the skill to work in the field and establish and maintain orchards, fields and ornamentals .
- B3- He has the skill to use the agricultural machinery required by modern agriculture .

Teaching and Learning Methods

- 1- He has the skill to deal with modern laboratory equipment to carry out scientific research.
- 2- Conduct laboratory experiments.
- 3- Direct dialogue with students by asking them questions.
- 4- Homework (writing scientific reports).
- 5- Learning through applied field practices.

Assessment methods

- 1- Monthly exams.
- 2- Rapid Exams .
- 3- Evaluation through class activity.
- 4- By preparing scientific reports and making use of information networks.
- 5- final exams.

C- thinking skills

- 1- Cultivating human values to feel the responsibility to preserve and increase the horticultural spaces in his country and other countries .
- 2- Cultivating noble values and moral dealings during agricultural work, such as honesty, love of work and sincerity in it, and to feel that man everywhere is his goal in terms of providing him with safe food .

3- Making the student feel that food production is a collective responsibility, and as an agricultural engineer, he must prepare himself for collective work in agricultural projects and stay away from narrow personal interest .

4- Make the student feel that the Earth is a small green village, and preserving it is a collective human responsibility .

Teaching and Learning Methods

1- Through lectures.

2- Direct meeting with students (conversations).

3- Scientific trips to different agricultural work sites.

4- Hosting specialized professors to increase the scientific level of students.

Assessment methods

1- Monthly written exams.

2- Direct oral exams.

3- Through classroom and home activities.

D-General and Transferable Skills (other skills relevant to employability and personal development)

D1-To provide the graduate student with the skills of delivering scientific lectures to farmers after graduating.

D2- Providing the graduate student with leadership and administrative skills in order to work in scientific research centers for the agricultural sector.

D3- Providing the graduate student with skills to transfer modern technology to the country.

D4-Providing the student with scientific research skills to continue communicating with the latest information in the field of horticultural sciences abroad and trying to transfer what is new and useful to the country.

1- Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
First	2	1- Computer 2-Modern mobile device 3-Observations and field applications	The science of horticulture, the history of the development of the science of horticulture, the economic and nutritional importance	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Second	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Division of horticultural plants	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Third	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Appropriate environmental factors and their impact on the production of horticultural crops (light, heat, moisture, soil).	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Methods of reproduction of horticultural plants (sexual, vegetative, tissue culture).	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifth	2	First month exam			
Sixth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Nurseries, patterns of field cultivation (for fruits, vegetables, ornamental, medicinal and aromatic plants).	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Seventh	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Agricultural operations (irrigation, fertilization, sanding, bush and pest resistance ... etc.)	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Eighth	2	1- Computer 2-Modern mobile device	Cultivation under air conditioned environments.	Electronic lectures and practical application in	Questions, discussions and examples

		3-Observations and field applications		laboratories and fields	
Ninth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Harvest, picking, marketing.	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Tenth	2	Second month exam			
Eleven	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Storage and preservation	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Twelfth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	About the breeding and improvement of horticultural plants.	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Thirteen	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Examples of fruit trees, vegetable and ornamental plants.	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourteenth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Examples of medicinal and aromatic plants.	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifteen	2	Third month exam			

1- Infrastructure	
Required reading: - CORE TEXTS - COURSE MATERIALS - OTHER	1- Al-Allaf, I. H. I. Principles of Horticulture and Garden Engineering 2017. College of Agriculture and Forestry - University of Mosul . 2- Al-Allaf, I. H. I. and I. T. Shayal Al-Alam 2017. Fundamentals of horticulture and landscaping. College of Agriculture and Forestry - University of Mosul 3- Amin, S. K. M. and N. Khalil 2014. Principles of Horticulture. College of Agricultural Engineering Sciences - University of Baghdad.
Special requirements	(include for example workshops, periodicals, IT software, websites)
Community-based facilities (include for example, guest Lectures , internship , field studies)	-

1- Admissions	
Pre-requisites	-
Minimum number of students	20 Students
Maximum number of students	50 Students



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الأستاذ الدكتور
سمير عبد علي صالح
رئيس قسم البستنة وهندسة الحدائق

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1- Teaching Institution	University of Anbar
2- University Department / Center	College of Agriculture – Department of Horticulture and Landscape Gardening
3- Course title/code	Principle of horticulture
4- Programme(s) to which it contributes	1- Microsoft Word 2- Microsoft Power point 3- Microsoft Excel 4- Classroom 5- You tube
5- Modes of Attendance offered	1- theoretical material : It is given by a program classroom 2- 50% given in presence and 50% given by a program classroom
6- Semester/Year	Autumn semester / 2020
7- Number of hours tuition (total)	30 hours
8- Date of production/revision of this Specification	30-12-2020
9- Aims of the Course	
1-Identifying the most important strategic horticultural plants growing in the conditions of Iraq	
2- Identify the appropriate environmental conditions for the growth of horticultural plants	
3- Learn about the most important methods of propagation of horticultural plants	
4- Identify the most important horticultural facilities used in the cultivation of horticultural plants	

10- Learning Outcomes, Teaching ,Learning and Assessment Method
<p>A- Knowledge and Understanding</p> <p>A1- The student should be familiar with the sciences of fruits and palms and their production methods .</p> <p>A2- The student should be familiar with the science of vegetable crops and methods of production</p> <p>A3- The student should be familiar with the science of ornamental plants and methods of production .</p> <p>A4- The student should be familiar with the sciences of gardening engineering and the methods of its implementation .</p> <p>A5- He has knowledge of methods of breeding and improving horticultural crops .</p> <p>A6- He has knowledge of other supporting sciences such as physiology, fruit storage, anatomy and plant classification .</p>
<p>B- Subject-specific skills</p> <p>B1- He has the skill to deal with modern laboratory equipment to carry out scientific research .</p> <p>B2- He has the skill to work in the field and establish and maintain orchards, fields and ornamentals .</p> <p>B3- He has the skill to use the agricultural machinery required by modern agriculture .</p>
Teaching and Learning Methods
<p>1- He has the skill to deal with modern laboratory equipment to carry out scientific research.</p> <p>2- Conduct laboratory experiments.</p> <p>3- Direct dialogue with students by asking them questions.</p> <p>4- Homework (writing scientific reports).</p> <p>5- Learning through applied field practices.</p>
Assessment methods
<p>1- Monthly exams.</p> <p>2- Rapid Exams .</p> <p>3- Evaluation through class activity.</p> <p>4- By preparing scientific reports and making use of information networks.</p> <p>5- final exams.</p>
C- thinking skills
<p>1- Cultivating human values to feel the responsibility to preserve and increase the horticultural spaces in his country and other countries .</p> <p>2- Cultivating noble values and moral dealings during agricultural work, such as honesty, love of work and sincerity in it, and to feel that man everywhere is his goal in terms of providing him with safe food .</p> <p>3- Making the student feel that food production is a collective responsibility, and as an agricultural engineer, he must prepare himself for collective work in agricultural projects and stay away from narrow personal interest .</p>

4- Make the student feel that the Earth is a small green village, and preserving it is a collective human responsibility .

Teaching and Learning Methods

- 1- Through lectures.
- 2- Direct meeting with students (conversations).
- 3- Scientific trips to different agricultural work sites.
- 4- Hosting specialized professors to increase the scientific level of students.

Assessment methods

- 1- Monthly written exams.
- 2- Direct oral exams.
- 3- Through classroom and home activities.

D-General and Transferable Skills (other skills relevant to employability and personal development)

- D1-To provide the graduate student with the skills of delivering scientific lectures to farmers after graduating.
- D2- Providing the graduate student with leadership and administrative skills in order to work in scientific research centers for the agricultural sector.
- D3- Providing the graduate student with skills to transfer modern technology to the country.
- D4-Providing the student with scientific research skills to continue communicating with the latest information in the field of horticultural sciences abroad and trying to transfer what is new and useful to the country.

1- Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
First	2	1- Computer 2-Modern mobile device 3-Observations and field applications	The science of horticulture, the history of the development of the science of horticulture, the economic and nutritional importance	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Second	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Division of horticultural plants	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Third	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Appropriate environmental factors and their impact on the production of horticultural crops (light, heat, moisture, soil).	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Methods of reproduction of horticultural plants (sexual, vegetative, tissue culture).	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifth	2	First month exam			
Sixth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Nurseries, patterns of field cultivation (for fruits, vegetables, ornamental, medicinal and aromatic plants).	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Seventh	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Agricultural operations (irrigation, fertilization, sanding, bush and pest resistance ... etc.)	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Eighth	2	1- Computer 2-Modern mobile device	Cultivation under air conditioned environments.	Electronic lectures and practical application in	Questions, discussions and examples

		3-Observations and field applications		laboratories and fields	
Ninth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Harvest, picking, marketing.	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Tenth	2	Second month exam			
Eleven	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Storage and preservation	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Twelfth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	About the breeding and improvement of horticultural plants.	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Thirteen	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Examples of fruit trees, vegetable and ornamental plants.	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourteenth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Examples of medicinal and aromatic plants.	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifteen	2	Third month exam			

1- Infrastructure	
Required reading: - CORE TEXTS - COURSE MATERIALS - OTHER	1- Al-Allaf, I. H. I. Principles of Horticulture and Garden Engineering 2017. College of Agriculture and Forestry - University of Mosul . 2- Al-Allaf, I. H. I. and I. T. Shayal Al-Alam 2017. Fundamentals of horticulture and landscaping. College of Agriculture and Forestry - University of Mosul 3- Amin, S. K. M. and N. Khalil 2014. Principles of Horticulture. College of Agricultural Engineering Sciences - University of Baghdad.
Special requirements	(include for example workshops, periodicals, IT software, websites)
Community-based facilities (include for example, guest Lectures , internship , field studies)	-

1- Admissions	
Pre-requisites	-
Minimum number of students	20 Students
Maximum number of students	50 Students



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الأستاذ الدكتور
سمير عبد علي صالح
رئيس قسم البستنة وهندسة الحدائق

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

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2- University Department / Center	College of Agriculture – Department of Horticulture and Landscape Gardening
3- Course title/code	Principle of horticulture
4- Programme(s) to which it contributes	1- Microsoft Word 2- Microsoft Power point 3- Microsoft Excel 4- Classroom 5- You tube
5- Modes of Attendance offered	1- theoretical material : It is given by a program classroom 2- 50% given in presence and 50% given by a program classroom
6- Semester/Year	Autumn semester / 2020
7- Number of hours tuition (total)	30 hours
8- Date of production/revision of this Specification	30-12-2020
9- Aims of the Course	
	1-Identifying the most important strategic horticultural plants growing in the conditions of Iraq
	2- Identify the appropriate environmental conditions for the growth of horticultural plants
	3- Learn about the most important methods of propagation of horticultural plants

4- Identify the most important horticultural facilities used in the cultivation of horticultural plants

10- Learning Outcomes, Teaching ,Learning and Assessment Method

A- Knowledge and Understanding

- A1- The student should be familiar with the sciences of fruits and palms and their production methods .
- A2- The student should be familiar with the science of vegetable crops and methods of production
- A3- The student should be familiar with the science of ornamental plants and methods of production .
- A4- The student should be familiar with the sciences of gardening engineering and the methods of its implementation .
- A5- He has knowledge of methods of breeding and improving horticultural crops .
- A6- He has knowledge of other supporting sciences such as physiology, fruit storage, anatomy and plant classification .

B- Subject-specific skills

- B1- He has the skill to deal with modern laboratory equipment to carry out scientific research .
- B2- He has the skill to work in the field and establish and maintain orchards, fields and ornamentals .
- B3- He has the skill to use the agricultural machinery required by modern agriculture .

Teaching and Learning Methods

- 1- He has the skill to deal with modern laboratory equipment to carry out scientific research.
- 2- Conduct laboratory experiments.
- 3- Direct dialogue with students by asking them questions.
- 4- Homework (writing scientific reports).
- 5- Learning through applied field practices.

Assessment methods

- 1- Monthly exams.
- 2- Rapid Exams .
- 3- Evaluation through class activity.
- 4- By preparing scientific reports and making use of information networks.
- 5- final exams.

C- thinking skills

- 1- Cultivating human values to feel the responsibility to preserve and increase the horticultural spaces in his country and other countries .
- 2- Cultivating noble values and moral dealings during agricultural work, such as honesty, love of work and sincerity in it, and to feel that man everywhere is his goal in terms of providing him with safe food .

3- Making the student feel that food production is a collective responsibility, and as an agricultural engineer, he must prepare himself for collective work in agricultural projects and stay away from narrow personal interest .

4- Make the student feel that the Earth is a small green village, and preserving it is a collective human responsibility .

Teaching and Learning Methods

1- Through lectures.

2- Direct meeting with students (conversations).

3- Scientific trips to different agricultural work sites.

4- Hosting specialized professors to increase the scientific level of students.

Assessment methods

1- Monthly written exams.

2- Direct oral exams.

3- Through classroom and home activities.

D-General and Transferable Skills (other skills relevant to employability and personal development)

D1-To provide the graduate student with the skills of delivering scientific lectures to farmers after graduating.

D2- Providing the graduate student with leadership and administrative skills in order to work in scientific research centers for the agricultural sector.

D3- Providing the graduate student with skills to transfer modern technology to the country.

D4-Providing the student with scientific research skills to continue communicating with the latest information in the field of horticultural sciences abroad and trying to transfer what is new and useful to the country.

1- Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
First	2	1- Computer 2-Modern mobile device 3-Observations and field applications	The science of horticulture, the history of the development of the science of horticulture, the economic and nutritional importance	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Second	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Division of horticultural plants	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Third	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Appropriate environmental factors and their impact on the production of horticultural crops (light, heat, moisture, soil).	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Methods of reproduction of horticultural plants (sexual, vegetative, tissue culture).	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifth	2	First month exam			
Sixth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Nurseries, patterns of field cultivation (for fruits, vegetables, ornamental, medicinal and aromatic plants).	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Seventh	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Agricultural operations (irrigation, fertilization, sanding, bush and pest resistance ... etc.)	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Eighth	2	1- Computer 2-Modern mobile device	Cultivation under air conditioned environments.	Electronic lectures and practical application in	Questions, discussions and examples

		3-Observations and field applications		laboratories and fields	
Ninth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Harvest, picking, marketing.	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Tenth	2	Second month exam			
Eleven	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Storage and preservation	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Twelfth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	About the breeding and improvement of horticultural plants.	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Thirteen	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Examples of fruit trees, vegetable and ornamental plants.	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourteenth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Examples of medicinal and aromatic plants.	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifteen	2	Third month exam			

1- Infrastructure	
Required reading: - CORE TEXTS - COURSE MATERIALS - OTHER	1- Al-Allaf, I. H. I. Principles of Horticulture and Garden Engineering 2017. College of Agriculture and Forestry - University of Mosul . 2- Al-Allaf, I. H. I. and I. T. Shayal Al-Alam 2017. Fundamentals of horticulture and landscaping. College of Agriculture and Forestry - University of Mosul 3- Amin, S. K. M. and N. Khalil 2014. Principles of Horticulture. College of Agricultural Engineering Sciences - University of Baghdad.
Special requirements	(include for example workshops, periodicals, IT software, websites)
Community-based facilities (include for example, guest Lectures , internship , field studies)	-

1- Admissions	
Pre-requisites	-
Minimum number of students	20 Students
Maximum number of students	50 Students



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الأستاذ الدكتور
سمير عبد علي صالح
رئيس قسم البستنة وهندسة الحدائق

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1- Teaching Institution	University of Anbar
2- University Department / Center	College of Agriculture – department of protection plant
3- Course title/code	Plant taxonomy
4- Programme(s) to which it contributes	1- Microsoft Word 2- Microsoft Power point 3- Microsoft Excel 4- Classroom 5- You tube
5- Modes of Attendance offered	1- theoretical material : It is given by a program classroom 2- 50% given in presence and 50% given by a program classroom
6- Semester/Year	Autumn semester / 2021
7- Number of hours tuition (total)	30 hours
8- Date of production/revision of this Specification	24 – 9 -2021
9- Aims of the Course	
1- Identifying the most important strategic of plant taxonomy and its aims and principles	
2- Studying the process of classification	
3- Studying the different classification systems	
4-studying the concept of species	
5-studying the major and minor categories	

6-studying the methods of nomenclature
7-studying the morphological and terms of vegetative organs
8-studying the flowers, fruits , seeds and pollination
9- studying the Dicotyledonae and monocotyledon
10- studying the Angiospermae and Gymnospermae

10- Learning Outcomes, Teaching ,Learning and Assessment Method
<p>A- Knowledge and Understanding</p> <p>A1- The student should be know the scientific principles of plant taxonomy.</p> <p>A2- The student should be know the essential requirement for plant classification.</p> <p>A3- The student should be know the old and modern theories that explain development and distribution of plants on the earth .</p> <p>A4- The student should be know the morphological and anatomical different organs plants .</p> <p>A5- the student should be know Dicotyledonae ,monocotyledon ,Angiospermae, Gymnospermae</p>
<p>B- Subject-specific skills</p> <p>B1- He has the skill to deal with modern laboratory equipment to carry out scientific research.</p> <p>B2- visiting the field crops and orchard for identify flowers of different plants</p> <p>B3- student should be collect the flowers from local fields for practicing process of classification</p>
Teaching and Learning Methods
<p>1-He has the skill to deal with modern laboratory equipment to carry out scientific research .</p> <p>2- Conduct laboratory experiments.</p> <p>3- Direct dialogue with students by asking them questions.</p> <p>4- Homework (writing scientific reports).</p> <p>5- Learning through applied field practices.</p>
Assessment methods
<p>1- Monthly exams.</p> <p>2- Rapid Exams .</p> <p>3- Evaluation through class activity.</p> <p>4- By preparing scientific reports and making use of information networks.</p> <p>5- final exams.</p>
C- thinking skills
<p>1-The skill of thinking according to the student's ability, and the goal is for the student to believe in what is tangible and how he worked to improve the ability to think</p> <p>2-Notes and perception</p> <p>3-analysis and interpretation</p> <p>4-Setting and calendar</p>
Teaching and Learning Methods

- 1- Through lectures.
- 2- Direct meeting with students (conversations).
- 3- Scientific trips to different agricultural work sites.
- 4- Hosting specialized professors to increase the scientific level of students.

Assessment methods

- 1- Monthly written exams.
- 2- Direct oral exams.
- 3- Through classroom and home activities.

D-General and Transferable Skills (other skills relevant to employability and personal development)

- D1-To provide the graduate student with the skills of delivering scientific lectures to farmers after graduating.
- D2- Providing the graduate student with leadership and administrative skills in order to work in scientific research centers for the agricultural sector.
- D3- Providing the graduate student with skills to transfer modern technology to the country.
- D4-Providing the student with scientific research skills to continue communicating with the latest information in the field of plant taxonomy and trying to transfer what is new and useful to the country.

1- Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	TeachingMethod	AssessmentMethod
First	2	Plant taxonomy	Identification and importance of taxonomy science	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Second	2	Plant taxonomy	The relationship between taxonomy science and other sciences	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Third	2	Plant taxonomy	Criteria of classification	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourth	2	Plant taxonomy	Cytotaxonomy chemotaxonomy Numerical taxonomy Paleobotany	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifth	2	Plant taxonomy	concept of species and the major and minor categories	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Sixth	2	Plant taxonomy	Systems of classification	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Seventh	2	Plant taxonomy	Nomenclature	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Eighth	2	Plant taxonomy	Herbaria and plant gardens	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Ninth	2	Plant taxonomy	morphological and terms of vegetative organs	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Tenth	2	Plant taxonomy	Flowers , calyx , corolla	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Eleven	2	Plant taxonomy	Male organs of flowers	Electronic lectures and practical	Questions, discussions and examples

				application in laboratories and fields	
Twelfth	2	Plant taxonomy	Female organs of flowers	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Thirteen	2	Plant taxonomy	Inflorescences	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourteenth	2	Plant taxonomy	Fruits and seeds	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifteen	2	Plant taxonomy	Bollen grains and the importance of pollination	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples

1- Infrastructure	
Required reading: - CORE TEXTS - COURSE MATERIALS - OTHER	كتاب علم تصنيف النبات للدكتور علي حسين عيسى الموسوي كتاب تصنيف النباتات البذرية تأليف يوسف منصور الكاتب Recent articles from internet and scientific magazine Iraqi Journal of Agricultural Science Iraqi Virtual Science Library
Special requirements	Laboratory equipment
Community-based facilities (include for example, guest Lectures , internship , field studies)	1-Delegating students, especially the first ones, to their scientific departments outside Iraq, especially in developed countries, to develop skills, each according to his desire and according to the specializations in the scientific department. 2 -Cooperation between Iraqi universities and international universities by sending teachers to international universities. 3 -Developing the idea of a visiting professor to provide young universities with expertise and the latest scientific findings in the agricultural fields

1- Admissions	
Pre-requisites	Central
Minimum number of students	50 Students
Maximum number of students	100 Students



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الأستاذ الدكتور
سمير عبد علي صالح
رئيس قسم الريّ و هندسة الحدائق

٢٠١٢ / ٥ / ٢١ - ٢

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1- Teaching Institution	University of Anbar
2- University Department / Center	College of Agriculture – Department of Horticulture and Landscape Gardening
3- Course title/code	Harvesting and storing fruits
4- Programme(s) to which it contributes	1- Microsoft Word 2- Microsoft Power point 3- Microsoft Excel 4- Classroom 5- You tube
5- Modes of Attendance offered	3- theoretical material : It is given by a program classroom 4- 50% given in presence and 50% given by a program classroom
6- Semester/Year	Spring semester / 2021
7- Number of hours tuition (total)	30 hours
8- Date of production/revision of this Specification	24 – 9 -2021
9- Aims of the Course	
1- Identifying the most important strategic of storage of horticultural crops in the conditions of Iraq	
2- Studying the importance of lost of weight during storage	

3-studying the fruit ripening and relationship with plant hormones
4-studying the artificial ripening of fruits before and after harvest
5-studying the respiration of fruits and ethylene production
6-studying the chemical ingredient and Nutritional value of fruits and relationship with storage period
7-studying the harvesting , sorting, grading , packaging and storage ways of horticultural crops
8- studying the diseases that affect the horticultural crops during cold storage
9- studying the technique of flower storage

10- Learning Outcomes, Teaching ,Learning and Assessment Method

A- Knowledge and Understanding

- A1- The student should be familiar with the modern scientific methods of the harvesting , sorting, grading , packaging and storage of fruits.
- A2- The student should be know the essential requirement for storage.
- A3- The student should be know the modern theories that explain the chilling injury .
- A4- The student should be know the control atmospheric storage and storage under low pressure .
- A5- the student should be know How to store fruits as long as possible while preserving their nutritional value and quality.

B- Subject-specific skills

- B1- He has the skill to deal with modern laboratory equipment to carry out scientific research.
- B2- visiting the cold stores
- B3- student do differential experiments about storage of varies vegetables and fruits

Teaching and Learning Methods

- 1-He has the skill to deal with modern laboratory equipment to carry out scientific research .
- 2- Conduct laboratory experiments.
- 3- Direct dialogue with students by asking them questions.
- 4- Homework (writing scientific reports).
- 5- Learning through applied field practices.

Assessment methods

- 1- Monthly exams.
- 2- Rapid Exams .
- 3- Evaluation through class activity.
- 4- By preparing scientific reports and making use of information networks.
- 5- final exams.

C- thinking skills

- 1- Cultivating human values for a sense of responsibility by preserving the numbers of cold stores and increasing their numbers in his country and other countries.

- 2- Cultivating noble values and ethical dealings during agricultural work, such as honesty, love of work and sincerity in it, and to feel that the human being everywhere is his goal in terms of providing him with safe food.
- 3- Making the student feel that food production is a collective responsibility, and as an agricultural engineer, he must prepare himself for collective work in agricultural projects and stay away from narrow personal interest.
- 4- Make the student feel that the Earth is a small green village, and maintaining it is a collective human responsibility.

Teaching and Learning Methods

- 1- Through lectures.
- 2- Direct meeting with students (conversations).
- 3- Scientific trips to different agricultural work sites.
- 4- Hosting specialized professors to increase the scientific level of students.

Assessment methods

- 1- Monthly written exams.
- 2- Direct oral exams.
- 3- Through classroom and home activities.

D-General and Transferable Skills (other skills relevant to employability and personal development)

- D1-To provide the graduate student with the skills of delivering scientific lectures to farmers after graduating.
- D2- Providing the graduate student with leadership and administrative skills in order to work in scientific research centers for the agricultural sector.
- D3- Providing the graduate student with skills to transfer modern technology to the country.
- D4-Providing the student with scientific research skills to continue communicating with the latest information in the field of fruits storage abroad and trying to transfer what is new and useful to the country.

1- Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
First	2	Harvesting and storing fruits	The economic storage importance and the cold storage importance for fruit	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Second	2	Harvesting and storing fruits	The loss of weights' fruits through the storage	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Third	2	Harvesting and storing fruits	Chemical ingredients of fruits	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourth	2	Harvesting and storing fruits	The stages of growing fruits	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifth	2	Harvesting and storing fruits	Plants' hormones and relationship with ripening	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Sixth	2	Harvesting and storing fruits	Fruits respiration	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Seventh	2	Harvesting and storing fruits	The role of ethylene in ripening	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Eighth	2	Harvesting and storing fruits	Storage methods	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Ninth	2	Harvesting and storing fruits	Precooling	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Tenth	2	Harvesting and storing fruits	Control atmosphere storage	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Eleven	2	Harvesting and storing fruits	Hypobaric storage	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples

Twelfth	2	Harvesting and storing fruits	Chilling injury	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Thirteen	2	Harvesting and storing fruits	Artificial ripening of fruits	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourteenth	2	Harvesting and storing fruits	Post harvest handling	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifteen	2	Harvesting and storing fruits	flower picking and their storage	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples

1- Infrastructure	
<p>Required reading:</p> <ul style="list-style-type: none"> - CORE TEXTS - COURSE MATERIALS - OTHER 	<ul style="list-style-type: none"> • عناية ووخزن الفواكه والخضر تأليف د.عبد الاله مخلف و د.عدنان ناصر مطلوب و د.يوسف حنا يوسف • فلسجة الحاصلات البستنية بعد الحصاد تأليف د. عبد الاله مخلف • الحاصلات البستنية حفظها والعناية بها تأليف د.فاروق جمعة و د.عبد الاله مخلف • Recent articles from internet and scientific magazine • Iraqi Journal of Agricultural Science • Iraqi Virtual Science Library
Special requirements	Laboratory equipment
Community-based facilities (include for example, guest Lectures , internship , field studies)	<p>1-Delegating students, especially the first ones, to their scientific departments outside Iraq, especially in developed countries, to develop skills, each according to his desire and according to the specializations in the scientific department.</p> <p>2 - Cooperation between Iraqi universities and international universities by sending teachers to international universities.</p> <p>3- Developing the idea of a visiting professor to provide young universities with expertise and the latest scientific findings in the agricultural fields</p>

1- Admissions	
Pre-requisites	Central
Minimum number of students	50 Students
Maximum number of students	100 Students

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1- Teaching Institution	University of Anbar
2- University Department / Center	College of Agriculture – Department of Horticulture and Landscape Gardening
3- Course title/code	Deciduous fruits ¹
4- Programme(s) to which it contributes	1- Microsoft Word 2- Microsoft Power point 3- Microsoft Excel 4- Classroom 5- You tube
5- Modes of Attendance offered	1- theoretical material : It is given by a program classroom 2- 50% given in presence and 50% given by a program classroom
6- Semester/Year	Autumn / 2019
7- Number of hours tuition (total)	30 hours
8- Date of production/revision of this Specification	15-5-2019
9- Aims of the Course	
1- Identifying the most important strategic deciduous fruit varieties growing in the conditions of Iraq	
2- Identify the appropriate environmental conditions for the growth of deciduous fruits	

3- Learn about the most important ways to reproduce grapes

4- Learn about the most important methods of pruning and breeding deciduous fruits

10- Learning Outcomes, Teaching ,Learning and Assessment Method

A- Knowledge and Understanding

- 1- The student should be familiar with the science of growing deciduous fruits.
- 2- The student must be a student of the modern image of planting fruit trees.
- 3- The student should be familiar with the propagation of plants using modern methods.
- 4- The student should be familiar with the environmental conditions.
- 5- Prepare it again.
- 6- He has knowledge of other supporting sciences such as physiology, fruit storage, anatomy and plant classification.

- 1- He has the skill to deal with modern laboratory equipment to carry out scientific research.
- 2- He has the skills to work in the field.
- 3- He has the skill in how to reach the best way to propagate fruit trees.

Teaching and Learning Methods

- 1-He has the skill to deal with modern laboratory equipment to carry out scientific research .
- 2- Conduct laboratory experiments.
- 3- Direct dialogue with students by asking them questions.
- 4- Homework (writing scientific reports).
- 5- Learning through applied field practices.

Assessment methods

- 1- Monthly exams.
- 2- Rapid Exams .
- 3- Evaluation through class activity.
- 4- By preparing scientific reports and making use of information networks.
- 5- final exams.

C- thinking skills

- 1- Cultivating human values for a sense of responsibility by preserving the areas planted with grapes and increasing their areas in his country and other countries.
- 2- Cultivating noble values and ethical dealings during agricultural work, such as honesty, love of work and sincerity in it, and to feel that the human being everywhere is his goal in terms of providing him with safe food.

3- Making the student feel that food production is a collective responsibility, and as an agricultural engineer, he must prepare himself for collective work in agricultural projects and stay away from narrow personal interest.

4- Make the student feel that the Earth is a small green village, and maintaining it is a collective human responsibility.

Teaching and Learning Methods

1- Through lectures.

2- Direct meeting with students (conversations).

3- Scientific trips to different agricultural work sites.

4- Hosting specialized professors to increase the scientific level of students.

Assessment methods

1- Monthly written exams.

2- Direct oral exams.

3- Through classroom and home activities.

D-General and Transferable Skills (other skills relevant to employability and personal development)

D1-To provide the graduate student with the skills of delivering scientific lectures to farmers after graduating.

D2- Providing the graduate student with leadership and administrative skills in order to work in scientific research centers for the agricultural sector.

D3- Providing the graduate student with skills to transfer modern technology to the country.

D4- Providing the student with scientific research skills to continue communicating with the new information and trying to transfer what is new and useful to the country.

1- Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
First	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Economical importance for fruit tree	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Second	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Factors effecting on fruit growth and production	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Third	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Methods of fruit propagation	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Stock for fruit trees	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifth	2	First month exam			
Sixth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Classification of fruit trees	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Seventh	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Dormancey and rest period	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Eighth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Bud development	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Ninth	2	1- Computer 2-Modern mobile device	Pollination and fertilization	Electronic lectures and practical application in	Questions, discussions and examples

		3-Observations and field applications		laboratories and fields	
Tenth	2	Second month exam			
Eleven	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Sterility and Incompatibility	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Twelfth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Fruit set and development	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Thirteen	2	1- Computer 2-Modern mobile device 3-Observations and field applications	Fruit thinning (perpure, kinds, methods)	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fourteenth	2	1- Computer 2-Modern mobile device 3-Observations and field applications	flower and fruit abscission	Electronic lectures and practical application in laboratories and fields	Questions, discussions and examples
Fifteen	2	Third month exam			

1- Infrastructure	
Required reading: - CORE TEXTS - COURSE MATERIALS - OTHER	1- Deciduous fruit production 1 1980. Jabbar Hassan Al-Nuaimi. Albasrah university. 2- Deciduous fruit production 2 1980. Jabbar Hassan Al-Nuaimi. Albasrah university.
Special requirements	(include for example workshops, periodicals, IT software, websites)
Community-based facilities (include for example, guest Lectures , internship , field studies)	-

1- Admissions	
Pre-requisites	-
Minimum number of students	20 Students
Maximum number of students	50 Students



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الأستاذ الدكتور
سمير عبد علي صالح
 رئيس قسم البستنة وهندسة الحدائق

٢٠١٢ / ١١ / ٢٤

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1- Teaching Institution	University of Anbar
2- University Department / Center	College of Agriculture – Department of food science
3- Course title/code	Post harvest physiology
4- Programme(s) to which it contributes	Research areas of storage and preservation of fruits and vegetables
5- Modes of Attendance offered	1- theoretical material : It is given by a program classroom 2- 50% given in presence and 50% given by a program classroom
6- Semester/Year	1 st semester / 2021
7- Number of hours tuition (total)	70 hours
8- Date of production/revision of this Specification	25-9-2021
9- Aims of the Course	
1- The ability to understand the methods, tools and ways of storing and preserving fruits and vegetables	
2- Increasing and raising the ability and skills of primary school students in how to deal with the correct technical methods for preserving and storing fruits and vegetables	
3- Develop students' abilities to use these skills in agricultural experiments and practical reality	

10- Learning Outcomes, Teaching ,Learning and Assessment Method
A- Knowledge and Understanding - Understand how to carry out a chain of crop handling operations and maintain it as long as possible - Personal ability to use the available storage methods to preserve the crop
B- Subject-specific skills - Using different types of storage methods in preserving the crop and comparing and finding -the difference between them. The use of these treasury methods in carrying out treasury experiments in practice
Teaching and Learning Methods
1. Theoretical lectures 2. Laboratory practical applications 3. Implementation of storage experiments on different crops 4. Reports on the results of storage experiments
Assessment methods
- Semester exams 30% - the practical side 20% -Final exam 50%
C- thinking skills
-Students' ability to determine the best methods of storage in the practical aspect -Determining and recommending the best ways and means of preserving the crop
Teaching and Learning Methods
1- Through lectures. 2- Direct meeting with students (conversations). 3- Scientific trips to different agricultural work sites. 4- Hosting specialized professors to increase the scientific level of students.
Assessment methods
1- Monthly written exams. 2- Direct oral exams. 3- Through classroom and home activities.
D-General and Transferable Skills (other skills relevant to employability andpersonal development)
1. The use of Alkhaznip methods in the practical economic aspect. 2. Employing these storage methods in the agricultural sector. 3. Take advantage of the available storage and crop preservation methods in directing investment on it

1- Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	TeachingMethod	Assessment Method
First	5	Understand the importance of fruit storage	The economic importance of storage	White board	Questions, discussions and examples
Second	5	Understand the mechanism and types of respiration in fruits	Breathing in the fruits	White board	Questions, discussions and examples
Third	5	Understand the types of hormones and their effect	The effect of hormones on fruits	White board	Questions, discussions and examples
Fourth	5	Understand the methods and measures of maturity	Foundations and standards of growth and maturity	White board	Questions, discussions and examples
Fifth		First month exam			
Sixth	5	Understand the types of chemical compounds	The chemical composition of the fruits	White board	Questions, discussions and examples
Seventh	5	Learn about the different types of cooling methods	Gambling cooling after picking	White board	Questions, discussions and examples
Eighth	5	Understand the different types of storage methods	cold storage	White board	Questions, discussions and examples
Ninth	5	Understanding the modified storage mechanism	modified storage	White board	Questions, discussions and examples
Tenth		Second month exam			
Eleven	5	Understand the mechanism of fermentation storage	Almkhalkhal storage	White board	Questions, discussions and examples
Twelfth	5	Understand the methods of maturation	industrial ripening	White board	Questions, discussions and examples
Thirteen	5	Understand the types of transactions	Treating the fruits after picking	White board	Questions, discussions and examples

Fourteenth	5	Understand the different types of flower storage methods	Picking and storing flowers	White board	Questions, discussions and examples
Fifteen		Third month exam			

1- Infrastructure	
Required reading: - CORE TEXTS - OTHER	1- Physiology of horticultural crops after harvest Dr. Abdul Ilah Mikhlif Al-Ani 2- Horticultural crops, their preservation and care Dr. Farouk Farag Juma Dr. Abdul Ilah Mikhlif Al-Ani 3- Care and storage of fruits and vegetables Dr. Abdul-Ilah Mikhlif Al-Ani Dr. Adnan Nasser is wanted Dr. Youssef Hanna Youssef
Special requirements	(include for example workshops, periodicals, IT software, websites)
Community-based facilities (include for example, guest Lectures , internship , field studies)	-

1- Admissions	
Pre-requisites	-
Minimum number of students	10-15 Students
Maximum number of students	50 Students



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الأستاذ الدكتور
سمير عبد علي صالح
رئيس قسم البستنة وهندسة الحدائق

٢٠١٢ / ٥ / ٢١ - ٢

Course description form

Reviewing the performance of higher education institutions ((review of the academic program))

**This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve
Demonstrating whether he has made maximum use of available learning opportunities. It must be linked to the description the program.**

University of Anbar	1. The educational institution
College of Agriculture - Horticulture and Landscape Gardening	2. University Department / Center
Nurseries and Plant Propagation	3. Name/Code
1- Microsoft Word 2- Microsoft Power point 3- Microsoft Excel 4- Google Classroom 5- YouTube 6- Google Meet	4. Programs in which he enters
1. Theoretical subject: It is given through the Classroom program 2. Practical subject: 50% is given in attendance and 50% is given through the Classroom	5. Available forms of attendance.
Spring / 2020	6. Semester / Year
75 hours	7. Number of study hours (total)
2020-3-1	8. Date of preparation of this description
9. Course objectives:	

Introducing the student to the basics of global plants propagation and the facility for propagation of plants in greenhouses, glass houses, cold and heated beds, and others.

10. Learning outcomes and methods of teaching, learning and assessment

A. Cognitive goals:

- 1** - Introducing the student to the basics of global plant propagation and plant propagation facility.
- 2** - A brief history of the initiation and evolution of plant propagation.
- 3** - Introduce the student to the methods of vegetative propagation of plants and the cellular foundation of seeds propagation.

B. Skills objectives of the program:

- 1** - Introducing the student to the types of nurseries, the division of nurseries.
- 2** - Field visits to facilities used for plant propagation, greenhouses, lath houses, cold and heated beds.
- 3** - Introduce the student to the media used in the propagation and development of horticulture plants.
- 4** - A visit to the some government or private nurseries, according to availability.
- 5** - A visit to the tissue culture laboratory.

Teaching and learning methods

- 1**- Follow the lecture style with the use of modern means of presentation.
- 2**- Conducting laboratory experiments.
- 3**- Direct dialogue with students by asking them questions.
- 4**- Homework (writing scientific reports).
- 5**- Learning through applied field practices.

Evaluation methods

- 1- Monthly exams.
- 2- Quick exams (Quiz).
- 3- Assessment through class activity.
- 4- By preparing scientific reports and making use of information networks.
- 5- Final exams.

C- thinking skills

- 1- Make the student feel the importance of plant propagation.
- 2- Cultivating human values for a sense of responsibility to preserve and increase the horticultural areas in his country and other countries through the use of plant propagation.
- 3- Cultivating noble values and moral dealings during agricultural work, such as honesty, love of work, and sincerity in it, and to feel that man everywhere is his goal in terms of providing safe food for him.
- 4- Making the student feel that food production is a collective responsibility, and as an agricultural engineer, he must prepare himself for collective work in agricultural projects and stay away from narrow personal interest.
- 5- Making the student feel that the earth is a small green village, and preserving it is a collective human responsibility.

Learning and teaching methods

- 1- Through lectures.
- 2- Direct meeting with students (conversations).
- 3- Scientific trips to different agricultural work sites.
- 4- Hosting specialized professors to increase the scientific level of students.
- 5- Assigning students to conduct research and reports.
- 6- Assigning students to go to the library and collect references on scientific topics.

Evaluation methods

- 1-Monthly written exams.
- 2-Direct oral exams.
- 3-Through classroom and home activities.
- 4-Evaluation of students about their participation in research and scientific reports.
- 5-Preparing reports after completing the period of practical application to know the extent to which students are able to diagnose problems and how to find solutions to them.

D - General and transferable skills (other skills related to employability and personal development).

1-To provide the graduate student with the ability to maintain increased production, and to convince those around him of the necessity of perpetuating the development of the plant through the availability of the elements needed by the plant to supply the country with it.

2- To provide the graduate student with the skills of giving scientific lectures to farmers after graduating.

3- Providing the graduate student with leadership and administrative skills in order to work in scientific research centers for the agricultural sector.

4- Providing the graduate student with skills to transfer modern technology to the country.

5- Providing the student with scientific research skills to continue communicating with the latest information in the field of horticultural sciences abroad and trying what is new and useful to the country.

11. Course Structure

Method of assessment	Method of instruction	Unit/course name or subject	Learning Outcomes Required	Hours	Week
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	<p>Theoretical: A brief history of the initiation and evolution of plant propagation</p> <p>Practical: Types of nurseries</p>	<p>1- Lectures</p> <p>2- the computer</p> <p>3- A modern mobile device</p> <p>4- Observations and field application</p>	5	The first
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	<p>Theoretical: Sexual propagation (propagation by seeds)</p> <p>Practical: Facilities used for plant propagation (greenhouses, lath houses, cold and heated beds)</p>	<p>1- Lectures</p> <p>2- the computer</p> <p>3- A modern mobile device</p> <p>4- Observations and field application</p>	5	Second
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	<p>Theoretical: Treatments that stimulate seeds germination</p> <p>Practical: Agriculture media used in the growth and propagation of horticulture plants</p>	<p>1- Lectures</p> <p>2- the computer</p> <p>3- A modern mobile device</p> <p>4- Observations and field application</p>	5	Third

Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	Theoretical: The cellular basis of seeds propagation Practical: Propagation by seeds	1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application	5	Fourth
exam first month				2	Fifth
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	Theoretical: Asexual propagation (Vegetative propagation) Practical: Individualization and acclimatization of seedlings	1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application	5	Sixth
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	Theoretical: Methods of vegetative propagation, propagation by cuttings Practical: How to prepare the cuttings, practical applications for propagation by cuttings	1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application	5	seventh
Questions, discussions and examples	electronic lectures and practical application in	Theoretical: Physiological and anatomical foundations of	1- Lectures 2- the computer 3- A modern mobile device	5	Eighth

	laboratories and fields.	asexual propagation Practical: Methods of treating cuttings to increases the rate of rooting	4- Observations and field application		
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	Theoretical: Vegetative propagation by budding Practical: Individualization , planting seedlings in permanent place	1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application	5	ninth
Exam second month				2	The tenth
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	Theoretical: Specifications of rootstocks, methods to propagation rootstocks Practical: Methods of propagation by budding	1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application	5	eleventh
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	Theoretical: Vegetative propagation by grafting, and layering Practical: Methods of propagation by	1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application	5	twelfth

		grafting and layering			
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	<p>Theoretical: Micro propagation, propagation by tissue culture</p> <p>Practical: A visit to some government or private nurseries</p>	<p>1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application</p>	5	Thirteenth
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	<p>Theoretical: Methods of micropropagation</p> <p>Practical: A visit to the plant tissue culture laboratory</p>	<p>1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application</p>	5	fourteenth
Exam third month				5	Fifteenth

12. Infrastructure	
<p>1- المشاتل واكثار النباتات البستانية, 1989 , أ.د. محمد عباس سلمان. 2- Plant Propagation, Principle and Practices , 2006 , Hartmann et al.</p>	<p>Required readings</p> <ul style="list-style-type: none"> • Course books • Other
<p>PC Laboratory supplies</p>	<p>Special requirements</p>
-	<p>Social Services</p>

13. Admissions	
-	<p>Prerequisites</p>
<p>Twenty students</p>	<p>Less number of students</p>
<p>Fifty students</p>	<p>The largest number of students</p>



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الأستاذ الدكتور
سمير عبد علي صالح
رئيس قسم الريّ و هندسة الصرف الصحيّ

٢٠١٢ / ٥ / ٢١ - ٢

Course description form

Reviewing the performance of higher education institutions ((review of the academic program))

**This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve
Demonstrating whether he has made maximum use of available learning opportunities. It must be linked to the description the program.**

University of Anbar	14. The educational institution
College of Agriculture - Horticulture and Landscape Gardening	15. University Department / Center
Plant Growth Regulators	16. Name/Code
1- Microsoft Word 2- Microsoft Power point 3- Microsoft Excel 4- Google Classroom 5- YouTube 6- Google Meet	17. Programs in which he enters
1. Theoretical subject: It is given through the Classroom program 2. Practical subject: 50% is given in attendance and 50% is given through the Classroom	18. Available forms of attendance.
Autumn / 2020	19. Semester / Year
75 hours	20. Number of study hours (total)
2020-3-1	21. Date of preparation of this description

22. Course objectives:

Introduce students to hormones and plant growth regulators, their types, and the common relationship between them in their synergistic or antagonistic effects, as well as their physiological effects that contribute to a large extent in plant growth and development.

23. Learning outcomes and methods of teaching, learning and assessment

C. Cognitive goals:

- 1** - Enable students to know the terms related to plant growth regulators and their horticultural and field applications.
- 2** - Recognize the relationship of growth regulators with the environmental factors surrounding the plant and their interaction with the growth stage and anatomical structure.
- 3** - Recognize the biosynthetic pathways of plant hormones and the physiological effects on plant growth and development.
- 4** - Field applications of plant growth regulators and their uses in the field of plant tissue culture technology.

D. Skills objectives of the program:

- 1** - Introduce students to how to prepare and use different concentrations of plant growth regulators.
- 2** - Giving students introductory examples of the uses of plant growth regulators and their physiological effects.
- 3** - Tissue culture, micropropagation and applications of plant growth regulators.
- 4** - Using HPLC to extract, isolate and purify plant hormones.

Teaching and learning methods

- 1**- Follow the lecture style with the use of modern means of presentation.
- 2**- Conducting laboratory experiments.
- 3**- Direct dialogue with students by asking them questions.
- 4**- Homework (writing scientific reports).
- 5**- Learning through applied field practices.

Evaluation methods

- 1- Monthly exams.
- 2- Quick exams (Quiz).
- 3- Assessment through class activity.
- 4- By preparing scientific reports and making use of information networks.
- 5- Final exams.

C- thinking skills

- 1- Make the student feel the importance of plant growth regulators.
- 2- Cultivating human values for a sense of responsibility to preserve and increase the horticultural areas in his country and other countries through the use of plant growth regulators.
- 3- Cultivating noble values and moral dealings during agricultural work, such as honesty, love of work, and sincerity in it, and to feel that man everywhere is his goal in terms of providing safe food for him.
- 4- Making the student feel that food production is a collective responsibility, and as an agricultural engineer, he must prepare himself for collective work in agricultural projects and stay away from narrow personal interest.
- 5- Making the student feel that the earth is a small green village, and preserving it is a collective human responsibility.

Learning and teaching methods

- 1- Through lectures.
- 2- Direct meeting with students (conversations).
- 3- Scientific trips to different agricultural work sites.
- 4- Hosting specialized professors to increase the scientific level of students.
- 5- Assigning students to conduct research and reports.
- 6- Assigning students to go to the library and collect references on scientific topics.

Evaluation methods

- 1-Monthly written exams.
- 2-Direct oral exams.
- 3-Through classroom and home activities.
- 4-Evaluation of students about their participation in research and scientific reports.
- 5-Preparing reports after completing the period of practical application to know the extent to which students are able to diagnose problems and how to find solutions to them.

D - General and transferable skills (other skills related to employability and personal development).

1-To provide the graduate student with the ability to maintain increased production, and to convince those around him of the necessity of perpetuating the development of the plant through the availability of the elements needed by the plant to supply the country with it.

2- To provide the graduate student with the skills of giving scientific lectures to farmers after graduating.

3- Providing the graduate student with leadership and administrative skills in order to work in scientific research centers for the agricultural sector.

4- Providing the graduate student with skills to transfer modern technology to the country.

5- Providing the student with scientific research skills to continue communicating with the latest information in the field of horticultural sciences abroad and trying what is new and useful to the country.

24. Course Structure

Method of assessment	Method of instruction	Unit/course name or subject	Learning Outcomes Required	Hours	Week
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	Theoretical: Terms related to plant growth regulators and their applications Practical: Preparation and use of different concentrations of PGR.	1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application	5	The first
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	Theoretical: Auxins Practical: Practical examples of the use of PGR.	1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application	5	Second
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	Theoretical: Gibberellins Practical: Practical examples of the use of PGR.	1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application	5	Third
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	Theoretical: Cytokinin Practical: Conversion systems and units of measurement	1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application	5	Fourth
exam first month				2	Fifth

Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	Theoretical: Ethylene Practical: System of foliar application	1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application	5	Sixth
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	Theoretical: ABA Practical: Field applications of the foliar spray system	1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application	5	seventh
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	Theoretical: Plant Growth Retardants Practical: Bioassays for plant growth regulators	1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application	5	Eighth
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	Theoretical: Brassinosteroids Practical: The pH of the solution and its interaction with PGR	1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application	5	ninth
Exam second month				2	The tenth
Questions, discussions and examples	electronic lectures and practical application in	Theoretical: Salicylic Acid Practical:	1- Lectures 2- the computer 3- A modern mobile device	5	eleventh

	laboratories and fields.	Application on the physiological effects of PGR	4- Observations and field application		
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	Theoretical: Jassmonic Acid Practical: Application on the physiological effects of PGR	1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application	5	twelfth
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	Theoretical: Poly Amines Practical: Tissue culture, micropropagation and applications of PGR	1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application	5	Thirteenth
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields.	Theoretical: The interaction between PGR, plant growth stage, anatomical structure and environmental factors Practical: Using HPLC to extract, isolate and purify plant hormones T	1- Lectures 2- the computer 3- A modern mobile device 4- Observations and field application	5	fourteenth
Exam third month				5	Fifteenth

25. Infrastructure	
<p>1- منظمات النمو النباتية – تطبيقاتها واستعمالاتها البستنية, 2014 , أ.د. مكي علوان الخفاجي.</p> <p>2- Davies, H. ,2004 ,Plant Hormones</p>	<p>Required readings</p> <ul style="list-style-type: none"> • Course books • Other
<p>PC Laboratory supplies</p>	<p>Special requirements</p>
<p>-</p>	<p>Social Services</p>

26. Admissions	
-	Prerequisites
Twenty students	Less number of students
Fifty students	The largest number of students



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الأستاذ الدكتور
سمير عبد علي صالح
رئيس قسم البستنة وهندسة الحدائق

٢٠١٢ / ٧ / ٢١ - ٢

Course Description Form

Reviewing The Performance of Higher Education institutions ((Review of The Academic Program))

This course description provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve Demonstrating whether he has made maximum use of available learning opportunities. It must be linked to the description the program.

University of Anbar	27. The educational institution
College of Agriculture - Horticulture and Landscaping.	28. University Department / Center
Evergreen Fruits	29. Name/Code
1- Microsoft Word 2- Microsoft Power point 3- Microsoft Excel 4- Classroom 5- Youtube	30. Programs in which he enters
1. Theoretical subject: It is given through the Classroom program. 2. Practical subject: 50% is given in attendance and 50% is given through the Classroom.	31. Available forms of attendance.
Autumn 2020	32. Semester / Year
30 hours	33. Number of study hours (Total)
30-11-2020	34. Date of preparation of this description
35. Course objectives:	
A. Introducing the importance of types of evergreen fruits, methods of their propagation and care, and the possibility of expanding their cultivation.	
B-interest productivity and the development of sustainable agriculture fruit evergreen.	

C. knowledge of climatic environment for each type of fruit and methods to adapt to the existing climate in Iraq.

D-attention on how to create sustainable green orchards and dimensions for each type of agriculture with the identification of water and fertilizer requirements for each type of fruit sustainable green.

36. .Learning outcomes and methods of teaching, learning and assessment:

Cognitive goals:

1. The student recognizes the most important fruits of sustainable types that can be grown in Iraq.
2. The student should identify the methods of sexual and vegetative propagation for each type of fruits.
3. The student should identify the appropriate climatic factors (temperature, lighting, humidity, etc.).
4. The student recognizes the water and fertilizer requirements for each type of fruits.

Skills objectives of the program:

1. Students learn science production technology of evergreen fruits of scientific and applied agricultural terms .
2. The student's ability to understand and evaluate the adaptation of sustainable types of fruit with the climatic factors prevailing in Iraq.
3. Methods of education student propagation methods (grafting, budding, cutting propagation and tissue culture.
4. Identify the most important pests and insects that infect evergreen fruit trees.

Teaching and learning methods:

1. Follow the lecture style with the use of modern means of presentation.
2. Conducting laboratory experiments.
3. Direct dialogue with students by asking them questions.
4. Homework (writing scientific reports.
5. Learning through applied field practices.

Evaluation methods:

1. Monthly exams.
2. Quick exams.(Quiz).
3. Assessment through class activity.
4. By preparing scientific reports and making use of information networks.
5. Final exams.

Thinking skills:

1. To enhance the capacity of students to understand the importance of studying fruit types and methods propagate.
2. Enhance the student's ability to sense of responsibility for the attention of the cultivation of different types of fruit trees .
3. Instilling noble values during agricultural work, such as honesty, love of work and sincerity in it, and to feel that man everywhere is his goal in terms of providing safe food for him.
4. Preparing the student for group work, not individual work, to increase the area of orchards and their spread over vast areas of our beloved homeland..

Learning and teaching methods

1. Through lectures.
2. Direct meeting with students (conversations).
3. Scientific trips to different agricultural work sites.
4. Hosting specialized professors to increase the scientific level of students.

Evaluation methods

1. Monthly written exams.
2. Direct oral exams.
3. Through classroom and home activities.

General and transferable skills (other skills related to employability and personal development).

1. Strengthen the ability of the student to cultivate fruit and propagation of evergreen fruits.
2. Enhancing the student's ability and self-confidence about dialogue and discussion, and the ability to give lectures at scientific symposia and conferences .
3. Enhancing the capabilities and skills of students in order to work in scientific research centers for the agricultural and industrial sectors.
4. Enhance the student's ability to understand the problems of the agricultural sector and find solutions to them.
order to work in scientific research centers for the agricultural sector.
5. Development of scientific research skills of the student to communicate with new information in the horticultural field of science abroad and try what is new and useful to the country.

37. .Course Structure

Method of assessment	Method of instruction	Unit/course name or subject	Learning Outcomes Required	Hours	Week
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields	importance of evergreen fruit trees, and identify the climatic division of fruit trees.	1.the computer 2. A modern mobile device 3. Field observations.	5	First week
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields	Identify the citrus genus and the divisions of each genus according to the species it contains.	1.the computer 2. A modern mobile device 3. Field observations.	5	Second week
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields	Identifying the citrus genus and the divisions of each genus according to the species it contains	1.the computer 2. A modern mobile device 3. Field observations.	5	Third week
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields	nutritional value, climatic conditions, plant divisions and internal and external factors	1.the computer 2. A modern mobile device 3. Field observations.	5	Fourth week
Questions, discussions and examples	electronic lectures and practical application in	Climatic factors affecting citrus trees, methods of protection from temperature	1.the computer 2. A modern mobile device 3. Field observations.	5	Fifth week

	laboratories and fields	damage and methods of propagation			
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields	Origins of citrus, crop service operations, pests and diseases of citrus trees.	1.the computer 2. A modern mobile device 3. Field observations.	5	Sixth week
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields	Olives, the original habitat, spread, and the appropriate environment for the spread of olive trees and the biology of flowers	1.the computer 2. A modern mobile device 3. Field observations.	5	Seventh week
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields	Specifications of the soil in which olive trees are grown and the methods of propagation	1.the computer 2. A modern mobile device 3. Field observations.	5	Eighth week
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields	Obstacles to olive tree cultivation, crop service operations, pollination and contract.	1.the computer 2. A modern mobile device 3. Field observations.	5	Ninth week
Questions, discussions and examples	electronic lectures and practical application in	Banana, the original home, species, suitable environment for cultivation,	1.the computer 2. A modern mobile device 3. Field observations.	5	Tenth week

	laboratories and fields	agricultural operations in banana fields			
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields	Pineapple, the original home, the appropriate environment, climatic conditions, pollination and nodes, and methods of reproduction	1.the computer 2. A modern mobile device 3. Field observations.	5	Eleventh week
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields	Mango, origin, morphological description, environmental conditions, flowering, , pollination and fruit set	1.the computer 2. A modern mobile device 3. Field observations.	5	Twelveth week
Questions, discussions and examples	electronic lectures and practical application in laboratories and fields	Mango, origin, morphological description, environmental conditions, flowering, , pollination and fruit set propagation methods	1.the computer 2. A modern mobile device 3. Field observations.	5	Thirteenth week
Questions, discussions and examples	practical application in laboratories and fields	Christ's thorn, morphological description and propagation .methods	1.the computer 2. A modern mobile device 3. Field observations.	5	Fourteenth week

Questions, discussions and examples	electronic lectures and practical application in laboratories and fields	Exam, and visit to one of the evergreen orchards and propagation nurseries.	1.the computer 2. A modern mobile device 3. Field observations.	5	Fifteenth week
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12. Infrastructure	
<p>1. Evergreen fruit. 1990. Dr. Makki Alwan and Alaa Abdel Razzaq.</p> <p>2. Production of evergreen fruits. 1991. Dr. Daoud Abdullah Daoud and Jawad Thanoun Agha.</p> <p>3. Recent scientific research.</p> <p>4. Recent articles from the Internet and from specialized scientific journals.</p>	<p>:Required readings</p> <ul style="list-style-type: none"> ▪ Course books ▪ Others
<p>1.computer (laptop).</p> <p>2. Propagating and grafting tools (grafting knife, grafting tape, pruning shears).</p>	Special requirements

12 .Acceptance	
-	Prerequisites
20	Less number of students
52	The largest number of students



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الأستاذ الدكتور
سمير عبد علي صالح
رئيس قسم البستنة وهندسة الحدائق

٢٠١٢ / ٥ / ٢١ - ٢