Republic of Iraq
Ministry of Higher Education
and Scientific Research
Southern Technical University
Quality Assurance and
Academic Performance

Academic Program and Course Description Form

For the academic year 2023-2024

University Name : Southern Technical University

College Name: Technical College / Shatrah

Scientific Department: Department of Tissue Culture Techniques and Medicinal Plants

Academic Program Name : Bachelor of Tissue Culture Techniques and Medicinal Plants

Final Certificate Name : Bachelor of Tissue Culture Techniques and Medicinal Plants

Academic System: Semester

Date of preparation of the description : 30/3/2024

File filling date : 30/3/2024

Department Head: : Assist. Prof .Dr. Hussein Razzaq

Date: 22.04.2024

signature:

Associate Dean: Prof. Dr. Mohammad Saeed Harran

Date:

signature:

11/4/2024

Check the file before

Department of Quality Assurance and University Performance

Name of the Director of Quality Assurance and University Performance Department : Rabab Mutashar Naima

Date : 11/4/2024

Signature:

Dean's endorsement

Assistant Prof. Adnan Alwan

Dean's Agency

Academic Program Description

1-Program Vision
Expanding the base of technical education and its modern applications in the field of agriculture and its relationship with various fields of development
2- Program Mission
1-Openness to society in the field of agriculture and activating relations with the private sector in scientific consultations, training and technical qualification. **2- Setting future plans for the development of educational and training curricula and graduating technical cadres in the field of tissue culture.** **3- Focusing on scientific research between academics in the department and staff to develop plans to overcome problems in the fields in the field and in practice.** **4-The use of computer technologies and the Internet in education and training**
3 -Program Objectives
The department aims to prepare technical staff familiar with technical knowledge in the field of improving and propagating economic plants in tissue agriculture as an alternative to saving many plants and varieties that suffer from the difficulty of natural growth.
4-Program accreditation
There isn't any
5-Other external influences
Laboratories, field field, library, Internet, agricultural and industrial institutions and agricultural projects

1- Program Structure				
Program Structure	**Number of Courses**	**Unit of Study**	**Percentage**	**Notes**
Requirements of the institution				
College Requirements	**23**	**84**		
Department Requirements	**15**	**40**		
Summer Training	**There is**	**There is**		
Other				

7- Program Description

Year/Level	Course Code or Course	Course Name	Credit Hours (Autumnal Semester)			
			Theoretical	Practical	Total	Number of Units
2023-2024 /Third		Care and storage of medicinal plants	1	2	**3**	**2**
2023-2024 /Third		Aromatic and stimulant plants/2	1	**4**	**5**	**3**
2023-2024 /Third		Protected cultivation techniques	1	**4**	**5**	**3**
2023-2024 /Third		Analytical chemistry /2	1	2	**3**	**2**
2023-2024 /Third		Plant nutrition	1	2	**3**	**2**
2023-2024 /Third		Prescription drugs	2	**4**	**6**	**3**
2023-2024 /Third		Environmental pollution	1	2	**3**	**2**
2023-2024 / Third		English /3	2	--	**2**	**2**
2023-2024 / Third		Total	10	20	**30**	**20**

7- Program Description

Year/Level	Course Code or Course	Course Name	Credit Hours (Spring Semester)			
			Theoretical	Practical	Total	Number of Units
2023-2024 /Third		Ornamental plants	2	2	4	3
2023-2024 /Third		Tissue Culture 1	2	4	6	4
2023-2024 /Third		Plant Growth Regulators	2	2	4	3
2023-2024 /Third		Organic Agriculture	2	2	4	3
2023-2024 /Third		Seminars	--	2	2	1
2023-2024 /Third		biochemistry	2	2	4	3
2023-2024 /Third		Design and analysis of experiments/1	1	4	5	3
2023-2024 / Third		Total	11	18	29	20

8- Expected learning outcomes of the program

A. Knowledge

1- Delivering the acquired information related to the agricultural field to the beneficiaries and linking it to other sciences to reach a solution to the problems related to various agricultural operations .

2-Acquiring and demonstrating proficiency in specialized laboratory skills applicable in botanical research .

3-Proving the ability to analyze experimental measurements related to the specialization of tissue culture and medicinal plants and the accuracy of preparing reports on observations and analysis.

4- Communicating and discussing scientific concepts, experimental results and analytical arguments clearly and briefly orally and in writing.

5-Develop appropriate technology to solve farmers' problems and encourage research aimed at progress in all disciplines for long-term technical development.

6-Attracting qualified and talented scientific cadres, not as a result of scientific research in the college.

7- Delivering knowledge and technology to farmers and farmers on a larger scale by training workers and officials of the Department of Agriculture on modern developments in all fields through specialists.

B. Skills

1-Conducting laboratory and field experiments, as well as conducting statistical analyzes and interpreting data results.

2-Preparation and submission of agricultural research reports.

3-Communicate with professionals and non-professionals involved in agricultural cooperation and the private sector.

4 - Development and use of computer programs in the fields of design and analysis of agricultural experiments.

C. Values

1-Applying knowledge in agricultural sciences in order to address agricultural problems.

2-Design and implementation of agricultural scientific experiments, as well as analysis and interpretation of data.

3-Designing an integrated or partial agricultural system or following a treatment system to meet the required agricultural needs within realistic constraints related to the economy, environment, health and safety.

4- Demonstrating the creative and innovative ability in plant protection and finding agricultural solutions in the field of formulating some designs related to plants.

5 – Use modern techniques, skills and tools necessary for agricultural technical practices

9-Teaching and learning strategies

1- Providing students with the basics and additional topics related to the previous education outcomes of skills, to solve practical problems.

2-Applying the studied topics theoretically at the practical level.

-٣Asking students during practical lessons to conduct some applied research under the supervision of their professors.

Visiting practical laboratories by academic staff.

10. Evaluation methods

- Daily and monthly exams
-Semester exams
-Participation grades for competition questions for subjects
- Homework and Report Writing Grades

11- Faculty						
Faculty Members						
Academic Rank	**Specialization**		**Special Requirements/Skills**		**Preparation of the teaching staff**	
	year	**special**			**Angel**	**lecturer**
Professor	Soil Science and Water Resources	Microsoil Biology			Angel	
Assistant Professor	Soil Science and Water Resources	Soil physics			Angel	
teacher	Computer Science	Information Technology			Angel	
teacher	Agricultural Sciences	Agricultural mechanization			Angel	
Assistant Lecturer	Agricultural Sciences	Plant production			Angel	
Assistant Lecturer	Soil Science and Water Resources	Soil physics			Angel	
Assistant Lecturer	Plant Production Techniques	Plant diseases			Angel	
Assistant Lecturer	Agricultural Sciences and Plant Protection	Propagation and improvement of plants			Angel	
Assistant Lecturer	Life Sciences	Environment			Angel	
teacher	Microbiology	Microbiology				lecturer
Master	chemistry	chemistry				lecturer
bacheior	Medical Techniques	Medical Techniques				lecturer

Professional Development
Orientation of new faculty members
Enable the student to use self-empowerment skills -Ability to analyze and give guidance -Practical problem-solving skills -Knowledge and understanding -Teaching students from the use of plant tissue culture laboratories -Teaching students to prepare vegetable fields and conduct agricultural operations - Teaching students to grow oil crops and stimulants -Teaching students to propagate plants by modern methods, not plant propagation by tissue culture - Teaching students to propagate plants seedly and vegetatively in the vegetable canopy. -Teaching students to grow vegetables in greenhouses in protected agriculture
Professional development of faculty members
1-Diagnosis, formulation and treatment of agricultural problems. 2-Enabling students to pass job interviews. 3-Enabling students to pass professional tests organized by local, regional and international bodies. 4-Enabling students to develop continuously after graduation.
12-Acceptance Criterion
Central / according to the requirements of the Ministry of Higher Education and Scientific Research
13-The most important sources of information about the program

1-Central Library in the college
2-Internet Information Network
3-Experiences of Arabic and international universities
4.Current Curriculum

Curriculum Skills Map																			
please tick in the relevant boxes where individual Program Learning Outcomes are being assessed																			
Program Learning Outcomes																			
Year / Level	Course Code	Course Title	Core (C) Title or Option (O)	Knowledge and understanding				Subject-specific Skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development			
				A1	A2	A3	A4	B1	B 2	B 3	B4	C1	C2	C3	C4	D1	D2	D3	D4
2024 / Third	**Care and storage of medicinal plants**	**Specialist**				√				√			√				√		
2024 / Third	**Aromatic and stimulant plants/2**	**Specialist**					√			√			√				√		
2024 / Third	Protected cultivation techniques	**Specialist**				√				√			√				√		

2024 / Third	**Analytical chemistry /2**	**Specialist**				√				√			√					√	
2024 / Third	**Plant nutrition**	**Specialist**				√								√				√	
2024 / Third	**Prescription drugs**	**Specialist**					√							√				√	
2024 / Third	**Environmental pollution**	**Specialist**				√							√		√		√		
2024 / Third	**English /3**	**General**				√				√			√						
2024 / Third	Ornamental plants	**Specialist**					√			√			√						
2024 / Third	**Tissue Culture 1**	**Specialist**				√					√		√			√			
	Plant Growth Regulators	**Specialist**				√					√		√			√			
2024 / Third	**Organic Agriculture**	**Specialist**				√					√		√			√			
2024 / Third	**Seminars**	**Specialist**				√					√		√			√			
2024 / Third	**biochemistry**	**Specialist**				√					√		√			√			
2024 / Third	**Design and analysis of experiments/1**	**help**				√					√		√			√			

TEMPLATE FOR COURSE SPECIFICATION COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This course description provides a summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities .available. It must be linked to the program description

1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of tissue culture techniques and medicinal plants
3. Course title/code	Care and storage of medicinal plant
4. Program(s) to which it contributes	Mandatory
5. Modes of Attendance offered	Mandatory
6. Semester/Year	Autumn semester / third stage
7. Number of hours tuition (total)	45 hours, 1 hour theoretical + 2 practical hours
8. Date of production/revision of this Specification	20/ 3/ 2024
9. Aims of the Course: Introducing the student to scientific methods for determining dates for harvesting medicinal plants, methods of caring for them after harvest, providing the most appropriate storage conditions and reducing loss. The student will be able to identify the physiological damages that affect medicinal plants during .storage	
10.Course outcomes and methods of teaching, learning and assessment A- Cognitive goals A1- Introducing the student to the most important basic information about different plants and their methods of reproduction	

A2 - Introducing students to how to develop a botany subject so that it is able to describe and serve it in its various forms
A3 - Enable the student to know how to deal with laboratory materials and equipment

B - Skills objectives of the program
B1 - To provide the student with the skills of applying scientific methods with regard to the management of botany
B2 - Training the student on the methods of plant reproduction and methods of classifying them to reach high productivity
B 3 - To provide the student with the necessary skills to conduct laboratory tests related to botany and how to give appropriate scientific judgments

Teaching and learning methods
Giving scientific and theoretical lectures through displays, powerpoints, slides, microscopes, experiments in examining plant samples, using various laboratory equipment and equipment, and a wooden canopy

Evaluation methods
Take daily quick exams Quizzes
Conducting monthly exams
Conducting semester and final exams

C- Emotional and value objectives
C1 - To enable the student to apply theoretical information in a practical way
C 2 - Develop the patriotic spirit of the student to increase production in quantity and quality
C 3 - Instilling the concept of community service and the best way to deal with the simple strata of the society, the peasants and farmers
C4 - Developing the ethics of the profession of agricultural engineer among students by following the correct professional behavior

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	1 theoretical 2 practical	My knowledge and skills	The importance of storage, stages of growth and maturity of .medicinal plants	Lecture and practical lesson	Questions and answers mini practical lesson
The second	1 theoretical 2 practical	My knowledge and skills	Composition and structure of fruits and vegetables and their .nutritional value	Lecture and practical lesson	ask questions
the third	1 theoretical 2 practical	My knowledge and skills	Scale for determining the maturity of .medicinal plants	Lecture and practical lesson	Listen and ask questions
the fourth	1 theoretical 2 practical	My knowledge and skills	Physiological and chemical changes that occur to plants during .the storage stage	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	1 theoretical 2 practical	My knowledge and skills	The process of respiration and its relationship to ripening and storage / the role of ethylene in the ripening process	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	1 theoretical 2 practical	My knowledge and skills	Methods for measuring respiratory .rate	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	1 theoretical 2 practical	My knowledge and skills	Industrial ripening .process	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	1 theoretical 2 practical	My knowledge and skills	Picking, sorting, grading and packing medicinal .plants	Lecture and practical lesson	Listening and asking practical exercise questions and work groups
Nine	1 theoretical 2 practical	My knowledge and skills	Picking, sorting, grading and packing medicinal .plants	Lecture and practical lesson	Asking questions and listening practical exercise and work groups

The tenth	1 theoretical 2 practical	My knowledge and skills	.Packing houses	Lecture and practical lesson	Ask group work questions
eleventh	1 theoretical 2 practical	My knowledge and skills	Refrigerate medicinal plants before shipping .and storage	Lecture and practical lesson	Mini-lesson work groups
Twelfth	1 theoretical 2 practical	My knowledge and skills	.Storage methods	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	1 theoretical 2 practical	My knowledge and skills	Deterioration of crops after harvest and during .storage	Lecture and practical lesson	ask questions
Fourteenth	1 theoretical 2 practical	My knowledge and skills	Physiological and bacterial damage to medicinal plants during .storage	Lecture and practical lesson	Asking practice questions
Fifteenth	1 theoretical 2 practical	My knowledge and skills	Picking, preparing and .storing flowers	Lecture and practical lesson	Asking practical questions

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Care and storage of medicinal plants
Special requirements (include for example workshops, periodicals, IT software, websites)	Supporting resources for each course
Community-based facilities (include for example, guest Lectures , internship , field studies)	Scientific journals, as well as research, letters and theses of professors in the same specialty

13. Admissions

-Providing the possibility of academic support in organizing field visits.

-Providing an appropriate classroom environment that enables the teacher to diversify teaching strategies.

-Providing information technology in the campus library.
-Hosting experts from outside the college, or from the work environment for which they are preparing to benefit from their expertise in developing the course according to the actual needs of the labor market.

TEMPLATE FOR COURSE SPECIFICATION COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

Introducing the student to the concept of aromatic and stimulant plants, their fields of use, the factors affecting them, the active substances, how to extract them, and familiarizing him with the common aromatic and stimulant plants.

1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of tissue culture techniques and medicinal plants
3. Course title/code	Aromatic and simulant plant
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	present
6. Semester/Year	Autumn semester / third stage
7. Number of hours tuition (total)	75 hours, 1 hour theoretical + 4 practical hours
8. Date of production/revision of this Specification	20 / 3 / 2024
9. Aims of the Course: Granting the student a bachelor's degree in the theoretical	

and practical aspects in order to serve the preparation of a graduate of a distinguished level and his commitment to the practical arena**.**

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

A- Cognitive goals

A1- Teaching students how to deal with winter vegetable crops so that they are of modern scientific specifications, methods of management and factors affecting their productivity

A2- Introducing students to how to develop winter vegetable crops so that they are able to describe and serve them of various kinds

A3 - Enable the student to know how to deal with laboratory materials and equipment

B - Skills objectives of the program

B1 - To provide the student with the skills of applying scientific methods with regard to managing winter vegetable crops

B2 - Training the student to produce winter vegetable crops to reach high productivity

B 3 - To provide the student with the necessary skills to conduct laboratory tests related to vegetables and soil and how to give appropriate scientific judgments

Teaching and learning methods

Giving scientific and theoretical lectures through displays, powerpoints, slides, microscopes, experiments in examining plant samples, using various laboratory equipment and equipment, and a wooden canopy

Evaluation methods

Take daily quick exams Quizzes

Conducting monthly exams

Conducting semester and final exams

C- Emotional and value objectives

C1 - To enable the student to apply theoretical information in a practical way

C 2 - Develop the patriotic spirit of the student to increase production in quantity and quality

C 3 - Instilling the concept of community service and the best way to deal with the simple strata of the society, the peasants and farmers

C4 - Developing the ethics of the profession of agricultural engineer among students by following the correct professional behavior

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	1 theoretical 4 practical	My knowledge and skills	Introduction and history of aromatic and stimulant plants	Lecture and practical lesson	Questions and answers mini practical lesson
The second	1 theoretical 4 practical	My knowledge and skills	The importance of aromatic and stimulant plants	Lecture and practical lesson	ask questions
the third	1 theoretical 4 practical	My knowledge and skills	The importance of aromatic and stimulant plants and preparing the appropriate supplies for them	Lecture and practical lesson	Listen and ask questions
the fourth	1 theoretical 4 practical	My knowledge and skills	Division and classification of aromatic and stimulating plants	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	1 theoretical 4 practical	My knowledge and skills	Division and classification of aromatic and stimulating plants	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	1 theoretical 4 practical	My knowledge and skills	Secondary compounds in aromatic and stimulant plants	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	1 theoretical 4 practical	My knowledge and skills	Secondary compounds in aromatic and stimulant plants	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	1 theoretical 4 practical	My knowledge and skills	Secondary compounds in aromatic and stimulant plants	Lecture and practical lesson	Listening and asking practical exercise questions and work groups
Nine	1 theoretical	My knowledge	General methods for extracting the active	Lecture and practical	Asking questions and listening practical exercise

	4 practical	and skills	substances of aromatic plants	lesson	and work groups
The tenth	1 theoretical 4 practical	My knowledge and skills	General methods for extracting the active substances of stimulant plants	Lecture and practical lesson	Ask group work questions
Eleventh	1 theoretical 4 practical	My knowledge and skills	Factors affecting the growth and productivity of aromatic and stimulant plants	Lecture and practical lesson	Mini-lesson work groups
Twelfth	1 theoretical 4 practical	My knowledge and skills	Factors affecting the growth and productivity of aromatic and stimulant plants	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	1 theoretical 4 practical	My knowledge and skills	Cultivation of aromatic plants	Lecture and practical lesson	ask questions
Fourteenth	1 theoretical 4 practical	My knowledge and skills	Cultivation of stimulating plants	Lecture and practical lesson	Asking practice questions
Fifteenth	1 theoretical 4 practical	My knowledge and skills	Harvesting, drying and storing aromatic and stimulant plants	Lecture and practical lesson	Asking practical questions

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Botany systematic book
Special requirements (include for example workshops, periodicals, IT software, websites)	Supporting resources for each course
Community-based facilities (include for example, guest	Scientific journals, as well as research, letters and theses of professors in the same

Lectures , internship , field studies)	specialty

13. Admissions

-Providing the possibility of academic support in organizing field visits.

-Providing an appropriate classroom environment that enables the teacher to diversify teaching strategies.

-Providing information technology in the campus library.

-Hosting experts from outside the college, or from the work environment for which they are preparing to benefit from their expertise in developing the course according to the actual needs of the labor market.

TEMPLATE FOR COURSE SPECIFICATION COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

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 program specification.

1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of tissue culture techniques and medicinal plants
3. Course title/code	Protected cultivation techniques
4. Program(s) to which it contributes	present

5. Modes of Attendance offered	present
6. Semester/Year	Autumn semester / third stage
7. Number of hours tuition (total)	75 hours, 1 hour theoretical + 4 practical hours
8. Date of production/revision of this Specification	20/ 3/ 2024

9. Aims of the Course: Introducing the student to the types and forms of protected agriculture facilities, their benefits, and how to control appropriate conditions for cultivation outside of crop growth times. The student will be able to produce plants .from various plant families

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

A- Cognitive goals

A1- Introducing the student to the most important basic information about different plants and their methods of reproduction.

A2 - Introducing students to how to develop a botany subject so that it is able to describe and serve it in its various forms.

A3 - Enable the student to know how to deal with laboratory materials and equipment.

B - Skills objectives of the program

B1 - To provide the student with the skills of applying scientific methods with regard to the management of botany.

B2 - Training the student on the methods of plant reproduction and methods of classifying them to reach high productivity.

B 3 - To provide the student with the necessary skills to conduct laboratory tests related to botany and how to give appropriate scientific judgments.

Teaching and learning methods

Giving scientific and theoretical lectures through displays, powerpoints, slides, microscopes, experiments in examining plant samples, using various laboratory equipment and equipment, and a wooden canopy.

Evaluation methods

Take daily quick exams Quizzes

Conducting monthly exams

Conducting semester and final exams

C- Emotional and value objectives

C1 - To enable the student to apply theoretical information in a practical way.
C 2 - Develop the patriotic spirit of the student to increase production in quantity and quality.
C 3 - Instilling the concept of community service and the best way to deal with the simple strata of the society, the peasants and farmers.
C4 - Developing the ethics of the profession of agricultural engineer among students by following the correct professional behavior.

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	1 theoretical 4 practical	My knowledge and skills	Historical overview, definition of protected agriculture, its benefits, geographical distribution and area covered, trends in optimal exploitation, factors influencing .development	Lecture and practical lesson	Questions and answers mini practical lesson
The second	1 theoretical 4 practical	My knowledge and skills	The foundations of construction, location, direction, area, shape and size, production requirements and .production economics	Lecture and practical lesson	ask questions
the third	1 theoretical 4 practical	My knowledge and skills	Geometric shapes of protected agriculture facilities, ponds, .tunnels, and houses	Lecture and practical lesson	Listen and ask questions
the fourth	1 theoretical 4 practical	My knowledge and skills	Types of materials used in covering and their .properties The effect of climatic factors on plant growth inside protected agricultural facilities (heat, light, gases, .humidity)	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	1 theoretical 4 practical	My knowledge and skills	Types of materials used in covering and their .properties The effect of climatic factors on plant growth inside protected agricultural facilities	Lecture and practical lesson	Practical exercise, meeting and work groups

			(heat, light, gases, .humidity)		
Six	1 theoretical 4 practical	My knowledge and skills	Methods of climate control inside facilities and their characteristics	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	1 theoretical 4 practical	My knowledge and skills	The effect of terrestrial factors on plant growth, types of agricultural .media	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	1 theoretical 4 practical	My knowledge and skills	Production of vegetable seedlings in tunnels and .greenhouses	Lecture and practical lesson	Listening and asking practical exercise questions and work groups
Nine	1 theoretical 4 practical	My knowledge and skills	Production of Solanaceae family plants (tomatoes, .peppers, eggplant)	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	1 theoretical 4 practical	My knowledge and skills	Production of cucurbit family plants (pumpkin .and cucumber)	Lecture and practical lesson	Ask group work questions
eleventh	1 theoretical 4 practical	My knowledge and skills	Production of some types of (okra and .beans)	Lecture and practical lesson	Mini-lesson work groups
Twelveth	1 theoretical 4 practical	My knowledge and skills	Mushroom and shlik .production	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	1 theoretical 4 practical	My knowledge and skills	Production of cut flowers and shade .plants	Lecture and practical lesson	ask questions
Fourteenth	1 theoretical 4 practical	My knowledge and skills	Banana and grape .production	Lecture and practical lesson	Asking practice questions
Fifteenth	1 theoretical 4 practical	My knowledge and skills	.Soilless agriculture	Lecture and practical lesson	Asking practical questions

12. Infrastructure	
Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Botany systematic book
Special requirements (include for example workshops, periodicals, IT software, websites)	Supporting resources for each course
Community-based facilities (include for example, guest Lectures , internship , field studies)	Scientific journals, as well as research, letters and theses of professors in the same specialty

13. Admissions

-Providing the possibility of academic support in organizing field visits.

-Providing an appropriate classroom environment that enables the teacher to diversify teaching strategies.

-Providing information technology in the campus library.

-Hosting experts from outside the college, or from the work environment for which they are preparing to benefit from their expertise in developing the course according to the actual needs of the labor market.

TEMPLATE FOR COURSE SPECIFICATION COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

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 program specification.

1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of tissue culture techniques and medicinal plants
3. Course title/code	Analytical Chemistry-2
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	present
6. Semester/Year	Autumn semester / third stage
7. Number of hours tuition (total)	45 hours, 1 hour theoretical + 2 practical hours
8. Date of production/revision of this Specification	20/ 3 / 2024

9. Aims of the Course: Granting the student a bachelor's degree in the theoretical and practical aspects in order to serve the preparation of a graduate of a distinguished level and his commitment to the practical arena**.**

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

A- Cognitive goals

A1- Teaching students how to deal with scientific material so that it has modern scientific specifications, methods of its management, and factors affecting its productivity.

A2- Introducing students to how to develop mathematics so that it is able to describe it and serve it in its various forms.

A3 - Enable the student to know the mathematical problems that he uses in planning agricultural experiments and to know the results of field and laboratory experiments.

A4- Recognize the importance of mathematics in agricultural reality.

B - Skills objectives of the program

B1 - To provide the student with the skills of applying scientific methods with regard to mathematics so that he will be able to use them in the agricultural field.

B2 - Training the student on mathematical skills to reach high productivity.

B 3 - Providing the student with the necessary skills to conduct laboratory tests related to mathematics and how to give appropriate scientific judgments.

Teaching and learning methods
Giving scientific and theoretical lectures through displays, powerpoints, slides, microscopes, experiments in examining plant samples, using mathematical problems and various laboratory devices and equipment.

Evaluation methods
Take daily quick exams Quizzes
Conducting monthly exams
Conducting semester and final exams

C- Emotional and value objectives.
C1 - To enable the student to apply theoretical information in a practical way
C 2 - Develop the patriotic spirit of the student to increase production in quantity and quality
C 3 - Instilling the concept of community service and the best way to deal with the simple strata of the society, the peasants and farmers
C4 - Developing the ethics of the profession of agricultural engineer among students by following the correct professional behavior

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	1 theoretical 2 practical	My knowledge and skills	Introduction, reviewing the basic concepts of solutions and their concentrations	Lecture and practical lesson	Questions and answers mini practical lesson
The second	1 theoretical 2 practical	My knowledge and skills	Expressing the results of solutions, solid samples, and liquid samples	Lecture and practical lesson	ask questions
the third	1 theoretical 2 practical	My knowledge and skills	Data processing, significant figures, rounding, accuracy and validity	Lecture and practical lesson	Listen and ask questions
the fourth	1 theoretical 2 practical	My knowledge and skills	Preparing solutions, drying samples, dissolving samples General concepts in chemical balancing, the neutralization constant, and the effectiveness factor	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	1 theoretical 2 practical	My knowledge and skills	Preparing solutions, drying samples, dissolving samples General concepts in chemical balancing, the neutralization constant, and the effectiveness factor	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	1 theoretical 2 practical	My knowledge and skills	Gravimetric analysis, dissolution product, units	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	1 theoretical 2 practical	My knowledge and skills	Volumetric analysis, basics, molarity, normality and their calculations	Lecture and practical lesson	Case study Practical exercise and work groups

Eight	1 theoretical 2 practical	My knowledge and skills	Balancing acid and base, pH, buffer solutions	Lecture and practical lesson	Listening and asking practical exercise questions and work groups
Nine	1 theoretical 2 practical	My knowledge and skills	Analysis of acids and bases	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	1 theoretical 2 practical	My knowledge and skills	Sodium carbonate analysis, Kjeldahl analysis	Lecture and practical lesson	Ask group work questions
Eleventh	1 theoretical 2 practical	My knowledge and skills	Preparation of standard basic solutions, preparation of standard acid solutions	Lecture and practical lesson	Mini-lesson work groups
Twelfth	1 theoretical 2 practical	My knowledge and skills	Redox analysis, electrical and chemical cell, Nernst equation	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	1 theoretical 2 practical	My knowledge and skills	Stress, polarity, voltage measurement	Lecture and practical lesson	ask questions
Fourteenth	1 theoretical 2 practical	My knowledge and skills	Photometric analysis, basics and calculations, deviation from Beer's law	Lecture and practical lesson	Asking practice questions
Fifteenth	1 theoretical 2 practical	My knowledge and skills	Gas, liquid, columnar and ionic exchange chromatographic analysis	Lecture and practical lesson	Asking practical questions

12. Admissions

-Providing the possibility of academic support in organizing field visits.

-Providing an appropriate classroom environment that enables the teacher to diversify teaching strategies.

-Providing information technology in the campus library.

-Hosting experts from outside the college, or from the work environment for which they are preparing to benefit from their expertise in developing the course according to the actual needs of the labor market.

TEMPLATE FOR COURSE SPECIFICATION COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

Introducing the student to the importance of nutrients for plant growth, their types, the necessary quantity of each element and at each stage of its growth, and how they are transported and represented within the plant. The student becomes able to diagnose .the symptoms of element deficiency and how to treat them

1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of tissue culture techniques and medicinal plants
3. Course title/code	Plant nutrition
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	present
6. Semester/Year	Autumn semester / third stage
7. Number of hours tuition (total)	45 hours, 1 hour theoretical + 2 practical hours
8. Date of production/revision of this specification	20/ 3/ 2024
9. Aims of the Course: Granting the student a bachelor's degree in the theoretical and practical aspects in order to serve the preparation of a graduate of a distinguished level and his commitment to the practical arena**.**	
10.Course outcomes and methods of teaching, learning and assessment A- Cognitive goals A1- Teaching students how to study the physical properties of soil such as density, moisture, mechanical analysis, and others A 2- Introducing students to the chemical properties of soil such as salinity, PH, lime, gypsum, and others	

A3 - Enable the student to know how to deal with laboratory materials and equipment

B - Skills objectives of the program
B1 - To provide the student with the skills to study the morphological characteristics of the soil
B 2 - Training the student to know the relationship between soil and plants to reach high productivity
B 3 - To provide the student with the necessary skills to conduct laboratory tests related to plants and soil and how to give appropriate scientific judgments

Teaching and learning methods
Giving scientific and theoretical lectures through displays, powerpoints, slides, microscopes, experiments in examining plant samples, using various laboratory equipment and equipment, and a wooden canopy

Evaluation methods
Take daily quick exams Quizzes
Conducting monthly exams
Conducting semester and final exams

C- Emotional and value objectives
C1 - To enable the student to apply theoretical information in a practical way
C 2 - Develop the patriotic spirit of the student to increase production in quantity and quality
C 3 - Instilling the concept of community service and the best way to deal with the simple strata of the society, the peasants and farmers
C4 - Developing the ethics of the profession of agricultural engineer among students by following the correct professional behavior

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	1 theoretical 2 practical	My knowledge and skills	A historical overview of plant nutrition, definition of the nutritional element, division of nutrients	Lecture and practical lesson	Questions and answers mini practical lesson
The second	1 theoretical 2 practical	My knowledge and skills	The inorganic chemical composition of the plant, the factors on which the inorganic chemical composition of the plant depends	Lecture and practical lesson	ask questions
the third	1 theoretical 2 practical	My knowledge and skills	Plant relationship with different growth media	Lecture and practical lesson	Listen and ask questions
the fourth	1 theoretical 2 practical	My knowledge and skills	Nutrient solutions, types of artificial food farms, purposes for which nutrient solution farms are used	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	1 theoretical 2 practical	My knowledge and skills	Mineral nutrition and plant growth	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	1 theoretical 2 practical	My knowledge and skills	Mineral nutrition and plant growth	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	1 theoretical 2 practical	My knowledge and skills	Absorption and transport of nutrients	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	1 theoretical 2 practical	My knowledge and skills	Absorption and transport of nutrients	Lecture and practical lesson	Listening and asking practical exercise questions and work groups
Nine	1 theoretical 2 practical	My knowledge and skills	Mineral nutrition and resistance of plants sensitive to diseases and	Lecture and practical lesson	Asking questions and listening practical exercise and work groups

			other harmful pests		
The tenth	1 theoretical 2 practical	My knowledge and skills	Symptoms of nutritional deficiency and toxicity	Lecture and practical lesson	Ask group work questions
Eleventh	1 theoretical 2 practical	My knowledge and skills	Symptoms of nutritional deficiency and toxicity	Lecture and practical lesson	Mini-lesson work groups
Twelfth	1 theoretical 2 practical	My knowledge and skills	Symptoms of nutritional deficiency and toxicity	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	1 theoretical 2 practical	My knowledge and skills	Inorganic mineral elements	Lecture and practical lesson	ask questions
Fourteenth	1 theoretical 2 practical	My knowledge and skills	The effect of environmental genetic factors on plant nutrition	Lecture and practical lesson	Asking practice questions
Fifteenth	1 theoretical 2 practical	My knowledge and skills	The effect of environmental genetic factors on plant nutrition	Lecture and practical lesson	Asking practical questions

12. Admissions

-Providing the possibility of academic support in organizing field visits.

-Providing an appropriate classroom environment that enables the teacher to diversify teaching strategies.

-Providing information technology in the campus library.

-Hosting experts from outside the college, or from the work environment for which they are preparing to benefit from their expertise in developing the course according to the actual needs of the labor market.

TEMPLATE FOR COURSE SPECIFICATION COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This course aims to study the scope of drugs, nomenclature of medicinal plants, classification of natural products, and photochemistry which includes the extraction .and isolation of active ingredients from natural sources

1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of tissue culture techniques and medicinal plants
3. Course title/code	Medical drugs
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	present
6. Semester/Year	Autumn semester / third stage
7. Number of hours tuition (total)	90 hours, 2 hour theoretical + 4 practical hours
8. Date of production/revision of this Specification	20/ 3 / 2024
9. Aims of the Course: Granting the student a bachelor's degree in the theoretical and practical aspects in order to serve the preparation of a graduate of a distinguished level and his commitment to the practical arena**.**	
10.Course outcomes and methods of teaching, learning and assessment A- Cognitive goals A1- Teaching students to understand the agricultural tug and training to use it in the field	

A2- Introduce students to the parts of the main puller, its importance, and how each part works
A3 - Enable the student to know how to deal with materials and devices in the tug

B - Skills objectives of the program
B1 - To provide the student with the skills of tug maintenance
B2 - Training the student to understand the work of tug systems and identify faults to reach high productivity
B 3 - To provide the student with the necessary skills to conduct general examinations related to the tug and the soil and how to give the appropriate scientific judgments

Teaching and learning methods
Giving scientific and theoretical lectures through displays, powerpoints, slides, microscopes, experiments in examining plant samples, using various laboratory equipment and equipment, and a wooden canopy

Evaluation methods
Take daily quick Quizzes
Conducting monthly exams
Conducting semester and final exams

C- Emotional and value goals
C1 - Enabling the student to apply theoretical information in a practical way
C 2 - Develop the patriotic spirit of the student to increase production in quantity and quality
C 3 - Instilling the concept of community service and the best way to deal with the simple strata of the society, the peasants and farmers
C4 - Developing the ethics of the profession of agricultural engineer among students by following the correct professional behavior

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	2 theoretical 4 practical	My knowledge and skills	General Introduction: The Scope of Pharmacognosy	Lecture and practical lesson	Questions and answers mini practical lesson
The second	2 theoretical 4 practical	My knowledge and skills	Definitions and basic principles	Lecture and practical lesson	ask questions
the third	2 theoretical 4 practical	My knowledge and skills	Drugs from natural sources, crud drugs	Lecture and practical lesson	Listen and ask questions
the fourth	2 theoretical 4 practical	My knowledge and skills	Official and non-official drugs	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	2 theoretical 4 practical	My knowledge and skills	Classification of natural products.	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	2 theoretical 4 practical	My knowledge and skills	Production of crude drugs: Cultivation, collection, drying and storage.	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	2 theoretical 4 practical	My knowledge and skills	Deterioration of crude natural products.	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	2 theoretical 4 practical	My knowledge and skills	Pharmacological activities of natural products.	Lecture and practical lesson	Listening and asking practical exercise questions and work groups
Nine	2 theoretical 4 practical	My knowledge and skills	Chemistry of natural drug products.	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	2 theoretical	My knowledge	Quality control: Evaluation of natural	Lecture and practical	Ask group work questions

	4 practical	and skills	products	lesson	
Eleventh	2 theoretical 4 practical	My knowledge and skills	Macroscopical evaluation; physical evaluation; chemical evaluation; biological evaluation; spectroscopical evaluation.	Lecture and practical lesson	Mini-lesson work groups
Twelveth	2 theoretical 4 practical	My knowledge and skills	Phytochemical investigation of herbal products: Extraction of the plant material; Separation and isolation of constituents; characterization of the isolated compounds.	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	2 theoretical 4 practical	My knowledge and skills	Eparation technique: Introduction; Mechanisms of separation and classification based on the type of technique; paper chromatography	Lecture and practical lesson	ask questions
Fourteenth	2 theoretical 4 practical	My knowledge and skills	Thin layer chromatography; Ion-exchange chromatography; Gel filtration chromatography; Column chromatography; Gas chromatography; HPLC;	Lecture and practical lesson	Asking practice questions

			Electrophoresis; Affinity chromatography		
Fifteenth	2 theoretical 4 practical	My knowledge and skills	raditional plant medicines as a source of new drugs.	Lecture and practical lesson	Asking practical questions

12. Admissions

-Providing the possibility of academic support in organizing field visits.
-Providing an appropriate classroom environment that enables the teacher to diversify teaching strategies.
-Providing information technology in the campus library.
-Hosting experts from outside the college, or from the work environment for which they are preparing to benefit from their expertise in developing the course according to the actual needs of the labor market.

TEMPLATE FOR COURSE SPECIFICATION COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This course description provides the student with knowledge of the concept of environmental pollution, its causes, types, and risks, how to reduce pollution, and knowledge of the negative effects of pollutants on the environment and on human .health

1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of tissue culture techniques and medicinal plants
3. Course title/code	Environmental Pollution
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	present
6. Semester/Year	Autumn semester / third stage
7. Number of hours tuition (total)	45 hours, 1 hour theoretical + 2 practical hours
8. Date of production/revision of this specification	20/ 3/ 2024
9. Aims of the Course: Granting the student a bachelor's degree in the theoretical and practical aspects in order to serve the preparation of a graduate of a distinguished level and his commitment to the practical arena**.**	
10.Course outcomes and methods of teaching, learning and assessment Course outcomes and methods of teaching, learning and assessment . A- Cognitive goals A1- Educating students on the most important rights of citizens in the past, present and future, and the most important laws that govern this	

A2- Introducing students to the most important regional charters, constitutions, guarantees of respect and protection of human rights and the legal rules of law

B - Skills objectives of the program
B1 - To provide the student with human rights skills and how to implement
B2 - Training the student on the skills of dealing with a democratic principle, guarantee and human rights
B3 - To provide the student with the necessary skills for human rights and how to give appropriate scientific judgments between the disputants

Teaching and learning methods
Giving scientific and theoretical lectures through display screens, PowerPoint and slides

Evaluation methods
Take daily quick Quizzes
Conducting monthly exams
Conducting semester and final exams

C- Emotional and value goals
C1 - Enabling the student to apply theoretical information in a practical way
C 2 - Develop the patriotic spirit of the student to increase production in quantity and quality
C 3 - Instilling the concept of community service and the best way to deal with the simple strata of the society, the peasants and farmers
C4 - To develop the ethics of the human rights profession among students by following the correct professional behavior
Course and methods of teaching, learning and assessment
A- Cognitive goals
A1- Teach students to understand the economic importance of farm animals
A 2- Introducing students to farm animals, types of fields, breeding, and nutrition
A3 - Enable the student to know how to deal with materials, tools, tools and devices

B - Skills objectives of the program
B1 - To provide the student with the skills of field operations and how to

conduct them
B2 - Training the student to keep field records to reach high productivity
B 3 - To provide the student with the necessary skills to conduct general examinations of farm animals and how to give appropriate scientific judgments

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	1 hour theoretical + 2 practical	My knowledge and skills	The concept of environmental pollution	Lecture and practical lesson	Questions and answers mini practical lesson
The second	1 hour theoretical + 2 practical	My knowledge and skills	Air pollution with gases	Lecture and practical lesson	ask questions
the third	1 hour theoretical + 2 practical	My knowledge and skills	Fertilizers: food enrichment and its treatments	Lecture and practical lesson	Listen and ask questions
the fourth	1 hour theoretical + 2 practical	My knowledge and skills	Fertilizers: food enrichment and its treatments	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	1 hour theoretical + 2 practical	My knowledge and skills	Acid rain	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	1 hour theoretical + 2 practical	My knowledge and skills	Oil pollution and its treatments	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	1 hour theoretical + 2 practical	My knowledge and skills	Petroleum pollution	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	1 hour theoretical + 2 practical	My knowledge and skills	Soil contamination with chemical fertilizers	Lecture and practical lesson	Listening and asking practical exercise questions and work groups
Nine	1 hour theoretical + 2 practical	My knowledge and skills	Heavy metal pollution	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	1 hour theoretical + 2 practical	My knowledge and skills	Pesticide contamination	Lecture and practical lesson	Ask group work questions
Eleventh	1 hour theoretical +	My knowledge	Sewage pollution	Lecture and practical	Mini-lesson work

	2 practical	and skills		lesson	groups
Twelfth	1 hour theoretical + 2 practical	My knowledge and skills	Sewage pollution	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	1 hour theoretical + 2 practical	My knowledge and skills	The negative effects of pollutants on human health	Lecture and practical lesson	ask questions
Fourteenth	1 hour theoretical + 2 practical	My knowledge and skills	The negative effects of pollutants on human health	Lecture and practical lesson	Asking practice questions
Fifteenth	1 hour theoretical + 2 practical	My knowledge and skills	How to reduce pollution	Lecture and practical lesson	Asking practical questions

12. Admissions

-Providing the possibility of academic support in organizing field visits.

-Providing an appropriate classroom environment that enables the teacher to diversify teaching strategies.

-Providing information technology in the campus library.

-Hosting experts from outside the college, or from the work environment for which they are preparing to benefit from their expertise in developing the course according to the actual needs of the labor market.

TEMPLATE FOR COURSE SPECIFICATION COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This course description provides the student with an introduction to the nature of the English language in terms of pronunciation, reading, listening, conversation, preceding and following syllables, irregular verbs, etc. The lesson also provides the student with basic vocabulary on a number of topics such as introducing oneself, family and friends, place of living, birthdays and time

1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of tissue culture techniques and medicinal plants
3. Course title/code	English
4. Program(s) to which it contributes	Blended/present and e-learning
5. Modes of Attendance offered	Blended/present and e-learning
6. Semester/Year	Autumn semester / third stage
7. Number of hours tuition (total)	30 hours, 2 hour theoretical
8. Date of production/revision of this specification	20/ 3 / 2024
9. Aims of the Course: Granting the student a bachelor's degree in the theoretical and practical aspects in order to serve the preparation of a graduate of a distinguished level and his commitment to the practical arena**.**	
10.Course outcomes and methods of teaching, learning and assessment Course outcomes and methods of teaching, learning and assessment .٩ A- Cognitive goals A1- Educating students on the most important rights of citizens in the past,	

present and future, and the most important laws that govern this
A2- Introducing students to the most important regional charters, constitutions, guarantees of respect and protection of human rights and the legal rules of law

B - Skills objectives of the program
B1 - To provide the student with human rights skills and how to implement
B2 - Training the student on the skills of dealing with a democratic principle, guarantee and human rights
B3 - To provide the student with the necessary skills for human rights and how to give appropriate scientific judgments between the disputants

Teaching and learning methods
Giving scientific and theoretical lectures through display screens, PowerPoint and slides

Evaluation methods
Take daily quick Quizzes
Conducting monthly exams
Conducting semester and final exams

C- Emotional and value goals
C1 - Enabling the student to apply theoretical information in a practical way
C 2 - Develop the patriotic spirit of the student to increase production in quantity and quality
C 3 - Instilling the concept of community service and the best way to deal with the simple strata of the society, the peasants and farmers
C4 - To develop the ethics of the human rights profession among students by following the correct professional behavior
Course and methods of teaching, learning and assessment
A- Cognitive goals
A1- Teach students to understand the economic importance of farm animals
A 2- Introducing students to farm animals, types of fields, breeding, and nutrition
A3 - Enable the student to know how to deal with materials, tools, tools and devices

B - Skills objectives of the program

B1 - To provide the student with the skills of field operations and how to conduct them
B2 - Training the student to keep field records to reach high productivity
B 3 - To provide the student with the necessary skills to conduct general examinations of farm animals and how to give appropriate scientific judgments

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	2 theoretical	My knowledge and skills	-Rooms and fumiture -Grammar (There is/are preposition) -Pronunciation (Word stress) -Translations, Speaking (How to have good time in Sydney)	Lecture and practical lesson	Questions and answers mini practical lesson
The second	2 theoretical	My knowledge and skills	-Reading and writing (Our house) -Every day English (Directions) -Exercises	Lecture and practical lesson	ask questions
the third	2 theoretical	My knowledge and skills	- Years - Grammar (was / were, past tense/irregular verbs) - Wrting (famous people)	Lecture and practical lesson	Listen and ask questions
the fourth	2 theoretical	My knowledge and skills	- Vocabulary: words groups - Every day English (When is your Birthday?)	Lecture and practical lesson	Practical exercise, meeting and work groups

			- Bxercises		
Fifth	2 theoretical	My knowledge and skills	- Past tense (We had a good time) - Grammar (past, simple, regular verbs, irregular verbs) - Listening (Mike is day), Writing (Last Saturday) - Pronunciation (Who were they?)	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	2 theoretical	My knowledge and skills	- Vocabulary: Sports, Months - Questions (Where, what, who, etc) - Every day English (Fill in forms) - Exercises	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	2 theoretical	My knowledge and skills	- Activities (We can do it!) - Listening (Can I be in your pop group?) - Pronunciation (can/ can not) - Requests and offers	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	2	My knowledge	- Vocabulary (odd one	Lecture and practical	Listening and asking practical exercise

	theoretical	and skills	out) - Every day English (What is the problem) - Exercises	lesson	questions and work groups
Nine	2 theoretical	My knowledge and skills	- Asking politely (I want/ I would like) - Speaking – In the restaurant (Food and drink) - Pronunciation (odd one out) - Translation	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	2 theoretical	My knowledge and skills	- Reading (You are what you eat) - Every day English (Going shopping) - Exercises	Lecture and practical lesson	Ask group work questions
eleventh	2 theoretical	My knowledge and skills	- Coloure (Here and now) - Grammar (Present simple, Present Continuous) - Translation	Lecture and practical lesson	Mini-lesson work groups
Twelveth	2 theoretical	My knowledge and skills	- Reading (Summer in Portugal)	Lecture and practical lesson	Practical exercise and workgroups

			- Vocabulary (Cloths) - Every day English (What is the Matter) - Exercises		
Thirteenth	2 theoretical	My knowledge and skills	- Holidays (Time to go) - Grammar (Present continuous for the future)	Lecture and practical lesson	ask questions
Fourteenth	2 theoretical	My knowledge and skills	- Listening (Hannan is diary) - Pronunciation (shifing sentence stess)	Lecture and practical lesson	Asking practice questions
Fifteenth	2 theoretical	My knowledge and skills	- Translation - Vocabulary; Transport and travel - Reading and Speaking (The Smiths) - Every day English (going sightseeing) - Exercises	Lecture and practical lesson	Asking practical questions

12. Admissions

-Providing the possibility of academic support in organizing field visits.
-Providing an appropriate classroom environment that enables the teacher to diversify teaching strategies.
-Providing information technology in the campus library.

-Hosting experts from outside the college, or from the work environment for which they are preparing to benefit from their expertise in developing the course according to the actual needs of the labor market.

TEMPLATE FOR COURSE SPECIFICATION COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This course description provides an introduction to the different types and groups of ornamental plants and training on methods of their propagation and all agricultural operations, including breeding, pruning, fertilizing, controlling, rotating, and weeding.

1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of tissue culture techniques and medicinal plants
3. Course title/code	Ornamental Plants
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	present
6. Semester/Year	Spring semester / third stage
7. Number of hours tuition (total)	60 hours, 2 hour theoretical + 2 practical hours
8. Date of production/revision of this specification	20/ 3 / 2024
9. Aims of the Course: Granting the student a bachelor's degree in the theoretical and practical aspects in order to serve the preparation of a graduate of a distinguished level and his commitment to the practical arena**.**	
10.Course outcomes and methods of teaching, learning and assessment	

٩. Course outcomes and methods of teaching, learning and assessment

A- Cognitive goals
A1- Introducing the student to the most important basic information about different plants and their methods of reproduction
A2 - Introducing students to how to develop a botany subject so that it is able to describe and serve it in its various forms
A3 - Enable the student to know how to deal with laboratory materials and equipment

B - Skills objectives of the program
B1 - To provide the student with the skills of applying scientific methods with regard to the management of botany
B2 - Training the student on the methods of plant reproduction and methods of classifying them to reach high productivity
B 3 - To provide the student with the necessary skills to conduct laboratory tests related to botany and how to give appropriate scientific judgments

Teaching and learning methods
Giving scientific and theoretical lectures through displays, power points, slides, microscopes, experiments in examining plant samples, using various laboratory equipment and equipment, and a wooden canopy

Evaluation methods
Take daily quick exams Quizzes
Conducting monthly exams
Conducting semester and final exams

C- Emotional and value objectives
C1 - To enable the student to apply theoretical information in a practical way
C 2 - Develop the patriotic spirit of the student to increase production in quantity and quality
C 3 - Instilling the concept of community service and the best way to deal with the simple strata of the society, the peasants and farmers
C4 - Developing the ethics of the profession of agricultural engineer among students by following the correct professional behavior

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	2 theoretical 2 practical	My knowledge and skills	Definition of decoration - development - its importance	Lecture and practical lesson	Questions and answers mini practical lesson
The second	2 theoretical 2 practical	My knowledge and skills	Ornamental and ornamental plants sections	Lecture and practical lesson	ask questions
the third	2 theoretical 2 practical	My knowledge and skills	Studying the environmental factors that affect the growth and flowering of ornamental plants, such as light, temperature, and humidity	Lecture and practical lesson	Listen and ask questions
the fourth	2 theoretical 2 practical	My knowledge and skills	Studying the environmental factors that affect the growth and studying some of the internal factors that affect the growth and flowering of ornamental plants, such as the ratio of carbon to nitrogen, hormones, and the sleep stage, ornamental flower plants, such as light, heat, .and humidity	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	2 theoretical 2 practical	My knowledge and skills	Reproductive methods: sexual - non-sexual - blackboard - tissue culture	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	2 theoretical 2 practical	My knowledge and skills	Study annual flowers in summer and winter	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	2 theoretical 2 practical	My knowledge and skills	Perennial herbaceous flowers such as gerbil, violet, sylvia,...etc	Lecture and practical lesson	Case study Practical exercise and work groups

Eight	2 theoretical 2 practical	My knowledge and skills	Trees - shrubs, species, .importance, reproduction	Lecture and practical lesson	Listening and asking practical exercise questions and work groups
Nine	2 theoretical 2 practical	My knowledge and skills	Climbers, types, purposes of .use, climbing methods	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	2 theoretical 2 practical	My knowledge and skills	Morning flowers like daffodils, ares, tulips, .anemones, carnivores, etc	Lecture and practical lesson	Ask group work questions
Eleventh	2 theoretical 2 practical	My knowledge and skills	Thorny plants, methods of propagation, types	Lecture and practical lesson	Mini-lesson work groups
Twelveth	2 theoretical 2 practical	My knowledge and skills	Types of aquatic and semi-aquatic plants	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	2 theoretical 2 practical	My knowledge and skills	Indoor landscaping plants, their types, conditions, potted plants, abundance, factors that help the success of the decorative fabric in .homes and offices	Lecture and practical lesson	ask questions
Fourteenth	2 theoretical 2 practical	My knowledge and skills	Plants of special breeding (Dawoodi, cloves, etc.)	Lecture and practical lesson	Asking practice questions
Fifteenth	2 theoretical 2 practical	My knowledge and skills	(Rose) A comprehensive study of the types and varieties of successful roses in Iraq, rose pruning...etc	Lecture and practical lesson	Asking practical questions

12. Admissions

-Providing the possibility of academic support in organizing field visits.
-Providing an appropriate classroom environment that enables the teacher to diversify teaching strategies.
-Providing information technology in the campus library.
-Hosting experts from outside the college, or from the work environment for which they are preparing to benefit from their expertise in developing the course according to the actual needs of the labor market.

TEMPLATE FOR COURSE SPECIFICATION COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This course description provides students with the basics of science related to growth and reproduction systems in horticultural plants, how to remove cells, cultivate them, and create nutrient media. It also teaches students methods of sterilization, cultivation, .and transportation of plants

1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of tissue culture techniques and medicinal plants
3. Course title/code	Tissue Culture -1
4. Program(s) to which it contributes	Present
5. Modes of Attendance offered	Present
6. Semester/Year	Spring semester / third stage
7. Number of hours tuition (total)	90 hours, 2 hour theoretical + 4 practical hours

8. Date of production/revision of this specification	20/ 3/ 2024

9. Aims of the Course: Granting the student a bachelor's degree in the theoretical and practical aspects in order to serve the preparation of a graduate of a distinguished level and his commitment to the practical arena**.**

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

Course outcomes and methods of teaching, learning and assessment .

A- Cognitive goals

A1- Introducing the student to the most important basic information about different plants and their methods of reproduction

A2 - Introducing students to how to develop a botany subject so that it is able to describe and serve it in its various forms

A3 - Enable the student to know how to deal with laboratory materials and equipment

B - Skills objectives of the program

B1 - To provide the student with the skills of applying scientific methods with regard to the management of botany

B2 - Training the student on the methods of plant reproduction and methods of classifying them to reach high productivity

B 3 - To provide the student with the necessary skills to conduct laboratory tests related to botany and how to give appropriate scientific judgments

Teaching and learning methods

Giving scientific and theoretical lectures through displays, power points, slides, microscopes, experiments in examining plant samples, using various laboratory equipment and equipment, and a wooden canopy

Evaluation methods

Take daily quick exams Quizzes

Conducting monthly exams

Conducting semester and final exams

C- Emotional and value objectives

C1 - To enable the student to apply theoretical information in a practical way

C 2 - Develop the patriotic spirit of the student to increase production in

quantity and quality
C 3 - Instilling the concept of community service and the best way to deal with the simple strata of the society, the peasants and farmers
C4 - Developing the ethics of the profession of agricultural engineer among students by following the correct professional behavior

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	2 theoretical 4 practical	My knowledge and skills	Introduction and historical overview of the development of tissue culture and plant cells	Lecture and practical lesson	Questions and answers mini practical lesson
The second	2 theoretical 4 practical	My knowledge and skills	Factors affecting the success of plant cell and tissue transplantation	Lecture and practical lesson	ask questions
the third	2 theoretical 4 practical	My knowledge and skills	Stages followed in micropropagation. Factors affecting each of these stages and the processing of phenolic compounds	Lecture and practical lesson	Listen and ask questions
the fourth	2 theoretical 4 practical	My knowledge and skills	Practical applications of plant cell and tissue culture in the field of plant breeding and improvement to produce healthy plants from infections .with specific pathogens	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	2 theoretical 4 practical	My knowledge and skills	Practical applications of plant cell and tissue culture in the field of plant breeding and improvement to produce healthy plants from infections .with specific pathogens	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	2 theoretical 4 practical	My knowledge and skills	Production of some pharmaceutical compounds	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	2 theoretical 4 practical	My knowledge and skills	.Rapid breeding	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	2 theoretical 4 practical	My knowledge and skills	Induction and growth of callus	Lecture and practical lesson	Listening and asking practical exercise questions

					and work groups
Nine	2 theoretical 4 practical	My knowledge and skills	Protoplast fusion and cultivation	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	2 theoretical 4 practical	My knowledge and skills	Plant organ transplantation	Lecture and practical lesson	Ask group work questions
Eleventh	2 theoretical 4 practical	My knowledge and skills	Embryo culture	Lecture and practical lesson	Mini-lesson work groups
Twelfth	2 theoretical 4 practical	My knowledge and skills	Somatic embryogenesis	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	2 theoretical 4 practical	My knowledge and skills	Cultivation of pollen and anthers and production of monochromosomal plants	Lecture and practical lesson	ask questions
Fourteenth	2 theoretical 4 practical	My knowledge and skills	Cultivation of pollen and anthers and production of .monochromosomal plants Cultivation of axillary buds and growing tops	Lecture and practical lesson	Asking practice questions
Fifteenth	2 theoretical 4 practical	My knowledge and skills	Cultivation of pollen and anthers and production of .monochromosomal plants Cultivation of axillary buds and growing tops	Lecture and practical lesson	Asking practical questions

12. Admissions

-Providing the possibility of academic support in organizing field visits.
-Providing an appropriate classroom environment that enables the teacher to diversify teaching strategies.
-Providing information technology in the campus library.
-Hosting experts from outside the college, or from the work environment for which they are preparing to benefit from their expertise in developing the course according to the actual needs of the labor market.

TEMPLATE FOR COURSE SPECIFICATION COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This course description provides the student's introduction to the most important plant growth regulators, the properties of each of them, and their important role in the life of .plants

1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of tissue culture techniques and medicinal plants
3. Course title/code	Plant Growth Regulater
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	present
6. Semester/Year	Spring semester / third stage
7. Number of hours tuition (total)	60 hours, 2 hour theoretical + 2 practical hours
8. Date of production/revision of this	20/ 3/ 2024

specification	

9. Aims of the Course: Granting the student a bachelor's degree in the theoretical and practical aspects in order to serve the preparation of a graduate of a distinguished level and his commitment to the practical arena**.**

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

Course outcomes and methods of teaching, learning and assessment .٩

A- Cognitive goals

A1- Teaching students how to deal with summer vegetable crops so that they have modern scientific specifications, methods of their management and factors affecting their productivity

A2 - Introducing students to how to develop summer vegetable crops so that they are able to describe and serve them of various kinds

A3 - Enable the student to know how to deal with laboratory materials and equipment

B - Skills objectives of the program

B1 - To provide the student with the skills of applying scientific methods with regard to the management of summer vegetable crops

B 2 - Training the student on the correct foundations in picking, sorting and marketing the fruits to reach high productivity

B 3 - To provide the student with the necessary skills to conduct laboratory tests related to vegetables and soil and how to give appropriate scientific judgments

Teaching and learning methods

Giving scientific and theoretical lectures through displays, power points, slides, microscopes, experiments in examining plant samples, using various laboratory equipment and equipment, and a wooden canopy

Evaluation methods

Take daily quick Quizzes

Conducting monthly exams

Conducting semester and final exams

C- Emotional and value goals

C1 - Enabling the student to apply theoretical information in a practical way

C 2 - Develop the patriotic spirit of the student to increase production in .quantity and quality
C 3 - Instilling the concept of community service and the best way to deal with the simple strata of the society, the peasants and farmers
C4 - Developing the ethics of the profession of agricultural engineer among students by following the correct professional behavior

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	2 theoretical 2 practical	My knowledge and skills	Introduction, importance, types of growth regulators	Lecture and practical lesson	Questions and answers mini practical lesson
The second	2 theoretical 2 practical	My knowledge and skills	Auxins, discovery, distribution and transport of .auxins in plants	Lecture and practical lesson	ask questions
the third	2 theoretical 2 practical	My knowledge and skills	Creating a source of auxin, exploiting a source of .auxins	Lecture and practical lesson	Listen and ask questions
the fourth	2 theoretical 2 practical	My knowledge and skills	Mechanism of action of .auxin	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	2 theoretical 2 practical	My knowledge and skills	Gibberellin, discovery, importance, biological examination of gibberellin, site of gibberellin formation, and transport of .gibberellins	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	2 theoretical 2 practical	My knowledge and skills	Physiological effects of .gibberellin, its mechanics	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	2 theoretical 2 practical	My knowledge and skills	Cytokinins, discovery, importance, manufactured cytokinins, distribution, transmission, biological .examination of cytokinins Physiological effects, .mechanical currency	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	2 theoretical 2 practical	My knowledge and skills	Ethylene, its discovery, areas of its presence, ethylene movement - ethylene formation	Lecture and practical lesson	Listening and asking practical exercise questions and work groups

Nine	2 theoretical 2 practical	My knowledge and skills	Physiological effects of ethylene - mechanism of .action	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	2 theoretical 2 practical	My knowledge and skills	Abscisic acid ABA: its discovery, role, biological examination, movement, and biological processes .related to abscisic acid	Lecture and practical lesson	Ask group work questions
Eleventh	2 theoretical 2 practical	My knowledge and skills	Physiological effects of abscisic acid - mechanism .of action	Lecture and practical lesson	Mini-lesson work groups
Twelfth	2 theoretical 2 practical	My knowledge and skills	Inhibitors, their types, extraction, purification and biological screening of inhibitors, physiological effects of inhibitors - their .mechanism of action	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	2 theoretical 2 practical	My knowledge and skills	Inhibitors, their types, extraction, purification and biological screening of inhibitors, physiological effects of inhibitors - their .mechanism of action	Lecture and practical lesson	ask questions
Fourteenth	2 theoretical 2 practical	My knowledge and skills	Other growth regulators, .vitamins	Lecture and practical lesson	Asking practice questions
Fifteenth	2 theoretical 2 practical	My knowledge and skills	The role of growth regulators in combating weeds, plant breeding, and .others	Lecture and practical lesson	Asking practical questions

12. Admissions

-Providing the possibility of academic support in organizing field visits.
-Providing an appropriate classroom environment that enables the teacher to diversify teaching strategies.
-Providing information technology in the campus library.
-Hosting experts from outside the college, or from the work environment for which they are preparing to benefit from their expertise in developing the course according to the actual needs of the labor market.

TEMPLATE FOR COURSE SPECIFICATION COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This course description provides education and training for students on manufacturing organic fertilizers from animal and plant waste and using them in agriculture to fertilize the soil instead of chemical fertilizers for the purpose of producing agricultural products such as crops, vegetables, and fruits free of diseases and pesticide contamination, as well as not polluting the environment, whether soil or water

1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of tissue culture techniques and medicinal plants
3. Course title/code	Organic agriculture
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	present
6. Semester/Year	Spring semester / third stage
7. Number of hours tuition (total)	60 hours, 2 hour theoretical + 2 practical hours

8. Date of production/revision of this specification	20/ 3/ 2024

9. Aims of the Course: Granting the student a bachelor's degree in the theoretical and practical aspects in order to serve the preparation of a graduate of a distinguished level and his commitment to the practical arena**.**

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

Course outcomes and methods of teaching, learning and assessment .٩

A- Cognitive goals

A1- Teaching students how to deal with summer vegetable crops so that they have modern scientific specifications, methods of their management and factors affecting their productivity

A2 - Introducing students to how to develop summer vegetable crops so that they are able to describe and serve them of various kinds

A3 - Enable the student to know how to deal with laboratory materials and equipment

B - Skills objectives of the program

B1 - To provide the student with the skills of applying scientific methods with regard to the management of summer vegetable crops

B 2 - Training the student on the correct foundations in picking, sorting and marketing the fruits to reach high productivity

B 3 - To provide the student with the necessary skills to conduct laboratory tests related to vegetables and soil and how to give appropriate scientific judgments

Teaching and learning methods

Giving scientific and theoretical lectures through displays, powerpoints, slides, microscopes, experiments in examining plant samples, using various laboratory equipment and equipment, and a wooden canopy

Evaluation methods

Take daily quick Quizzes

Conducting monthly exams

Conducting semester and final exams

C- Emotional and value goals

C1 - Enabling the student to apply theoretical information in a practical way
C 2 - Develop the patriotic spirit of the student to increase production in .quantity and quality
C 3 - Instilling the concept of community service and the best way to deal with the simple strata of the society, the peasants and farmers
C4 - Developing the ethics of the profession of agricultural engineer among students by following the correct professional behavior

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	2 theoretical 2 practical	My knowledge and skills	Introduction, historical overview, definition of organic agriculture, basic objectives of organic agricultural production	Lecture and practical lesson	Questions and answers mini practical lesson
The second	2 theoretical 2 practical	My knowledge and skills	The importance and reasons for the transition to organic agriculture globally	Lecture and practical lesson	ask questions
the third	2 theoretical 2 practical	My knowledge and skills	What are plant and animal wastes, their sources, how to use them to fertilize the soil, and their nutritional content	Lecture and practical lesson	Listen and ask questions
the fourth	2 theoretical 2 practical	My knowledge and skills	The role of organic matter in dissolving and facilitating the absorption of nutrients necessary for plant growth and soil water retention	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	2 theoretical 2 practical	My knowledge and skills	Manufacture of fertilizers from animal waste (poultry and ruminant manure)	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	2 theoretical 2 practical	My knowledge and skills	Industrial organic fertilizer (compost), properties, preparation method	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	2 theoretical 2 practical	My knowledge and skills	Factors affecting the preparation of organic fertilizer during fermentation processes, materials added to organic fertilizer	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	2 theoretical 2 practical	My knowledge and skills	Bio-organic fertilization (biofertilizers), nitrogen fixers, phosphate solvents	Lecture and practical lesson	Listening and asking practical exercise questions and work groups
Nine	2	My	Ways to add organic fertilizer	Lecture and	Asking questions

	theoretical 2 practical	knowledge and skills	to the soil	practical lesson	and listening practical exercise and work groups
The tenth	2 theoretical 2 practical	My knowledge and skills	Agricultural cycles and green manure	Lecture and practical lesson	Ask group work questions
Eleventh	2 theoretical 2 practical	My knowledge and skills	Scientific foundations for producing vegetables and fruits organically	Lecture and practical lesson	Mini-lesson work groups
Twelveth	2 theoretical 2 practical	My knowledge and skills	Reasons for switching to organic agriculture and organic production	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	2 theoretical 2 practical	My knowledge and skills	Specifications of organic products	Lecture and practical lesson	ask questions
Fourteenth	2 theoretical 2 practical	My knowledge and skills	A field visit to one of the organic farms in the region	Lecture and practical lesson	Asking practice questions
Fifteenth	2 theoretical 2 practical	My knowledge and skills	Showing films about the development of organic agriculture	Lecture and practical lesson	Asking practical questions

12. Admissions

-Providing the possibility of academic support in organizing field visits.

-Providing an appropriate classroom environment that enables the teacher to diversify teaching strategies.

-Providing information technology in the campus library.

-Hosting experts from outside the college, or from the work environment for which they are preparing to benefit from their expertise in developing the course according to the actual needs of the labor market.

TEMPLATE FOR COURSE SPECIFICATION COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This course description provides the student's introduction to the biochemical processes .that occur within a plant in order for it to obtain its food, grow, and produce

1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of tissue culture techniques and medicinal plants
3. Course title/code	Biochemistry-2
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	present
6. Semester/Year	Spring semester / first stage
7. Number of hours tuition (total)	60 hours, 2 hour theoretical + 2 practical hours
8. Date of production/revision of this specification	20/ 3/ 2024
9. Aims of the Course: Granting the student a bachelor's degree in the theoretical and practical aspects in order to serve the preparation of a graduate of a distinguished level and his commitment to the practical arena**.**	
10.Course outcomes and methods of teaching, learning and assessment Course outcomes and methods of teaching, learning and assessment .٩ A- Cognitive goals A1- Teaching students how to deal with summer vegetable crops so that they have modern scientific specifications, methods of their management and	

factors affecting their productivity
A2 - Introducing students to how to develop summer vegetable crops so that they are able to describe and serve them of various kinds
A3 - Enable the student to know how to deal with laboratory materials and equipment

B - Skills objectives of the program
B1 - To provide the student with the skills of applying scientific methods with regard to the management of summer vegetable crops
B 2 - Training the student on the correct foundations in picking, sorting and marketing the fruits to reach high productivity
B 3 - To provide the student with the necessary skills to conduct laboratory tests related to vegetables and soil and how to give appropriate scientific judgments

Teaching and learning methods
Giving scientific and theoretical lectures through displays, power points, slides, microscopes, experiments in examining plant samples, using various laboratory equipment and equipment, and a wooden canopy

Evaluation methods
Take daily quick Quizzes
Conducting monthly exams
Conducting semester and final exams

C- Emotional and value goals
C1 - Enabling the student to apply theoretical information in a practical way
C 2 - Develop the patriotic spirit of the student to increase production in .quantity and quality
C 3 - Instilling the concept of community service and the best way to deal with the simple strata of the society, the peasants and farmers
C4 - Developing the ethics of the profession of agricultural engineer among students by following the correct professional behavior

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	2 theoretical 2 practical	My knowledge and skills	Definition of biochemistry, brief historical scope of biochemistry. An interconnected relationship	Lecture and practical lesson	Questions and answers mini practical lesson
The second	2 theoretical 2 practical	My knowledge and skills	The importance of the cell in the study of biochemistry, a brief deception of physics	Lecture and practical lesson	ask questions
the third	2 theoretical 2 practical	My knowledge and skills	Water level and reaction (PH)	Lecture and practical lesson	Listen and ask questions
the fourth	2 theoretical 2 practical	My knowledge and skills	Carbohydrate chemistry	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	2 theoretical 2 practical	My knowledge and skills	Amino acids	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	2 theoretical 2 practical	My knowledge and skills	Peptides	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	2 theoretical 2 practical	My knowledge and skills	Lipids (fatty substances) and fatty acids	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	2 theoretical 2 practical	My knowledge and skills	Neodo Acids	Lecture and practical lesson	Listening and asking practical exercise questions and work groups
Nine	2 theoretical 2 practical	My knowledge and skills	Enzymes, vitamins and coenzymes	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	2 theoretical	My knowledge	Bioenergy (external lines)	Lecture and practical	Ask group work questions

	2 practical	and skills		lesson	
Eleventh	2 theoretical 2 practical	My knowledge and skills	Bioenergy (external lines)	Lecture and practical lesson	Mini-lesson work groups
Twelfth	2 theoretical 2 practical	My knowledge and skills	Carbohydrate Metabolism (Brief)	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	2 theoretical 2 practical	My knowledge and skills	Carbohydrate Metabolism (Brief)	Lecture and practical lesson	ask questions
Fourteenth	2 theoretical 2 practical	My knowledge and skills	Carbohydrate Metabolism (Brief)	Lecture and practical lesson	Asking practice questions
Fifteenth	2 theoretical 2 practical	My knowledge and skills	Carbohydrate Metabolism (Brief)	Lecture and practical lesson	Asking practical questions

12. Admissions

-Providing the possibility of academic support in organizing field visits.

-Providing an appropriate classroom environment that enables the teacher to diversify teaching strategies.

-Providing information technology in the campus library.

-Hosting experts from outside the college, or from the work environment for which they are preparing to benefit from their expertise in developing the course according to the actual needs of the labor market.

TEMPLATE FOR COURSE SPECIFICATION COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This course description provides the student with an introduction to the importance of planning and implementing agricultural experiments, how to control experimental error, and studying the designs used in the field of agricultural experiments. The .student becomes able to plan and implement the design and analyze its data

1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of tissue culture techniques and medicinal plants
3. Course title/code	Experimental Design-1
4. Program(s) to which it contributes	Present
5. Modes of Attendance offered	present
6. Semester/Year	Spring semester / third stage
7. Number of hours tuition (total)	75 hours, 1 hour theoretical + 4 practical hours
8. Date of production/revision of this specification	20/ 3/ 2024
9. Aims of the Course: Granting the student a bachelor's degree in the theoretical and practical aspects in order to serve the preparation of a graduate of a distinguished level and his commitment to the practical arena**.**	

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	2 theoretical 4 practical	My knowledge and skills	General definitions, experiment, design, working experimental unit, experimental error, conditions for controlling experimental error, basic rules for designing experiments, requirements for a good experiment, steps followed in .scientific experiments	Lecture and practical lesson	Questions and answers mini practical lesson
The second	2 theoretical 4 practical	My knowledge and skills	The design is completely randomized, advantages, disadvantages, using the design in the case of recording one observation for each experimental unit, A - in the case of the equal number of repetitions B - in the case .of unequal repetitions	Lecture and practical lesson	ask questions
the third	2 theoretical 4 practical	My knowledge and skills	The design is completely randomized, advantages, disadvantages, using the design in the case of recording one observation for each experimental unit, A - in the case of the equal number of repetitions B - in the case .of unequal repetitions	Lecture and practical lesson	Listen and ask questions
the fourth	2 theoretical 4 practical	My knowledge and skills	Diagnosing the significance of differences between arithmetic means, the coefficient of variation in the .experiment	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	2 theoretical 4 practical	My knowledge and skills	Randomized complete block design, conditions for using the design, advantages and	Lecture and practical lesson	Practical exercise, meeting and work groups

			disadvantages of the design, sources of variation, .randomization		
Six	2 theoretical 4 practical	My knowledge and skills	Analysis of variance, determining the number of replicates, estimating the missing value (or more) in .sectors	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	2 theoretical 4 practical	My knowledge and skills	Analysis of variance, determining the number of replicates, estimating the missing value (or more) in .sectors	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	2 theoretical 4 practical	My knowledge and skills	Efficiency of randomized complete block design, Latin square design, conditions of use, advantages and .disadvantages of the design	Lecture and practical lesson	Listening and asking practical exercise questions and work groups
Nine	2 theoretical 4 practical	My knowledge and skills	Sources of variation in Latin square, analysis of variance, missing value estimation or .more	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	2 theoretical 4 practical	My knowledge and skills	Factorial experiments, their conditions, advantages and disadvantages	Lecture and practical lesson	Ask group work questions
Eleventh	2 theoretical 4 practical	My knowledge and skills	Sources of variation in factorial experiments, analysis of variance, .interaction and its types	Lecture and practical lesson	Mini-lesson work groups
Twelveth	2 theoretical 4 practical	My knowledge and skills	Split panels design, conditions, advantages, disadvantages	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	2 theoretical 4 practical	My knowledge and skills	Sources of variation in split plate experiments, analysis of variance	Lecture and practical lesson	ask questions
Fourteenth	2	My	A continuation	Lecture and	Asking practice

	theoretical 4 practical	knowledge and skills		practical lesson	questions
Fifteenth	2 theoretical 4 practical	My knowledge and skills	Correlation and regression	Lecture and practical lesson	Asking practical questions

11. Admissions

-Providing the possibility of academic support in organizing field visits.

-Providing an appropriate classroom environment that enables the teacher to diversify teaching strategies.

-Providing information technology in the campus library.

-Hosting experts from outside the college, or from the work environment for which they are preparing to benefit from their expertise in developing the course according to the actual needs of the labor market.