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: 12.04.2024
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	**22**	**85**		
Department Requirements	**13**	**34**		
Summer Training	**There isn't**	**There isn't**		
Other				

7- Program Description

Year/Level	Course Code or Course	Course Name	Credit Hours (Autumnal Semester)			
			Theoretical	Practical	Total	Number of Units
2023-2024 /Fourth		Breeding and improving /1 plant	2	2	4	3
2023-2024 /Fourth		Production of seeds of medicinal plants	1	2	3	2
2023-2024 /Fourth		tissue transplantation/2	2	4	6	3
2023-2024 /Fourth		Biologic resistance	2	2	4	3
2023-2024 /Fourth		Graduation Project	--	4	4	--
2023-2024 /Fourth		Design and analysis of /2 experiences	1	4	5	3
2023-2024 /Fourth		English /4	2	--	2	2
2023-2024 / Fourth		Total	10	18	28	17

7- Program Description

Year/Level	Course Code or Course	Course Name	Credit Hours (Spring Semester)			
			Theoretical	Practical	Total	Number of Units
2023-2024 /Fourth		Breeding and improving /2 plant	2	2	4	3
2023-2024 /Fourth		Quality of medicinal plants	1	2	3	2
2023-2024 /Fourth		The bush and its fight	2	2	4	3
2023-2024 /Fourth		Production of seeds of medicinal plants /2	1	2	3	2
2023-2024 /Fourth		General inheritance /2	2	2	4	--
2023-2024 /Fourth		Graduation Project	--	4	4	2
2023-2024 / Fourth		Total	8	14	22	17

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	
Master	Microbiology	Microbiology				lecturer
Master	chemistry	chemistry				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 / Fourth	Breeding and improving /1 plant	**Specialist**				√				√			√				√		
2024 / Fourth	Production of seeds of medicinal plants	**Specialist**					√			√			√				√		
2024 / Fourth	tissue transplantation/2	**Specialist**				√				√			√				√		
2024 / Fourth	Biologic resistance	**Specialist**				√				√			√					√	

2024 / Fourth	Graduation Project	**Specialist**				√			√					√				√	
2024 / Fourth	Design and analysis of /2 experiences	**help**					√		√					√				√	
2024 / Fourth	English /4	**General**				√				√			√		√		√		
2024 / Fourth	Breeding and improving /2 plant	**Specialist**				√				√			√						
2024 / Fourth	Quality of medicinal plants	**Specialist**				√					√		√						
	The bush and its fight	**Specialist**			√						√		√			√			
2024 / Fourth	Production of seeds of medicinal plants /2	**Specialist**			√						√		√			√			
2024 / Fourth	General inheritance /2	**Specialist**			√						√		√			√			
2024 / Fourth	Graduation Project	**Specialist**			√						√		√			√			
2024 / Fourth	**Breeding and improving /1 plant**	**Specialist**				√				√			√				√		

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	Breeding and Improving Plant-1
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	present
6. Semester/Year	Autumn semester / Fourth 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 Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	2 theoretical 2 practical	My knowledge and skills	Introduction	Lecture and practical lesson	Questions and answers mini practical lesson
The second	2 theoretical 2 practical	My knowledge and skills	The goals of plant breeding and improvement	Lecture and practical lesson	ask questions
the third	2theoretical 2 practical	My knowledge and skills	Plant cell	Lecture and practical lesson	Listen and ask questions
the fourth	2 theoretical 2 practical	My knowledge and skills	Types of cell division: normal division	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	2theoretical 2 practical	My knowledge and skills	Pollination in plants	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	2 theoretical 2 practical	My knowledge and skills	Mendel's laws in plant breeding and genetics	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	2 theoretical 2 practical	My knowledge and skills	The new changes	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	2 theoretical 2 practical	My knowledge and skills	Qualitative traits and their relationship to genetic factors, quantitative traits and their relationship to genetic factors.	Lecture and practical lesson	Listening and asking practical exercise questions and work groups

Nine	2 theoretical 2 practical	My knowledge and skills	The relationship between the inheritance of traits and environmental conditions, the interaction between genetics and the environment in plant breeding.	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	2theoretical 2 practical	My knowledge and skills	Methods of plant breeding and improvement, method of introduction from similar environments, acclimatization, and evaluation.	Lecture and practical	Ask group work questions
Eleventh	2 theoretical 2 practical	My knowledge and skills	Selection methods: individual selection, quantitative selection, group selection.	Lecture and practical lesson	Mini-lesson work groups
twelveth	2 theoretical 2 practical	My knowledge and skills	Hybridization methods: single hybridization, pair hybridization, and multiple hybridization.	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	2 theoretical 2 practical	My knowledge and skills	Creating genetic mutations, physical mutagens, and chemical mutagens.	Lecture and practical lesson	ask questions
Fourteenth	2 theoretical 2 practical	My knowledge and skills	Genetics and development of varieties resistant to plant diseases.	Lecture and practical lesson	Asking practice questions

Fifteenth	2 theoretical 2 practical	My knowledge and skills	The development of cytoplasmic sterility, its importance, and its use in plant breeding.	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.

TEMPLATE FOR COURSE SPECIFICATION COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

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1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of Tissue Culture Techniques and Medicinal Plants
3. Course title/code	Production of seeds medical plant ١
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	present
6. Semester/Year	Autumn semester / Fourth 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 Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	1 theoretical 2 practical	My knowledge and skills	Definition of medicinal plants and a general overview of medicinal seeds in Iraq	Lecture and practical lesson	Questions and answers mini practical lesson
The second	1 theoretical 2 practical	My knowledge and skills	Seed shape and internal structure	Lecture and practical lesson	ask questions
the third	1 theoretical 2 practical	My knowledge and skills	Types of medicinal seeds	Lecture and practical lesson	Listen and ask questions
the fourth	1 theoretical 2 practical	My knowledge and skills	Division of medicinal plants	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	1 theoretical 2 practical	My knowledge and skills	The importance of growing medicinal plants	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	1 theoretical 2 practical	My knowledge and skills	Factors affecting seeds	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	1 theoretical 2 practical	My knowledge and skills	Medical seed farms in Iraq	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	1 theoretical 2 practical	My knowledge and skills	Cumin and cypress plants...seeds and germination	Lecture and practical lesson	Listening and asking practical exercise questions and work groups

Nine	1 theoretical 2 practical	My knowledge and skills	Henna plant and garden cress plant, seeds and germination	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	1 theoretical 2 practical	My knowledge and skills	Nigella sativa and mint seeds and germination	Lecture and practical	Ask group work questions
Eleventh	1 theoretical 2 practical	My knowledge and skills	Stevia, garlic and watercress seeds and germination	Lecture and practical lesson	Mini-lesson work groups
twelveth	1 theoretical 2 practical	My knowledge and skills	Problems of the seed production sector in Iraq	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	1 theoretical 2 practical	My knowledge and skills	Economic quality of seed farms	Lecture and practical lesson	ask questions
Fourteenth	1 theoretical 2 practical	My knowledge and skills	Seed storage and sustainability	Lecture and practical lesson	Asking practice questions
Fifteenth	1 theoretical 2 practical	My knowledge and skills	Methods of harvesting and caring for seeds	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.

TEMPLATE FOR COURSE SPECIFICATION COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

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1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of Tissue Culture Techniques and Medicinal Plants
3. Course title/code	Tissue Culture -2
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	present
6. Semester/Year	Autumn semester / Fourth stage
7. Number of hours tuition (total)	90 hours, 2 hour theoretical + 4 practical hours
8. Date of production/revision of this Specification	20 / 10/ 2021
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	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 culture	Lecture and practical lesson	ask questions
the third	2 theoretical 4 practical	My knowledge and skills	The steps involved in micropropagation. Factors affecting each of these stages and the treatment 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	My knowledge	Rapid Polyploidy	Lecture and	Case study Practical

	4 practical	and skills		practical lesson	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	Ask group work questions
Eleventh	2 theoretical 4 practical	My knowledge and skills	Embryo implantation	Lecture and practical lesson	Mini-lesson work groups
twelveth	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 haploid plants	Lecture and practical lesson	ask questions
Fourteenth	2theoretical 4 practical	My knowledge and skills	Cultivation of pollen and anthers and production of haploid plants	Lecture and practical lesson	Asking practice questions
Fifteenth	2 theoretical 4 practical	My knowledge and skills	Cultivation of axillary buds and growing tops	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.

TEMPLATE FOR COURSE SPECIFICATION COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

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

1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of Tissue Culture Techniques and Medicinal Plants
3. Course title/code	Biological Control
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	Present

6. Semester/Year	Autumn semester / Fourth 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 Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	2 theoretical 2 practical	My knowledge and skills	The importance of biological resistance and the methods used in biological resistance programs.	Lecture and practical lesson	Questions and answers mini practical lesson
The second	2 theoretical 2 practical	My knowledge and skills	Natural resistance to insects, and methods used to introduce biological enemies.	Lecture and practical lesson	ask questions
the third	2 theoretical 2practical	My knowledge and skills	Insect parasites, species, reproduction, biological characteristics of adult parasites, adult behavior	Lecture and practical lesson	Listen and ask questions
the fourth	2 theoretical 2 practical	My knowledge and skills	Insect predators, biological features of predators, strategies	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	2 theoretical 2 practical	My knowledge and skills	Bacterial resistance to pathogenic viruses	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	2 theoretical 2 practical	My knowledge and skills	Bacteria causing insect diseases.	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	2 theoretical 2 practical	My knowledge and skills	Helminths and fungal pathogens. Helminths and fungal pathogens	Lecture and practical lesson	Case study Practical exercise and work groups

Eight	2 theoretical 2 practical	My knowledge and skills	Defense mechanisms in insects, external defense, internal defense.	Lecture and practical lesson	Listening and asking practical exercise questions and work groups
Nine	2 theoretical 2 practical	My knowledge and skills	Resistance of insect parasites to host defenses	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	2 theoretical 2 practical	My knowledge and skills	Biological resistance to fungal pathogens.	Lecture and practical	Ask group work questions
Eleventh	2 theoretical 2 practical	My knowledge and skills	Bacterial and viral plant.	Lecture and practical lesson	Mini-lesson work groups
twelfth	2 theoretical 2 practical	My knowledge and skills	Integrated control of helminths on plants	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	2 theoretical 2 practical	My knowledge and skills	Methods of pest control, plant resistance, agricultural resistance.	Lecture and practical lesson	ask questions
Fourteenth	2theoretical 2 practical	My knowledge and skills	Genetic resistance	Lecture and practical lesson	Asking practice questions
Fifteenth	2 theoretical 2 practical	My knowledge and skills	Biological resistance of the forest.	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.

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1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of Tissue Culture Techniques and Medicinal Plants
3. Course title/code	Design and analysis of experiments
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	present
6. Semester/Year	Autumn semester / Fourth 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	1 theoretical 4 practical	My knowledge and skills	General definitions	Lecture and practical lesson	Questions and answers mini practical lesson
The second and the third	1 theoretical 4 practical	My knowledge and skills	The design is completely randomized	Lecture and practical lesson	ask questions
the fourth	1 theoretical 4 practical	My knowledge and skills	Diagnosing the significance of differences between arithmetic means	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	1 theoretical 4 practical	My knowledge and skills	Randomized complete block design	Lecture and practical lesson	Practical exercise, meeting and work groups
Six and Seventh	1 theoretical 4 practical	My knowledge and skills	Analysis of variance	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Eight	1 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	1 theoretical 4 practical	My knowledge and skills	Sources of variation in	Lecture and practical	Asking questions and listening

			Latin square, analysis of variance, missing value estimation or more.	lesson	practical exercise and work groups
The tenth	1 theoretical 4 practical	My knowledge and skills	Factorial experiments, their conditions, advantages and disadvantages	Lecture and practical	Ask group work questions
Eleventh	1 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	1 theoretical 4 practical	My knowledge and skills	Split panels design, conditions, advantages, disadvantages	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	1 theoretical 4 practical	My knowledge and skills	Sources of variation in split plate experiments, analysis of variance	Lecture and practical lesson	ask questions
Fourteenth	1theoretical 4 practical	My knowledge and skills	A continuation	Lecture and practical lesson	Asking practice questions
Fifteenth	1 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.

TEMPLATE FOR COURSE SPECIFICATION COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

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1. Teaching Institution	Technical College / Shatrah
2. University Department/Centre	Department of Tissue Culture Techniques and Medicinal Plants
3. Course title/code	English-4
4. Program(s) to which it contributes	/present
5. Modes of Attendance offered	/present
6. Semester/Year	Autumn semester / Fourth stage
7. Number of hours tuition (total)	30 hours, 2 hour theoretical + 0 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 0 practical	My knowledge and skills	-Rooms and fumiture -Grammar (There is/are preposition) -Pronunciation (Word stress) -Translations, Speaking (How to have good time in Sydney) -Reading and writing (Our house) -Every day English (Directions) -Exercises	Lecture and practical lesson	Questions and answers mini practical lesson
The second	2 theoretical 0 practical	My knowledge and skills	- Years - Grammar (was / were, past tense/irregular verbs) - Wrting (famous people) - Vocabulary: words groups - Every day English (When is your Birthday?) - Bxercises	Lecture and practical lesson	ask questions
the third	2 theoretical 0practical	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	Lecture and practical lesson	Listen and ask questions

			they?) - Vocabulary: Sports, Months - Questions (Where, what, who, etc) - Every day English (Fill in forms) - Exercises		
the fourth	2 theoretical 0 practical	My knowledge and skills	- Activities (We can do it!) - Listening (Can I be in your pop group?) - Pronunciation (can/ can not) - Requests and offers - Vocabulary (odd one out) - Every day English (What is the problem) - Exercises	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	2 theoretical 0 practical	My knowledge and skills	- Asking politely (I want/ I would like) - Speaking – In the restaurant (Food and drink) - Pronunciation (odd one out) - Translation - Reading (You are what you eat) - Every day English (Going shopping) - Exercises	Lecture and practical lesson	Practical exercise, meeting and work groups

Six	2 theoretical 0 practical	My knowledge and skills	- Coloure (Here and now) - Grammar (Present simple, Present Continuous) - Translation - Reading (Summer in Portugal) - Vocabulary (Cloths) - Every day English (What is the Matter) - Exercises	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	2 theoretical 0 practical	My knowledge and skills	- Holidays (Time to go) - Grammar (Present continuous for the future) - Listening (Hannan is diary) - Pronunciation (shifing sentence stess) - Translation - Vocabulary; Transport and travel - Reading and Speaking (The Smiths) - Every day English (going sightseeing) - Exercises	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	2 theoretical 0 practical	My knowledge and skills	-Rooms and fumiture -Grammar (There is/are preposition)	Lecture and practical lesson	Listening and asking practical exercise questions and work

			-Pronunciation (Word stress) -Translations, Speaking (How to have good time in Sydney) -Reading and writing (Our house) -Every day English (Directions) -Exercises		groups
Nine	2 theoretical 0 practical	My knowledge and skills	- Years - Grammar (was / were, past tense/irregular verbs) - Wrting (famous people) - Vocabulary: words groups - Every day English (When is your Birthday?) - Bxercises	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	2 theoretical 0 practical	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?) - Vocabulary: Sports, Months - Questions (Where, what, who, etc) - Every day English (Fill in	Lecture and practical	Ask group work questions

			forms) - Exercises		
Eleventh	2 theoretical 0 practical	My knowledge and skills	- Activities (We can do it!) - Listening (Can I be in your pop group?) - Pronunciation (can/ can not) - Requests and offers - Vocabulary (odd one out) - Every day English (What is the problem) - Exercises	Lecture and practical lesson	Mini-lesson work groups
Twelfth	2 theoretical 0 practical	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	Practical exercise and workgroups
Thirteenth	2 theoretical 0 practical	My knowledge and skills	- Reading (You are what you eat) - Every day English (Going shopping) - Exercises	Lecture and practical lesson	ask questions
Fourteenth	2theoretical 0 practical	My knowledge and skills	Speaking – In the restaurant (Food and drink) - Pronunciation (odd one out)	Lecture and practical lesson	Asking practice questions

			- Translation		
Fifteenth	2 theoretical 0 practical	My knowledge and skills	- Activities (We can do it!) - Listening (Can I be in your pop group?)	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.

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	Breeding and Improving Plant-2
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	present
6. Semester/Year	Spring semester / Fourth 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 Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	1 theoretical 4 practical	My knowledge and skills	Genetic redundancy and its importance in plant breeding and improvement according to the theory of (Hardy and Einberg's law)	Lecture and practical lesson	Questions and answers mini practical lesson
The second	1 theoretical 4 practical	My knowledge and skills	Characteristics studied in plant breeding and improvement programs.	Lecture and practical lesson	ask questions
the third	1 theoretical 4 practical	My knowledge and skills	Hybridization, theories explaining hybridization, measuring hybrid strength, methods of hybridization.	Lecture and practical lesson	Listen and ask questions
the fourth	1 theoretical 4 practical	My knowledge and skills	Production of hybrids in cross-pollinated crops, individual hybrids, even hybrids, synthetic varieties, and prediction of yield.	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	1 theoretical 4 practical	My knowledge and skills	Synthetic varieties, their characteristics, factors affecting the yield of the synthetic variety.	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	1 theoretical	My knowledge	Breeding vegetatively propagated	Lecture and practical	Mini Lesson Discussion Practical

	4 practical	and skills	plants, characteristics of clones, the importance of clones, methods of raising them, and their advantages.	lesson	Exercise and Workgroups
Seventh	1 theoretical 4 practical	My knowledge and skills	Calculating the heritability ratio, components of genetic variation, additional genetic variation, dominant and supra-dominant genetic variation.,	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	1 theoretical 4 practical	My knowledge and skills	Calculate general associativity (GCA) and specific associativity (SCA).	Lecture and practical lesson	Listening and asking practical exercise questions and work groups
Nine	1 theoretical 4 practical	My knowledge and skills	Breeding for resistance to diseases and insects, a technique for transferring resistance traits from wild species and varieties to cultivated and susceptible varieties.	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	1 theoretical 4 practical	My knowledge and skills	Chromosomal variation, its importance and role in plant	Lecture and practical	Ask group work questions

			breeding, complete chromosome replication, incomplete chromosome replication.		
Eleventh	1 theoretical 4 practical	My knowledge and skills	The use of genetic engineering technology, gene transfer technology, its importance and role in plant breeding, and chromosomal replication.	Lecture and practical lesson	Mini-lesson work groups
Twelfth	1 theoretical 4 practical	My knowledge and skills	The technology of using nuclear radiation to produce hybrids and radioactive varieties.	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	1 theoretical 4 practical	My knowledge and skills	Technology using genetic mutations, final products and isolation generations, determinants of breeding using mutation technology.	Lecture and practical lesson	ask questions
Fourteenth	1 theoretical 4 practical	My knowledge and skills	Beekeeping technology in plant breeding, importance, comparison with other breeding methods.	Lecture and practical lesson	Asking practice questions
Fifteenth	1 theoretical 4 practical	My knowledge and skills	Plant population breeding, indoor breeding, outdoor breeding,	Lecture and practical lesson	Asking practical questions

			genetic information bank.		

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.

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	Quality Medicinal Plants
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	present
6. Semester/Year	Spring semester / Fourth 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 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 medicinal plants, their production and use in Iraq	Lecture and practical lesson	Questions and answers mini practical lesson
The second	1 theoretical 2 practical	My knowledge and skills	The plant used and its importance to the quality of the grains	Lecture and practical lesson	ask questions
the third	1 theoretical 2 practical	My knowledge and skills	Types of medicinal plants in Iraq and their quality	Lecture and practical lesson	Listen and ask questions
the fourth	1 theoretical 2 practical	My knowledge and skills	Stages of growth and maturity of medicinal plants.	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	1 theoretical 2 practical	My knowledge and skills	Scale for determining the maturity of medicinal plants.	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	1 theoretical 2 practical	My knowledge and skills	Physiological and chemical changes that occur to plants during the storage phase.	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	1 theoretical 2 practical	My knowledge and skills	The process of breathing and its relationship to maturity and storage / the role of ethylene in the process of maturation	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	1 theoretical 2 practical	My knowledge and skills	Physiological and bacterial damage to medicinal plants during storage.	Lecture and practical lesson	Listening and asking practical exercise questions and work

					groups
Nine	1 theoretical 2 practical	My knowledge and skills	artificial ripening process	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	1 theoretical 2 practical	My knowledge and skills	Picking, sorting, grading and packing of medicinal plants	Lecture and practical	Ask group work questions
Eleventh	1 theoretical 2 practical	My knowledge and skills	packing houses	Lecture and practical lesson	Mini-lesson work groups
twelveth	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	Picking, preparing and storing flowers.	Lecture and practical lesson	ask questions
Fourteenth	1 theoretical 2 practical	My knowledge and skills	enzymes	Lecture and practical lesson	Asking practice questions
Fifteenth	1 theoretical 2 practical	My knowledge and skills	inhibitors	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.

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	Weeds and Control
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	present
6. Semester/Year	Spring semester / Fourth 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 Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	2 theoretical 2 practical	My knowledge and skills	The definition of jungles n losses caused by the bush in the agricultural, social and health .aspects of man	Lecture and practical lesson	Questions and answers mini practical lesson
The second	2 theoretical 2 practical	My knowledge and skills	The benefits of medicinal bushes n Preserve the soil from erosion, how to diagnose soil salinity, bush .and feed crops	Lecture and practical lesson	ask questions
the third	2 theoretical 2 practical	My knowledge and skills	The division of bush plants, according to the growth season, according to the length of life, according to the damage caused by them, the propagation methods of .the bushes	Lecture and practical lesson	Listen and ask questions
the fourth	2 theoretical 2 practical	My knowledge and skills	Contradiction and inhibition in .bush plants	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	2 theoretical 2 practical	My knowledge and skills	.Prevention of bush plants	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	2 theoretical 2 practical	My knowledge and skills	Mechanical method in the fight against bush, the use of agricultural mechanization equipment in the fight against the bush, the program of the fight .against the bush	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	2 theoretical 2 practical	My knowledge and skills	Biological methods of control, use of insects, pathogens, fish, goats, .etc	Lecture and practical lesson	Case study Practical exercise and work groups

Eight	2 theoretical 2 practical	My knowledge and skills	Use of physiological method in control, use of suffocating, temporary crops, use of fire, use of .water dispersion	Lecture and practical lesson	Listening and asking practical exercise questions and work groups
Nine	2 theoretical 2 practical	My knowledge and skills	Methods of absorption and transport of pesticides, Radical transport system, Cellular, Joint .cell-cell transport	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	2 theoretical 2 practical	My knowledge and skills	Methods of absorption and transport of pesticides, Radical transport system, Cellular, Joint .cell-cell transport	Lecture and practical	Ask group work questions
Eleventh	2 theoretical 2 practical	My knowledge and skills	Pesticides and soil, factors affecting the effectiveness of pesticides in soil, residual effect of .pesticides in soil	Lecture and practical lesson	Mini-lesson work groups
Twelfth	2 theoretical 2 practical	My knowledge and skills	Study of Piperidium Pesticides .((Paracetate, Dai Quayt	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	2 theoretical 2 practical	My knowledge and skills	Study of phenoxy group pesticides ((2,4-5-T, MCPA, R14-D	Lecture and practical lesson	ask questions
Fourteenth	2 theoretical 2 practical	My knowledge and skills	Triazine group study (Atrazine, .(Seminarin	Lecture and practical lesson	Asking practice questions
Fifteenth	2 theoretical 2 practical	My knowledge and skills	The definition of jungles n losses caused by the bush in the agricultural, social and health .aspects of man	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.

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	Production of seeds medical plant2
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	present
6. Semester/Year	Spring semester / Fourth 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 Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	1 theoretical 2 practical	My knowledge and skills	An overview of medicinal seeds in Iraq	Lecture and practical lesson	Questions and answers mini practical lesson
The second	1 theoretical 2 practical	My knowledge and skills	Anatomy of seeds	Lecture and practical lesson	ask questions
the third	1 theoretical 2 practical	My knowledge and skills	Seed growth and germination process	Lecture and practical lesson	Listen and ask questions
the fourth	1 theoretical 2 practical	My knowledge and skills	Seed quality and factors affecting it	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	1 theoretical 2 practical	My knowledge and skills	Medical seed farms in the world and Iraq	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	1 theoretical 2 practical	My knowledge and skills	Problems of medical seeds in Iraq	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	1 theoretical 2 practical	My knowledge and skills	Planting stevia seeds	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	1 theoretical 2 practical	My knowledge and skills	Planting reishi mushroom seeds	Lecture and practical lesson	Listening and asking practical exercise questions and work groups

Nine	1 theoretical 2 practical	My knowledge and skills	Planting garlic and watercress seeds	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	1 theoretical 2 practical	My knowledge and skills	Modern techniques for seed production	Lecture and practical	Ask group work questions
Eleventh	1 theoretical 2 practical	My knowledge and skills	Challenges of seed production in the Iraqi agricultural sector	Lecture and practical lesson	Mini-lesson work groups
twelveth	1 theoretical 2 practical	My knowledge and skills	Medicinal seeds resistant to climate factors	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	1 theoretical 2 practical	My knowledge and skills	Agricultural economic costs of producing medical seeds in Iraq	Lecture and practical lesson	ask questions
Fourteenth	1 theoretical 2 practical	My knowledge and skills	Seed storage, agricultural timings, and agricultural preparations	Lecture and practical lesson	Asking practice questions
Fifteenth	1 theoretical 2 practical	My knowledge and skills	Harvesting medicinal seeds and post-harvest treatments	Lecture and practical lesson	Asking practical questions

11. Admissions

-Providing the possibility of academic support in organizing field visits.
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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	General Geneticts-2
4. Program(s) to which it contributes	present
5. Modes of Attendance offered	present
6. Semester/Year	Spring semester / Fourth 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 Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	2 theoretical 2 practical	My knowledge and skills	Introduction to the history and genetics	Lecture and practical lesson	Questions and answers mini practical lesson
The second	2 theoretical 2 practical	My knowledge and skills	Cytological basis of Mendelian inheritance	Lecture and practical lesson	ask questions
the third	2 theoretical 2 practical	My knowledge and skills	Mendelian inheritance	Lecture and practical lesson	Listen and ask questions
the fourth	2 theoretical 2 practical	My knowledge and skills	Genetic overlap	Lecture and practical lesson	Practical exercise, meeting and work groups
Fifth	2 theoretical 2 practical	My knowledge and skills	The chemical basis of genetic material	Lecture and practical lesson	Practical exercise, meeting and work groups
Six	2 theoretical 2 practical	My knowledge and skills	Multiple alleles	Lecture and practical lesson	Mini Lesson Discussion Practical Exercise and Workgroups
Seventh	2 theoretical 2 practical	My knowledge and skills	Sex determination systems and sex-linked genetics	Lecture and practical lesson	Case study Practical exercise and work groups
Eight	2 theoretical 2 practical	My knowledge and skills	Linkage, crossing, and genetic maps	Lecture and practical lesson	Listening and asking practical exercise questions and work groups

Nine	2 theoretical 2 practical	My knowledge and skills	Environmental (oceanic) influences	Lecture and practical lesson	Asking questions and listening practical exercise and work groups
The tenth	2 theoretical 2 practical	My knowledge and skills	Genetic mutations	Lecture and practical	Ask group work questions
Eleventh	2 theoretical 2 practical	My knowledge and skills	Chromosome	Lecture and practical lesson	Mini-lesson work groups
twelveth	2 theoretical 2 practical	My knowledge and skills	Quantitative genetics	Lecture and practical lesson	Practical exercise and workgroups
Thirteenth	2 theoretical 2 practical	My knowledge and skills	Quantitative genetics supplement	Lecture and practical lesson	ask questions
Fourteenth	2 theoretical 2 practical	My knowledge and skills	Genes controlling the trait	Lecture and practical lesson	Asking practice questions
Fifteenth	2 theoretical 2 practical	My knowledge and skills	Genetic redundancy	Lecture and practical lesson	Asking practical questions

11. Admissions

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

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-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.