Description Form of Postharvest fruit storage

1. Course Title:
Postharvest fruit storage
2. Course Code:
POFS410
3. Semester / Year:
Second Semester / 2024-2025
4. Date of preparation of this description :
15/1/2025
5. Available Forms of Attendance:
Attending
6. Number of Credit Hours (Total) / Number of Units (Total):
75 hours / 3.5 units
7. Course administrator's name (if more than one name)
Assist. Prof. Khaled Ibrahim Mustafa
8. Course Objectives
- Teaching students some sciences related to the fruits of horticultural crops. - Teaching students how to store different fruits. - Teaching students how to store different fruits of vegetables. - Teaching students how to store flowers of different types of ornamental plants. - Teaching students to determine the ripening date of horticultural crops. - Teaching students to use some materials used to extend the shelf life of crops. - Teaching students how to pack horticultural crops and deliver them to the consumer. - Teach students how to study the chemical changes that occur in horticultural crops.
9. Teaching and Learning Strategies
- Training students to obtain the scientific skills necessary for storing fruits. - Training students to obtain practical skills in the use of modern laboratory equipment for measuring the quality of fruits of horticultural crops. - Providing students with the practical field skills necessary to determine the date of ripening and harvesting fruits .

- Training students to obtain the skills required to work in the specialty of care and storage of horticultural crops, including accuracy in work, patience and dealing with fruits on the basis that they are a living organism.

10. Course Structure

Evaluation method	Learning method	Unit or subject name	Required Learning Outcomes	Hours	The week
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Introduction to the historicity of the development of post-harvest science	The importance of cold storage for horticultural crops.	2	1
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Causes of damage to horticultural crops after harvest.	Identify the causes of damage to horticultural crops after harvest.	2	2
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Stages of formation and growth of fruits and horticultural crops .	Learn about the stages of formation and growth of fruits and horticultural crops	2	3
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Measures of completion of ripening in fruits .	Recognize the measures of maturity completion in fruits	2	4
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Fruit transactions after harvest. .	The student should learn how to conduct fruit transactions after harvest .	2	5
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Methods of rapid cooling of fruits after harvesting.	The student should learn how to conduct rapid cooling methods for fruits after harvesting.	2	6
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	The chemical composition of the fruits and the changes that occur in them during ripening and storage.	The student should learn the chemical composition of the fruits and the changes that occur in them during ripening and storage.	2	7
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Respiration in horticultural crops and the phenomenon of clymacteric	The student should learn how to measure spiration in horticultural crops and the phenomenon of climetic.	2	8

Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Ethylene and its relationship to the physiology of fruit ripening.	To teach the student the effect of ethylene and its relationship to the physiology of fruit ripening.	2	9
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Industrial ripening .	The student should learn how to perform the process of artificial ripening.	2	10
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Methods of storing horticultural crops..	The student should learn methods of storing horticultural crops.	2	11
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Factors affecting the speed of weight loss in fruits .	The student should learn about the factors affecting the speed of weight loss in fruits	2	12
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Optimal conditions for storing some horticultural crops	Teaching the student on the optimal conditions for storing some horticultural crops	2	13
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Quality Indicators in Horticultural Crops	The student learns about the quality indicators in horticultural crops	2	14
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Pick and store ornamental plants..	Teach the student how to pick and store ornamental plants.	2	15
Practical part					
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	The Histological and morphological fruit characters .	Practical applications	3	1
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	The Histological and morphological fruit characters .	Practical applications	3	2
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Studying the ripening indices.	Practical applications	3	3
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Studying fruit frimness and pectins.	Practical applications	3	4

Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Studying the changes in organic acids and PH in the fruits.	Practical applications	3	5
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Studying the changes in Ascorbic acid contentin the fruits.	Practical applications	3	6
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Studying the changes in total sugars and reducing sugar and plant pigments in fruits.	Practical applications	3	7
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Studying the changes in total sugars and reducing sugar and plant pigments in fruits.	Practical applications	3	8
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Studying the changes in respiration in the fruit and the methods of measuring the rate of resperition.	Practical applications	3	9
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Studying the changes in respiration in the fruit and the methods of measuring the rate of resperition.	Practical applications	3	10
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	The studying of different methods of storing	Practical applications	3	11
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	The studying of different methods of storing	Practical applications	3	12
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Horticultural commidity and the case student given by the students during practical class.	Practical applications	3	13
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Horticultural commidity and the case student given by the students during practical class.	Practical applications	3	14
Quick and monthly exams, classroom activity and reports	Lecture, discussion, reports, laboratories,	Visiting some cold stires in the area.	Practical applications	3	15

11. Course Evaluation

- Daily quick exams (Kozat).
- Monthly exams (two or more).

- Evaluation of students' classroom activity. Evaluate laboratory activities for students - Assessments on writing scientific reports and homework .

12. Learning and Teaching Resources

	Required textbooks (methodology, if any)
Care and storage of horticultural crops \ Prof. Ghaleb Nasser Al-Shammari	Main references (sources)
Physiology of horticultural crops after harvest \ Dr. AbdulIlah Mikhlif Al-Ani	Recommended books and references (scientific journals, reports...)
International Information Network on Course Topic	Electronic References, Websites