# Course Description Form

1. Course Name:

Fruit production

2. Course Code

FRPR208

3. Semester / Year:

First semester/ second stage 2023-2024

4. Description Preparation Date:

1/2/2024

5. Available Attendance Forms:

Attending

6. Number of Credit Hours (Total) / Number of Units (Total)

2 Theoretical + 3 Practical / 3.5

7. Course administrator's name (mention all, if more than one name)

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8. Course Objectives

- The learner should be able to determine the needs of fruit trees from environmental conditions
- The student learns about the stages of growth and maturity that fruits go through
- Familiarity with different cultivation systems for fruit trees
- Familiarity with all horticultural service operations to sustain fruit orchards
- Understanding the basics of tree development and fertilization to obtain ideal trees and fruits
- Distinguishing between types of trees according to the nature of their growth
- Familiarity with the information the farmer needs to establish and plan fruit orchards
- The student's awareness of all methods of propagating fruit trees and the advantages and disadvantages of each of them
- Determine the appropriate type of
- Finding solutions to many of the problems faced by producers of fruit trees and fruit orchards
- A comprehensive study of the needs of the different types of deciduous and evergreen fruit trees and how to preserve them and determine the controls and conditions that must be observed when sustaining them for the longest possible period

## 9. Teaching and Learning Strategies

- Interactive lecture
- Brainstorming
- Dialogue and discussion
- Field Training
- Practical exercises
- Field project
- Self–education

## 10. Course Structure

| Week | Hours | Required Learning Outcomes | Unit or subject name | Learning method | Evaluation method |
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| 1 | 2 Theoretica<br>3 Practical | theoretical:<br>A1: The student is introduced to fruit science and the divisions of fruit trees..<br>A2: The student learns about the environmental conditions necessary for the growth of fruit trees, fruit science and the appropriate environmental conditions for fruit trees<br>practical:<br>C3: Uses the information the student needs and what is available to him to master his work | theoretical:<br>fruit science and the appropriate environmental conditions for fruit trees<br><br>practical:<br>Identifying the practical concepts of fruit science | Interactive lecture, brainstorming, dialogue and discussion, short test, written test, and assignment of an assignment.<br><br>practical:<br>Assigning practical tasks and reports | Short exams, assignments, discussions |
| 2 | 2 Theoretica<br>3 practical | Theoretical:<br>A2: The student is familiar with the types of soil and soil suitable for growing fruit trees<br><br>practical:<br>C3:Uses the information the student needs and what is available to him to master his work he student learns about | theoretical:<br>Establishing and planning the orchard<br><br>practical:<br>How to identify fruit trees and distinguish between them (varieties, order, family, etc.) | Theoretical:<br>Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion<br><br>practical:<br>Assigning practical tasks | Short exams, assignments, discussions |

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| | | fertilizer and its types | | and reports | |
| 3 | 2 Theoretica<br>3 practical | theoretical:<br>A2: The student identifies the types of orchards and the conditions for establishing them<br>B1: Choose the appropriate farming system for each type of fruit<br>B1: Calculates the amount of trees needed to plant any orchard<br>C1: Names all fruits by their English, scientific, and family names.<br>practical:<br>Uses the information the student needs and what is available to him to master his work<br>C4: Draws up plans and programs for development in the field of fruit production in accordance with the requirements of the environment and society<br>D1: Acquiring the communication skills necessary to deal with confidence and certainty at the individual and group levels | theoretical:<br>Systems and dates for planting fruit trees<br><br>practical<br>How to practice choosing a site to establish an orchard | Theoretical:<br>Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion<br><br>practical :<br>Assigning practical tasks and reports | Short exams, assignments, discussions |
| 4 | 2 Theoretica<br>3 practical | Theoretical<br>A2: The student is familiar with pruning and breeding methods.<br>A2: The student explains the methods of sexual and vegetative reproduction.<br><br>practical:<br><br>C3: Uses the information the student needs and what is available to him to | theoretical:<br>Sexual and vegetative reproduction have their advantages and disadvantages. | Theoretical:<br>Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion<br><br>practical:<br>Assigning practical tasks and reports | Short exams, assignments, discussions |

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| | | master his work<br>C4: Draws up plans and programs for development in the field of fruit production in accordance with the requirements of the environment and society<br>C5: Successfully balances the investment and use of fruit plants and uses them appropriately for the region in which they are grown<br>A3: It solves the problems of difficulty in growing some fruits<br>B4: Recommend any successful propagation methods for the fruit species | practical:<br>Identify the appropriate environmental conditions for growing fruit trees | | |
| 5 | 2 Theoretica<br>3 practical | theoretical:<br>A3: It solves the problems of difficulty in growing some fruits<br>B4: Recommend any successful propagation methods for the fruit species<br><br>practical:<br>C3: Uses the information the student needs and what is available to him to master his work<br>C4: Draws up plans and programs for development in the field of fruit production in accordance with the requirements of the environment and society<br>D1: Acquiring the communication skills necessary to deal with confidence and certainty at the individual and group levels. | theoretical:<br>How to overcome the problems of fruit tree propagation<br><br>practical:<br>Practical steps for planning the orchard land.. | Theoretical:<br>Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion<br>practical :<br>Assigning practical tasks and reports | Short exams, assignments, discussions |
| 6 | 2 Theoretica | Theoretical: | theoretical: | Theoretical: | Short |

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| | 3 practical | B4: Suggests the method and type of fertilizer added to the type of fruit<br>B4: Determines the nutrient deficiency of the type of fruit<br>.<br>practical :<br>C2: Creates new systems for types of orchards by hand, using modern computer applications, and with the ability to select plants according to the prevailing climatic conditions.<br>C3: Uses the information the student needs and what is available to him to master his work<br>C4: Draws up plans and programs for development in the field of fruit production in accordance with the requirements of the environment and society<br>C5: Successfully balances the investment and use of fruit plants and uses them appropriately for the region in which they are grown. | Fertilizing fruit trees, methods, and dates for adding them<br><br>practical:<br>Drawing the agricultural systems of the orchard. | Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion<br><br>practical :<br>Assigning practical tasks and reports | exams, assignments, discussions |
| 7 | 2 Theoretica<br>3 practical | theoretical:<br>A2: The student is familiar with the nature of growth and environmental needs of apple trees.<br>A2: The student is familiar with the most important principles of apple trees.<br>A2: The student is familiar with the methods of planting and caring for apple trees.<br>A2: The student is familiar with methods | theoretical:<br>Apples, origin and original habitat: environmental conditions and assets used, service operations, cultivation, flowering, pollination, maturity, and control. | Theoretical:<br>Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion<br><br>practical :<br>Assigning practical tasks and reports | Short exams, assignments, discussions |

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| | | of setting and breaking fruit seeds and horticultural service operations<br><br>practical:<br>C2: Creates new systems for types of orchards by hand, using modern computer applications, and with the ability to select plants according to the prevailing climatic conditions.<br>C3: Uses the information the student needs and what is available to him to master his work<br>C4: Draws up plans and programs for development in the field of fruit production in accordance with the requirements of the environment and society<br>C5: Successfully balances the investment and use of fruit plants and uses them appropriately for the region in which they are grown<br>D1: Acquiring the communication skills necessary to deal with confidence and certainty at the individual and group levels. | practical:<br>A scientific visit to one of the private orchards, focusing on agricultural systems. | | |
| 8 | 2 Theoretica<br>3 practical | Theoretical<br>A2: The student is familiar with the nature of growth and environmental needs of olive trees<br><br>practical :<br>C3: Uses the information the student needs and what is available to him to | theoretical:<br>Olives, origin and original habitat: environmental conditions<br><br>practical:<br>Practical steps for pruning fruit trees | Theoretical:<br>Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion<br><br>practical :<br>Assigning practical tasks and reports | Short exams, assignments, discussions |

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| | | master his work<br>C5: Successfully balances the investment and use of the pruning process and employs it in a way that is compatible with the processes of crop production and tree coordination. | | | |
| 9 | 2 Theoretica<br>3 practical | theoretical:<br>A2: The student is familiar with methods of setting and breaking dormancy for fruit seeds and horticultural service operations for olives<br><br>practical:<br>C2: He creates new systems for types of orchards by hand, using modern computer applications, and with the ability to select plants according to the prevailing climatic conditions.<br>C3: Uses the information the student needs and what is available to him to master his work<br>A2: It determines the types of fruit trees to be raised, the different breeding methods, and their economic and environmental importance<br>C5: Successfully balances the investment and use of the pruning process and employs it in a way that is compatible with the processes of crop production and tree coordination.. | theoretical:<br>Olives, service operations, cultivation, flowering and pollination<br><br>practical:<br>Practical steps for raising fruit trees | Theoretical:<br>Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion<br><br>practical :<br>Assigning practical tasks and reports | Short exams, assignments, discussions |
| 10 | 2 Theoretica<br>3 practical | Theoretical:<br>A2: The student is familiar with the nature of growth and environmental needs | theoretical:<br>Peaches, origin and original habitat: environmental conditions | Theoretical:<br>Live lectures, PowerPoint slides, introductory | Short exams, assignments, discussions |

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| | | of peach trees.<br><br>practical :<br>A2: Determines the types of fruit seeds and cultivation methods<br>C3: Uses the information the student needs and what is available to him to master his work<br>C4: Draws up plans and programs for development in the field of fruit seed cultivation in accordance with environmental, economic and societal requirements<br>C5: Successfully balances the investment and use of the pruning process and employs it in a way that is compatible with the processes of crop production and tree coordination.. | practical:<br>Practical steps for planting fruit seeds | images, direct dialogues and discussion<br>practical :<br>Assigning practical tasks and reports | |
| 11 | 2 Theoretica<br>3 practical | theoretical:<br>A2: The student is familiar with methods of setting and breaking dormancy for fruit seeds and horticultural service operations for peaches practical:<br><br>practical:<br>A2: Determines the method of vegetative propagation of fruit trees<br>C3: Uses the information the student needs and what is available to him to master his work<br>C5: Successfully balances investment in vegetative propagation methods and employs them appropriately to produce plants. | theoretical:<br>Peaches, service operations, cultivation, flowering, pollination, ripening, and control<br><br>practical:<br>Practical steps for vegetative propagation of fruit trees | Theoretical:<br>Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion<br>practical :<br>Assigning practical tasks and reports | Short exams, assignments, discussions |
| 12 | 2 Theoretica<br>3 practical | theoretical:<br>A2 :The student is | theoretical:<br>Pomegranate, origin and | Theoretical:<br>Live lectures, | Short exams, |

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| | | familiar with the nature of growth and environmental needs of pomegranate trees<br><br>practical:<br>A2: Determines the fertilization method for fruit trees<br>C3: Uses the information the student needs and what is available to him to master his work<br>C4: Draws up plans and programs for development in the field of fruit tree fertilization in accordance with the requirements of the environment, society, and economic conditions<br>C5: Successfully balances the investment and use of fertilization and its employment in a way that is compatible with fruit production processes | original habitat: environmental conditions<br><br>practical:<br>Practical steps for fertilizing fruit trees | PowerPoint slides, introductory images, direct dialogues and discussion<br><br>practical:<br>Assigning practical tasks and reports | assignments, discussions |
| 13 | 2 Theoretica<br>3 practical | Theoretical<br>A2: The student is familiar with the nature of growth and environmental needs of pear trees.<br><br>practical:<br>A2: Determines the method of ripening of fruits of fruit trees<br>C3: Uses the information the student needs and what is available to him to master his work<br>C5: Successfully balances the investment and use of fruit ripening methods in fruit trees and employs them in a way that is appropriate to | theoretical:<br>Pears, origin and original habitat: environmental conditions<br><br>practical:<br>Practical steps for signs of ripening and harvesting fruits | Theoretical:<br>Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion<br>practical:<br>Assigning practical tasks and reports | Short exams, assignments, discussions |

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| | | production processes. | | | |
| 14 | 2 Theoretica<br>3 practicals | theoretical:<br>A2: The student is familiar with the nature of growth and environmental needs of pear trees..<br><br>practical:<br>C3: Uses the information the student needs and what is available to him to master his work<br>C4: Draws up plans and programs for development in the field of olive tree cultivation in accordance with the requirements of the environment, society, and economic resources<br>C5: Successfully balances the investment and use of olive trees and their employment in a way that is compatible with coordination and production processes<br>D2: Dealing with modern technology efficiently that enables him to accomplish his scientific and practical tasks | theoretical:<br>Pears, service operations, cultivation, flowering, pollination, ripening, and control<br><br>practical:<br>Practical steps for olive cultivation.. | Theoretical:<br>Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion<br><br>practical :<br>Assigning practical tasks and reports | Short exams, assignments, discussions |
| 15 | 2 Theoretica<br>3 practical | Theoretical<br>Solve the problem<br><br>practical :<br>The student learns the most important Types of plant environments through a scientific visit<br>A scientific visit to one of the environmental sites. | theoretical:<br>A scientific visit to a nearby site and submit a report on the most important processes in plant environments<br>practical:<br>Writing a report on the most important propagated plants and horticultural operations carried out in the nursery. | Theoretical:<br>Live lectures, PowerPoint slides, introductory images, direct dialogues and discussion<br>practical :<br>Assigning practical tasks and reports | Short exams, assignments, discussions |

## 11. Course Evaluation

| Evaluation Methods | Evaluation date (week) | Degree | Percentage (%) |
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| Daily spoken examination | Theoretical: 2-15<br>Practical: 2 – 15 | Theoretical 3<br>Practical 2 | 5% |
| Daily written exams | Theoretical: 2-15<br>Practical: 2 – 15 | Theoretical 5<br>Practical 5 | 10% |
| 2 semester exams during the semester for both practical and theoretical | Theoretical: 7-13<br>Practical: 6 – 14 | Theoretical 10<br>Practical 5 | 15% |
| Assigning students to prepare reports on study topics | Theoretical: 15<br>Practical: 15 | Theoretical 7<br>Practical 3 | 10% |
| Final exam | Theoretical<br>Practical | Theoretical 40<br>Practical 20 | 40%<br>20% |
| Total | | 100 | 100% |

## 12. Learning and Teaching Resources

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|---|---|
| Required textbooks (curricular books, if any) | 1- Production of evergreen fruits. Dr. Jawad Thanoun Agha<br>2- Deciduous fruit technology (2017). Prof. Dr. Jassim Mohammed Alwan |
| Main references (sources) | |
| Recommended books and references (scientific journals, reports…) | 1- Mesopotamia Agriculture Journal |
| Electronic References, Websites | FAO reports, bulletins and studies |

**Theoretical lecturer:** **:**

**Dr. Yusra Mohammed Saleh**

**Practical lecturer**

**Nagham Salah Salem**

**Head of the Agricultural Extension and Technology Transfer Department**

**Assist Prof. Dr. Talal Hameed Saeed**

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**Assist. Prof. Dr. Talal Hameed Saeed**