

Course Description Form

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| 1. Course Name: | |
| Principles of Horticultural Science | |
| 2. Course Code: | |
| PRHS116 | |
| 3. Semester / Year: | |
| Second semester/first stage/2023-2024 | |
| 4. Description Preparation Date: | |
| 1/2/2024 | |
| 5. Available Attendance Forms: | |
| My presence | |
| 6. Number of Credit Hours (Total) / Number of Units (Total) | |
| Theoretical 2 + 3 practical/3.5 units | |
| 7. Course administrator's name (mention all, if more than one name) | |
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| 8. Course Objectives | |
| <ul style="list-style-type: none"> • The learner should be able to understand and comprehend what is related to the subject of principles of horticulture and its relationship to other sciences • Their selection of important agricultural processes in horticultural plants • Differentiating between different planning systems and the appropriate ones • Understand the basics and concepts of horticulture • Distinguish between processes that are suitable for fruit, vegetable and ornamental crops • Familiarity with the information the farmer needs and what is available to him to understand the science of horticulture and its divisions • Agricultural awareness of the factors affecting yield • Determine methods of producing seeds in horticultural crops and methods of caring for them in terms of storage and marketing • A comprehensive study on how to establish vegetable farms or fruit orchards and establish nurseries for horticultural plants | |
| 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 | <ul style="list-style-type: none"> • 2 Theoretical | A1: Learn about the concept of horticulture, its divisions, definition and classification A2: Describe horticulture A1: Mention the branches of horticulture A2: Give examples of the branches of horticulture A3: Table of horticultural crops according to their classification D1: Enumerates the branches of horticulture C1: Horticultural Crops Department | An overview of the concept of horticulture. The branches of horticulture and the division of horticultural crops | auditory methods, Writing style on the blackboard Dialogue style Direct slides Power Point | Short exams, assignments, discussions |
| | <ul style="list-style-type: none"> • 3 practical | A1: Define the science of horticulture A5 Distinguish the most important branches of horticulture | Horticultural foundations | Practical assignment With tasks And report | Short exams Assignment of duty discussions |
| 2 | <ul style="list-style-type: none"> • 2 Theoretical | A1: Known as vegetable crops A4: It has the ability to compare summer and winter vegetable crops | Reasons for the development of vegetable cultivation in Iraq and | auditory methods, Writing style on the blackboard Dialogue style Direct slides Power Point | Short exams Assignment of duty discuss |

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| | | C1: It has the ability to divide vegetable crops according to the growth period | examples of vegetables Dividing vegetable crops | | ions |
| | • 3 practical | A1 Mention the general characteristics that must be present in the growing medium A2 Explain components of a w canopy | Horticultural facility | practical Assignment to And report | Short exams Assign ment of duty discuss ions |
| 3 | • 2 Theoretical | A1: Mentions the reasons for the development of vegetable cultivation in Iraq. Then give examples of vegetable crops according to the period of growth and the nature of growth A4: Discusses the | Reasons for the development of vegetable cultivation in Iraq. The nutritional value and botanical division of vegetable | auditory methods, Writing style the blackboard Dialogue style Direct slides Power Point | Short exams Assign ment of duty discuss ions |

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| | | <p>most important reasons for the development of vegetable cultivation in Iraq</p> <p>B3: Shows the importance of vegetable crops in terms of nutritional value</p> <p>C2: Write a report on the nutritional importance of vegetable crops</p> <p>C1: Vegetable crops are divided according to the botanical division based on the structural and anatomical specifications of the plants.</p> | crops. | | |
| | <ul style="list-style-type: none"> 3 practical | A1 Define seed reproduction and features | Seed | practical Assignment to And report | Short |

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| | | | reproduction | | exams Assignment of duty discussions |
| 4 | • 2 Theoretical | <p>C1: Divide vegetable crops according to the edible part</p> <p>C1: Divide vegetable crops according to the part that is eaten</p> <p>C1: Plants are divided according to their thermal needs, as each vegetable crop has a specific range of temperatures that suit its growth.</p> <p>B2: Explains the effect of environmental</p> | Dividing vegetable crops | auditory methods, Writing style the blackboard Dialogue style Direct slides Power Point | Short exams Assignment of duty |

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| | | conditions on vegetable production in Iraq | | | |
| | <ul style="list-style-type: none"> 3 practical | A1 Define vegetable reproduction and features). | Vegetative propagation | practical Assignment to And report | Short exams Assignment of duty discussions |
| 5 | <ul style="list-style-type: none"> 2 Theoretical | B3: Shows the impact of technical factors on the production of vegetable crops in Iraq B2: Explains the effect of weather conditions on vegetable crops in Iraq | Problems of growing vegetables in Iraq | auditory methods, Writing style the blackboard Dialogue style Direct slides Power Point | Short exams, assignments, discussions |
| | <ul style="list-style-type: none"> 3 practical | A1 Define the following terms (Fertilizer, Manor) | Fertilization | practical Assignment to And report | Short exams Assign |

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| | | A4 Difference Between inorganic fertilizers and organic fertilizers | | | ment of duty discuss ions |
| 6 | • 2 Theoretical | C1: List the weather factors that affect vegetable crops D1: Explain the effect of weather factors on crops B3: Shows the effect of weather factors that affect vegetable crops B2: Explains how growth regulators affect vegetable crops B2: The effect of temperature shows the growth of vegetable crops B2: Explains the effect of lighting on | Factors affecting the growth of vegetable crops | auditory methods, Writing style the blackboard Dialogue style Direct slides Power Point | Short exams, assignments, discussions |

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| | | <p>the growth of vegetable crops</p> <p>B2: Explains the effect of CO2 on plants</p> | | | |
| | <ul style="list-style-type: none"> 3 practical | <p>A1: Number of irrigation methods</p> | Irrigation. | <p>practical Assignment to And report</p> | <p>Short exams</p> <p>Assignment of duty discussions</p> |
| 7 | <ul style="list-style-type: none"> 2 Theoretical | <p>: Known as sexual reproduction</p> <p>B3: Shows how the farmer is satisfied with the limited income in Iraq</p> <p>A1: Seed lobe</p> <p>B3: Shows the characteristics of good seeds with a drawing</p> | <p>Reproduction of vegetable crops (sexual)</p> | <p>auditory methods, Writing style the blackboard Dialogue style Direct slides Power Point</p> | <p>Short exams, assignments discussions</p> |

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| | | <p>C1: Enumerates the methods of planting seeds</p> <p>A1: Known as seedlings</p> <p>B3: Explains the importance of transplantation and the factors that affect the success of the transplantation process</p> <p>C1: Vegetable crops are divided according to their tolerance to transplantation, with examples</p> <p>A1: Knows localization</p> <p>C1: Enumerates the methods of localization</p> | | | |
| | <ul style="list-style-type: none"> 3 practical | <p>A1: Define the</p> | Pruning | practical Assignment to And report | Discussing student reports |

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| | | <p>pruning process and the purposes of pruning</p> <p>A1: Mention the types of pruning and explain the pruning in terms of the amount of wood removed</p> <p>A1: Mention the different education methods</p> | | | |
| 8 | <ul style="list-style-type: none"> 2 Theoretical | <p>A1: Known as vegetative propagation</p> <p>B2: Explains the methods of multiplication in detail</p> <p>C1: List the methods of asexual reproduction</p> | Asexual reproduction of vegetable crops | <p>auditory methods, Writing style the blackboard Dialogue style Direct slides Power Point</p> | <p>Short exams, assignments, discussions</p> |
| | <ul style="list-style-type: none"> 3 practical | Discussing student reports | Semester test1) | <p>practical Assignment task And report</p> | <p>Short exams Assignment of duty</p> |

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| | | | | | discuss ions |
| 9 | <ul style="list-style-type: none"> 2 Theoretical | <p>C1: Section of the flowering system in vegetable crops in detail</p> <p>B3: Explain the types of pollination in vegetable crops in detail</p> | Flowering and fruit setting in vegetable crops | <p>auditory methods, Writing style the blackboard Dialogue style Direct slides Power Point practical Assignment task And report</p> | <p>Short exams, assignments, discussions</p> |
| | <ul style="list-style-type: none"> 3 practical | A1 State the conditions establishing orchids | fruit garden | practical Assignment task And report | <p>Short exams Assignment of duty discuss ions</p> |
| 10 | <ul style="list-style-type: none"> Theoretical | <p>The basics of classification of fruit trees</p> <p>B3: Shows the importance of the nutritional value of fruit</p> <p>A4: Discusses the situation of fruits in Iraq</p> <p>B3: Shows the influencing factors on the success of fruit cultivation</p> <p>A4: Discusses the harmful and beneficial effects of</p> | Second: Fruit trees | practical Assignment task And report | <p>Short exams Assignment of duty discuss</p> |

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| | | <p>low temperatures</p> <p>B2: Explains the effect of air humidity and rain</p> <p>B3: Shows the effect of wind on fruit trees</p> <p>B3: Shows the effect of light on fruit trees</p> <p>B3: Shows the effect of ground water level on fruit trees</p> <p>D5: Explain the relationship between irrigation and the cultivation of fruit trees</p> <p>A4: Explains the effect of irrigation water and its relationship to the success of fruit trees</p> | | | ions |
| | <ul style="list-style-type: none"> 3 practical | <p>A1 Define the agricultural cycle</p> <p>A1 Mention the qualities of good alternation</p> <p>A1 Mention the steps for designing the course required per unit area.</p> <p>A scientific visit to one of the centers</p> <p>Seed Inspection And certification.</p> | Agricultural cycle | practical Assignment task And report | <p>Short exams</p> <p>Assignment of duty</p> <p>discussions</p> |
| 11 | <ul style="list-style-type: none"> Theoretical | <p>A1: Sexual reproduction is known in fruit trees</p> <p>B3: Explains the advantages and disadvantages of this</p> | Methods reproduction fruit plants | practical Assignment task And report | |

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| | | <p>method</p> <p>C1: Divides the seeds according to embryos</p> <p>A1: Vegetative reproduction is known. Mention its features</p> <p>A1: Lists the methods of vegetative propagation in detail</p> <p>: A1 defines stillness</p> <p>C1: Enumerates ways to break silence</p> <p>A1 defines vaccination</p> <p>A4: It distinguishes between grafted seedlings and non-grafted seedlings</p> <p>B3: Explains the conditions for successful grafting,</p> <p>then the most</p> | | | |
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| | | <p>important operations that are performed after grafting, then explains the principles used in propagating some fruit trees.</p> <p>D5: Distinguish between grafting and mounting</p> <p>A1: Knows the composition</p> <p>B3: Shows the types of installation</p> <p>A1: Known as pruning</p> <p>B3: Shows the benefits of pruning</p> <p>C1: The pruning is divided into several sections, mention them</p> | | | |
| | <ul style="list-style-type: none"> 3 practical | <p>A1 State the conditions choosing the nursery site</p> | Nurseries | <p>practical Assignment tasks And report</p> | Short |

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| | | | | | exams Assign ment of duty discuss ions |
| 12 | <ul style="list-style-type: none"> Theoretical | <p>A1: He knows the nurse</p> <p>B3: It indicates certain conditions for the successful establishment a nursery in any area that must be met</p> <p>A1: He mentions the conditions necessary to protect and produce seedlings in the nursery including these conditions</p> <p>B3: Shows the types of nurseries</p> <p>B6: He plans to establish nursery</p> | Arboretum | practical Assignment to And report | Short exams Assign ment of duty discuss ions |
| | <ul style="list-style-type: none"> 3 practical | <p>B1 The number of gene characteristics that must be available in the growing medium</p> <p>A1 Mention the types of anvils used for multiplication.</p> | Anvils containers used propagating developing plant | practical Assignment to And report | Short exams Assign ment of duty discuss ions |
| 13 | <ul style="list-style-type: none"> Theoretical | C1: Divide ornamental plants, then enumerate the methods of propagating ornamental plants | Third: Ornamental | practical Assignment to And report | Short exams |

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| | | | Plants | | Assign ment of duty discuss ions |
| | <ul style="list-style-type: none"> 3 practical | B1 Practicing field work and planting some plants | Second semester exam | practical Assignment task And report | Short exams Assign ment of duty discuss ion |
| 14 | <ul style="list-style-type: none"> Theoretical | <p>A1: Understand what is meant by the agricultural cycle, then mention the benefits of the agricultural cycle</p> <p>B3: List the important points that must be taken into consideration when designing the agricultural cycle</p> <p>A1: Understand what is meant by intercropping, then mention its benefits and disadvantages</p> | Agricultural cycle: | practical Assignment task And report | exams Assign ment of duty discuss ion |
| | <ul style="list-style-type: none"> 3 practical | A2 Describe the sections of ornamental bulbs | Bulbs | Discussing student report | Short exams |

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| | | | | | Assign ment of dutydis cussion s |
| 15 | <ul style="list-style-type: none"> Theoretical | A PowerPoint presentation on plants and a scientific visit to horticulture station and private nurseries | A Power Point presentation on plants and a scientific visit to the horticulture station and private nurseries | a scientific visit to the horticulture station and private nurseries | Short exams Assign ment |
| | <ul style="list-style-type: none"> 3 practical | A field visit to the Nine Horticulture Station and the private nurseries. | A Power Point presentation on plants and a scientific visit to the horticulture station and private nurseries | a scientific visit to the horticulture station and private nurseries | |

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| 11. Course Evaluation | |
| Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams | |
| 12. Learning and Teaching Resources | |
| Required textbooks (methodology, if any) | Learning and teaching resources Gardening principles book, Part 1 and Part 2 |
| Main references (sources) | Scientific references specialized in fruit trees, vegetable related to nurseries |
| Recommended books and references (scientific journals, reports...) | Principles of horticulture Dr. Karim Saleh Abdul Principles of Horticulture, written by Dr. Faisal Rashid |
| Electronic References, Websites | https://exa.unne.edu.ar/ Principles of Horticultural Sci |

مدرس المادة العملي
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مدرس المادة النظري :



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رئيس قسم المكنن والآلات الزراعية
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