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**Department of Horticulture**

**College of Agricultural Engineering Science**

**University of Salahaddin- Erbil**

**Subject: Evergreen Fruit Production**

**Course Book- 4th Stage / First Semester**

**Lecturer's name**: **Dr. Parween Muhammad Kareem**

**Academic Year: 2023/2024**

**Course Book**

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| **1. Course name** | **Evergreen Fruit Production**  |
| **2. Lecturer in charge** | **Dr. Parween Muhammad Kareem** |
| **3. Department/ College** | **Horticulture / Agricultural Engineering Science**  |
| **4. Contact** | **e-mail:** **parween.kareem@su.edu.krd** |
| **5. Time (in hours) per week**  | **Theory: 2h and Practical: 3h**  |
| **6. Office hours** | **5 days a week** |
| **7. Course code** |  |
| **8. Teacher's academic profile**  | * **BSc from plant production department/ College of Agriculture, Salahaddin University, Erbil, Iraq, 2005.**
* **Obtaining MSc at Horticulture department/ College of Agriculture, Salahaddin University, Erbil, Iraq, 2010.**
* **Obtaining PhD at Horticulture department, Agricultural Engineering Sciences, University, Erbil, Iraq, 2020.**
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| **9. Keywords** |  **Description, climate, soil management, farm cultivation, pruning and training and harvesting.** |
| **10. Course overview:** **Origin and spread, morphological, ecological requirements, propagation, varieties, design the orchard, cultivation, irrigation, fertilization, pruning, thinning fruit ripening quality, pests and diseases of the following evergreen trees: olive, citrus fruits (oranges, mandarins, lemons, sour orange, citron, grapefruit and kumquat), Banana, Date Plme, Mango, Pineapple, Loquat, Avocado and Coconut.**  |
| **11. Course objective:****1. Recognises and selects the appropriate type of tree in the orchard establishment** **2. Know and apply methods of reproduction of fruit processed in the course** **3. Can diagnose problems that may arise during the production process of Horticulture products of evergreen fruit trees** **4. It recognizes and selects the appropriate variety of evergreen trees in the orchard establishment** **5. Knows cultivation techniques can be applied to an evergreen fruit orchard and olive 6. Can design, install and managed an orchard** **7. Considering ways of solving specific problems that occur in any kind of evergreen fruit trees and olive trees in the production process.** **8. Knows and applies the criteria of maturity-harvest evergreen fruit and olives.** |
| **12. Student's obligation** **The obligation of the students in this academic course includes attendance in the lectures on time and listening teachers carefully, try as much as possible to read the material and teachers notes daily participate in class activities and prepare the assignments to gain the benefits from the course. However, preparation every week they will do quiz, homework and also encourage all students to participate by giving then questions and giving opportunity to all of them.** |
| **13. Forms of teaching****Data show, PowerPoint, white board and practice active.** |
| **14. Assessment scheme****First exam after four lectures and Second exam after eight lectures,****Mark distribution: Monthly exam 50% (Theoretical 15% + Practical 35%).****Final exam 50% Final mark 100%** |
| **15. Student learning outcome:****Students become ready to:*** **Recognises and selects the appropriate type of tree in the orchard establishment**
* **Know and apply methods of reproduction of fruit processed in the course**
* **Can diagnose problems that may arise during the production process of Horticulture products of evergreen fruit trees**
* **It recognizes and selects the appropriate variety of evergreen trees in the orchard establishment**
* **Knows cultivation techniques can be applied to an evergreen fruit orchard and olive 6. Can design, install and managed an orchard**
* **Considering ways of solving specific problems that occur in any kind of evergreen fruit trees and olive trees in the production process.**
* **Knows and applies the criteria of maturity-harvest evergreen fruit and olives**
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| **16. Course Reading List and References‌:*** **Pontikis, K., 1993, Citrus, publications Stamoulis, Piraeus**
* **Pontikis, K., 2000, Special Arboriculture -Olive cultivation, Stamoulis SA, Piraeus**
* **Sfakiotakis, E. 1996, Lessons olive cultivation, G. Manousakis & Publishing Co., Thessaloniki**
* **Therios, J., 2007 olive cultivation, publications A.S. Gartaganis, Thessaloniki**
* **Vasilakakis M, J. Therios, 1996, Citrus, publications A.S. Gartaganis, Thessaloniki**
* **Other sources of net.**
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| **17. The Topics:****Theoretical Topics:** | **Lecturer's name****Dr. Parween M. Kareem** |
|  **Olive tree: introduction, origin, climate, soil management,** | **2 h****13/9/2021** |
|  **Olive tree: pruning and training, harvesting and olive oil** | **2 h****20/9/2021** |
| **Citrus trees: introduction, origin, climate, soil management,** | **2 h****27/9/2021** |
|  **Citrus trees: pruning and training and harvesting**  | **2 h****4/10/2021** |
| **Loquat tree: introduction, origin, climate, soil management, pruning and training and harvesting.** | **2 h****8/11/2021** |
| **First Theoretical Exam** | **1 h****11/10/2021** |
| **Date Plame: introduction, origin, climate, soil management, pruning and training and harvesting.** | **2 h****18/11/2021** |
| **Banana: introduction, origin, climate, soil management, pruning and training and harvesting.** | **2 h****25/10/2021** |
| **Pineapple: introduction, origin, climate, soil management, pruning and training and harvesting.** | **2 h****1/11/2021** |
| **Mango: introduction, origin, climate, soil management, pruning and training and harvesting.** | **2 h****8/11/2021** |
| **Second Theoretical Exam** | **1 h****8/11/2021** |
| **Avocado: introduction, origin, climate, soil management, pruning and training and harvesting.** | **2 h****15/11/2021** |
| **Papaya: introduction, origin, climate, soil management, pruning and training and harvesting.** | **2 h****22/11/2021** |
| **Lychee: introduction, origin, climate, soil management, pruning and training and harvesting.** | **2 h****29/11/2021** |
| **Mangastin: introduction, origin, climate, soil management, pruning and training and harvesting.** | **2 h****29/11/2021** |
| **Third Theoretical Exam** | **1 h****6/12/2021** |
| **18. Practical Topics**  | **Mrs. Vian and Ms. Chnar** |
| **Week 1: Olive tree (Description and propagation).** **Week 2: Olive tree (Irrigation, Fertilization, and cultivars).** **Week 3: Citrus tree (Type of citrus, Description, propagation, Irrigation, Fertilization, and cultivars).****Week 4: Loquat tree (Description, propagation Irrigation, Fertilization, and cultivars).****Week 5: Date palm tree (Description, propagation, Irrigation, Fertilization and cultivars).****Week 6: Bananas plant (Description, propagation, Irrigation, Fertilization and cultivars).****Week 7: Pineapple plant (Description, propagation Irrigation, Fertilization and cultivars).****Week 8: Mango tree (Description, propagation Irrigation, Fertilization and cultivars).****Week 9: Avocado tree (Description, propagation Irrigation, Fertilization and cultivars).****Week 10: Propagation of olive by cutting and citrus by seeds in Grdarasha field.****Week 11: Papaya (Description, propagation Irrigation, Fertilization and cultivars).****Week 12: Lychee (Description, propagation Irrigation, Fertilization and cultivars).****Week 13: Mangostin (Description, propagation Irrigation, Fertilization and cultivars).****Week 14: Starfruit (Description, propagation Irrigation, Fertilization and cultivars).****Week 15: Practical Exam** | **3 h** |
| **19. Examinations:*****1.* What is the reason of the followings:**1. **The banana leaf is look like a frond.**

***2*. True or false type of exams:**1. **Brazilian bananas variety like the 'Dwarf Brazilian' and The Cavendish. False.**
2. **Pineapple fruit is Multiple fruit. True.**

***3.* Answer the following questions:****Q / Write the difference between ratoon and slips?** |
| **20. Extra notes** |
| **21. Peer review پێداچوونه‌وه‌ی هاوه‌ڵ**   |