Department of Horticulture

College of Agricultural Engineering Sciences

University of Salahaddin

Subject: Nursery Management & Technology

Course Book – (Year 2)

Lecturer's name Dr. Media Ezaddin MohammedAmin

Academic Year: 2022/2023

Course Book

1. Course name	**Spring Semester**
2. Lecturer in charge	
3. Department/ College	**Horticulture/Agricultural Engineering Sciences**
4. Contact	**e-mail: media.mohammedamin@su.edu.krd** **Tel: 0750375054**
5. Time (in hours) per week	**Theory: 2** **Practical: 3**
6. Office hours	**2 hours**
7. Course code	
8. Teacher's academic profile	**Dr. Media Ezaddin MohammedAmin** **2000-2001 graduated from Agriculture College** **2007 Msc. in plant Tissue Culture** **2009 Phd in physiology of Ornamental Plants** **2022 Lecturer** **Lecturer since 2008 in Agriculture college till now in Agricultural Engineering Sciences**
9. Keywords	**Plant Nursery, nursery management, plant propagation, nursery Technologies.**

10.course overview

It is a theoretical and very practical plant propagation and plant nursery management course. Plants are a very important part of a permaculture designed, cultivated ecosystems as they are needed in very large numbers. By growing plants in the plant nursery, their cost can be greatly reduced. And if the plants are grown from plant material collected from the property or the local area, cultivars that are adapted to local conditions can be the result. By participating in this course, the students will be able to start successfully propagating plants within the plant nursery environment.

11. course Objective

This course aims to develop a fundamental understanding of nursery management principles, plant propagation, an overview of propagation techniques, a general understanding of the methods of propagating the more widely cultivated plants, the fundamental understanding of entrepreneurial skills required to run a small scale commercial nursery, and technologies used in nurseries.

12. Student's obligation

Students have duties to themselves, their professors, and their fellow students. Students may contribute to a productive learning environment in the classroom by performing their basic responsibilities.

Attendance

Every effort should be made by students to maintain a high rate of attendance in their classes. It might not be feasible to show up every time because illnesses and situations do happen. However, it is important for students to regularly show up for their lectures and arrive early. Being absent from school might harm your attendance mark and cause you to miss tests or assignments. It is

the obligation of the absent student to ask a friend for their notes and speak with the professor to find out whether an essential statement was made.

Participation

Every student ought to take part in class. Bringing up pertinent topics when it's suitable can lead to fruitful discussions and new dialogues. Every student should participate in the task if the instructor asks them to discuss their ideas with their respective groups. Shy students might offer to take notes and contribute a few suggestions instead of taking on a leadership role.

Questions

An essential component of learning in the classroom is asking questions regarding plant propagation techniques and nursery management. Since it is normal for students to experience similar challenges, speaking up will aid in everyone's understanding of the facts being addressed. A student's inquiries might be helpful to lecturers as well. By learning which topics are challenging to comprehend, teachers may modify their lectures to make complex subjects more understandable.

Respect

Students should respect their peers' beliefs both inside and outside of the classroom. They shouldn't make fun of someone for holding a different opinion, and they ought to be open to hearing other viewpoints. Students are free to discuss the benefits and downsides of other points of view as long as they do it in a positive way. Even while not everyone may agree, hearing fresh perspectives can help people refine their views and approach problems from different angles.

Preparation

Students are expected to study outside of class by their professors. Before class starts, students should finish the reading they have been assigned so they may participate in fresh conversations. It might be disruptive to other students and interfere with the lecturer's lesson plan to work on homework during a lecture. Working during class may cause students to lose out on important knowledge.

13. Forms of teaching

The course would be taught through lectures, demonstrations (White board presentation) , LCD power point presentation and video show

14. Assessment scheme

- Students are required to take quiz of the previous lecture every new lecture.
-Students are often required reports, seminars and assignments.
-Students are required to take two semester exams.
-Class attending is obligatory.

The following table includes Theoretical part:

Theoretical part	First exam	Second exam	Quiz, activity and report	Total quest	Final exam	Total
degree	13%	13%	2%	15	50	65%

15. Student learning outcome:

At the end of this learning module, students must able to demonstrate a:

1. basic knowledge and understanding of:
2. management of nursery.
3. Basic safety requirements related to the propagation environment and procedures.
4. Basic hygiene requirements for the propagation environments.
5. Growing media - wet and dry.
6. Weeds, pest and diseases.
7. Technologies used in nursery to facilitate nursery production.
8. The purpose of learning about plant propagation.
9. All procedures, legislation, rules and codes of conduct pertaining to plant propagation.
10. All procedures related to the propagation of plants.

- 6. Course Reading List and References:
- Text books
- In-class lectures and workshops developed by instructor that relate to the:
- specific topic to be covered
- Library resources
- On-line references provided by instructor
- Field trip greenhouse resources
- **Suggested Reading**:
- Plant nursery management (principles and practices) (2014) P.Ratha Krishnan et al.
- PLANT PROPAGATION AND NURSERY MANAGEMENT (2004)
- R. R. Sharma
- PLANT PROPAGATION principles and practices ,8th ed. (2011) by HARTMANN and KESTER.
- MODERN NURSERY MANAGEMENT (2011) by R.L. Bhardwaj and D.K. Sarolia
- Agrotechnology Manual: Including Nursery Management and Practices (2014), Marcel N Etomes.
- A Handbook for Skill Development Nursery Management of Horticultural Crops Kindle Edition. (2019). Deepa H. Dwivedi and Navaldey Bharati.
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- Plant Propagation and Nursery Management (2019).Krishi Shiksha and TNAU.
- Plant Propagation and Nursery Management (2020). Tarai Ranjan Kumar , 2020
- Essentials of Plant Nursery Management 2nd Edition (2020) P.K. Ray,
- Plant Propagation Principles and Practices (1990)
- Crop Production Science in Horti Tropical Fruits (1999)
- Fruit Growing (2003)
- Horticulture ATA Glance (2005)
- Vegetable Gardening (2005)
- Basics of Horticulture (2010)

17. The Topics:	**Lecturer's name**

1st week Nursery — Definition, — Importance, — Guidlines of Nursery raising, — Components of a Good Nursery — the need for modern nursery — layout of nursery — Financial Resources for Nursery **2nd week** — Inputs to Nursery — Basic characteristics of mother plant — Maintenance of mother plants — Mother Bed — Types of mother beds **3rd week** — Plant Propagation Structures — Seed or Sexual Propagation — Advantages of Sexual Plant Propagation — Disadvantages of Sexual Plant Propagation — Factors affecting Germination — **4th week Plant Propagation:** — Vegetative or Asexual Propagation I — Advantages — Disadvantages ative propagation Methods — A) Natural vegetative propagation — B) Artificial vegetative propagation — **5th week** (first examination) **6th week** — Management Practices in Horticulture Nursery	**Dr.Media E. MuhammedAmin**

— Sanitation,
— Drainage,
— Training and Pruning in Nursery
— Potting, Re-Potting, De-potting and Mulching in Nursery
— Packing and Transport of Nursery Plants

7th week

— Environmental Factors Affecting Plant Growth
— Stages in Plant Growth
— The most important environmental factors
— Temperature
— Moisture supply
— Radiant energy
— Composition of the atmosphere
— Soil aeration and soil structure
— Soil reactions
— Biotic factors
— Supply of mineral nutrients
— Restricting/limiting substances

8th week

— Plant Growth Media Used in Nursery
— Difinition
— Properties of good growth Medium
— Classification of Plant Growth Media
— Soil Media
— Soilless Media

9th week (2nd Examination)

— Technology facilities in Nursery
— The Farm of the Future in contact with Farm Robots
— Nursey records
— Types of records
— Planning and Scheduling of Nursery Activities

10th week

— Plant problems – Diseases, Pests, Weeds

11th week — Greenhouse Management — Marketing/Business management	

19. Examinations:

1. Compositional: In this type of exam the questions usually starts with Explain how, What are the reasons for…?, Why…?, How….?

For example:

- What is the reason behind the following: -
- What are the advantages and disadvantages of ( )
- Identify and explain two problems that might occur as a result of the use of (…….)
- List three ways of ( )

2. True or false type of exams:

In this type of exam a short sentence about a specific subject will be provided, and then students will comment on the trueness or falseness of this particular sentence. Examples should be provided

For instance:

- Fill in the blanks with suitable terms:
- Correct the underlined parts if they are false:

- Put (T) for true statement and (F) for false statement then correct the mistakes.
- Compare ( ) with ( )
- Draw distinctions between ( ) and ( )

3. Multiple choices:

In this type of exam there will be a number of phrases next or below a statement, students will match the correct phrase. Examples should be provided.

For example:

Identify the choice that best completes the statement or answers the question.

4. Another styles of Questions may serve students:

- Define following terms?
- Draw a scheme or picture of ( )
- Describe two types of ( )
- Describe three different practices that can be used to ( )
- Match the words in column A with the related /suitable words in column B.

20. Extra notes:
21. Peer review پێداچوونەوەی هاوەڵ .