

**HORT 71 Course Outline as of Fall 2019****CATALOG INFORMATION**

Dept and Nbr: HORT 71 Title: NURSERY PRODUCTION

Full Title: Nursery Production

Last Reviewed: 2/11/2019

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	3.00	Lab Scheduled	3.00	8	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	5.00		Contact Total	87.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 70.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly: AG 92.2

**Catalog Description:**

Course covers study of production techniques, growing media, watering, fertilization, marketing and sales, as well as nursery site selection and development.

**Prerequisites/Corequisites:****Recommended Preparation:**

Eligibility for ENGL 100 or ESL 100 or equivalent; and Eligibility for CS 5 or proficiency in basic productivity software including word processing, spreadsheet, and presentation software

**Limits on Enrollment:****Schedule of Classes Information:**

Description: Course covers study of production techniques, growing media, watering, fertilization, marketing and sales, as well as nursery site selection and development. (Grade Only)

Prerequisites/Corequisites:

Recommended: Eligibility for ENGL 100 or ESL 100 or equivalent; and Eligibility for CS 5 or proficiency in basic productivity software including word processing, spreadsheet, and

presentation software

Limits on Enrollment:

Transfer Credit: CSU;

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

**AS Degree:** Area Effective: Inactive:

**CSU GE:** Transfer Area Effective: Inactive:

**IGETC:** Transfer Area Effective: Inactive:

**CSU Transfer:** Transferable Effective: Fall 1984 Inactive:

**UC Transfer:** Effective: Inactive:

**CID:**

**Certificate/Major Applicable:**

Both Certificate and Major Applicable

## **COURSE CONTENT**

**Student Learning Outcomes:**

Upon completion of the course, students will be able to:

1. Describe characteristics of major federal laws and regulations that are of concern to the nursery industry.
2. Evaluate possible nursery sites based on factors within the four selection categories: ecological; economic; sociological; and biological.
3. Explain and evaluate main aspects of nursery production, such as plant placement, container growing, commercial production media, fertilizer application, storage, and pest management.

**Objectives:**

Students will be able to:

1. Identify and discuss significant events and developments in the history of the U.S. nursery industry.
2. Classify and describe nursery operations based on 4 major criteria: ownership; function; production system; and product.
3. List and identify characteristics of major federal laws and regulations that are of concern to the nursery industry.
4. Identify the four major categories for nursery site selection.
5. Identify common plant placement patterns in nursery production areas and evaluate for production efficiency.
6. Compare and contrast container vs. field grown production systems for production and marketing advantages and challenges.
7. Describe common practices in commercial liner and plug production.
8. Summarize primary (environmental) and cultural modifiers of various plant characteristics or plant qualities.
9. Demonstrate cultural modification practices for a variety of plants.
10. Identify the function of commercial production media.
11. Identify common ingredients used in the production of media for container growing, describe their properties, and explain what each ingredient contributes to the media.

12. Identify essential nutrients for plant growth and development.
13. Discuss common commercial fertilizers and compare and contrast the properties and advantages of synthetic and organic types.
14. Compare and contrast different commercial methods of fertilizer application.
15. Determine how and when to apply fertilizer, depending on fertilizer and plant type.
16. Describe a variety of integrated pest management practices.
17. Identify the responsibilities of buyer, seller, and carrier in the shipping of nursery materials.
18. Calculate the number of cuttings necessary to fulfill a production contract.
19. Estimate materials, facility, and labor costs associated with a production contract.

### **Topics and Scope:**

- I. The Nursery Industry
  - A. History of U.S. nursery industry
  - B. Current nursery industry practices
- II. Nursery Classifications and Functions
- III. Federal Laws and Regulations
- IV. U.S. Production Centers
- V. Nursery Site Selection
  - A. Site organization and development
  - B. Planting patterns
- VI. Production Systems
  - A. Container grown
  - B. Field grown
  - C. Liner and plug
  - D. Seed/seedling
- VII. Modifying Plant Growth and Development
  - A. Primary (environmental)
  - B. Cultural
- VIII. Media and Mixes
- IX. Essential Nutrients and Fertilization
  - A. Commercial fertilizers
  - B. Synthetic and organic fertilizers
- X. Common Plant Pests and Disorders and Integrated Pest Management Practices
- XI. Nursery Storage Facilities and their Purposes
- XII. Shipping: Responsibilities of
  - A. Buyer
  - B. Seller
  - C. Carrier
- XIII. Marketing and Production Contracts
- XIV. Plant Estimation
  - A. Materials
  - B. Facility
  - C. Labor Costs

All topics are covered in both lecture and lab.

### **Assignment:**

Lecture-Related Assignments:

1. Written report (10 - 15 page) and oral presentation on selected nursery production topic
2. Proposal for small-scale nursery setup and operation

3. Weekly reading (5 - 10 pages); reading reports
4. Tests (3 - 5) and a final exam

**Lab-Related Assignments:**

1. Lab work and reports
2. Field trips (6 - 8) and reports

**Lab- and Lecture-Related Assignments:**

1. Participation

**Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Assigned reading; lab reports; production report to accompany oral presentation	Writing 10 - 30%
<b>Problem Solving:</b> Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.	Problem solving 10 - 40%
Nursery proposal; field trip reports; lab reports	Problem solving 10 - 40%
<b>Skill Demonstrations:</b> All skill-based and physical demonstrations used for assessment purposes including skill performance exams.	Skill Demonstrations 5 - 20%
Lab work	Skill Demonstrations 5 - 20%
<b>Exams:</b> All forms of formal testing, other than skill performance exams.	Exams 30 - 60%
Tests and final exam	Exams 30 - 60%
<b>Other:</b> Includes any assessment tools that do not logically fit into the above categories.	Other Category 10 - 30%
Participation in lecture and lab; oral presentation	Other Category 10 - 30%

**Representative Textbooks and Materials:**

Container Nursery Production and Business Management Manual. Newman, Julie. University of California Department of Agriculture and Natural Resources. 2014 (classic)

The Reference Manual of Woody Plant Propagation; From Seed to Tissue Culture. 2nd ed. Dirr, Michael and Heuser Jr., Charles. Timber Press. 2006 (classic)

Integrated Pest Management for Floriculture and Nurseries, Agriculture and Natural Resources. University of California. 2001 (classic)

Nursery Management, Administration and Culture. 4th ed. Davidson, Harold and Mecklenburg, Roy and Peterson, Curtis. Pearson. 2000 (classic)

Instructor prepared materials