

HORT 90M: PLANT NUTRITION & FERTILIZATION

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2022
Units:	1
Hours:	12 lecture per quarter (12 total per quarter)
Advisory:	HORT 15 strongly recommended.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- Identify nutrient deficiency in plants.
- Select fertilizer for appropriate use.

Description

Introduction to plant nutrient requirements and methods for providing proper plant nutrition. Topics include review of basic nutrient requirements, forms of nutrients used by plants, nutrient deficiency identification, methods for delivering nutrients to plants, manufacture of fertilizers, fertilizer formulations, fertilizer delivery methods, and organic nutrient sources.

Course Objectives

The student will be able to:

- Identify nutrients required by plants.
- Identify nutrient deficiencies in plants.
- Select fertilizers for appropriate use.
- Describe the manufacture of fertilizers.
- Describe the formulations for fertilizers.
- Demonstrate an understanding of the role plant nutrition plays in crops produced by different cultures.

Course Content

- Introduction to plant nutrition
 - Nutrient requirements of plants
 - Forms of nutrients
 - Nutrient deficiency identification
 - Organic nutrient sources
 - Ionic forms of 16 basic plant nutrients
- Fertilizers
 - Manufacture of fertilizers
 - Fertilizer formulations
 - Fertilizer delivery mechanisms
 - Understanding product labels

- Practical application of nutrient delivery techniques
- Use of nutrients by diverse cultures in plant propagation

Lab Content

Not applicable.

Special Facilities and/or Equipment

- Horticultural laboratory, greenhouse, nursery, and related horticultural facilities and equipment.
- Students provide seeds, pruning shears with sheath, work boots, leather gloves and clothing for fieldwork.
- When taught online, on-going access to computer with email and internet access.

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Documented active participation which furthers student knowledge of different plant nutrients and their application

Quiz

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lectures

Discussions

Assigned reading activities

Self-guided research

Representative Text(s) and Other Materials

CRC Press. [Plant Nutrition and Soil Fertility Manual, 2nd ed.](#). 2012.

California Fertilizer Association. [Western Fertilizer Handbook - Horticulture Edition, 2nd ed.](#). 1997.

Although they are older than five years, these books are seminal texts for horticultural fertilization.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

- Reading assignments include reading approximately 10-20 pages per week from assigned text. Supplemental reading will be provided in hand-out form or through reference to online resources

Discipline(s)

Ornamental Horticulture