

Course Description

Understanding how plants work is essential for anyone caring for living collections. This course introduces the fundamentals of botany, from plant parts and life cycles to energy processes and adaptations.

You will explore the requirements plants need to grow, the diversity of plant forms, and the principles of classification and naming and gain confidence using botanical terms and making connections between plant science and horticultural practice.

Learning Objectives

After taking this course, you will be able to:

1. Identify the main parts of a plant (roots, stems, leaves, flowers, fruits) and explain their primary functions, emphasizing morphological characteristics and leaf arrangement to aid in accurate identification.
2. Describe the process of photosynthesis and how plants produce and use energy, relating these concepts directly to everyday horticultural tasks like pruning and collection care.
3. Explain plant requirements for growth, including light, water, nutrients, and air, while accounting for local/regional site conditions, soil conditions, and climate-specific patterns.
4. Outline the stages of a plant's life cycle, from seed germination to maturity, and how seasonality affects growth, dormancy, and maintenance expectations.
5. Differentiate between major plant types, such as trees vs. shrubs, annuals vs. perennials, angiosperms vs. gymnosperms, and seed plants vs. spore-bearing plants, and understand reproductive strategies, including concepts like dioecious vs. monoecious reproduction.
6. Recognize examples of plant adaptations that have helped them evolve within different environments and explain how these adaptations support survival.
7. Understand principles of plant classification and nomenclature, why accurate naming matters in horticultural collections, as well as how names are assigned and tracked within your specific institution's records.