

Plant Physiology and Production under Indoor Environments (Greenhouses, Vertical farms)

Listed as: HS 495-590 Sustainable and Organic Horticultural Production

R. Hernández

Undergraduate: HS 495-010A

Graduate: HS 590-012

Lecture: Monday 3:00 - 4:50 pm

Laboratory: Wednesday 1:30 – 4 :15 pm

3 credits

Class: The science of environmental plant physiology and controlled environment technology

Laboratory: Apply the concepts to indoor production systems (Greenhouse and Vertical farm)



Concepts in Lecture

Light intensity, Light quality (Sun, LEDs), Photoperiod (light dark periods), CO₂ concentration, Air movement, Temperature, Water vapor, Root zone- nutrient, Irrigation, Substrates, Leaf and canopy energy balance, Plant water relations, Growth analysis

Laboratory

Greenhouse production, Vertical farm production, Light plan design, Energy consumption, Nutrient recipes, Sensors and controller, Cooling and heating, Psychometrics, Field trips

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