



Hydroponic Vine Crop Intensive Workshop

with Dr. Triston Hooks January 6–8, 2023

Friday, January 6th

Morning (Online and In-Person)

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| 9:00 am–10:00 am | Introductions & History of the CEAC |
| 10:00 am–11:00 am | Overview of Controlled Environment Agriculture (CEA) and Hydroponic Vine Crop Production |
| 11:00 am–12:00 pm | Hydroponic Propagation
<i>Seeds, substrate, environment, and transplanting</i> |

Afternoon (In-Person Only)

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| 12:00 pm–1:00 pm | Lunch |
| 1:00 pm–2:00 pm | UA-CEAC Facilities Tour |
| 2:00 pm–3:00 pm | Hands-On Hydroponic Vine Crop Propagation |
| 3:00 pm–4:00 pm | Teaching Greenhouse Tour |
| 4:00 pm–5:00 pm | Hands-On Hydroponic Vine Crop Transplanting |



THE UNIVERSITY OF ARIZONA
BIOSYSTEMS ENGINEERING

Controlled Environment
Agriculture Center



Saturday, January 7th

Morning (Online and In-Person)

- 9:00 am–10:00 am Hydroponic Nutrient Solutions and Substrates
Nutrient solution recipes, fertigation, plant nutrition and nutrient deficiencies, different hydroponic substrates, and their characteristics
- 10:00 am–11:00 am Plant Response to Light and Environmental Factors
Light quantity and quality, sole-source and supplemental lighting, PAR and ePAR, DLI, temperature, humidity, VPD, and CO²
- 11:00 am–12:00 pm Vine Crop Morphology, Physiology, and Plant Steering
Plant anatomy, photosynthesis, transpiration, and respiration, plant growth types, and pruning for optimal production in CEA and hydroponics

Afternoon (In-Person Only)

- 12:00 pm–1:00 pm Lunch and Open Discussion
- 1:00 pm–2:00 pm Hands-On Nutrient Solution Stocks, Fertigation, and EC/pH Measurements
- 2:00 pm–3:00 pm Hands-On Greenhouse Sensors and Controls
- 3:00 pm–3:30 pm Break
- 3:30 pm–5:00 pm Hands-On Vine Crop Steering



Sunday, January 8th

Morning (Online and In-Person)

- 9:00 am–10:00 am Integrated Pest Management (IPM) for CEA and Vine Crops
Mechanical, cultural, biological, and chemical control for common pests and diseases in CEA vine crops
- 10:00 am–11:00 am Vine Crop Pollination and Fruit Production
Flower morphology, bumblebees, fruit development, harvesting, grading, marketing, and food safety
- 11:00 am–12:00 pm Review and Q&A

Afternoon (In-Person Only)

- 12:00 pm–1:00 pm Lunch
- 1:00 pm–2:00 pm Hands-On IPM and Beneficials
- 2:00 pm–3:00 pm Hands-On Beehive and Pollination
- 3:00 pm–3:30 pm Break
- 3:30 pm–5:00 pm Hands-On Harvesting, Grading Fruit, and Tasting Vine Crops

