GREENHOUSE CROP PRODUCTION & ENGINEERING DESIGN SHORT COURSE

MARCH 2, MORNING
8:00 – 8:15 am Welcome and Introductions, Dr. Murat Kacira, Director, UA-CEAC

FUNDAMENTALS OF HYDROPONICS & CONTROLLED ENVIRONMENT AGRICULTURE (CEA)
8:15 – 9:00 am Controlled Environment Greenhouse and Hydroponics – Limitless Opportunity
Dr. Merle Jensen - Professor Emeritus, School of Plant Sciences, The University of Arizona, Founder of the UA-CEAC in 2000
9:00 – 9:45 am Hydroponics, Medium Composition & Delivery Systems
Myles Lewis, MS – Owner, Arizona Vegetable Company
Instructor, CEAC Lettuce Intensive Workshop
9:45 – 10:00 am Discussion of Previous Lectures, Q&A
10:00 – 10:30 am Coffee Break and Networking at Exhibitor Gallery
10:30 – 11:15 am Greenhouse Structures - Glazing & Environmental Control
Dr. Gene Giacomelli – Professor Biosystems Engineering, The University of Arizona, Greenhouse Extension Specialist, CALS
11:15 – 12:00 pm Managing Plant Nutrition for Quality Crop Production
Dr. Stacy Tollefson – Professor of Practice, Biosystems Engineering, The University of Arizona
Instructor, CEAC Tomato Intensive Workshop
12:00 - 1:00 pm Lunch Provided - Eating and Networking Opportunity

MARCH 2, AFTERNOON
INTEGRATED PEST MANAGEMENT
1:00 – 1:45 pm Biotech: Tissue Culture Procedures & Its Value added to the CEA Market
Dr. Hope Jones – Founder & CEO, Emergent Cannabis Sciences
1:45 – 2:30 pm Integrated Pest Management (IPM) – Common Insects & Mites
Dr. Stacy Tollefson – Professor of Practice, Biosystems Engineering, The University of Arizona
2:30 – 2:45 pm Discussion of Previous Lectures, Q&A
2:45 - 3:15 pm Coffee Break and Networking at Exhibitor Gallery
3:15 – 3:30 pm 3, 5 Minute Exhibitor Presentations
3:30 – 4:15 pm Scouting for Pests and Insects
Karin Tifft - Consultant, Greenhouse Vegetable Consultants, LLC
4:15 – 5:00 pm Biotreatment Options for Organic Vs. Inorganic Production
Speaker TBD
5:00 – 5:30 pm Discussion of Previous Lectures, Q&A
6:00 – 7:30 pm Welcome Reception – Fueled by appetizers & cash bar
6:30 pm CEAC Mission Award Presentation
MARCH 3, MORNING

7am Breakfast provided – Eating and Networking Opportunity

ENGINEERING CONSIDERATIONS & OPTIMAL SYSTEMS DESIGN AND MANAGEMENT

7:55 – 8:00 am Welcome & Announcements

8:00 – 8:45 am Monitoring Your Greenhouse Environment: Simple Tools to Technology Trends  
Dr. Murat Kacira – Professor, Biosystems Engineering, The University of Arizona

8:45 – 9:30 am Presentation Title TBD  
Dr. Tharindu Weeraratne, AutoGrow

9:30 – 9:45 am Discussion of Previous Lectures – Q&A

9:45 – 10:00 am 3, 5-minute Exhibitor presentations

10:00 – 10:30 am Coffee break and Networking

10:30 – 11:15 am Fundamentals of Lighting Systems, Advantages and Disadvantages  
Speaker TBD

11:15 – 12:00 pm Greenhouse Energy Conservation Practices  
Dr. Gene Giacomelli – Professor, Biosystems Engineering, The University of Arizona

12:00 – 12:15 pm Discussion of Previous Lectures – Q&A

12:15 – 1:15 pm Lunch Provided – Eating and Networking Opportunity

MARCH 3, AFTERNOON

FERTIGATION REQUIREMENTS

1:15 – 2:00 pm Recirculation, Microbial Issues, and Treatment Systems  
Dr. Rosa Raudales, Assistant Professor of Horticulture and  
Greenhouse Extension Specialist, University of Connecticut

2:00 – 2:45 pm Design, Monitoring and Control of Recirculating Nutrient Delivery Systems  
Dr. Gene Giacomelli – Professor, Biosystems Engineering, The University of Arizona

2:45 – 3:00 pm Discussion of Previous Lectures – Q&A

3:00 – 3:15 pm 3, 5-minute Exhibitor presentations

3:15 – 3:45 pm Coffee Break and Networking

3:45 – 4:30 pm Nutrient Programs based on Analyses of Water, Nutrient Solutions, & Plant Tissue  
Dr. Rosa Raudales, Assistant Professor of Horticulture and  
Greenhouse Extension Specialist, University of Connecticut

4:30 – 5:15 pm Discussion of Previous Lectures – Q&A

5:15 – 5:35 pm Dinner – On Your Own
MARCH 4, MORNING
7am Breakfast provided

ALTERNATIVE PRODUCTS IN CEA
7:55 – 8:00 am Welcome & Announcements
8:00 – 8:45 am Hemp in CEA
William Artwohl, West Coast Greenthumbs
8:45 – 9:30 am Mushrooms in CEA
Dr. Barry Pryor – Professor, School of Plant Sciences, The University of Arizona
9:30 – 9:50 am Discussion of Previous Lectures - Q&A
9:50 – 10:15 am Coffee Break and Networking
10:15 – 11:00 am Strawberries in CEA
Myles Lewis, MS – Owner, Arizona Vegetable Company
Instructor, CEAC Lettuce Intensive Workshop
11:00 – 11:45 am Edible Insects Production in CEA Systems
Dr. Goggy Davidowitz - Departments of Entomology and Ecology & Evolutionary Biology, The University of Arizona
11:45 – 12:00 pm Discussion of Previous Lectures, Q&A
12:00 – 1:00 pm Lunch Provided – Eating and Networking Opportunity

MARCH 4, AFTERNOON
EMERGING TRENDS AND TECHNOLOGY IN CEA [with Speakers from the CEA Industry]
1:00 – 1:25 pm Soilless Substrates and Their Enhancements
Jose Chen-Lopez, Premier Tech Horticulture,
1:25 – 1:50 pm Optimizing production Quality and Yields Through Plant-Centric Automated Environmental Controls.
Artem Efremov, Application Service Expert, Argus Controls
1:50 – 2:15pm Energy Savings
Speaker TBD
2:15 – 2:45 pm Discussion of Previous Lecture – Q&A
2:45 – 3:00 pm 3, 5 Minute Exhibitor presentation
3:00 – 3:25 pm Coffee Break, Visit Exhibit
3:25 – 3:50 pm Lighting, Presentation Title TBD
Dr. Fei “Jeff” Jia, Technical Solutions Manager, Heliospectra
3:50 – 4:15 pm Production Systems
Joe Swartz/Jenny Harris, AmHydro
4:15 – 4:40 pm Vertical Farming
Speaker TBD
4:40 – 5:10 pm Discussion of Previous Lecture – Q&A
Dinner – On Your Own
MARCH 5, All Day!

7am
Breakfast provided

Hands on workshops at CEAC:

8:00
Depart hotel for CEAC [Bus provided or Drive self]
[1951 E. Roger Road Tucson, AZ 85719]

8:30 – 10:00 am ROUND 1
10:00 – 11:30 am ROUND 2
11:30 – 1:00 pm Lunch in the CEAC Classroom & Yard
1:00 – 2:30 pm ROUND 3
2:45 – 4:00 pm ROUND 4
4:00 – 5:00 pm Additional Q&A Round – Return to any stations you’d like for additional Q&A
5:00 Return to Hotel

Titles of Workshops:
High Wire Tomato Production
Fertigation Systems
Hydroponic Leafy Greens Production
Sensors & Controls with Vertical Farm Tour
Specialty Mushroom Production

MARCH 6
COMMERCIAL GH TOUR [additional registration and fee required]
8am – 1:00 pm Technical tour to a Greenhouse operation