Summer School Program
Sustainable Transportation and Sustainable Energy
July 18th – August 19th, 2016
University of California, Riverside
Bourns College of Engineering - Center for Environmental Research and Technology (CE-CERT)

Introductions/Orientation

July 18th
9:00 am – 11:30 am Registration and Orientation
(Location – UCRX Conference Room D)
11:30 am - 12:30 pm UC Riverside Campus Tour
12:30 pm – 1:30 pm Welcome Lunch (UNEX Conference E)

July 19th
10:00 am – 1:00 pm Safety Training and BCOE/UCR Orientation
(Location – Bourns Call A265)
Lunch will be provided

Topic: Emissions from Transportation
Date: July 19th – July 22nd
Lecturer: George Karavalakis

July 19th
12:30 pm – 1:00 pm UCR to CE-CERT
1:00 pm – 2:00 pm CE-CERT Safety Orientation
(Location – CE-CERT / Administrative Lobby)
2:00 pm – 5:00 pm Project Orientation Overview
(Location – CE-CERT – Room 105)

July 20th
8:30 am - 11:30 am Intro to Air Pollution (Location – UNEX Room 308)
11:30 am – 12:30 pm Lunch
12:30 pm - 1:00 pm UCR to CE-CERT
1:00 pm – 5:00 pm CE-CERT Tour of Vehicle Emissions Research Laboratory
(location: CE-CERT / VERL)

July 21st
8:30 am - 11:30 am Intro to Internal Combustion Engines and Intro to Fuels and Biofuels
(Location – UNEX Room 304)
11:30 am – 1:00 pm Lunch
1:00 pm – 5:00 pm Group Project (Location – UNEX Room 304)

July 22nd
8:30 am - 11:30 am Project Discussion and Review – Overview of CARB
(Location – UNEX Room 308)
11:30 am – 1:00 pm Lunch
1:00 pm – 5:00 pm Site Visit – California Air Resources Board (CARB)
http://www.arb.ca.gov/homepage.htm
July 24th
9:00 am - 9:00 pm Universal Studios (Optional) - $165

Topic: Renewable Fuels
Date: July 25th – August 4th
Lecturer: Arun Raju

July 25th
8:30 am - 11:30 am Introduction to Alternative Fuels –
(Location – UNEX Room 308)
11:30 am – 1:00 pm Lunch
1:00 pm – 4:00 pm Intro to Entrepreneurship (UNEX)
(Location – UNEX Room 308)

July 26th
8:30 am - 11:30 am Production Technologies (Location – UNEX Room 308)
11:30 am – 12:30 pm Lunch
1:00 pm – 5:00 pm Production Technologies - Continued (Location – UNEX Room 308)

July 27th
8:30 am - 11:30 am Techno-Economic Performance of Renewable Fuels
(Location – UNEX Room 308)
11:30 am – 1:00 pm Lunch
1:00 pm – 4:00 pm Site Visit – Solarmax Technologies (Group visit)
https://www.solarmaxtech.com/

July 28th
8:30 am - 11:30 am Techno-Economic Performance of Renewable Fuels – continued
(Location – UNEX Room 308)
11:30 am – 12:30 pm Lunch
12:30 pm – 1:00 pm UCR to CE-CERT
1:00 pm – 5:00 pm CE-CERT Tour of Sustainable Energy Systems
(Location – CE-CERT /SES Lab)

July 29th
8:30 am - 11:30 am Life Cycle Analysis (Location – UNEX Room 308)
11:30 am – 1:00 pm Lunch
1:00 pm – 3:00 pm Technical Research Presentation Skills (UNEX)
(Location – UNEX Room 308)

July 30th
9:00 am - 9:00 pm Six Flags Magic Mountain (Optional) - $100

August 1st
8:30 am - 11:30 am Computer Lab (bring own laptop) – LCA Programs
(Location – UNEX Room 308)
11:30 am – 1:00 pm Lunch
1:00 pm – 4:00 pm Applications of Entrepreneurship (UNEX)
(Location – UNEX Room 308)
August 2nd
  8:30 am- 11:30 am  Looking to the Future Challenges & Opportunities
  (Location – UNEX Room 308)
  11:30 am – 12:30 pm  Lunch
  12:30 pm – 1:00 pm  UCR to CE-CERT
  1:00 pm – 5:00 pm  CE-CERT Lab: Running Reactors in SES Lab
  (Location – CE-CERT /SES Lab)

August 3rd
  8:30 am- 11:30 am  Looking to the Future Challenges & Opportunities
  (Location – UNEX Room 308)
  11:30 am – 12:30 pm  Lunch
  1:00 pm – 4:00 pm  Site Visit: Riverside Water Quality Control Plant (RWQCP)
                  https://www.riversideca.gov/publicworks/sewer/wqcp.asp

August 4th
  8:30 am- 11:30 am  Course Review  (Location – UNEX Room 308)
  11:30 am – 12:30 pm  Lunch
  1:00 pm – 5:00 pm  Course Review  (Location – UNEX Room 308)

August 5th
  8:30 am- 11:30 am  GRE Workshop (UNEX)
  (Location – UNEX Room 308)
  11:30 am – 1:00 pm  Lunch
  1:00 pm – 4:00 pm  GRE Workshop (UNEX)
  (Location – UNEX Room 308)

August 6th
  9:00 am- 9:00 pm  Los Angeles Tour (Optional) - $70

August 7th
  10:00 am- 7:00 pm  Getty Art Museum & Griffith Observatory (Optional) - $70

**Topic: Solar Energy and Smart Grids**

**Date:** August 8th- August 18th

**Lecturer:** Alfredo Martinez-Morales

August 8th
  8:30 am- 11:30 am  Introduction to Renewable Energy and Energy Usage in the US
  (Location – UNEX Room 308)
  11:30 am – 1:00 pm  Lunch
  1:00 pm – 4:00 pm  Financial Aspects Entrepreneurship (UNEX)
  (Location – UNEX Room 308)

August 9th
  8:30 am- 11:30 am  Introduction to Solar Energy  (Location – UNEX Room 308)
  11:30 am – 1:00 pm  Lunch
  1:00 pm – 4:00 pm  Photovoltaics (PV) Lab  (Location – UNEX Room TBD)
August 10th
8:30 am - 11:30 am  Photovoltaic System Basics (Location – UNEX Room TBD)
11:30 am – 1:00 pm  Lunch
1:00 pm – 5:00 pm  Site Visit: ITM Power
http://www.itm-power.com/

August 11th
8:30 am - 11:30 am  Active Solar Thermal Applications (Location – UNEX Room 308)
11:30 am – 1:00 pm  Lunch
1:00 pm – 5:00 pm  Solar Energy Generation Lab (Location – UNEX Room 308)

August 12th
10:00 am - 11:30 am  Graduate Admission Application Workshop (UNEX)
(Location – UNEX Room 308)
11:30 am – 1:00 pm  Lunch
1:00 pm – 5:00 pm  Passive Solar Energy (Location – UNEX Room 308)

August 14th
10:00 am - 7:00 pm  Venice Beach (Optional) - $70

August 15th
8:30 am - 11:30 am  System Advisor Model (SAM) Training (Location – UNEX Room 308)
11:30 am – 1:00 pm  Lunch
1:00 pm – 4:00 pm  Managing Entrepreneurship Enterprises (UNEX)
(Location – UNEX Room 308)

August 16th
8:30 am - 11:30 am  Solar PV System Design Challenge (Location – Conference Room A)
11:30 am – 1:00 pm  Lunch
1:00 pm – 5:00 pm  Introduction to Microgrids (Location – UNEX Room 308)

August 17th
8:30 am - 11:30 am  Site Visit: SC-RISE/WCGEC/Solar Farm Tour
11:30 am – 1:00 pm  Lunch
1:00 pm – 5:00 pm  Solar PV System Design Challenge – Continued
(Location – Conference Room C)

August 18th
8:30 am - 11:30 am  Solar PV System Design Challenge – Continued
(Location – Conference Room A)
11:30 am – 1:00 pm  Lunch
1:00 pm – 5:00 pm  Solar PV System Design Challenge – Presentations
(Location – Conference Room A)

August 19th
9:00 am - 11:00 am  Presentations (Location – UNEX Conference Room A)
11:30 am – 1:00 pm  Certificate Ceremony & Luncheon
(Location – UNEX Conference Room B)

August 20th
Please note:

Students need access to a laptop and WiFi/Internet
CE-CERT’s address – 1084 Columbia Avenue, Riverside, CA 92507

Site Visits:

July 22nd – California Air Resources Board (CARB)
Time: 1-5pm
Address: 9528 Telstar Ave, El Monte, CA 91731

July 27th – Solarmax Technologies
1:00pm – Arrival at 3080 12th St, Riverside, CA 92507
1:15pm – 2:30pm – Introduction on Solarmax by Ching Liu (Executive VP)
2:30pm – 3:00pm – Q&A, Discussion
3:00pm – 4:00pm – Company Tour by Luke Zheng (Solar Panel Manufacturing)

August 3rd – Riverside Water Quality Control Plant (RWQCP)
Time: 1-4pm
Address: 5950 Acorn Street
Riverside, CA 92507

August 10th – ITM Power
Time: 2-5pm
Address: 8095 Lincoln Avenue
Riverside, CA 92504

August 17th – CE-CERT Tour & Solar Farm Tour
Time: 8:30am – 11:30 am
Address: Lot 30 off of Martin Luther King Boulevard and Canyon Crest Drive (no physical address)