# Modeling & Control Design of DC/DC Converters

## Blacksburg, VA
## July 31st-August 4th, 2023

### Course Description

Engineers will be engaged in a combined lecture/laboratory instructional format, providing hands-on experience in DC/DC converter analysis, modeling, simulation, control design and frequency domain measurement techniques.

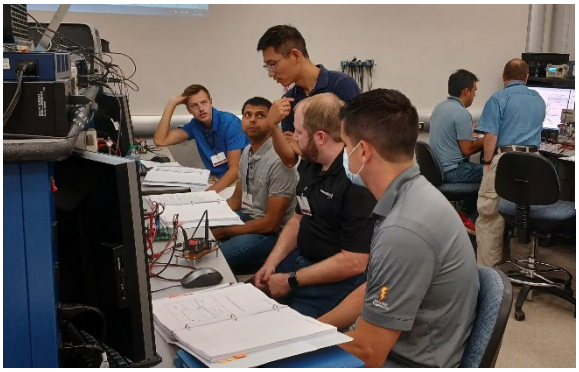
*Short course lecture with Prof. Fred C. Lee.*

### Comments from 2022 Short Course Participants

The material is applicable to my company…the course was well-organized.

The combination of theoretical derivation and the corresponding lab sessions really helps with understanding…

I enjoyed meeting engineers from other companies…[and] the friendly and open discussion with professors.



*Hands-on laboratory with Prof. Qiang Li.*

### Topics Covered

- DC and steady-state analysis of PWM converters
- Modeling and analysis of PWM converters
- Single-loop control for PWM converters
- Advanced current-mode control

### Fee

| | |
|---|---|
| Principal Plus, Principal, Associate Members | $1,600 USD |
| Affiliate Members | $2,500 USD |
| Non-Members | $3,500 USD |

### Additional Information

Short course participation is in-person only and space is limited.

Email Dennis Grove (dgrove@vt.edu) to indicate your interest.

For more information, scan the QR code to visit the CPES website.

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**General Information**

Short Course dates are Monday, July 31st through Friday, August 4th.

The Lecture Session takes place from 8:00AM to 11:30AM (unless otherwise indicated).

To ensure that everyone has the opportunity for hands-on engagement of the material, we will have two Lab Sessions, A and B. Session A runs from 1:00PM to 5:00PM; Session B from 6:00PM to 10:00PM.

**Course Fees**

$1,600.00 -- Principal-Plus, Principal, Associate Members
$2,500.00 -- Affiliate Members
$3,500.00 -- Non-Members

To check membership status, click here CPES Industry Members.

**Lodging**

The lodging for this event is the Inn at Virginia Tech.

The Inn at Virginia Tech
901 Prices Fork Road
Blacksburg, VA 24060

Lodging Block: $152.00/night plus tax, **Block Rate expires June 30, 2023**
VT Inn Reservation Link: Click Here
VT Inn Reservations: 540-231-8000

Participants are encouraged, but not required, to stay at the Inn at Virginia Tech.

**Locations and Instructors**

The lecture portion of the short course will be led by Dr. Fred Lee and takes place in the Cascades Meeting Room at The Inn at VT. This is on the second floor and there will be signage from the main lobby to direct you.

The laboratory component will take place in Whittemore Hall, room 253. Dr. Qiang Li and/or David Gilham, CPES Laboratory Director, will be on hand at all times during the Lab Sessions.

The map at this link shows the Inn at VT and Whittemore Hall and the path to walk between them.

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**Parking**

All short course participants may park in front of the main entrance at the Inn at VT – no permit is needed.

Parking on the campus of Virginia Tech is severely limited and requires a parking permit. Virginia Tech Parking Permits may be purchased online or in-person at Parking Services, 505 Beamer Way, Blacksburg.

**Food and Beverages**

Refreshments will be provided every day during each Lecture.

Lunch is included on Monday (at The Inn at VT) and Friday (in Whittemore Hall) to provide an opportunity for you to visit with your instructors. Lunch is on your own Tuesday, Wednesday, and Thursday.

**Lab Benches and Partners**

Two engineers will work together on a bench during the Laboratory Sessions.

Participants' companies are randomly selected for Session A or B.

Engineers are paired with others from the same company where possible (if there are even numbers).

Assigned Lab Session and Partner information will be provided before the course begins.

**Course Materials**

Hard copies of Lecture and Laboratory notes will be available at check-in, Monday morning July 31st.

**Registration**

Registration for the CPES short course is handled by Virginia Tech Continuing Education.

Contact Dennis Grove dgrove@vt.edu, for registration link.