



Center for Advanced Power Engineering Research

**Challenges in Making Course Content Relevant to Industry
and Interesting to Entice Students into Graduate Studies**

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Presentation Outline

- Fostering Students and developing their Interest in Power
- Introducing students to industry early in the educational process
- Building an Academic Environment That Grows Student Interest
- Finding Balance in Course Content

Fostering Student Interest

- High school outreach efforts
- Freshman year introductions
- Maintaining opportunities such as co-ops, in their early years
- Attract honor students to work in research to develop their thesis
- Attract top seniors in undergraduate power classes to work in special topics in power (ECE 4050)

Building Student Leadership through IEEE/PES

- Officers:
 - President
 - Vice-President
 - Secretary
- Activities
 - Industry Speakers for Seminars
 - Leading Tours
 - Undergraduate recruitments for research
 - Leading research teams

Building an Academic Environment

- Activities outside of classrooms (IEEE PES meetings, field trips, etc.)
- Provide opportunities that include industry interaction (CUEPRA, CAPER, projects, etc.)
- Introduce students to real-world cases that relate to coursework

Finding Balance in Course Content (1)

- Use industry-standard tools (simulation software, real datasheets for problems, etc.)
- Find practical examples to illustrate academic topics
- Hands-on approach when possible (machines lab, etc.)

Finding Balance in Course Content (2)

- Regularly update materials to the state of the art.
- Join industry in discussing real-world implications of materials covered (IEEE T&D and CUEPRA members)
- All students are encouraged to present their research in different meetings (CUEPRA & CAPER)
- Encourage all students to attend conference and national meeting to present papers or posters such as NAPS and IEEE/PES meetings

