

Power Curriculum at UNC-Charlotte

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Education & Experience

- Electrical Engineering
 - Concentration in Power & Energy Systems
 - EPIC UNCC Power & Energy Society Secretary
 - Duke Energy sponsored Senior Design Project: SCADA
 - EPRI GridEd Student Innovation Board
- Research assistantship in renewable energy control systems at UNCC
 - 2 Duke Energy internships in SCADA/DMS projects
 - Washington Internship for Students of Engineering

Preparation for Industry

- Extremely well prepared for my present career
- Extra-curriculars provided primary preparation
- My role:
 - Program Engineer on the ADMS Program
 - Collaboration and coordination between technical and non-technical program members
 - Lead standardization efforts for 4 jurisdictions
- Program responsibility: deliver integrated SCADA/DMS/OMS

Fundamental Classes

- Liberal Studies
- Chemistry
- C++
- Calculus
- Physics
- English
- Economics
- Linear Algebra
- Statistics
- Introduction to Engineering
- Thermodynamics
- Network Theory
- Logic Systems
- Electronics
- Electromagnetic Fields & Waves
- EE Design
- Ethics and Professionalism

Fundamental Classes

- Well-taught fundamental classwork
- Instruction in analysis of software results, as well as computation
- Representation of options within power
- Connections between fundamental classwork and career
- Well-prepared Teaching Assistants
- Updated labs & lab courses
- Dedicated technical writing instruction
- Emphasis on the importance of the FE

Power Core Classes & Electives

- Electromagnetic Devices
- Power Systems Analysis
- Power Electronics
- Control Systems Theory
- Power Generation, Operation & Control
- Energy Systems
- (Photovoltaic Design)

Extracurricular Options

- Networking opportunities
 - Engineering career fair
 - Presentations from industry partners
 - Senior Design
- Mentorship & funding for student organizations
- Undergraduate research options
- Mentors/advisors matched to fields of study/interest
- Emphasis on cross-disciplinary learning/collaboration

Power Courses

- Dedicated power engineering professors
- Classes that bring knowledge together and apply it to a real design
- Industry-connected senior design program
- Well designed power labs
- Introduction to common codes
- Flexibility within power engineering concentration
- Description of common power challenges, e.g. DER
- Industry standard software use