Electric Power System Engineering (MS): Internship Concentration

Degree Requirements

This concentration will require an Internship of at least four months duration (maximum of seven months) and the student to take 3 credit hours of ECE 650 and obtain a Satisfactory grade. An internship of at least four calendar months duration would require that it span at least one semester and possibly part of summer. The credits for ECE 650 would be taken during the semester that includes the internship. The student would be considered as being enrolled full time during that semester.

A student would not enroll in this concentration in their first semester. They would switch to it in a later semester if they secure a suitable internship. Per normal CPT rules, International students studying on an F-1 visa would have to be present on a US campus for two full semesters (a full academic year), and present at NC State for one semester, before using CPT privileges to take an internship. If a student switches to this concentration but does not start the internship, they will switch back to the original plan.

This will be a concentration only for on-campus students. Students enrolled in our distance education – Engineering Online (EOL) - option will not be eligible.

Code	Title	Hours
Core Courses		**18**
ECE 550	Power System Operation and Control	
ECE 551	Smart Electric Power Distribution Systems	
ECE 552	Renewable Electric Energy Systems	
ECE 583	Electric Power Engineering Practicum I	
ECE 584	Electric Power Engineering Practicum II	
ECE 534	Power Electronics	
or ECE 587	Power System Transients Analysis	
Concentration Requirement		**3**
ECE 650	Internship *	
Elective Courses		**9**
Select a minimum of four of the following:		
ECE 516	System Control Engineering	
ECE 534	Power Electronics	
ECE 535	Design of Electromechanical Systems	
ECE 554	Electric Motor Drives	
ECE 581	Electric Power System Protection	
ECE 585	The Business of the Electric Utility Industry	
ECE 586	Communication and SCADA Systems for Smart Grid	
ECE 587	Power System Transients Analysis	
ECE 589	Solid State Solar and Thermal Energy Harvesting	
ECE 592	Special Topics In Electrical Engineering	
ECE 726	Advanced Feedback Control	
ECE 732	Dynamics and Control of Electric Machines	
ECE 736	Power System Stability and Control	
ECE 753	Computational Methods for Power Systems	
CE 578	Energy and Climate	
Total Hours		**30**

* ECE 650 requires that a written report be submitted and accepted by an ECE faculty examiner as meeting the standards required by the course. The written report should cover both technical and non-technical aspects of what the student did and learned during the internship. The report should not disclose company proprietary information.

Faculty

Full Professors

Mesut E. Baran

Subhashish Bhattacharya

Aranya Chakrabortty

Robert Wendell Heath

Iqbal Husain

Ning Lu

Srdjan M. Lukic

Daryoosh Vashaee

John Victor Veliadis

Wenye Wang

Jonathan Wierer

Associate Professors

Zeljko Pantic

Nuria Gonzalez Prelcic

Nitin Sharma

Assistant Professors

Amay Jairaj Bandodkar

Spyridon Pavlidis

Wenyuan Tang

Practice/Research/Teaching Professors

Douglas C. Hopkins

David Lee Lubkeman

Leonard Wilson White

Wensong Yu