

M.S. in Power and Energy Systems

Degree Requirements

Bridge Program

Students who have earned a Bachelor of Science in Engineering Technology (B.S.E.T.) degree, or who lack necessary background trainings may be admitted and recommended to take selected bridge courses before the degree requirements in order to become properly prepared. They should attain a grade of B or better in each bridge course.

Master's Program

This master's program consists of 30 credits. As a requirement for graduation, students must achieve a 3.0 cumulative GPA in graduate-level courses, not including the master's thesis or project. The project grade must be B or better.

Master's Project/Master's Thesis

If a student chooses to do a Master's Project, the student should take 9 courses plus ECE 700B Master's Project. If a student would like to do a Master's Thesis, the student should first take 8 courses plus the 700B MS Project course, and receive a satisfactory (S) grade in 700B before taking 701B MS Thesis in the immediate following semester with the same advisor. The MS thesis topic should be continuation of the work done in 700B.

Code	Title	Credits
Bridge Courses		
ECE 232	Circuits and Systems II	3
ECE 342	Energy Conversion	4
ECE 442	Power Systems	3
ECE 361	Electromagnetic Fields and Propagation	3
ECE 372	Electronic Circuits II	3

Code	Title	Credits
Core Courses		
Both core courses are required.		
ECE 601	Linear Systems	3
ECE 656	Power System Dynamics	3

ECE electives in Power and Energy Systems

Select at least three of the following:

ECE 610	Power System Steady-State Analysis	3
ECE 611	Transients in Power Systems	3
ECE 613	Protection of Power Systems	3
ECE 616	Power Electronics	3
ECE 617	Economic Control of Interconnected Power Systems	3
ECE 618	Photovoltaic Semiconductors and Renewable Energy	3
ECE 619	Intelligent Sensing for Smart Grid and Smart City	3
ECE 651	Wind Power Transmission and Grid Interconnection	3
ECE 652	HVDC Design, Operation and Maintenance	3
ECE 654	US Offshore Renewable Energy Policy	3
ECE 670	Management Strategies in the Offshore Wind Industry	3
ECE 671	Wind Plant Project Development	3
ECE 698	Selected Topics in Electrical and Computer Engineering	3

ECE electives outside the area of Power and Energy Systems

In addition to the required core courses and electives listed above, students can choose from all other ECE graduate courses.

MS project and thesis

ECE 700B	Master's Project	3
ECE 701B	Master's Thesis	3

With permission of their research advisor, MS EE students intending to do an MS thesis may first register in the 700B MS Project course. They must receive a satisfactory (S) grade in 700B before 701B MS Thesis registration in the immediate following semester with the same advisor. The MS thesis topic should be continuation of the work done in 700B.

Non-ECE electives

Each student can use up to 3 non-ECE elective courses towards their MS in PES degree up on prior approval from the department, including but not limited to:

ME 607	Advanced Thermodynamics	3
ME 610	Applied Heat Transfer	3
MGMT 620	Strategic Management of Technological Innovation	3
MGMT 635	Data Mining and Analysis	3
either MGMT 635 or CS 634		
MGMT 692	Strategic Management	3
CHE 611	Thermodynamics	3
IE 614	Safety Engineering Methods	3
ENE 671	Environmental Impact Analysis	3