

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 an appropriate background may be admitted and be required to take selected courses in addition to the degree requirements in order to make up deficiencies. They must attain a grade of B or better in each course. At the discretion of the department, students who have taken courses equivalent to these may have their bridge programs reduced accordingly.

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 you do a Master's Project, you need to take in total 9 courses plus ECE 700B Master's Project; and if you do a Master's thesis, you need to take 8 courses plus two semesters of ECE 701B Master's Thesis. These options are highly recommended if you like research and plan to pursue for your Ph.D. degree.

Additional Thesis Option:

With permission of their research advisor, in MS PES program 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.

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Code	Title	Credits
Bridge Courses		
ECE 321	Random Signals and Noise	3
ECE 232	Circuits and Systems II	3
ECE 333	Signals and Systems	3
ECE 341		3
ECE 361	Electromagnetic Fields	3
ECE 372	Electronic Circuits II	3
Total Credits		18
Core Courses		
ECE 601	Linear Systems	3
ECE 610	Power System Steady-State Analysis	3
Specialized Courses/Electives		
Select three of the following:		9
ECE 611	Transients in Power Systems	
ECE 616	Power Electronics	
ECE 618	Photovoltaic Semiconductors and Renewable Energy	
ECE 698	Selected Topics in Electrical and Computer Engineering	
MGMT 620	Management of Technology	
Electives		15
ECE 613	Protection of Power Systems	
ECE 617	Economic Control of Interconnected Power Systems	
ECE 698	Selected Topics in Electrical and Computer Engineering	
ECE 698	Selected Topics in Electrical and Computer Engineering	
ECE 605	Discrete Event Dynamic Systems	
ECE 620	Electromagnetic Field Theory	
ECE 637	Internet and Higher-Layer Protocols	

ECE 658	VLSI Design I
ECE 661	Control System Components
ECE 664	Applied Advanced Control Systems
ECE 673	Random Signal Analysis
ECE 681	High Performance Routers and Switches
ECE 692	Embedded Computing Systems
ECE 788	Selected Topics in Electrical and Computer Engineering
ME 607	Advanced Thermodynamics
ME 610	Applied Heat Transfer
ENE 671	Environmental Impact Analysis ¹
IE 614	Safety Engineering Methods

Total Credits**30**

¹ MGMT 692 Strategic Management and other business and management courses can be included as optional electives based on the student background, instructor approval and advisor approval.