MASTER OF ELECTRICAL AND COMPUTER ENGINEERING WITH SPECIALIZATION IN ENERGY/ENVIRONMENT/ ECONOMICS (E3)

Curriculum

Requirement	Credits
Minimum Credits Required	32
Maximum 400-Level Credit	12
Minimum 500-Level Credit	18
Maximum 700-Level Credit	6
Minimum ECE Credit	24
Maximum Transfer Credit	9

Code	Title	Credit Hours
E3 Courses		**(12)**
CHE 543	Energy, Environment, and Economics	3
Select a minimum of two courses from Group A		6
Select a minimum of one course from Group B		3
Power & Control Courses		**(6-8)**
Select a minimum of two courses from the following:		6-8
ECE 411	Power Electronics	4
ECE 412	Hybrid Electric Vehicle Drives	3-4
or ECE 512	Hybrid Electric Vehicle Drives	
ECE 417	Power Distribution Engineering	3
ECE 418	Power System Analysis	3-4
or ECE 419	Power Systems Analysis with Laboratory	
ECE 420	Analytical Methods for Power System Economics and Cybersecurity	3
ECE 438	Control Systems	3
ECE 442	Internet of Things and Cyber Physical Systems	3
or ECE 510	Internet of Things and Cyber Physical Systems	
ECE 505	Applied Optimization for Engineers	3
ECE 506	Analysis of Nonlinear Systems	3
ECE 531	Linear System Theory	3
ECE 533	Robust Control	3
ECE 535	Discrete Time Systems	3
ECE 537	Next Generation Smart Grid	3
ECE 538	Renewable Energies	3
ECE 539	Computer Aided Design of Electric Machines	3
ECE 540	Reliability Theory and System Implementation	3
ECE 548	Energy Harvesting	3
ECE 549	Motion Control Systems Dynamics	3
ECE 550	Power Electronic Dynamics and Control	3
ECE 551	Advanced Power Electronics	3
ECE 552	Adjustable Speed Drives	3
ECE 553	Power System Planning	3
ECE 554	Power System Relaying	3
ECE 555	Power Market Operations	3
ECE 556	Power Market Economics and Security	3
ECE 557	Fault-Tolerant Power Systems	3
ECE 558	Power System Reliability	3
ECE 559	High Voltage Power Transmission	3
ECE 560	Power Systems Dynamics and Stability	3
ECE 561	Deregulated Power Systems	3
ECE 562	Power System Transaction Management	3
ECE 563	Artificial Intelligence in Smart Grid	3
ECE 564	Control and Operation of Electric Power Systems	3
ECE 580	Elements of Sustainable Energy	3
ECE 581	Elements of Smart Grid	3
ECE 582	Microgrid Design and Operation	3
Master's Project		**(3-6)**
ECE 597	Special Problems	3-6
or ECE 594	Special Projects	
Select three to six credit hours [1]		3-6
General Electives		**(11)**
Select 11 credit hours of electives from ECE 400-599, ECE 601-699, and ECE 700-799		11

[1] ECE 594 or ECE 597