

# MASTER OF ENGINEERING IN ENERGY SYSTEMS, ENERGY TRANSMISSION AND MARKETS TRACK

## Curriculum

Code	Title	Credit Hours
<b>Core Courses</b>		<b>(9)</b>
CHE 543	Energy, Environment, and Economics	3
ECE 418	Power System Analysis	3
MMAE 522	Nuclear, Fossil-Fuel, and Sustainable Energy Systems	3
<b>Energy Transmission and Markets Courses</b>		<b>(12-14)</b>
Select 12-14 credit hours from the following courses:		12-14
ECE 411	Power Electronics	4
ECE 412	Hybrid Electric Vehicle Drives	4
ECE 551	Advanced Power Electronics	3
ECE 555	Power Market Operations	3
ECE 556	Power Market Economics and Security	3
ECE 561	Deregulated Power Systems	3
ECE 562	Power System Transaction Management	3
ECE 564	Control and Operation of Electric Power Systems	3
ECE 597	Special Problems	1-3
<b>Elective Courses</b>		<b>(7-9)</b>
Select seven to nine credit hours from the following courses: <sup>1</sup>		7-9
CAE 513	Building Science	3
CAE 515	Building Energy Modeling	3
CAE 526	Energy Conservation in Buildings	3
CHE 541	Renewable Energy Technologies	3
ECE 411	Power Electronics	4
ECE 412	Hybrid Electric Vehicle Drives	4
ECE 442	Internet of Things and Cyber Physical Systems	3
or ECE 510	Internet of Things and Cyber Physical Systems	
ECE 537	Next Generation Smart Grid	3
ECE 539	Computer Aided Design of Electric Machines	3
ECE 551	Advanced Power Electronics	3
ECE 552	Adjustable Speed Drives	3
ECE 555	Power Market Operations	3
ECE 556	Power Market Economics and Security	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 579	Operations and Planning and Distributed Power Grid	3
ECE 580	Elements of Sustainable Energy	3
ECE 581	Elements of Smart Grid	3
ECE 582	Microgrid Design and Operation	3
ECE 597	Special Problems	1-3
MMAE 425	Direct Energy Conversion	3
MMAE 433	Design of Thermal Systems	3
MMAE 453	Electrified Vehicle Powertrains	3

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MMAE 523	Fundamentals of Power Generation	3
MMAE 525	Fundamentals of Heat Transfer	3

**Minimum degree credits required: 30**

<sup>1</sup> Course must not have been used to fulfill specialization course requirement.