



ECE 5/4973 Spring 2025: Tuesday-Thursday 9:00-10:15 (CST)

Inverter-Based Resources: Systems-Integration & Analysis

Master the Fundamentals of Renewable Energy Integration

Are you ready to dive into the world of renewable energy and power systems? The Inverter-Based Energy Systems - Integration and Analysis course offers an in-depth journey into the critical components of modern renewable energy systems. This course explores the design, configuration, and integration of inverters within solar and wind power setups, emphasizing stability, resiliency, and hands-on experience. Students will gain practical knowledge through real-world projects and advanced simulation tools, preparing them to address the challenges of integrating renewable resources into the electrical grid.

Instructor: Dr. Reza Saeed Kandezy



Objectives and Outcomes:

Understand Inverter Configuration and Control

Gain foundational knowledge on inverter systems, their configuration, and control mechanisms.

Learn Solar and Wind Energy Fundamentals

Explore key concepts in solar and wind energy generation.

Design and Analyze Inverter-Based Resources

Develop skills in designing and analyzing systems for renewable energy integration.

Integrate Renewable Systems into the Grid

Learn how to seamlessly integrate renewable energy systems into existing electrical grids.

Evaluate System Stability and Resiliency

Assess the stability and resiliency of renewable energy systems under various conditions.