Today is a new age of electrification. We use solar energy and wind energy to generate electricity. We use electric cars for transportation. And we use phone apps to adjust electricity demands at our homes responding to electricity prices. At the University of South Florida, you will learn the enabling technologies that facilitate solar and wind grid integration, motor drive control for electric vehicles, and power grid computing that facilitates power market transactions. Your scientific computing skills as well as hardware handling skills will be greatly enhanced for a professional career in power and energy.
# Master of Science in Electrical Engineering (MSEE)
## Renewable Energy and Power Systems Track* Options

Curriculum Program of Study Advisor Dr. Zhixin Miao

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1. **Core: 4 hours (both required)**
   - Linear and Matrix Algebra: EEL 6029 2
   - Random Processes in Electrical Engineering: EEE 6542 2

2. **Concentration Requirements: 14 hours**
   a. **Track Math** (1 required)
      - Applied Optimization: EEL 6020 2
      - Statistical Inference: EEL 6029 2
   b. **Track Core** (4 required)
      - Power Systems Analysis: EEL 5250 3
      - Power Electronics: EEL 6245 3
      - Electric Machines and Drives: EEL 6227 3
      - Energy Delivery Systems: EEL 6285 3
      - Power System Protection: EEL 6935 3
      - Design of Solar Power Plants: EEL 6936 3

3. **Electives**: 3-6 hours (Thesis/Non-Thesis) *if not already selected as a track core*
   - Power Systems Analysis*: EEL 5250 3
   - Power Electronics*: EEL 6245 3
   - Electric Machines and Drives*: EEL 6227 3
   - Energy Delivery Systems*: EEL 6285 3
   - Power System Protection*: EEL 6935 3
   - Design Energy Efficiency & Solar Power*: EEL 6935 3
   - Design of Solar Power Plants*: EEL 6936 3
   - Digital Control Theory: EEL 5631 3
   - Stochastic Estimation and Control: EEL 6936 3
   - Multivariable Control Systems: EEL 6935 3
   - Embedded Systems: EEL 6935 3

4. **Thesis/Coursework Options:**
   - **Thesis Option**: 6-9 hours
   - **Non-Thesis Option**: combined total of 6 hours of additional electives, independent study, internship, project, or out of department.

*Tracks are for student benefit only. They will not show on transcripts or diplomas.*

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<th>Total Credits Outside of Dept.</th>
<th>Total Credits Independent Study</th>
<th>Total Credits (30 required)</th>
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