Students pursuing this option must complete five of the core courses and five technical electives. There is no research or thesis required for this degree.

### Energy Systems Engineering Core (choose 5):

- **ENPM622** Energy Conversion I - Stationary Power* (every fall)
- **ENPM624** Renewable Energy Applications * 
  - **or** **ENME701** Sustain. Energy Conversion & the Environment* [rec: ENME633] (every fall)
- **ENPM627** Environmental Risk Analysis* (every spring)
- **ENPM656** Energy Conversion II – Mobile Power* [ENPM672 or equivalent] (every spring)
- **ENCH648K** Advanced Fuel Cells and Batteries* (every spring)
- **ENCH648L** Photovoltaics: Solar Energy* (every fall)

### Energy Systems Engineering Pre-approved Technical Elective courses (choose 5):

- **ENPM623** Engineering Combustion Emissions for Air Pollution Control * (every other fall)
- **ENPM635** Thermal Systems Design Analysis* 
  - **or** **ENME635** Energy Systems Analysis* (every 1.5 years)
- **ENSE621** Systems Engineering Concepts and Processes: A Model-Based Approach* (every fall)
- **ENSE622** System Trade-off Analysis, Modeling, and Simulation* [ENSE621/ ENPM641] (every spring)
- **ENPM650** Solar Thermal Energy Systems* (every spring)
- **ENPM651** Heat Transfer for Modern Applications* (every 1.5 years)
- **ENPM654** Energy Systems Management* (every summer)
- **ENPM660** Wind Energy Engineering* (every fall)
- **ENPM670** Advanced Energy Audit and Conservation*
- **ENPM808C** Ocean Energy Harvesting* (every other spring)
- **ENPM809M** Fundamentals of Power Electronics for Energy Systems* (every other fall)
- **ENPM809Z** Sustainability and Innovation (every other spring)
- **ENRE447** Fundamentals of Reliability Engineering*
- **ENRE600** Fundamentals of Failure Mechanisms*
- **ENRE602** Reliability Analysis* 
  - **ENRE620** Mathematical Techniques for Engineers* (credit is only granted for ENRE620 or ENPM620) 
  - **ENRE670** Risk Assessment for Engineers I* [ENRE602] 
  - **ENRE671** Risk Assessment for Engineers II* [ENRE670]

**NOTE:** Any courses not listed above must be approved by the Senior Academic Advisor PRIOR to registration.

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