MENG 5342 – Energy Management

Credits: 3 hours lecture, 0 hours laboratory per week

Instructor: Nelson Fumo, Assistant Professor of Mechanical Engineering

Text(s): There is no required textbook for this class.
Additional Material: instructor handouts, online resources.

Course Information

Catalog Description: An introduction to concepts and tools related to energy management program, energy audit, energy accounting, economic analysis, and energy conservation measures for systems that use energy. The course focuses on energy use in buildings, but the fundamentals can be applied to industrial applications.

Prerequisites: Consent of the instructor.

Required, Elective, Selected: Elective.

Course Goals

Instructional Outcomes: By the end of this course students will be able to:
1. Recognize the importance of the energy management.
2. Plan and conduct energy audits.
3. Analyze energy accounting data.
4. Develop economic analysis of energy management projects.
5. Identify and assess energy conservation measures for lighting systems, HVAC systems, and other systems that use energy.
6. Analyze the use of cogeneration and solar energy as options to reduce energy consumption and emissions.
7. Select measurement systems used in energy management.
8. Use government official websites as source of evaluation/optimization tools, financial opportunities, and programs and technology for energy use reduction.

Relationship to Student Outcomes: This course supports the following Mechanical Engineering Program Student Outcomes, which state that our students will:
1. be able to apply science, mathematics, and modern engineering tools and techniques to identify, formulate, and solve engineering problems
4. be able to apply a broad-based educational experience to understand the interaction of engineering solutions with contemporary business, economic, and social issues.
Topics Covered

- Energy management program.
- Energy auditing.
- Energy accounting.
- Economic analysis of energy efficiency measures.
- Online resources for energy management practices.

Prepared By: Nelson Fumo  
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