

Approved Provider:



***Western New England College***  
**School of Engineering**

The Western New England College School of Engineering has signed a Memorandum of Understanding (MOU) with AEE whereby the College will develop an extensive Renewable & Alternative Energy System Design course, and offer the Certified Energy Manager (CEM®) Certification Exam to attendees. The Association of Energy Engineers is expanding the Certified Energy Manager program offerings as more States are adopting the CEM as a standard, and numerous corporations are making the CEM credential a job requirement.

**Registration & More Information**

For more information on the course offered by the Western New England College School of Engineering, [click here](#). To register for this course please contact the provider directly:  
Email: [CMFENGRINC@aol.com](mailto:CMFENGRINC@aol.com) / Springfield, Massachusetts [www.wne.edu](http://www.wne.edu)



WESTERN  
NEW ENGLAND  
COLLEGE

School of  
**Engineering**

Springfield, Massachusetts

[www.wnec.edu](http://www.wnec.edu)

ME 445-43 Special Topics in Engineering: **Design of Renewable/Alternative Energy Systems  
& Certified Energy Manager Certification**

➔ **New meeting time: Monday evenings at 6:00 pm.**

**Instructor:** Curt M. Freedman, MSEM, PE, CEM, CEA, LEED® AP

**Email:** CMFENGRINC@aol.com

**Course Description:**

This senior and graduate level course is offered to mechanical & electrical engineering students, non-majors and graduate students. This course is a study of alternative energy, energy management, and conservation methods and is intended for engineers having “*green energy*” interests or responsibilities for the operation of commercial buildings and industrial facilities.

This course will serve to prepare engineering students for today’s energy job markets and the use of best available technologies to improve system performance and to reduce operation costs. The means of assessing students include: homework assignments, in-class exams, and a comprehensive final exam.

In addition, students will be prepped and complete the Certified Energy Manager (CEM) exam that will qualify them to receive the Energy-Manager-In-Training (EMIT) certification as sponsored through the Association of Energy Engineers (AEE) ([www.AEEcenter.org](http://www.AEEcenter.org)). Students shall also be enlisted as student members of AEE.

**Topics include (but not limited to):**

- 1) Evaluation of utility rate design;
- 2) Evaluation/modeling of “Clear Sky” solar insolation;
- 3) Study of energy distribution systems;
- 4) Engineering of efficient heating, cooling, and ventilation systems;
- 5) Evaluation of boiler, chiller, heat pump, and other mechanical systems;
- 6) Evaluation of motor drive systems; power factor correction; fan & pump laws;
- 7) Design of efficient lighting systems;
- 8) Energy transfer, ventilation loads, and building envelope evaluation;
- 9) Evaluation of power generation and co-generation facilities;
- 10) Renewable energy: geothermal, wind, solar, and heat recovery;
- 11) Engineering economy evaluations;
- 12) Conventional and alternative transportation technologies;
- 13) Sustainability: Engineering for the “***New Industrial Revolution.***”

**Instructor Certification:**

- ~ Registered Professional Engineer in: CT, MA, ME, NH, NJ, NY, PA, RI, & VT
- ~ Certified Energy Engineer (CEM) and Certified Energy Auditor (CEA) as endorsed by the Association of Energy Engineers
- ~ LEED Accredited Professional as endorsed by the U. S. Green Building Council