MEC 516: Energy Technologies Laboratory I  Fall 2010

Catalog Description: Experiments in the areas of IR imaging, heat pumps, batteries/power electronics, solar thermal, insulation, steam/gas turbine, and hybrid autos. The focus is on system efficiencies, system integration, and design for residential markets.

Pre- or Co-requisite: MEC 520

Reference books:  *Fundamentals of Eng. Thermodynamics*, Morran and Shapiro

*Heat Transfer*, Holman

*Heat Transfer: a practical approach*, Yunus A. Cengel

*Principles of Solar Engineering*, Goswani, Kreith, and Kreider

Activities:

1. Heat Pump labs 1 and 2
2. IR labs 1, 2, and 3
3. Spectral properties of light labs 1 and 2
4. Insulation lab
5. Solar thermal heating labs 1 and 2
6. Motors and batteries labs 1 and 2
7. Hybrid car lab

Grades: Each of the 10 labs is worth 10 points.

Americans with Disabilities Act:
If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.

Academic Integrity:
Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing
another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/uaa/academicjudiciary/