ENME 3711

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University of New Orleans

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COURSE SYLLABUS

Course: ENME 3711 – Thermal Sciences Laboratory (Required Course)

Catalog Data
ENME 3711 Thermal Sciences Laboratory Cr. 1
Prerequisites: credit or registration in Mechanical Engineering 3771 and 3776 or consent of department. A laboratory in engineering thermodynamics and heat transfer. Three hours of laboratory.

Course Schedule
Three hours laboratory per week.

Course Coordinator
Kazim Akyuzlu, Professor of Mechanical Engineering

Textbook
Laboratory manual supplied on a loan basis by the department.

References
Heat Transfer and Thermodynamics textbooks.

Course Objectives (Student Learning Objectives)
1. Hand on experience with various engineering apparatus such as heat exchangers, gas turbines, refrigeration cycles, heat pump, etc.
2. Analyze the performance of various engineering apparatus in terms of efficiency and/or effectiveness.
3. Compare the theoretical and experimental results using various mathematical and graphical tools. Learn how to present experimental results in a professional manner.

Course Content by Topics
1. Principles of thermocouples
2. Measurement of thermal conductivity (one dimensional heat conduction)
3. Conduction with convection (fins)
4. Laminar free convection from vertical plates (includes radiation)
5. Double pipe heat exchanger
6. Cross flow heat exchanger
7. Air conditioning cycle (refrigeration and heat pump cycles)
8. Gas turbines
9. Measurement of hemispherical emissivity (radiation from solids)
10. Design of Experiments

Class Schedule
The class schedule (times we will meet for the lectures and times you will conduct experiments) will be distributed during first day of class for the semester.
Instructor Office Hours and Contact information
M W 2-4:00 pm in EN928/514/414/407/106/104
Office Phone: 280 6186
e-mail address: kakyuzlu@uno.edu

Grading Criteria
6 lab reports
2 quizzes
1 term project

Note: Lab reports are due one week after the experiment is conducted.

Attendance Policy:
Attendance is required. You are to conduct each experiment and submit a report. All lab reports are to be submitted in person. Missing experimental data sheets or lab reports will be counted as zero.

Academic Dishonesty /Academic Integrity:
Academic integrity is fundamental to the process of learning and evaluating academic performance. Academic dishonesty will not be tolerated. Academic dishonesty includes, but is not limited to, the following: cheating, plagiarism, tampering with academic records and examinations, falsifying identity, and being an accessory to acts of academic dishonesty.
Refer to the Student Code of Conduct for further information. The Code is available online at www.studentaffairs.uno.edu.

Students who have disabilities:
It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities should contact the Office of Disability Services as well as their instructors to discuss their individual needs for accommodations. For more information, please go to www.ods.uno.edu.