

COURSE SYLLABUS
Southeast Missouri State University

Department of Industrial & Engineering Technology

Course No: ET- 470/570

Title of Course: Energy Management

New: Fall 2000

- I. Catalog Description and Credit Hours of Course: A study of energy auditing, rate structures, economic evaluation techniques, lighting efficiency improvement, HVAC optimization, combustion and use of industrial waste, steam generation and distribution system performance, Distributed Digital Control systems, process energy management, and maintenance considerations. (3 credit hours)
- II. Prerequisite (s): ET 365 and Computer skills, or Permission of the Instructor
- III. Purpose or Objectives of the course: Upon completion of this course, students will be able to:
 - A. identify and describe the energy conservation opportunities in industrial and commercial systems.
 - B. apply energy auditing techniques.
 - C. describe the energy rate structures.
 - D. examine the economic evaluation of energy conservation solutions.
 - E. use computers to monitor and control energy use.
- IV. Expectations of Students:
 - A. Attend class and lab sessions regularly, according to the policies presented in the current University Bulletin.
 - B. Participate in class discussions and projects.
 - C. Prepare assignments for timely submission, as specified by the instructor.
 - D. Make satisfactory scores on quizzes, assignments and examinations.
 - E. For graduate credit, students must complete an energy audit. A proposal must be submitted for approved before the sixth week and the findings must be presented in class.
- V. Course Content or Outline (Weeks):

- A. Introduction to course
 - B. Energy Situation – Global & National (1)
 - C. Energy management program (2)
 - D. The energy audit process (3)
 - E. Understanding energy bills (4)
 - F. Economic evaluation (5)
 - G. Lighting (6)
 - H. Exam I
 - I. Heating, ventilation, and air conditioning (7)
 - J. Heating, ventilation, and air conditioning (8)
 - K. Combustion process and the industrial waste (9)
 - L. Steam generation & distribution (10)
 - M. Control systems & computers (11)
 - N. Control systems & computers (12)
 - O. Exam II
 - P. Maintenance (13)
 - Q. Insulation (14)
 - R. Process energy management (15)
 - S. Other related topics (16)
 - T. Final Exam
- VI. Textbook (s) and/or Other Required Materials or Equipment:
- Kennedy, William J., Turner, Wayne C., & Capehart, Barney L., Guide to Energy Management, The Fairmount Press, (1994.)
- VII. Basis for Student Evaluation:

- A. Exam I (20%)
 - B. Exam II (20%)
 - C. Term Paper or project (20%)
 - D. Homework/Quizzes (15%)
 - E. Final Exam (25%)
 - F. Grading Scale:
 - 1. A = 90 – 100%
 - 2. B = 80 – 89%
 - 3. C = 70 – 79%
 - 4. F = Below 70%
- VIII. Disabilities Statement: If you have special needs addressed by the American With Disabilities Act and need course materials in alternative format, notify your course instructor immediately. Reasonable efforts will be made to accommodate your special needs.