[A-3]COURSE SYLLABUS

1. Course Description (Approximately 100 words)

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.

2. Course Goals and Objectives (Approximately 100 words)

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.

3. Textbook (Title, Author, Publisher, Year of Publication, etc.)

Kennedy, William J., Turner, Wayne C., & Capehart, Barney L., Guide to Energy Management, The Fairmount Press, (1994.)

4. Reference

Kennedy, William J., Turner, Wayne C., & Capehart, Barney L., Guide to Energy Management, The Fairmount Press, (1994.)

5. Course Requirements and Grades

CAT 30%
EXAM 70%

6. Course Calendar

Week	Main Content
1	Introduction to Energy:Need of energy in buildings and its assessment
2	Factors influencing the energy use in building:Concepts of energy efficient b
3	STUDY OF CLIMATE:Study of Weather and Climate – Classification of clima
4	Influence of climate in building design – Tropical climate - Orientation
5	Environmental factors affecting building design
6	Analysis of thermal and visual environment.
7	Heat gain and heat loss phenomenon in buildings
8	Thermal performance parameters. Role ofbuilding enclosures, openings and
9	Basic principles of light anddaylight. Energy efficient light design of buildings
10	APPLIANCES IN BUILDINGS-ENERGY CONSERVATION
11	Integration of energy efficient appliances with the buildings
12	ENERGY AUDIT AND GREEN BUILDINGS
13	Principles of calculation of heat loss through the building envelope
14	FINAL EXAMINATION