

<b>Course Number and Name</b>	
BBA005 - ENERGY ENGINEERING AND MANAGEMENT	
<b>Credits and Contact Hours</b>	
3&45	
<b>Course Coordinator's Name</b>	
MS.Pavithra	
<b>Text Books and References</b>	
<p><b>TEXTBOOK:</b></p> <p>1.Amlan Chakrabarthy., Energy Engineering and Management.,PHI.,2011.</p> <p><b>REFERENCES:</b></p> <p>1. W.R. Murphy and G. Mckay, Energy Management, Butterworths, London, 1982.  2. Callaghan P.W. Design and Management for Energy Conservation, Pergamon Press, Oxford,1993.  <a href="https://books.google.com/books/.../Energy_Engineering_and_Managem...">https://books.google.com/books/.../Energy_Engineering_and_Managem...</a></p>	
<b>Course Description</b>	
To enlighten the student in the field of energy engineering concern with energy efficiency, energy service and facility management	
<b>Prerequisites</b>	<b>Co-requisites</b>
Nil	New and Renewable Sources of Energy
required, elective, or selected elective (as per Table 5-1)	
Open Elective	
<b>Course Outcomes (COs)</b>	
CO1	Understand different energy resources and their uses.
CO2	Understand different energy conservation techniques.
CO3	Understand the impact energy on environment
CO4	Understand the different types of energy conservation schemes
CO5	Understand Insulated pipe work systems
CO6	Understand Optimal target investment schedules

**Student Outcomes (SOs) from Criterion 3 covered by this Course**

COs/SOs	a	b	c	d	e	f	g	h	i	j	k	l
CO1			H									
CO2					H			M	L			
CO3						H			L			
CO4							M		L			L
CO5						M		M				L
CO6												

**List of Topics Covered**

<b>UNIT I INTRODUCTION TO ENERGY AND ENVIRONMENT</b>	<b>9</b>
Definition – Fossil fuel reserves – Energy consumption – Green house effect, global warming – Renewable energy resources – Environmental aspects, utilization – energy prizes – Energy policies.	
<b>UNIT II ENERGY CONSERVATION</b>	<b>9</b>
Need – different types of energy conservation schemes – industrial energy use – energy surveying and auditing – energy index – cost of energy – cost index-energy conservation in engineering and process industry in thermal systems, in buildings and non conventional energy resources schemes.	
<b>UNIT III ENERGY GENERATION BY TECHNOLOGY</b>	<b>9</b>
Fuels and consumption – Boilers – Furnaces – Waste heat recovery systems – Heat pumps and refrigerators – Storage systems – Insulated pipe work systems – heat exchangers.	
<b>UNIT IV ENERGY MANAGEMENT</b>	<b>9</b>
Energy management principles – energy resource management – energy management.information systems – Instrumentation and measurement – Computerized energy management	
<b>UNIT V ENGINEERING ECONOMICS</b>	<b>9</b>
Costing techniques – Optimization cost – Optimal target investment schedules – Finance appraisal – Profitability – Project management.	