

Pimpri Chinchwad Education Trust's
Pimpri Chinchwad College of Engineering
Sector No. 26, Pradhikaran,
Nigdi, Pune – 411 044



COURSE OUTLINE

Department: Mechanical Engineering **A.Y.:**2022-23 **Sem-II** **Date:** 01 Jan 2024
Class: Second Year (SY) **Name of the Course:** **Applied Thermodynamics**

Relevance of the course:

Applied Thermodynamics establishes connect between **Engineering Thermodynamics** fundamentals and **Application in Thermal Engineering** domain. It lays the foundation of **Thermal Engineering along with fluid mechanics and heat transfer**. This course covers various applications like Air compressors, steam generators, Vapor and Gas power cycles, compressible fluid application and combustion.

Course Outcomes:

CO No.	CO statement	No. of Lectures Planed	Set Target for AY 2023-24 Sem II	Content Delivery Method	Assessment tools Planned
1	Student will be able to Analyze the performance of Reciprocating Air Compressor	7	75%	Presentation, Lecture with Interaction ,CB	IE1, MTE, ETE
2	Student will be able to Evaluate the performance parameters of boiler	7	75%	Presentation, Lecture with Interaction ,CB	IE1, MTE, ETE
3	Student will be able to Analyze the performance of various vapour Thermodynamic cycles	6	75%	Presentation, Lecture with Interaction ,CB	MTE, ETE
4	Student will be able to Analyze the performance of various Gas Thermodynamic cycles	6	75%	Presentation, Lecture with Interaction ,CB	IE2, ETE
5	Student will be able to Analyze steady one dimensional isentropic compressible fluid flow	5	75%	Presentation, Lecture with Interaction ,CB	IE2, ETE
6	Student will be able to Estimate the Actual and Stoichiometric air fuel ratio of various fuels.	5	75%	Presentation, Lecture with Interaction ,CB	ETE

CO-PO Mapping:




CO No	CO Statement	PO Mapping												PSO Blooms			PSO Blooms
		1	2	3	4	5	6	7	8	9	10	11	12	I	II	III	
1	Student will be able to Analyze the performance of Reciprocating Air Compressor	3	3	2										3			4
2	Student will be able to Evaluate the performance parameters of boiler	3	3	2										3			5
3	Student will be able to Analyze the performance of various vapour Thermodynamic cycles	3	3	2										3			4
4	Student will be able to Analyze the performance of various Gas Thermodynamic cycles	3	3	2										3	2		4
5	Student will be able to Analyze steady one dimensional isentropic compressible fluid flow	3	3	2		3								3			4
6	Student will be able to Estimate the Actual and Stoichiometric air fuel ratio of various fuels.	3	3	2										3			5

Discussion on Internal Evaluation (IE)

IE Planned	Type	Cos mapped	Tentative schedule
IE1	Poster presentation advances in compressor technology or boiler technology	CO1, CO2	Last week of February
IE2	Programming based assignment	CO4, CO5	Last week of March

MOOC Courses:

Applied Thermodynamics by Prof. Niranjan Sahoo and Prof. Prarnab Mondal (IITG) available on NPTEL

		
Course Faculty SY(C) Dr. Sanjay Salve	Course Faculty SY(B) Mr. Gaffar Momin	Course Faculty S.Y. (A) Mrs. Sweta Patil
Course Coordinator Applied Thermodynamics		