CH262	PROCESS HEAT TRANSFER LAB	L	T	P	C	Int	Ext
		-	-	2	1.0	30	70

Semester IV [Second Year]

COURSE OBJECTIVES:

1. To apply the concepts of heat transfer, fluid dynamics and thermodynamics to the design and operation of heat transfer experiments
2. To develop practical understanding of common heat transfer equipment
3. To develop skills in experimental design and troubleshooting
4. To develop skills in data collection, analysis and interpretation

COURSE OUTCOMES:

After the successful completion of the course,students are able to

1. Collect quality raw data from an operation
2. Compare observed with predicted performance
3. Communicate the results of their analysis effectively in written and oral reports.
4. Function effectively in a lab team

EXPERIMENTS:

1. Thermal conductivity of a metal rod
2. Natural convective heat transfer coefficient on a vertical surface
3. Temperature distribution along a pin fin under natural convection and forced convection
4. Heat transfer coefficient in forced convection
5. Stefan- Boltzmann constant
6. Heat transfer coefficient for a fluid through a lagged pipe
7. Temperature distribution through composite walls
8. Unsteady state heat transfer in a rod
9. Overall Heat transfer coefficient for a fluid flow in agitated vessels
10. Overall Heat transfer coefficient for a fluid flow in a jacketed kettle
11. Rate of evaporation in single effect evaporator
12. Boiling Heat transfer
13. Emissivity Apparatus