

No.	Information of Thermal Hydraulics	
1.	Unit name:	Thermal Hydraulics
2.	Code:	NE-3023
3.	Classification:	Major Subject
4.	Credit Value:	3.5
5.	Semester/ Year Offered:	1/3
6.	Pre-requisite:	NA
7.	Mode of delivery:	Lecture, Class work
8.	Assessment system and breakdown of marks:	Assignment, Tutorial, Examination
	Assignment	10%
	Tutorial	20%
	Examination	70%
9.	Academic staff teaching unit	Department of Nuclear Technology
10.	<p>Course outcome of unit:</p> <p>After completion of this course, students will be able to</p> <ol style="list-style-type: none"> 1. Internalize the meaning of the terminology and physical principles associated with heat transfer. 2. Delineate pertinent transport phenomena for any process or system involving heat transfer. 3. Use requisite inputs for computing heat transfer rates and/or material temperatures. 4. Develop representative models of real processes and systems and draw conclusions concerning process/system design or performance from the attendant analysis. 5. Develop procedures for determining the time dependence of the temperature distribution within a solid during a transient process. 	
11.	<p>Synopsis of units:</p> <p>From the study of thermodynamics, you have learned that energy can be transfer by</p>	

	interactions of a system with its surroundings. However, thermodynamics deals with the end states of the process during which an interaction occurs and provides no information concerning the nature of the interaction or the time rate at which it occurs. The purpose of this unit is to extend thermodynamic analysis through the study of the modes of heat transfer and through the development of relations to calculate heat transfer rates.
12.	<p>Topic:</p> <ol style="list-style-type: none"> 1. Introduction 2. Introduction to Conduction 3. One-Dimensional, Steady-State Conduction 4. Two- Dimensional, Steady-State Conduction 5. Transient Conduction 6. Introduction to Convection 7. External Flow 8. Internal Flow 9. Free Convection
13.	<p>Main References:</p> <p>Fundamentals of Heat and Mass Transfer, Incropera/ De Witt/ Bergman/ Lavine, 7th Ed.</p>
14.	<p>Additional References:</p>

Prepared by

Daw Ohm Mar Lwin
Assistant Lecturer