AL IMAM MOHAMMAD IBN SAUD ISLAMIC UNIVERSITY
COLLEGE OF ENGINEERING
Department of Mechanical Engineering

Course Information	
Course Code and Name:	ME 325 Heat Transfer Lab
Credit Hours**:**	**1 (**2 contact hours in lab)
Prerequisites:	ME 324 Heat Transfer

Course Description
Practical experimentation and study of the different modes of heat transfer covered in the theoretical course ME 324. Experiments are performed on various cases of conduction, convection and radiation heat transfer. Also includes a demonstration of flow-boiling in pipes. Typically offered in Fall and Spring semesters

Textbook			
Title	Fundamentals of Heat and Mass Transfer		
Authors	Frank P. Incropera, David P. Dewitt, et. al		
Publisher	Wiley	Year and Edition	6th edition, 2006

Course Contents
Verification of Fourier's law of heat conduction for the case of linear conduction through a given material.
The study of linear thermal conduction through composite wall (2 materials)
Verification of Fourier's law for radial heat conduction through a known material
Observation of transient heat conduction through a known material
A study of the combined heat transfer due to radiation and free-convection
A study of the effect of flow velocity on cooling due to forced convection
Verification of the Inverse-Square law of radiation
Verification of Stefan-Boltzmann's law
Finding the emissivity of a grey body
Demonstration of flow boiling through vertical pipes as related to water-tube boilers

Academic Coordinator	Signature
Dr. Syed Muhammad Fakhir Hasani	

Official Stamp