98-1 Preliminary Syllabus, Da-Yeh Univ

Information			
Title		Serial No. / ID	1952 / MUR 5004
Dept.		School System / Class	1 1
Lecturer		Full or Part-time	
Required / Credit	Optinal / 3	Graduate Class	NO
Time / Place	( )34 / H455 ( )6 / H455	Language	English

Introduction
This is a one-semester, selective course for graduate students who are in Master or Ph.D. programs. The course is an extension of the undergraduate " Heat Transfer" course with specialization in CONVECTION mode of heat transfer. Main objectives of this course are for students (1) to acquire the ability and use more advanced math to analyze, formulate, and solve complex convective problems from basic principles, and (2) to get familiar with some well known convection solutions and gain physical sense on real-world problem from the obtained solutions.

Outline
Chapter 1 Introduction
Chapter 2 Conservation Principles
Chapter 3 Fluid Stresses and Flux Laws
Chapter 4 Differential Equations for the Laminar Boundary Layer
Chapter 5 Integral Equations for the Boundary Layer
Chapter 7 Laminar Internal Flows: Momentum Transfer
Chapter 8 Laminar Internal Flows: Heat Transfer
Chapter 9 Laminar External Boundary Layers: Momentum Transfer
Chapter 10 Laminar External Boundary Layers: Heat Transfer
Chapter 15 Influence of Temperature-Dependent Fluid Properties
Chapter 16 Convective Heat Transfer at High Velocities
Chapter 17 Convective Heat Transfer with Body Forces
Introduction to Turbulence (notes)
Turbulence Modeling (notes and papers)

Prerequisite
Engineering Mathematics, Heat Transfer, Fluid Mechanics