

ME 571 Conduction Heat Transfer

Fall 2001

Instructor:

Prof. Tariq Shamim
1290 Engineering Complex
Phone # : (313) 593-0913
e-mail : shamim@umich.edu
Office hours: 4:30-5:30 pm (Wednesday)
10:30-11:30 am (Friday) (Mainly for ME 378)

Objectives:

- To develop skills for formulating complex conduction heat transfer problems.
- To introduce several analytical and numerical methods available for solving the conduction heat transfer problems.

Prerequisites:

- Undergraduate Heat Transfer (ME 371)
- Introduction to Partial Differential Equations

Suggested Text:

Conduction Heat Transfer
V. S. Arpaci, Ginn Press, 1991

References:

Analytical Methods in Conduction Heat Transfer, 2nd Edition
G. E. Myers, AMCHT Publications, 1998

Heat Conduction
M. N. Ozisik, John Wiley, 1980

Grading:

Exam # 1	25%
Exam # 2	30%
Final Exam	40%
H.W. Assignments	5%

General Rules:

- Attendance at lectures is essential and students are expected to have read the material before each lecture.
- To better understand the class material, students are expected to do the HW assigned in class.
- Exams will be open book and open notes (text book and class notes only).

(ME 571 class info ...cont'd)

- Make up exams will not be given except in cases such as documented illness and similar reasons.
- The honor code will be in effect throughout the course.
- Any of the above rules may be changed during the term by a vote of the class.

Class Syllabus

Lec.	Date	Topics
1	9/05	Introduction, Basic Concepts
2	9/12	Problem Formulations
3	9/19	1-D, Steady State Heat Conduction
4	9/26	
5	10/03	Extended Surfaces
6	10/10	Midterm Exam # 1
7	10/17	2-D/3-D, Steady State Heat Conduction
8	10/24	
9	10/31	Unsteady Conduction
10	11/07	Midterm Exam #2
11	11/14	Multi-dimensional Unsteady Conduction
12	11/21	No Class
13	11/28	Steady Periodic Conduction, Variation Formulation
14	12/05	
	12/14	Final Exam