EML 6154 - Conduction Heat Transfer - Fall 2023

Instructor:

Dr. Saeed Moghaddam
Department of Mechanical and Aerospace Engineering
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Class Hours and Location:

Tuesdays, Period 8 (3:00 PM to 3:50 PM), NEB 0102
Thursdays, Periods 7-8 (1:55 PM – 3:50 PM), NEB 0102

Office Hours (In Person & Virtual):

Tuesdays, 4:00pm to 5:30pm
Thursdays, 4:00pm to 5:00pm
Office: Room 310, MAE-A Building
Zoom Meeting Room 416 606 4665
Note: These are the proposed office hours and can be changed upon request.

Supervisory Teacher (Virtual):

TBA
TBA
Note: These are the proposed office hours and can be changed upon request.

Course Website: https://ufl.instructure.com/courses/488169

Required Text: Heat Conduction, 3rd Edition, D. Hahn and M.N. Ozisik

Objectives: The goal of this course is to teach basic and advanced solution techniques, including exact and approximate approaches, for a wide range of conduction heat transfer problems. Included are both multidimensional steady state and transient analyses, with emphasis on the fundamental physics and underlying mathematics associated with heat transfer. Accordingly, this course will stress the concepts of energy balance and boundary conditions with a wide range of formal solution techniques for solution of governing heat transfer equations. Upon completion of this course, students are expected to understand advanced heat transfer solution techniques coupled with a strong foundation and appreciation for the physics and mathematics of conduction heat transfer. Micro-scale heat transfer, including energy carriers, carrier length scales, and micro-scale heat transfer regimes is also covered at the introductory level.

Grading:

1. Grading Basis:

Homework	15%
Mid-term Exam I	25%
Mid-term Exam II	25%
Final Exam	35%

Total 100%

2. Homework:
   Show all work, mark all answers, and be neat.
   Online submission: https://ufl.instructure.com/courses/488169

3. Exams:
   Mid-term Exam I: Thursday, September 28th (1:55pm to 3:55pm)
   Location: NEB 0102
   Mid-term Exam II: Thursday, November 2nd (1:55pm to 3:55pm)
   Location: NEB 0102
   Final Exam (comprehensive): Tuesday, December 12th from 10:00am to 12:00pm
   Location: TBA
   No make-up exams will be given unless there is a valid reason consistent with the University policy.

4. Grading scale:

90-100	A
87-89.99	A-
83-86.99	B+
80-82.99	B
77 - 79.99	B-
73 - 76.99	C+
70 - 72.99	C
67 - 69.99	C-
63 - 66.99	D+

Holidays:

Thursday, November 23th (Thanksgiving)

Course Outline:

1. Formulation and exact solutions in rectangular and curvilinear coordinate systems: Chapters 1 to 5
2. Special solution techniques: Chapters 6 to 9

Class Policies:

1. SOME collaboration is allowable on homework, but each student is responsible for performing the bulk of his or her own homework assignment.
2. NO collaboration is allowed on exams.

Academic Honesty:

All students admitted to the University of Florida have signed a statement of academic honesty committing them to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action.
This statement is a reminder to uphold your obligation as a student at the University of Florida and to be honest in all work submitted and exams taken in this class and all others.