EML 6154 - Conduction Heat Transfer - Fall 2021

Instructor: Dr. Saeed Moghaddam

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Class Hours and Location:

M W F, 1:55 PM to 2:45 PM

All lectures are pre-recorded and available on the course website (https://ufl.instructure.com/courses/437901) under Course Lecture Videos. Please watch lectures before the class and bring your questions to class (https://ufl.zoom.us/j/92627583734). Please see Appendix A of this document for lectures numbers and dates.

Virtual Office Hours:

Monday: 1:55 PM to 3:55 PM
Wednesday: 1:55 PM to 3:55 PM
Friday: 1:55 PM to 3:55 PM

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%
2 Midterm exams	25% each
Final Exam	35%
Total	100%

2. Homework: Homework assignments weekly to biweekly.
   Show all work, mark all answers, and be neat.
   Online submission https://ufl.instructure.com/courses/437901

3. Exams:
   Exam 1: October 1st from 7:00pm to 9:00pm
   Exam 2: November 10th from 7:00pm to 9:00pm
   Final Exam (comprehensive): December 15th from 10:00am to 12:00pm

   Exams will be dropped in the Exams folder **30 minutes** prior to the start time. You can print, write the answers, scan, and submit online (**you will get 30 extra minutes for these**) under Exam 1, Exam 2, and Final Exam assignments.

   No make-up exam will be given unless there is a valid reason consistent with University policy.

4. Grading scale:
   A curve will be applied to bring the class average to 85/100. The letter grade will be based on the 10-point scale (i.e. $A \geq 90\%$, $B \geq 80\%$, etc.).

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. All homework assignments and bonus problems are to be turned by midnight of the due day.

2. SOME collaboration is allowable on homework, but each student is responsible for performing the bulk of his or her own homework assignment.

3. 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.

Appendix A

Lecture Date	Video
08/23	Welcome
08/25	EML6154-001
08/27	EML6154-002
08/30	EML6154-006
09/01	EML6154-003
09/03	EML6154-004
09/06	Holiday
09/08	EML6154-005
09/10	EML6154-007
09/13	EML6154-008
09/15	EML6154-009
09/17	EML6154-010
09/20	EML6154-011
09/22	EML6154-012
09/24	EML6154-013
09/27	EML6154-014
09/29	Q & A
10/01	**Midterm Exam #1**
10/04	EML6154-015
10/06	EML6154-016
10/08	Holiday
10/11	EML6154-017
10/13	EML6154-018
10/15	EML6154-019
10/18	EML6154-020
10/20	EML6154-021
10/22	EML6154-022
10/25	EML6154-023
10/27	EML6154-024
10/29	EML6154-025
11/01	EML6154-026
11/03	EML6154-027
11/05	EML6154-028
11/08	Q & A
11/10	**Midterm Exam #2**
11/12	EML6154-029
11/15	EML6154-030
11/17	EML6154-031
11/19	EML6154-032
11/22	EML6154-033
11/24	Holiday
11/26	Holiday
11/29	EML6154-034
12/01	EML6154-035
12/03	EML6154-036
12/06	EML6154-037