

EML 6154 - Conduction Heat Transfer - Fall 2022

Instructor:

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

M-W-F, Period 8th (3:00 PM to 3:50 PM), CSE E118

Office Hours (Virtual):

M-W-F, Period 9th (4:05pm to 4:55pm)

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

Supervised Teacher (Virtual):

Suhas Rao Tamvada, stamvada@ufl.edu
Tue-Thu: 4:00pm to 5:30pm

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

Course Website: <https://ufl.instructure.com/courses/464157>

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	<u>35%</u>
Total	100%

2. Homework:

Show all work, mark all answers, and be neat.

Online submission: <https://ufl.instructure.com/courses/464157>

3. Exams:

Mid-term Exam I: Friday, September 23rd E1&E2 (7:20pm to 9:20pm)

Location: TBA

Mid-term Exam II: Friday, November 4th E1&E2 (7:20pm to 9:20pm)

Location: TBA

Final Exam (comprehensive): Friday, December 16th from 10:00am to 12:00pm

Location: CSE E118

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:

UF Recognized Holidays (no class):

Monday, September 5th (Labor Day)

Friday, November 11th (Veterans Day)

Friday, November 25th (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.