

# MECH 4315 Heat Transfer

## Course Syllabus

Fall 2022

**Time and Location:** MW 10:30 am - 11:50 am, 108 Liberal Art

Instructor: Hossein Mallahzadeh  
E-mail: hmallahzade@utep.edu  
Office hours: Monday (2:00 – 3:00 pm) and Tuesday (9:30-10:30 am)  
Office location: Engineering Building, Room E-329  
Teaching Assistant: TBA  
TA's office hours: TBA  
TA's office location: TBA

**Textbook:** Y.A. Çengel and A.G. Ghajar, *Heat and Mass Transfer: Fundamentals & Applications*, 5<sup>th</sup> Edition, McGraw-Hill, ISBN 978-0-07-339818-1

**Blackboard:** The instructor will use Blackboard for uploading lectures, updating the syllabus (if necessary), and communicating with students via “Announcements” and email.

**Prerequisites:** MECH 3312 *Thermodynamics* and MECH 3314 *Fluid Mechanics*

### Course Objectives

The course covers the basic principles of heat transfer by conduction, convection, and radiation. After successful completion of this class, students will be able to:

- Understand the fundamentals of heat transfer processes occurring in natural and engineered systems.
- Use this understanding and analytical methods for solving engineering problems that involve heat transfer.
- Understand and use experimental techniques for heat transfer measurements.

## Course Content

- Heat conduction equation
- Steady heat conduction
- Transient heat conduction
- Fundamentals of convection
- External forced convection
- Internal forced convection
- Natural convection
- Fundamentals of thermal radiation

**Exams:** There are midterm exams.

**Exam dates:** 9/26, 10/24 and 11/21.

## Grading

Your final grade for this course will be based on the following activities

Assignments	Percentage
Midterm Exams (3x)	75%
Class Performances	25%
Total	100%

Grade Scale	
100-90%	A
89-80%	B
79-70%	C
69-60%	D
<60%	F

The instructor reserves the right to revise this grading plan.