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


**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.


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

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Midterm Exams (3x)</td>
<td>75%</td>
</tr>
<tr>
<td>Class Performances</td>
<td>25%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
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Grade Scale

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-90%</td>
<td>A</td>
</tr>
<tr>
<td>89-80%</td>
<td>B</td>
</tr>
<tr>
<td>79-70%</td>
<td>C</td>
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<tr>
<td>69-60%</td>
<td>D</td>
</tr>
<tr>
<td>&lt;60%</td>
<td>F</td>
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The instructor reserves the right to revise this grading plan.