AME 3173 Heat Transfer - Spring 2013

Course Meets: MWF 9:30 – 10:20 A.M. DEH130

Instructor: Takumi Hawa, Assistant Professor
Office hours: M 1:00 – 2:30 P.M.
F 10:30 – 11:30 A.M.
Office: EL110
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Course Description: Heat transfer by conduction, convection, and radiation; mass transfer and combined modes of heat transfer.


Pre-requisites by Topic: Thermodynamics (AME 2213), Fluid Dynamics (AME 3153), and Programming

Course Objectives: To provide a solid background for undergraduates or beginning graduate students in heat transfer fundamentals. To relate the theory and numerical work of heat transfer to diverse applications.

Grading Criteria:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
<th>Approx. final grade</th>
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<tbody>
<tr>
<td>Homework</td>
<td>15%</td>
<td>90 - 100 % A</td>
</tr>
<tr>
<td>Exams (4)</td>
<td>48%</td>
<td>80 - 89 % B</td>
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<tr>
<td>Project (1)</td>
<td>7%</td>
<td>70 - 79 % C</td>
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<tr>
<td>Final Exam</td>
<td>30%</td>
<td>60 - 69 % D</td>
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Topics to be Covered:
1. Conduction Heat Transfer Fundamentals (Chapter 1 – 4)
2. Finite Differences in Conduction (Chapter 5)
3. Convective Heat Transfer (Chapter 6 – 9)
4. Boiling and Condensation (Chapter 10)
5. Heat Exchangers (Chapter 11)
6. Radiation Heat Transfer (Chapter 12 – 13)

Computer Usage:
Require use of computer in homework assignments of topic 2 and special project.
Information Concerning
By Dr. Hawa

1. **Class Attendance:**
   Class attendance is expected; however, it will NOT contribute a grading criterion.

2. **Homework:**
   Homework will be collected on **Monday at 9:30 AM** of the week it is assigned. NO late homework will be accepted. No extra credit or makeup homework assignments will be given.

3. **Examinations:**
   All regularly scheduled examinations will be OPEN-BOOK examinations. A CALCULATOR and an 8-1/2 x 11 CRIB SHEET are permitted as well. These consist of four exams, a final examination, and a make-up examination.

4. **Make-up Examinations:**
   If necessary, a special make-up examination will be scheduled. This is intended ONLY for those students who are prevented from taking the regularly scheduled examinations for some EXTRA-ORDINARY reasons (Provost approved activities, see your student handbook). Students seeking permission to take a make-up examination MUST email or leave a message to their instructor BEFORE the regular examination starts. The make-up examination is a comprehensive & close-book examination.

5. **Exemptions:**
   There will be no exemptions from the Final Examination.

6. **Final Examination:**
   Travel plans should take into account that Final Examinations end at 10 AM on Tuesday, May 7, 2013. Completed Final Examinations will not be returned to the students.

7. **Homework Problems & Solutions:**
   All homework problems and their solutions will be posted on the course homepage (www.ou.edu/mms/courses_crt.html).