MAE 589 Heat Transfer

S18 Semester Project Oral Presentations

Each group will prepare a 7-minute PowerPoint presentation, which must be uploaded to Blackboard before the beginning of the class in which they are scheduled to present. Each member of the group should participate in the presentation. I will cut you off if you go past 8 minutes.

Note: Because of the large number of projects, the first day of the oral presentations will take place on April 18th, 2018, and the second day will take place on April 25th, 2018. Since your presentation is ranked only against the other presentations on the same day, this won’t present an advantage to those going on the first or the second day. Note that the order of the presentations has been randomly assigned.

**Schedule:**

**Day 1: Wed, April 18, 2018**

6) Pallab Bose, Adalberto Campos, Kexin Jiao, Sandy Polus, Sangeet Sankaramangalam Ulhas, Benjamin Winsryg

**CPU Cooling Analysis**

2) Hailey Boshell, Kristofer Frede, Arjun Gopal, Akshit Himanshubhai Jariwala, Gregory Kilfoy, Chandler Petrovich Flynn, Siddhant Srivastava

**Study the characteristics of heat transfer within an overheating cell phone; Analysis of critical ėgen where thermal runaway occurs under standard conditions**

8) Abdulaziz Akbar, Celine Chang, Jordan Kocher, Samuel Mokdad, Alyssa Nazareno, Ian Sanders

**Heat Transfer Analysis of a Rankine Cycle Thermal Power Plant**

9) Eduardo Aguirre, Vidit Atulkumar Dabhi, Chase Ebiner, Mihir Koradia, Vivekkumar Patel, Luke Winterstein

**Waste Heat Utilization Using Thermoelectric Devices**

3) Roshan Sameer Annam, Hooman Daghooghi Mobarakeh, Daniel Mangu, Anirudh Srinivasan Pugazhendhi, Shubham Saha, Hitomi Shenhav

**Determining the Ultrasonic Efficiency of an Ultrasonic Transducer**

**Day 2: Wed, April 25, 2018**

5) Zachary Brown, Swapneel Danayat, Edward Faillace, Phillip Fosnot, Semir Kasumovic, Jordan Patterson, Louis Tichacek

**Design Optimization for Solenoid Cooling**

7) Chuyun Guan, Abdul Khalid, Faisal Raja, Ashish Rana, Run Si, Bret Wainwright

**Thermo-Elastic Contact Coupling**

4) Sruthi Chengalrayan, Naga Chaitanya Ganzam, Ramteja Reddy Kondakindi, Bianca Kurian, Ravi Patel, Saurabh Prabhu, Guangqing Shen

**Thermal Analysis of Battery Packs Used in Hybrid Electric Vehicles**

10) Niko Carlow, Rui Dai, Erik Favreau, Brandon Kramer, Dhivakar Murugesan, Shawn White

**To maximize the temperature of a hypothetical solar oven, utilizing a Fresnel lens, for the least cost**

1) Ahmed Hesham Ibrahim Abouhussein, Reza Ahmed, Ali Mohammed A Alkhaleefah, Jasmine Delgado, Sai Phanendra Gorantla, Munku Kang, Victor Madrid

**Insulation Analysis**

**Instructions:**

Each person in the class will rank the presentations, from 1 (best) to 5 (worst), on the day they are presented. **Please rank your own presentation as well.** You should take into account the quality of the presentation (well-prepared, clear, informative), and not so much on the quality of the project itself. Each presentation must be assigned a unique ranking on the attached score sheets. Recall that the oral presentation is worth 5 points out of 25 points for the semester project.

You may want to print out the following sheets and have them with you on the days of the oral presentations. You are required to submit your rankings via Blackboard by 11:59 PM on the same day as the presentations, on each of the two days. Failure to submit your rankings on time will result in a 1-point reduction in your own oral presentation score. If you fail to submit both sets of rankings on time, you will receive a 2-point reduction.

Final Presentation Evaluations – Day 1 (Wednesday, April 18, 2018)

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| **Group** | **Notes** | **Ranking (1 = best, 5 = worst)** |
| 6) Pallab Bose, Adalberto Campos, Kexin Jiao, Sandy Polus, Sangeet Sankaramangalam Ulhas, Benjamin Winsryg  **CPU Cooling Analysis** | The analysis part could have been explained with more detail. Also, something should have been said about the thermal clocking of the CPU | 3 |
| 2) Hailey Boshell, Kristofer Frede, Arjun Gopal, Akshit Himanshubhai Jariwala, Gregory Kilfoy, Chandler Petrovich Flynn, Siddhant Srivastava  **Study the characteristics of heat transfer within an overheating cell phone; Analysis of critical ėgen where thermal runaway occurs under standard conditions** | If more detailed analysis were provided it would have been easier to comprehend. | 4 |
| 8) Abdulaziz Akbar, Celine Chang, Jordan Kocher, Samuel Mokdad, Alyssa Nazareno, Ian Sanders  **Heat Transfer Analysis of a Rankine Cycle Thermal Power Plant** | No details were given on the efficiency variation with respect to temperature. | 2 |
| 9) Eduardo Aguirre, Vidit Atulkumar Dabhi, Chase Ebiner, Mihir Koradia, Vivekkumar Patel, Luke Winterstein  **Waste Heat Utilization Using Thermoelectric Devices** | Only 2 people spoke during the whole presentation. The voltage spike graph was not explained properly. | 5 |
| 3) Roshan Sameer Annam, Hooman Daghooghi Mobarakeh, Daniel Mangu, Anirudh Srinivasan Pugazhendhi, Shubham Saha, Hitomi Shenhav  **Determining the Ultrasonic Efficiency of an Ultrasonic Transducer** | More information could have been provided on how the thermal energy can be separated from the physical energy produced. | 1 |

Final Presentation Evaluations – Day 2 (Wednesday, April 25, 2018)

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| **Group** | **Notes** | **Ranking (1 = best, 5 = worst)** |
| 5) Zachary Brown, Swapneel Danayat, Edward Faillace, Phillip Fosnot, Semir Kasumovic, Jordan Patterson, Louis Tichacek  **Design Optimization for Solenoid Cooling** | How were the temperatures measured? Also, how were these graphs obtained. | 5 |
| 7) Chuyun Guan, Abdul Khalid, Faisal Raja, Ashish Rana, Run Si, Bret Wainwright  **Thermo-Elastic Contact Coupling** | Terrific Presentation. | 1 |
| 4) Sruthi Chengalrayan, Naga Chaitanya Ganzam, Ramteja Reddy Kondakindi, Bianca Kurian, Ravi Patel, Saurabh Prabhu, Guangqing Shen  **Thermal Analysis of Battery Packs Used in Hybrid Electric Vehicles** | Didn’t explain the all the data properly.  How was the H value estimated? | 4 |
| 10) Niko Carlow, Rui Dai, Erik Favreau, Brandon Kramer, Dhivakar Murugesan, Shawn White  **To maximize the temperature of a hypothetical solar oven, utilizing a Fresnel lens, for the least cost** | Didn’t explain why the fast distribution of temp happens.  No conclusion? | 2 |
| 1) Ahmed Hesham Ibrahim Abouhussein, Reza Ahmed, Ali Mohammed A Alkhaleefah, Jasmine Delgado, Sai Phanendra Gorantla, Munku Kang, Victor Madrid  **Insulation Analysis** | How where the dimensions assumed?  What sort of equations were used in the analytical model? | 3 |