

Thermodynamics I (ME 398), Fall 2013

Department of Mechanical Engineering, Wichita State University

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| Instructor: | Dr. Gisuk Hwang |
| Office location/hours: | EB 101C, T/R 10:30am 12pm or by appointment |
| Email: | Gisuk.Hwang@wichita.edu |
| Phone: | 316-978-6022 |
| Webpage: | TBA |
| Class schedule | 4:10 5:25 pm, Room 127 Jabara Hall |
| Prerequisites: | MATH 243 (Calc II), PHYS 313 (Phys I), or by instructor permission |
| Grader: | Anusha Chakraborty (axchakraborty@wichita.edu) |

Textbook: *Fundamentals of Engineering Thermodynamics*, 7th Ed., Wiley, by Moran, Shapiro, Boettner, and Bailey

References: *Fundamentals of Thermodynamics*, Wiley, 8th Ed., 2012, and *Thermodynamics* 6th Ed., Wark, McGraw-Hill, 2001

Course Description: the laws of thermodynamics including properties of substances and phase equilibrium, the first and second laws of thermodynamics, entropy, power cycles, refrigeration cycles, and chemical and phase equilibrium.

Objectives:

To gain an understanding of heat, work, and the First and Second Laws of Thermodynamics

To apply the above concepts to simple processes, including phase changes, control mass and control volume processes

Grading:

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| Homework | 10% |
| Midterm exam I | 25% |
| Midterm exam II | 25% |
| Final exam | 40% |

Class Schedule

| Week | Date | Subject | Reading |
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| 1 | 8/20 | Introductions: motivation and application | 1.1-1.2 |
| | 8/22 | Properh | |