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The Hong Kong University of Science and Technology

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THERMODYNAMICS

MECH2310 L1

Credits: 3

Pre-requisites: MATH 1012 or MATH 1013 or MATH 1020 or MATH 1023

Name of Instructor: Prof. Simen Yanguang Zhou (Office 2577A)
Email: maeygzhou@ust.hk

Teaching Assistants: Ms. Qinqin He (qheak@connect.ust.hk)
                             Ms. Chunye Ma (cmaav@connect.ust.hk)

Course Description:

Fundamental Concepts; Pure substance; Work and heat; Control volume; Ideal and real gases; First and second laws of thermodynamics; Entropy; Elementary power and refrigeration cycles.

Textbook:

Y.A. Cengel and M.A. Boles, *Thermodynamics – An Engineering Approach,* 8th Edition in SI Units, McGraw Hill, 2015.
(Presentation Materials can be downloaded from the Learning Management and Evaluation System web site: https://canvas.ust.hk)

Classrooms and Time Slots:

Lecture: Wednesday – 15:00 - 16:20 (Rm 2406)
               Friday   – 15:00 - 16:20 (Rm 2406)
Tutorial: Monday   – 09:30 - 10:20 (Rm 2304)
               Friday   – 16:30 - 17:20 (Rm 2304)

Course Grading:
Final Exam: 50%
Mid Term: 35%
Homework: 15%

Schedule: (Times are subject to change)
Week 1:   Introduction - Some basic concepts
Week 2:   Introduction - Energy Analysis
Week 3:   Introduction - Energy Analysis
Week 4:   Properties of Pure Substance
Week 5:   Properties of Pure Substance
Week 6:   Work and heat
Week 7:   First law of thermodynamics
Week 8:   First law of thermodynamics and Mid Term Exam
Week 9:   Second law of thermodynamics
Week 10:   Second law of thermodynamics
Week 11:   Entropy

Week 12:   Entropy and more on Irreversibility
Week 13:   Review