

MECH2310 THERMODYNAMICS

(Fall of 2023)

Instructor: Prof. Lin FU (Office 2606A, Email linfu@ust.hk)

Teaching Assistants: Dr. Simon Hak Nang LI (simonli@ust.hk)
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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: Monday – 10:30 - 11:50 (Rm 2304)
Wednesday – 10:30 - 11:50 (Rm 2304)
Tutorial: Thursday – 18:00 - 18:50 (Rm 2406)

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 and Site visit
Week 10: Second law of thermodynamics
Week 11: Entropy
Week 12: Entropy and more on Irreversibility
Week 13: Review