ME 230 Fundamental of Thermodynamics

Credit: 3(3-0-6)Semester 1 Year 2017Prerequisite: SC 133

Instructor:	Chainarong Chaktranond	Section: 750001
	Room 413, Tel.(ext.) 3144,	
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Lecture time:	Thru: 13.30 – 16.30	
Consulting hours	: Mon 13.30 – 16.30 or make an appointme	ent via email

Objectives: Students are expected to

- Able to use properties of fluids from tables, i.e. water steam and gases
- Understand the meaning of systems and surroundings.
- Understand the first and second laws of Thermodynamics

Course Description:

Properties of pure substances. Equation of state for ideal and real gas. Thermodynamics diagrams and tables. First law of thermodynamics. Second law of thermodynamics. Carnot cycle. Energy. Entropy. Heat transfer. Energy conversion.

Week#	Торіс	Date
1	Basic concepts of thermodynamics I	Aug 17, 2017
2	Basic concepts of thermodynamics II	
3	Energy transfer by heat, work, and mass I	
4	Energy transfer by heat, work, and mass II	
5	Properties of pure substance I	
6	Properties of pure substance II	
7	The first law of thermodynamics (Closed systems)	
8	Mid-term examination	Oct 07, 2017 (12:00-14:00)
9	The first law of thermodynamics (Open systems)	
10	The first law of thermodynamics (Open systems)	
11	The second law of thermodynamics I	
12	The second law of thermodynamics II	
13	The second law of thermodynamics III	
14	Entropy I	
15	Entropy II	
16	Final examination	Dec 18, 2017 (09:00-12:00)

Teaching Schedule:

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Material courses:

- www.chainarong.me.engr.tu.ac.th

Reference Books:

Cengel, Y.A., Thermodynamics an engineering approach, 7th ed., McGraw Hill.

Grade policy:

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Assignments & Quiz & Attendance	20 %
Mid-Term examination	35 %
Final examination	45 %