

Course Syllabus

040313005 Physics I

Semester 1/2014

Instructors

1. Dr. Jintawat Tanamatayarat
2. Dr. Nitipat Pholchai
3. Dr. Tidarat Wangkam
4. Asst. Prof. Dr. Amarin Ratanavis

Course description:

3(3-0-6)

Prerequisite : None

Vector, Motion, Newton's law of motion, Motion in one dimension, Circular motion, Simple harmonic motion, Superposition of simple harmonic waves, Damped oscillations, Forced oscillation, Types of wave, Standing wave equation, Supersonic wave, Beat, Intensity and Level of intensity, Doppler effect, Moment of inertia, Rotational equation, Torque, Angular momentum, Rolling, Gyroscope motion, Properties of matter, Heat transfer, Ideal gas equation, Laws of thermodynamics, Heat Engines, Reverse heat engine, Physical property of fluids, Buoyant force, Pascal's law, Equation of continuity of fluids, Bernoulli's equation, Pressure measurement, Flow rate measurement

Textbook

Physics for scientists and engineers (Edition 9), R. A. Serway , J. W. Jewett

Grading:

- | | |
|-----------------|-----|
| 1. Midterm exam | 40% |
| 2. Final exam | 60% |

Class attendance: Students are required to obtain at least 80% of the affective domain scales (> 119). Students who fail to meet such a requirement will receive a grade FE.

Class schedule (subject to change from time to time)

Lecture	Topics
1	Motion in One Dimension
2	Motion in Two Dimensions
3	The Laws of Motion
4	Energy and Energy Transfer
5	Linear Momentum and Collisions
6	Rotation of a Rigid Object about a Fixed Axis and Angular Momentum
7	Rolling
8	Oscillatory Motion
9	Wave Motion
10	Sound Waves
11	Superposition and Standing Waves
12	Heat and the First Law of Thermodynamics
13	The Kinetic Theory of Gases
14	Heat Engines, Entropy, and the Second Law of Thermodynamics
15	Fluid Mechanics