MACE-11010 Engineering Mechanics Lecture 1: Introduction
http://imechanica.org/node/1821

Instructor: Henry Tan
B14, Pariser Tel: 0161 3068970
Email: henry.tan@manchester.ac.uk Skype: henry.tan.2007

What is the purpose of the course?
Ensure students have a clear working understanding of the principles of engineering mechanics and an ability to apply them to simple engineering systems.

Brief description of the unit
- Scalar and vector quantities.
- Forces and Newton's laws of motions.
- Kinematics of a particle; co-ordinate systems.

- Equivalent force systems
- Equilibrium and the construction of free-body diagrams.
- Pin-jointed structures.
- Friction; self-locking systems.

- Equations of motion of a particle.
- Kinetic and potential energies.
- Impulse and momentum.

- Introduction to rigid body mechanics;
- Translational and rotational equations of motion
- Kinetic energy of a rotating body.

Organization:
(1) Classroom lecture (Thursday 11-12am, Renold/C9; Friday 3-4pm Renold/C2)
(2) Laboratory (20 marks), and
(3) Activities at the iMechanica.org (12weeks ×10marks/week = 120 marks)
(4) Meeting with tutors (Friday 4-5pm, Renold/C9; 6 students per week will be selected based on their performance at the iMechanica)
(5) Meeting with PASS leaders

Assessment on a weekly basis
(1) Self-marking based on the points collected
(2) Best 5 students will be listed on the website as an honour

Touring iMechanica
Mechanics and our daily life
Technical communications

Suggested topics for discussions at iMechanica
on iMechanica
on class website / impact of globalization on education
on Mechanical/Aerospace in general
on anything mechanics related