



Aims

This course is designed for students preparing to enter university to study engineering. It covers some of the important fundamentals of mechanical, civil and electrical engineering. The course material aims to give students an understanding of basic physics concepts and their applications relating to the topics including: motion in two dimensions, electricity and magnetism.

Learning outcomes

On completing this course, students will be able to:

- > Understand basic physics concepts and principles
- > Demonstrate analytical/problem solving skills
- > Present solutions and ideas to physics related problems
- > Demonstrate self-directed learning and independent thinking skills.

Required materials

- > Resources are provided on the e-Learning platform
- > Scientific calculator

Course content

The following topics will be covered:

- > Motion in One Dimension & Vectors
- > Forces in Equilibrium
- > Projectile motion
- > Uniform circular motion
- > Gravitation and satellites
- > Momentum
- > Electric fields
- > Motion of charged particles in electric fields
- > Magnetic fields
- > Motion of charged particles in magnetic fields

Further details of the course content will be advised in the first week of classes

Contact hours

4 hours per week



Assessment

Indicative weightings for each assessment item are outlined below

Assessment	Weighting
Participation	6%
Assignments	12%
Mid-semester test	12%
Final Exam	70%