

Introductory Physics 1 and 2

These courses, which cover two semesters, provide a hands-on introduction to the basic principles of physics. Each class includes a laboratory component which illustrates the principles being learnt, and is designed to bring the student as close as possible to the underlying physics. The class is also meant to be fun.

Textbook: *Physics for Scientists and Engineers with Modern Physics*,
Douglas C. Giancoli (4th Edition).

Introductory Physics 1 Syllabus Outline:

Week	Textbook Chapter	Topics
1	1, 2	1 dimensional motion
2	3	1 dimensional motion and vectors
3	3, 4	2 dimensional motion
4	4, 5	Newton's Laws
5	5, 6	Newton's Laws and gravitation
6	7, 8	Work and energy
7	8	Energy and gravity
8	9	Momentum and collisions
9	9, 10	Rotation
10	10	Angular motion
11	12, 13	Static Equilibrium and Fluids
12	13, 14	Fluids
13	14	Harmonic motion
14	15, 16	Waves
15	16	Waves

Introductory Physics 2 Syllabus Outline:

Week	Textbook Chapter	Topics
1	21	Static Electricity
2	21, 23	Electric fields and potential
3	23, 25	Electric potential and simple circuits
4	26, 24	Circuits
5	26	Circuits
6	27, 28	Magnetic fields
7	27, 29	Magnetic force and induction
8	29, 30	Applications of magnetic fields
9	33, 34	Simple Optics
10	34, 35	Optics and waves
11	36, 38	Diffraction and interference
12	38	Atoms
13	39, 40	Quantum mechanics
14	40, 42	Nuclear physics
15	42, 43	Nuclear reactions