



COURSE DESCRIPTION

PHY103: General Physics

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| CREDIT HOURS | 3 Credit hours (2 Lectures, 1 Lab, 0 Tutorial) | PREREQUISITE | No prerequisit |
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COURSE DESCRIPTION

In this course, students will Learn and understand the basic knowledge in electrostatics and build up basic skills necessary for solving problems with practical applications by using physical principles. The course covers the topics; vectors, Electric field, Electric potential, Capacitance, Current and resistance. Furthermore, the course provides an introduction to laboratory techniques and experimental methods of physics with emphasis on linking the understanding of physics concepts with "Real-Life" situations. Every class will have a short lecture introducing the procedures, concepts, formulas and instructions relevant to the experiment. The lecture will also cover what is expected in the lab-report; don't be late. Attendance and participation is mandatory. Experiments will usually be performed in groups, but each student will turn in an individual lab report. Topics covered in the Laboratory part include Measurements and uncertainties. Virtual experience, Free fall, Forces in Equilibrium, Simple pendulum, Constant Spring, Simple harmonic motion, Free fall: Conservation of mechanical energy of a uniformly accelerated mass, Describe the movement of an object moving at a constant speed and constant acceleration, Friction and Newton's second law and Ohm's Law.

References

Required Textbooks:

- Serway R.A. and Jewett J.W., *Physics for Scientists and Engineers with Modern Physics*, 9th Edition, Brooks/Cole, Belmont, CA, USA (2014).

Essintial Referernces:

- Halliday D. and Resnick R., *Physics*, 9th Edition, John Wiley and sons (2011).