

# PHYSICS 11 COURSE OUTLINE 2021/2022

---

Teacher: F. Dhanani, Room 311

Textbook: Physics: Principles and Problems (1992); P. Zitzewitz, R. Neff, M. Davids.

\*\* Note: Topics may not necessarily be covered in the order indicated.

## A. INTRODUCTION TO PHYSICS AND MATH SKILLS REQUIRED FOR PHYSICS 11:

*Chapters 1, 2*

scientific notation, significant figures, collecting and organizing data, graphing, determining relationships between variables

## B. KINEMATICS (primarily one dimension):

*Chapters 3, 4, 6, 7*

vector and scalar quantities, uniform motion, accelerated motion, projectile motion

## C. DYNAMICS (one dimension):

*Chapters 5, 8*

the fundamental nature of forces, gravitational, spring, normal, tension and frictional forces, Newton's laws of motion, free body diagrams

## D. ENERGY:

*Chapters 10, 11, 12*

potential and kinetic energy, thermal energy, law of conservation of energy, work, power, efficiency

## E. ELECTRIC CIRCUITS:

*Chapters 22, 23*

current and circuits, Ohm's law, series and parallel circuits, Kirchoff's laws

## F. WAVE MOTION:

*Chapters 14, 15, 16, 17*

types of waves, properties of waves, wave behaviours, reflection, refraction