

PHYSICS 11 COURSE OUTLINE 2023/2024

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, universal gravitation

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