

## UNIT 4 PHYSICS 2018 CURRICULUM OVERVIEW

WEEK	TOPIC	LEARNING FOCUS
1	Detailed study: Life on other worlds	Explain what SETI is and how it works. Argue why an alien's home world is likely or not likely to actually harbour life in the real world. Investigate and explain in 3 paragraphs why the moon Europa is a likely place that life exists. Create a colourful poster to summarise the Drake equation.
2	Detailed study: Life on other worlds	Create a colourful booklet on the Fermi paradox. Research how exoplanets such as those in the Gliese 581 system are found and summarise this research into a report.
3	Vectors & scalars and Newton's three laws of motion	Describe and use vectors and scalars in motion. Describe and use Newton's three laws of motion.
4	Springs and translational equilibrium	Calculate forces due to springs using Hooke's law. Use translational equilibrium to calculate forces and motion.
5	Torques, rotational equilibrium and static equilibrium	Describe and calculate torques. Use rotational and static equilibrium to calculate torques, forces and motion.
6	Forces and torques mini-SAC preparation and SAC	Prepare a comprehensive and suitable "cheat sheet" on forces and torques. Answer multiple choice and short answer questions on forces and torques.
7	Straight-line motion	Calculate straight line motion on the horizontal and vertical planes.
8	Projectile motion	Describe and calculate projectile motion.
9	Inclined planes and banked tracks	Calculate motion of objects on inclined planes. Calculate motion of objects as they move around banked tracks.
10	Straight-line motion mini-SAC preparation and SAC	Prepare a comprehensive and suitable "cheat sheet" on straight-line motion Answer multiple choice and short answer questions on straight-line motion.
11	Unit 2 revision	Revise the Unit 2 concepts and apply them to past exam questions. Complete a Unit 2 Trial exam under exam conditions. Review the Trial Exam in class.
12	Unit 2 exams	Complete a Unit 2 exam.
13	Extended investigation preparation	Understand the concepts of the scientific method. Create a plan, using the scientific method, to undertake an extended investigation.
14	Extended investigation execution	Follow, modify and adapt a plan to carry out an extended investigation.
15	Extended investigation report poster	Create a poster to summarise an extended investigation.

