ALBANY CREEK STATE HIGH SCHOOL

Semester 1 Overview 2022

12 Physics

Term	Topic	Assessment
1	**Unit 3: Gravity and electromagnetism** Students will: students develop a deeper understanding of motion and its causes by using Newton's laws of motion and the gravitational field model to analyse motion on inclined planes, and the motion of projectiles and satellites. Field theories have enabled physicists to explain a vast array of natural phenomena and have contributed to the development of technologies that have changed the world, including electrical power generation and distribution systems, artificial satellites and modern communication systems. Students develop their understanding of field theories of gravity and electromagnetism through investigations of motion and electromagnetic phenomena. Finally, they will investigate the production of electromagnetic waves.	**IA 2 – Student Experimental Investigation** **Due – Week 12 (Term 2 week 2)**
2		**IA 3 – Student Research Report** **Due – Week 22 (Term 2 week 2)**
2	**Unit 2: Linear motion and waves** Students will: Examine the shortcomings of existing theories led to the development of the special theory of relativity and the quantum theory of light and matter. The development of quantum theory and the theory of relativity fundamentally changed our understanding of how nature operates and led to the development of a wide range of new technologies, including those that revolutionised the storage, processing and communication of information. Students evaluate the contribution of the quantum theory of light to the development of the quantum theory of the atom, and examine the Standard Model of particle physics and how it relates to the Big Bang theory.	*IA 4 will be examined in term 4*