Stage 1 Physics: Overview Semester 2 2020

Teacher: Kathy Keenan

Term 3	Topic	Assessment
Weeks 1-5	**Waves – The Physics of Sight** • Electromagnetic Spectrum • Transverse Waves • Amplitude, wavelength, frequency and period • v = fʎ • Reflection and refraction **-The Physics of Hearing** • Longitudinal Waves • Natural frequency • Resonance • Echoes • Superposition • Standing Waves **-The Physics of Speech** • Sound spectrum created by the human vocal chords **-Medical Imaging – Ultrasound and X-Rays** • Doppler effect • Total Internal Reflection • Lasers	**Folio 1- SIS Practical Investigation Report (25%) –** Investigating hearing or vision using computer or phone apps (maximum of 1000 words for the introduction, analysis, evaluation and conclusion sections of the report.) **SAT 1 – Medical Imaging (25%)** Using waves Animation (max 6 minutes)
Week 6-10	**Electrical Circuits** • Electrical Charge • Charge and forces between charged objects • Conductors and insulators • Current and potential • Electrical current • Potential difference • Resistance • Ohm's Law • Circuits • Analysing series and parallel circuits • Ohmic and non-ohmic conductors • Power • Power and energy units	**SAT 2 – Test Waves and Electrical Circuits (25%)** 70 Minutes Stage 1 Formula Sheet provided

Term 4 **Weeks 1 - 5**	**Nuclear Models – Nuclear Medicine** • Structure of the atom • Isotopes • Nuclear force • Stable and unstable nuclei • Radioactive Decay **-Isotopes in Medicine** • Alpha decay • Beta minus and beta plus decay • Gamma decay - **Radiation and the human body** • Ionised atoms • Effects of ionising radiation	**Folio 2 – SHE** **Nuclear Medicine Radiotracers (25%)** Research a radiotracer used in medical imaging. (maximum of 1000 words, if written, 6 minutes for an oral presentation).
Week 6	Revision for Exam	
Week 7	Tuesday 24th November 2020 **Exam on Topics from Semester 2** Calculator permitted Stage 1 Physics formula sheet provided 90 minutes	