British International School of Ljubljana
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Please find below a detailed outline of the curriculum covered in Physics through Year 13 in Sixth Form.

## Year 13

| Block 1 | Block 2 | Block 3 | Block 4 | Block 5 | Block 6 | Block 7 |
|---|---|---|---|---|---|---|
| **Unit 16 – Circular motion**<br>• cinematics of uniform circular motion<br>• centripetal acceleration<br>**Unit 17 – Gravitational fields**<br>• gravitational field<br>• gravitational potential<br>**Unit 18 – Oscillations**<br>• free and forced oscillations<br>• SHM model<br>• graphical representations<br>• eqns. of periodic motion<br>• energy in SHM<br>• damping<br>• resonance | **Unit 19 – Thermal physics**<br>• state of a system<br>• energy changes<br>• temperature<br>• measuring internal energy and temperature<br>**Unit 20 - Ideal gases**<br>• gas laws<br>• statistical model of a gas<br>• ideal gas equation<br>• molecular kinetic energy<br>**Unit 21 - Uniform electric fields**<br>• the concept of an electric field<br>• electric field<br>• electric field strength<br>• force on charge | **Unit 22 - Coulomb's law**<br>• electric force and field of a point charge<br>• Coulomb's law<br>• electric potential<br>• comparing fields<br>**Unit 23 - Capacitance**<br>• capacitor and Capacitance<br>• capacitors in series and parallel<br>**Unit 31 – Astronomy and cosmology**<br>• standard candles<br>• luminosity<br>• Stellar radii<br>• the expanding Universe | **Unit 24 – Magnetic fields and Electromagnetism**<br>• magnetic force and fields<br>• magnetic flux density<br>• Oersted's experiment<br>• Ampere's experiment<br>**Unit 26 - Motion of charged particles**<br>• force on a moving charged particle<br>• Hall effect<br>• discovering electron<br>**Unit 26 - Electromagnetic induction**<br>• Faraday's law<br>• Lenz's rule<br>**Unit 27 - Alternating currents**<br>• principle of AC generator<br>• transformer<br>• AC/DC circuits, advantages and disadvantages | **Unit 38 - Quantum physics**<br>• particle nature of light<br>• photoelectric effect<br>• line spectra<br>• wave-particle duality<br>**Unit 29 - Nuclear physics**<br>• Einstein's mass energy equivalence<br>• energy released in nuclear transformations<br>• binding energy and stability of nuclei<br>• decay curve<br>**Unit 32 - Medical imaging**<br>• ultrasound in medicine<br>• x-rays in medicine<br>• MRI scan<br>**Review**<br>**Revision**<br>**Past Papers** | **Revision**<br>**Review**<br>**Past papers**<br>**Intervention** | |
| End of Unit Assessment | End of Unit Assessment | End of Unit Assessment | **Internal Mock Cambridge IGCSE Exam** | Self-Assessment and Intervention | Self-Assessment and Exam Skills | **External Cambridge Exam** |
| | | Progress Data for Autumn Report | | Mock Exam Data for Spring Report | | Results |
| **Autumn** | | | **Spring** | | **Summer** | |