

Curriculum Mapping

A Level Physics – KS5 Y13

Students follow AQA A - Level Physics (7408)

<http://filestore.aqa.org.uk/resources/physics/specifications/AQA-7407-7408-SP-2015.PDF>

HT1	<p>Section 6 Further mechanics and thermal physics</p> <p><i>Thermal physics</i></p> <ul style="list-style-type: none">• Internal energy and temperature• Specific heat capacity• Change of state <p><i>Gases</i></p> <ul style="list-style-type: none">• The experimental gas laws• The ideal gas law• The kinetic theory of gases <p>Section 7 Fields</p> <p><i>Gravitational fields</i></p> <ul style="list-style-type: none">• Gravitation field strength• Gravitational potential• Newton’s law of gravitation• Planetary fields• Satellite motion <p><i>Electric fields</i></p> <ul style="list-style-type: none">• Field patterns• Electric field strength• Electric potential• Coulomb’s law• Point charges• Comparing electric fields and gravitational fields <p><i>Capacitors</i></p> <ul style="list-style-type: none">• Capacitance• Energy stored in a charged capacitor• Charging and discharging a capacitor through a fixed resistor• Dielectrics
HT2	<p>Section 7 Fields</p> <p><i>Magnetic fields</i></p> <ul style="list-style-type: none">• Current-carrying conductors in a magnetic field• Moving charges in a magnetic field• Charged particles in circular orbits <p><i>Electromagnetic Induction</i></p> <ul style="list-style-type: none">• Generating electricity• The laws of electromagnetic induction• The alternating current generator• Alternating current and power• Transformers <p>Section 8 Nuclear Physics</p> <p><i>Radioactivity</i></p>

	<ul style="list-style-type: none"> • The discovery of the nucleus • The properties of α, β and γ radiation • The dangers of radioactivity • Radioactive decay • The theory of radioactive decay • Radioactive isotopes in use • More about decay modes • Nuclear radius
HT3	<p><u>Section 8 Nuclear Physics</u></p> <p><i>Nuclear energy</i></p> <ul style="list-style-type: none"> • Energy and mass • Binding energy • Fission and fusion • The thermal nuclear reactor <p><u>Section 9 Option A – Astrophysics</u></p> <ul style="list-style-type: none"> • Lenses • Optical telescopes • Comparing telescopes • Non-optical telescopes • Parallax and Parsecs • Magnitude • Stars as Black bodies • Stellar Spectral Classes • The Hertzsprung-Russel diagram • Evolution of sun-like stars • Supernova, neutron stars and black holes • Doppler Effect and red shift • The Big Bang theory • Detection of Binary stars, quasars and exoplanets
HT4	<p>Revision for external examination</p> <ul style="list-style-type: none"> • Multiple choice practice • Particles revision • Mechanics revision • Wave revision • Electricity revision • SHM revision • Gravitational field revision
HT5	<p>Revision for external examination</p> <ul style="list-style-type: none"> • Recap / review / revise required practical's and practise paper 3 section 1