

Course:	<b>Physics</b>
Specification and code:	OCR - Physics A - H556 or H156 (AS Only)
Exam Board website:	<a href="http://www.ocr.org.uk/qualifications/as-a-level-gce-physics-a-h156-h556-from-2015/">http://www.ocr.org.uk/qualifications/as-a-level-gce-physics-a-h156-h556-from-2015/</a>
Course outline:	<p>The Physics A level course will take you from the basics you learned at GCSE right into the heart of some of the most up to date cutting edge Physics.</p> <p>During each year you will study two main modules.</p> <p>Year 1</p> <ol style="list-style-type: none"> <li>1. Forces and Motion.</li> <li>2. Electrons, Waves and Photons.</li> </ol> <p>Year 2</p> <ol style="list-style-type: none"> <li>3. Newtonian world and Astrophysics</li> <li>4. Particles and Medical Physics</li> </ol> <p>Alongside the theory done in class over the two years you will complete and appropriately document a series of required practical activities which build on scientific skills learned at GCSE. These count towards a practical skills endorsement which is recorded alongside your final course grade.</p>
Essential reading	<p><a href="https://www.ocr.org.uk/Images/295471-mathematical-skills-handbook.pdf">https://www.ocr.org.uk/Images/295471-mathematical-skills-handbook.pdf</a> Download the maths skills guide and then read through M0 unit on arithmetic and numerical computation. Write notes on each section making sure you can use standard form, convert units and use prefixes correctly.</p> <p><a href="https://www.ocr.org.uk/Images/295483-practical-skills-handbook.pdf">https://www.ocr.org.uk/Images/295483-practical-skills-handbook.pdf</a> Download the practical skills guide and then read through chapter 2 and 3 on practical skills requirements and practical skills within the examinations.</p>
Further Background reading	I would highly recommend you purchase the CGP “Head Start to A Level Physics” book. This is a great way to refresh the most important concepts from GCSE and practice some introductory A level standard problems.
Summer Task:	<ol style="list-style-type: none"> <li>1. Prepare two A4 clip folders. One Folder for Module 3 – Forces and Motion. The second folder for Module 4 – Electrons, Waves and Photons. Ensure each folder has a set of dividers. You will need the first folder for your work at both Beaminster and Colfox to start.</li> <li>2. Ensure your maths is kept up-to scratch. <b>Find out and answer.</b> 1. What are the 6 SI Base units? 2. What is meant by a unit prefix? 3. What are the multiplication factors for the following prefixes, “peta, tera, giga, mega, kilo, milli, micro, nano, pico, femto.” 4. What is meant by a derived unit?, 5. What is the difference between a scalar and a vector? 6. How do you add vectors at right angles to each other? How do you resolve a vector into two perpendicular components?</li> <li>3. <b>Research the life, work and achievements of Sir Isaac Newton.</b> Produce a summary document of your findings. This could be in any format you like. Include information on: <ul style="list-style-type: none"> <li>• What are Newton’s three laws of motion?</li> <li>• What is inertia?</li> <li>• What is impulse?</li> <li>• How can Newton’s laws be used to analyse collisions between massive bodies?</li> <li>• In what situations do Newton’s laws of motion no longer apply?</li> </ul> </li> </ol> <p>This open task gives you the opportunity to read around the life and studies of arguably the most important Physicist to have ever lived. It also allows you to learn about some of the key principles you will study in your first term of Year 12.</p>