

Landau Learner Curriculum Overview

Subject: Physics

Director of Learning: DDB

Year: 13

Curriculum organisation				
Students are taught based on 5 single session per week. Students follow the OCR Physics A AS/A level specification. Resulting in either an AS level in Physics after 1 year or an A level in Physics after 2 years.				
What topics will students be studying this year? Includes links to National Curriculum, Curriculum Intent and Prior Related Learning*				
Term 1:	Term 2:	Term 3:	Term 4:	Term 5:
<ul style="list-style-type: none"> Thermal Physics Ideal Gases Capacitors Electric Fields Foundations of Physics 	<ul style="list-style-type: none"> Circular Motion Simple Harmonic Motion Oscillations Magnetic Fields Foundations of Physics 	<ul style="list-style-type: none"> Gravitational Fields Stars Nuclear Physics Particle Physics Foundations of Physics 	<ul style="list-style-type: none"> Cosmology Foundations of Physics Preparation for summer exams 	
<p>Links: Prior learning KS4 - Students have previously covered the kinetic theory, specific heat capacity and specific latent heat.</p> <p>Curriculum Intent: Students consider the evidence for the kinetic theory and evaluate techniques for measuring SHC and SLH. Students link microscopic particle behaviour to macroscopic properties in an ideal gas. Students develop their understanding of charge in explaining capacitors in real circuits and are introduced to the idea of Electric fields.</p>	<p>Links: Prior learning KS4 - Students have briefly covered basic circular motion and magnetism. Separate Science students have covered electromagnetic induction.</p> <p>Curriculum Intent: Students develop knowledge of momentum to 2D problems and analyse 'real world' circuits. Uncertainty analysis is further developed and students encouraged to read identified 'Physics World' articles to contextualise learning.</p>	<p>Links: Prior learning KS4 - Students have previously studied wave properties, wave behaviour, the electromagnetic spectrum and forces and elasticity.</p> <p>Curriculum Intent: Students gain understanding of effects of waves interacting and gain insight into how a scientific model (what is light?) is developed and refined over time. Students can apply knowledge of materials to real world problems. Students are introduced to how an experiment is evaluated.</p>	<p>Links: Prior learning KS4 - Students have previously studied wave properties, wave behaviour and electron energy levels in atoms.</p> <p>Curriculum Intent: Students gain insight into the limitations of scientific models when applied to light and how scientists reconcile these limitations. Students deepen and consolidate their scientific knowledge, making links between topics and applying learning to unfamiliar contexts in preparation for the end of year trial exams.</p>	
Equipment needed for sessions:			What can you do to support your child?	
<ul style="list-style-type: none"> Physics worksheet and task folder. A level Physics textbook. A level Practical Physics student guide Their Science teacher will provide worksheets and information that are being used in session. 			<ul style="list-style-type: none"> Encourage your child to regularly read their A level Physics textbook. Encourage your child to complete the homework tasks they are set by their Physics teachers to a high standard, asking them to show you their finished work. Encourage your child to use the OCR website to access additional material, past papers and candidate exemplars. 	
How will learning be assessed and progress measured?			Extension and enrichment activities:	
<ul style="list-style-type: none"> Trial examinations carried out at selected points during the year. End of topic summative assessments. Marking of homework/written assessments is carried out on a regular basis in line with the College marking policy. Regular peer and self-marking. 			<ul style="list-style-type: none"> A Level Physics Live event. 	