

Landau Learner Curriculum Overview

Subject: Physics

Director of Learning: DDB

Year: 12

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"> Forces and Motion Forces in Action Electricity Foundations of Physics 	<ul style="list-style-type: none"> Work, energy and power Laws of motion and momentum Electricity Foundations of Physics 	<ul style="list-style-type: none"> Materials Waves Foundations of Physics 	<ul style="list-style-type: none"> Quantum Physics Waves Foundations of Physics Preparation for summer exams 	<ul style="list-style-type: none"> Research Report Preparation for summer exams
<p>Links: Prior learning KS4 - Students have previously studied forces and their interactions, forces and motion and electrical circuits. Students have previously developed mathematical and working scientifically skills.</p> <p>Curriculum Intent: Students deepen their understanding of why circuits work, apply knowledge of vectors to projectile motion and forces to pressure and torque. Students are introduced to experimental uncertainty and design and develop their mathematical skills.</p>	<p>Links: Prior learning KS4 - Students have previously studied work and energy transfer, momentum of moving objects and electrical circuits.</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>	<p>Links: Prior learning KS4 - The research report allows students to draw on all aspects of prior learning.</p> <p>Curriculum Intent: Students select an area of Physics of interest to them which is outside the Physics specification and undertake research which is presented in a 3000 word report. Students are introduced to the importance of cross checking their sources of information and how to footnote and structure a report.</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. 		