Landau Learner Curriculum Overview

Subject: Chemistry **Director of Learning: DDB** **Year: 12**

Curriculum organisation				
Students are taught based on 5 single session per week. Students follow the OCR Chemistry A AS/A level specification. Resulting in either an AS level in Chemistry after 1 year or an A level in Chemistry 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:**
• Electrons, bonding & Structure • Periodic Table (Periodicity) • Atoms & moles and quantitative chemistry • Acids and redox	• Basic Concepts & hydrocarbons • Periodic Table (Group 2, 7 and qualitative analysis)	• Alcohols & Halogenoalkanes • Enthalpy changes	• Analytical techniques • Rates and equilibrium	• Unit revision • Practical completion
Links: Prior learning KS4 – Understanding of the structure of the atom, organisation of the Periodic table and properties of the elements. Reactions of acids. Using moles to solve quantitative chemistry problems. **Curriculum Intent:** Students deepen their understanding of the subatomic particles, in particular an atoms electron structure and it links to the organisation and properties of the elements. Students develop their knowledge of the application of mathematical based chemistry.	**Links: Prior learning KS4 –** Organisation of the Periodic table and properties of the elements, in particular group 7 (Halogens). Analysis of chemical compounds. Naming, categorising and reacting organic substances. **Curriculum Intent:** Students develop their understanding of the properties of the periods and key groups in the Periodic table. Students deepen their knowledge and application of the uses of organic compounds.	**Links: Prior learning KS4 –** Basic properties of alcohols and their reactions. Calculations involving bond enthalpies. **Curriculum Intent:** Students continue to enhance their knowledge of the plethora of organic based compounds, their reactions and conversions between each homologous series. Students develop their knowledge of the energy changes that occur in reactions and how enthalpy quantities can be calculated directly from experimental results and indirectly using mathematical based quantities.	**Links: Prior learning KS4 –** Factors that affect the rate of reaction. Reactions that are reversible and links to reversible industrial reactions and conditions that affect their composition. **Curriculum Intent:** Students deepen their knowledge of equilibrium reactions and apply Le Chatelier's principle to explain the conditions for industrial reactions. Students are introduced to analytical chemistry techniques and use these to elucidate the structure of an organic compounds. Students apply learning in preparation for the end of year exams.	**Links: Prior learning KS4 –** Application of practical techniques and how science works. **Curriculum Intent:** Students use their organic synthesis and analytical knowledge to complete an extended practical investigation.

Equipment needed for sessions:	**What can you do to support your child?**
• Chemistry worksheet and task folder. • A level Chemistry textbook. • A level Practical Chemistry student guide • Their Science teacher will provide worksheets and information that are being used in session.	• Encourage your child to regularly read their A level Chemistry textbook. • Encourage your child to complete the homework tasks they are set by their Chemistry 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:**
• 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.	• A Level Chemistry Live event.