Landau Learner Curriculum Overview

Subject: Biology **Director of Learning: DDB** **Year: 13**

Curriculum organisation				
Students are taught based on 5 single sessions per week. Students follow the OCR A Biology AS/A level specification. Resulting in either an AS level in Biology after 1 year or an A level in Biology 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:**
• Communication & homeostasis • Excretion • Neuronal Communication • Photosynthesis • Respiration	• Hormonal communication • Ecosystems • Plant & animal responses • Cellular control	• Populations & sustainability • Patterns of inheritance	• Cloning and biotechnology • Manipulating genomes	
Links: Prior learning KS4 - Understanding of the importance and mechanisms of homeostasis. The reactions of photosynthesis and respiration and their link between living organisms. **Curriculum Intent:** Students deepen their knowledge homeostasis with a detailed look at the role of the kidneys, Liver and Neurones. A broader knowledge of the biochemical basis of photosynthesis and respiration is acquired.	**Links: Prior learning KS4 –** Appreciation of the role of hormones in multicellular organisms. Responses such as tropisms and reflexes. **Curriculum Intent:** Students will be able to relate the properties of hormones to their mode of action. Students will study the role of the brain in animals. They study how plant hormones work together to bring about a response. Students will explore the various ways in which gene expression is controlled and what effect it can have on an organisms characteristics.	**Links: Prior learning KS4 –** Factors contributing to a global population crisis and efficient food production. Using genetic diagrams to show inheritance **Curriculum Intent:** Students will extend their knowledge of genetic diagrams to new concepts such as dihybrid crosses, epistasis, linkage and sex linkage. They will apply statistical tests to their work. Students will consider ecological relationships and evaluate the use of different conservation approaches.	**Links: Prior learning KS4 –** Methods of cloning in plants and animals with consideration to ethical issues. Knowledge of genetic engineering and its uses. **Curriculum Intent:** Students learn new knowledge of how genomes can be analysed with reference to sequencing, forensics and genetic engineering. They deepen their knowledge of cloning and consider the use of culturing microorganisms in a laboratory and industrial scale setting.	

Equipment needed for sessions:	**What can you do to support your child?**
• Biology folder • A Level Biology textbook • A Level Biology Practical textbook • Relevant A level Biology student guides for each topic Their Science teacher will provide worksheets and information that are being used in the session.	• Encourage your child to regularly read their A level Biology textbook • Encourage your child to complete their homework tasks they are set by their Biology teacher 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:**
• Three written trial exams at selected points during the year & a *Viva* Assessment in Term 4. • 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 Biology Live event