

Salesian International School 2025-2026 Module Rubric					
Year	10	Course	AG Biology	Credits	5
Term	1 & 2		Exam	End of term assessment	
Course Summary	Year 10 biology focuses on deepening students' understanding of the ethical procedures involved when carrying out scientific investigations. It also engages them into an in depth understanding of DNA, genetics and how such vital information could be used in forensic sciences. The course ends with an overview of geological time, natural selection and evolution.				Required Materials
					Science notebook Binder Writing and drawing tools Lab notebook IP/PC
Assessment Basis					Course Content
	Knowledge Fundamentals	Application Communication	Inquiry Creativity		
Research	A3	B3	C3	<u>Term grades would be calculated following the point value system for each level and domain.</u>	
Level 3: Creative Thought	<ul style="list-style-type: none"> I can explain the development of the Watson and Crick double helix model of the structure of DNA and its impact on developments in genetic knowledge. I can examine the role of different sources of evidence including biochemical, anatomical and fossil evidence for evolution by natural selection. I can describe biodiversity as a function of evolution. 	<ul style="list-style-type: none"> I can take notes following scientific reading and organise them I can explain how genetic information is passed onto offsprings from both parents by meiosis and fertilisation I can discuss the use of genetic testing for decisions such as genetic counselling, 	<ul style="list-style-type: none"> I can determine the most appropriate presentation format for scientific work. I can predict simple ratios of offspring genotypes and phenotypes in crosses involving dominant/recessive characteristics through generations of a family. I can predict simple ratios of offspring genotypes and phenotypes in crosses involving dominant/recessive gene pairs or in genes that are sex-linked. 	Key Topics Term 1: <ul style="list-style-type: none"> Scientific Investigation DNA and Genetics Forensic Science Assessment Term 1: <ul style="list-style-type: none"> Rules in scientific 	

		embryo selection, identifying carriers of gene mutation, and the use of this information for personal use or by organisations such as insurance companies or medical facilities.		<ul style="list-style-type: none"> writing The role of DNA in inheritance Biological evidence in crime scene investigations
Application Level 2: Critical Thought	A2 <ul style="list-style-type: none"> I can describe the role of DNA as a blueprint for controlling the characteristics of organisms. I can evaluate and interpret evidence of evolution, including the fossil record, chemical, and anatomical similarities and geographical distribution of species. 	B2 <ul style="list-style-type: none"> I can use standard referencing conventions I can investigate changes caused by natural selection in a particular population as a result of specified selection pressure such as artificial selection in breeding for desired characteristics. 	C2 <ul style="list-style-type: none"> I can use models and diagrams to represent the relationship between DNA, genes and chromosomes. I can model patterns of inheritance of simple dominance/recessive characteristics through generations of a family. I can investigate the application of gene technologies such as gene therapy and genetic engineering. 	Key Topics Term 2: <ul style="list-style-type: none"> Geological time Natural selection and evolution Assessment Term 2: <ul style="list-style-type: none"> Dating techniques Human evolution
Foundation Level 1: Logical Thought	A1 <ul style="list-style-type: none"> I can define and basic terms related to scientific investigation I can describe mutations as changes in DNA or chromosomes and outline the factors that contribute to causing mutations. 	B1 <ul style="list-style-type: none"> I can develop scientific research question I can explain how fast computing and ICT have enabled the analysis of large amounts of DNA sequence information 	C1 <ul style="list-style-type: none"> I can source reliable information I can describe the role of DNA as the distinctive blueprints of humans I can construct hypotheses based on models and theories. I can evaluate and interpret evidence of evolution including the fossil record, chemical and anatomical similarities, and geographical 	Notes, Means of Assessment <ul style="list-style-type: none"> PBL Formative Assessments End of unit assessment

	<ul style="list-style-type: none"> I can explain how genetic characteristics and survival and reproduction rates are related. 	<p>in the field of bioinformatics.</p> <ul style="list-style-type: none"> I can outline processes involved in natural selection, including variation, isolation and selection. 	<p>distribution of species.</p> <ul style="list-style-type: none"> I can explain how information technology can be applied to different areas of science such as bioinformatics. 	
	Basics	Development	Judgment	