

ST. MARY'S COLLEGE

CAPE BIOLOGY UNIT 2

Course Outline

Term 1

Unit/ Section	Topic	Modules	Chapter
01	Photosynthesis	:01-Structure of dicotyledonous leaf	12
		:02- photophosphorylation	
		:03- Calvin Cycle	
		:04- limiting factors of photosynthesis	
		:01- breakdown of glucose in cellular respiration	13
02	Respiration and energy release	:02- Glycolysis	
		:03- structure and function of the mitochondria	
		:04- precursor of Krebs cycle /Krebs cycle process	
		:05-oxidative phosphorylation	
		:01- comparison of aerobic and anaerobic respiration	
		:02- significance of lactate formation and ethanol production	
04	Ecological Systems	:01-abiotic and biotic factors in an environment	14
		:02- distinguish between ecosystem , habitat and ecological niche	
		:03- investigative methods for studying ecological systems	
05	Energy Flow and Nutrient Cycling	:01- energy flow in system and energy transfer in trophic levels	15
		:02- biological pyramids	
		:03-species diversity	
		:04- carbon and nitrogen cycle	

		:05- importance of the ecosystem being self sustaining	
06	Transport in plants	:01- uptake of ions in the roots	16
		:02- uptake and movement of water in the plant	
		:03- structure and function of Xylem	
		:04- factors affecting transpiration rate	
		:05- structure of sieve tubes and companion cells	
		:06 – phloem loading/mass flow hypothesis	
07	Circulatory System in man	:01- structure and function of arteries, veins and capillaries	17
		:02- structure of heart and the cardiac cycle	
		:03- initiation and control of heart action	
		:04- blood pressure and pulse	
		:05- haemoglobin and oxygen uptake	
		:06- interpretation of oxygen dissociation curves/ Bohr effect	
08	Homeostasis Osmoregulation	:01- homeostasis defined	18
		:02- homeostasis in the liver	
		:03- nitrogenous waste products and their removal	
		:04- structure and function of kidney	
		:05- removal of waste by the kidney	
		:06- clinical significance of glucose and protein in urine	