Life Sciences - Grade 12 – CAPS (2025)

Annual Teaching Plan - TERM ONE (11 weeks) - 52 DAYS (15 Jan – 28 March)

Week Number (Week Ending)	Completion Date	Topic for the week	INFORMAL ASSESSMENT		% Curriculum Coverage	SMT Signature and Date	FORMAL ASSESSMENT - SBA
			ACTIVITIES/TASKS /INFORMAL TESTS	TICK			
Week 1 (17/01) **3 days**		**DNA: THE CODE OF LIFE (National Examination Guideline p5)** **Core Concepts, Skills and Values** **DNA:** Location, chromosomes, genes and extra-nuclearDNA and discovery of DNA **Requisite Pre-Knowledge** Grade 10: Revise cell structure with emphasis on the ribosome, cytoplasm and parts of the nucleus, nucleicacids **Resources (other than textbook) to enhance learning** PowerPoint, Slides and Videos of DNA and RNA structure, replication and protein synthesis, Past examination papers	**Activities** • Identify location of the DNA in the diagram of an animal cell. Including extra-nuclearDNA. • Provide names and the role each scientist played in the discovery of DNA.	☐ ☐	**7%**		**TASK 1: PRACTICAL** (Minimum 30 marks) SBA YearWeighting: 10% Term Weighting – 25%
Week 2 (24/01) **5 days**		**Core Concepts, Skills and Values** Structure, role and replication of DNA, DNA profiling (Extract DNA and observe and examine the threads) **Requisite Pre-Knowledge** Grade 10: Revise mitosis and cell structure with emphasis on parts of the nucleus, the centrosome and the cytoplasm **Resources**(other than textbook) **to enhance learning** Power Point, slides and videos of DNA and RNA structure, replication and protein synthesis, Past examination papers	**Activities** • Label/draw diagrams of DNA • Describe DNA replication and its significance • Use diagrams to interpret DNA profiling	☐ ☐ ☐	**18.6%**		**TASK 2: CONTROLLED TEST** (Minimum 50 marks – I HOUR) SBA Year Weighting: 15% Term Weighting – 75%

Week 3 (31/01) **5 days**		**Core Concepts, Skills and Values** **RNA** Types, location, structure Genetic code Protein synthesis (transcription and translation) **Requisite Pre-Knowledge** Grade 10: Revise cell structure with emphasis on the ribosome, cytoplasm and parts of the nucleus, nucleicacids **Resources**(other than textbook) **to enhance learning** Video on protein synthesis and mutations at: https://bit.ly/2lkL 83C	**Activities** • Draw and label diagrams of RNA • Tabulate differences and similarities between DNA and RNA. • Describe process of transcription, translation and gene mutation • Use diagrams to identify the different events in transcription and translation **INFORMAL TEST: DNA- Code of Life**	☐ ☐ ☐ ☐ ☐	**30.2%**		
Week 4 (07/02) **5 days**		**MEIOSIS (National Examination Guideline p6)** **Core Concepts, Skills and Values** Structure of a chromosome and associated terminology, process of meiosis, importance of meiosis (Observe diagrams/micrographs of cells in selected stages of meiotic division) **Requisite Pre-Knowledge** Grade 10: Revise mitosis and cell structure with emphasis on parts of the nucleus, the centrosome and the cytoplasm **Resources** (other than textbook) **to enhance learning** Mind the Gap, Past examination papers Diagrams of different stages of meiosis	**Activities** • Explain the significance of meiosis • Identify, with reasons, for the various phases of meiosis from diagrams. • Tabulate the differences between Meiosis I and Meiosis II	☐ ☐ ☐	**41.8%**		
Week 5 (14/02) **5 days**		**Core Concepts, Skills and Values** Abnormal meiosis and consequences, similarities anddifferences between meiosis and mitosis **Requisite Pre-Knowledge** Grade 10: Revise mitosis and cell structure with emphasis on parts of the nucleus, the centrosome and the cytoplasm **Resources** (other than textbook) **to enhance learning** Watch Telematics video on Meiosis at: https://bit.ly/2kl X05k	**Activities** • Describe the consequences of non-disjunction during meiosis. • Tabulate the differences betweenmeiosis and mitosis. • Analyse and interpret karyotype diagrams **INFORMAL TEST: MEIOSIS**	☐ ☐ ☐ ☐	**53.4%**		

Week 6 **(21/02)** **5 days**		**REPRODUCTION IN VERTEBRATES (National Examination Guideline p7)** **Core Concepts, Skills and Values** Diversity of reproductive strategies **Requisite Pre-Knowledge** (Grade 9) reproductive system, Meiosis (Grade 12) **Resources** (other than textbook) **to enhance learning** Mind the Gap Study Guide, past examination papers, videos and power points	**Activities** • Using relevant examples, describe how the following reproductive strategies maximise reproductive success in different environment: ✓ External and internal fertilisation. ✓ Ovipary, ovovivipary and vivipary ✓ Amniotic egg. ✓ Precocial and altricial development. ✓ Parental care. **INFORMAL TEST: REPRODUCTION IN VERTEBRATES**		**65%**		
Week 7 **(28/02)** **5 days**		**HUMAN REPRODUCTION (National Examination Guideline p8)** **Core Concepts, Skills and Values** Structure of male and female reproductive systems,Puberty, gametogenesis **Requisite Pre-Knowledge** (Grade 9) reproductive system, Meiosis (Grade 12) **Resources** (other than textbook) **to enhance learning** Mind the Gap Study Guide, past examination papers, videos and power points	**Activities** • Identify and state functions of parts of the male and female reproductive system. • Draw a labelled diagram of a sperm cell • Draw a labelled diagram of an ovum. • Describe the process of spermatogenesis and oogenesis.		**76.6%**		
Week 8 **(07/03)** **5 days**		**Core Concepts, Skills and Values** • Menstrual cycle, fertilisation and development ofzygote to blastocyst • Implantation, gestation and the role of the placenta **Requisite Pre-Knowledge** (Grade 9) reproductive system, Meiosis (Grade 12) **Resources** (other than textbook) **to enhance learning** Mind the Gap Study Guide, past examination papers, videos and power points	**Activities** • Interpret graphs showing the menstrual cycle and role of hormones in the menstrual cycle. • Identify and state the functions of the different parts associated with the development of the foetus in the uterus. • Draw graphs using data relating to reproduction **INFORMAL TEST: HUMAN REPRODUCTION**		**100%**		

Week 9 (14/03) **5 days**		**Revision and Controlled Test**	**Revision and Controlled Test**				
Wk 10 (20/03) **4 days**		**Revision and Controlled Test**	**Revision and Controlled Test**				
Wk 11 (28/03) **5 days** **Term Ends**		**Revision and Controlled Test**	**Revision and Controlled Test**				

Annual Teaching Plan - TERM TWO (12 weeks) - 51 DAYS (08 April – 27 June)

Week Number (Week Ending)	Completion Date	Topic for the week	INFORMAL ASSESSMENT		% Curriculum Coverage	SMT Signature and Date	FORMAL ASSESSMENT - SBA
			ACTIVITIES/TASKS /INFORMAL TESTS	TICK			
Week 1 (11/04) **4 days**		**GENETICS AND INHERITANCE (National Examination Guideline p9)** **Core Concepts, Skills and Values** Concepts of inheritance, Monohybrid crosses, sex determination, sex-linked inheritance **Requisite Pre-Knowledge** Revise cell structure and differentiate between chromatin and chromosomes, genes and alleles **Resources** (other than textbook) **to enhance learning** Mind the Gap, Genetic crosses, past examination papers	**Activities** • Solve monohybrid genetic problems • Solve genetic problems on sex-linked characteristics	☐ ☐	**7.5%**		**TASK 3: PRACTICAL** (Minimum 30 marks) SBA YearWeighting: 10% Term Weighting – 50%
Week 2 (17/04) **4 days**		**Core Concepts, Skills and Values** Dihybrid crosses, and Blood grouping **Requisite Pre-Knowledge** Revise format of genetic cross diagrams **Resources** (other than textbook) **to enhance learning** Past examination papers	**Activities** • Solve genetics problems on dihybrid crosses • Solve genetic problems on blood grouping	☐ ☐	**20%**		**TASK 4: JUNE EXAMINATION** (Minimum 150 marks – 2½ HOURS) SBA Year Weighting: 15% Term Weighting – 50%
Week 3 (25/04) **5 days**		**Core Concepts, Skills and Values** Genetic lineages/pedigree diagrams, mutations Genetic engineering, paternity testing and genetic links **Requisite Pre-Knowledge** Interpreting pedigree diagrams Grade 10: revise stem cell research and cloning **Resources** (other than textbook) **to enhance learning** Past examination papers videos and power points on geneticengineering	**Activities** • Describe types of mutation and theirexamples • Interpret pedigree diagrams. • Describe cloning, stem cell research and genetic modification as examples of genetic engineering **INFORMAL TEST: GENETICS AND INHERITANCE**	☐ ☐	**27.5%**		

Week 4 (09/05) **5 days**		**RESPONDING TO THE ENVIRONMENT (HUMANS)** **(National Examination Guideline p10)** **Core Concepts, Skills and Values** Human nervous system – central, peripheral and autonomic, nerve, reflex arc, disorders **Requisite Pre-Knowledge** Human nervous system (Grade 9) **Resources** (other than textbook) **to enhance learning** Mind the Gap Study Guide, past examination papers, videos and power points, models of the brain and spinal cord	**Activities** • Label and give functions of parts of the brain and spinal cord. • Make a labelled drawing of a sensory or motor neuron. • Describe an example of a reflex action. • Describe location and functions of autonomic nervous system. **INFORMAL TEST:** **HUMAN NERVOUS SYSTEM**	☐ ☐ ☐ ☐ ☐	**37.5%**		
Week 5 (16/05) **5 days**		**Core Concepts, Skills and Values** Human eye **Requisite Pre-Knowledge** Grade 12: Revise nervous system **Resources** (other than textbook) **to enhance learning** Mind the Gap Study Guide, past examination papers, videos and powerpoints, model human eye Watch Telematics video on sense organs at: https://bit.ly/2IkTLv2	**Activities** • Label and give functions of parts of the eye • Use diagrams to describe accommodation • Use diagrams to describe the pupillary mechanism. • Draw/interpret graphs using data related to the eye. • Describe the nature and treatment of 4 prescribed visual defects using diagrams	☐ ☐ ☐ ☐ ☐	**50%**		
Week 6 (23/05) **5 days**		**Core Concepts, Skills and Values** Human ear **Requisite Pre-Knowledge** Grade 12: Revise nervous system **Resources** (other than textbook) **to enhance learning** Mind the Gap Study Guide, past examination papers, videos and powerpoints, model human ear Watch Telematics video on sense organs at: https://bit.ly/2IkTLv2	**Activities** • Label and give functions of parts of the ear. • Describe the functioning of the human ear in: ✓ hearing and ✓ balance • Describe the nature and treatment of middle ear infection and deafness. **INFORMAL TEST: HUMAN EYE AND EAR**	☐ ☐ ☐ ☐	**62.5%**		

Week 7 (30/05) **5 days**		**HUMAN ENDOCRINE SYSTEM AND HOMEOSTASIS IN HUMANS (National Examination Guideline p12)** **Core Concepts, Skills and Values** Endocrine and exocrine glands, glands, hormones and functions of hormones, Negative feedback mechanism involving TSH and thyroxin (and the result of an imbalance: thyroid disorders), Insulin and glucagon (and the result of animbalance: diabetes mellitus) **Requisite Pre-Knowledge** Grade 12: Revise Human reproductionGrade 11: Revise animal nutrition **Resources** (other than textbook) **to enhance learning** Mind the Gap Study Guide, past examination papers, videosand power points	**Activities** • Identify from the diagrams the location of various endocrine glands • Name and state the function/s of the hormones that they secrete. • Describe how a negative feedbackmechanism occurs in the followinghormones: ✓ TSH and thyroxin ✓ Insulin and glucagon		**75%**		
Week 8 (06/06) **5 days**		**Core Concepts, Skills and Values** Homeostasis: Negative feedback mechanisms – glucose, carbon dioxide,water, salts **Requisite Pre-Knowledge** Homeostatic control in nutrition, gaseous exchange andexcretion (Gr 11) Hormones (Gr 12) **Resources** (other than textbook) **to enhance learning** Mind the Gap Study Guide, past examination papers, videosand power points	**Activities** • Describe the negative feedback mechanism: ✓ glucose ✓ carbon dioxide ✓ water and ✓ salt		**87.5%**	
		Core Concepts, Skills and Values Thermoregulation: Using a diagram of the skin, describe the role of the sweat gland and blood vessels in maintaining a constant body temperature **Requisite Pre-Knowledge** Homeostatic control in nutrition, gaseous exchange andexcretion (Gr 11) **Resources** (other than textbook) **to enhance learning** Mind the Gap Study Guide, past examination papers, videosand power points	**Activities** • Describe the negative feedback mechanism: ✓ thermoregulation. • Using a diagram of the skin, describe the role of the sweat gland and blood vessels in maintaining a constant body temperature **INFORMAL TEST: ENDOCRINE SYSTEM AND HOMEOSTASIS**		**100%**	

Week 9 (13/06) 5 days		Revision and June Examination	Revision and June Examination				
Wk 10 (20/06) 5 days		Revision and June Examination	Revision and June Examination				
Week 11 (27/06) 5 days Term Ends		Revision and June Examination	Revision and June Examination				

Life Sciences - Grade 12 – CAPS (2025)

Annual Teaching Plan - TERM THREE (11 weeks) - 53 DAYS (22 July – 03 October)

Week Number (Week Ending)	Completion Date	Topic for the week	INFORMAL ASSESSMENT		% Curriculum Coverage	SMT Signature and Date	FORMAL ASSESSMENT - SBA
			ACTIVITIES/TASKS /INFORMAL TESTS	TICK			
Week 1 (25/07) **4 days**		**RESPONDING TO THE ENVIRONMENT (PLANTS) (National Examination Guideline p13)** **Core Concepts, Skills and Values** Plant hormones, Tropisms, Plant defense mechanisms **Resources** (other than textbook) **to enhance learning** Watch Telematics video on homeostasis at: https://bit.ly/2IkTLv2	**Activities** • State and give functions of each growth substance involved in this chapter. • Describe the role of auxin in in phototropism and geotropism. • Analyse scientific investigation with regard to growth substances. • Analyse and interpret diagrams and graphs with regard to geotropism and phototropism **INFORMAL TEST:** **RESPONDING TO THE ENVIRONMENT (PLANTS)**	☐ ☐ ☐ ☐ ☐	**17%**		**TASK 5: ASSIGNMENT** (Minimum 50 marks Time: 1-1 ½ HOURS) SBA YearWeighting: 20% Term Weighting – 25% **TASK 6: PREPARATORY EXAMINATION** Paper 1 Marks: 150 Time: 2½ HOURS Paper 2 Marks: 150 Time: 2½ HOURS SBA Year Weighting: 30% Term Weighting
Week 2 (01/08) **5 days**		**EVOLUTION (National Examination Guideline p13)** **Core Concepts, Skills and Values** Introduction to evolution e.g. biological evolution, hypothesis, theory, evidence for evolution and variation **Requisite Pre-Knowledge** Revise fossil record and biogeography(Grade 10), Genetics (Grade 12) **Resources** (other than textbook) **to enhance learning** Past examination papers, videos and power points on an introduction to evolution	**Activities** • List various sources of variation. • Describe different lines of evidence for evolution	☐ ☐	**39%**		

Week 3 (08/08) **5 days**		**Core Concepts, Skills and Values** Lamarckism, Darwinism and Punctuated equilibrium Artificial selection and speciation **Requisite Pre-Knowledge** Revise genetics and variation (Grade 12). Humanskeleton (Grade 10) **Resources** (other than textbook) **to enhance learning** Mind the Gap Study Guide, past examination papers, videos and power points Watch Telematics video on natural selection,punctuated equilibrium and speciation at: https://bit.ly/2lq6 Lzl	**Activities** Describe: ✓ Lamarckism, ✓ Natural Selection ✓ and Punctuated equilibrium • State the benefits of artificial selection • Describe how speciation occurs	☐ ☐ ☐ ☐ ☐	**61%**		
Week 4 (15/08) **5 days**		**Core Concepts, Skills and Values** Reproductive isolation mechanisms evolution in presenttimes **Requisite Pre-Knowledge** Revise genetics and variation(Grade 12). Human skeleton (Grade 10) **Resources** (other than textbook) **to enhance learning** Mind the Gap Study Guide, past examination papers, videos and power points Watch Telematics video on natural selection,punctuated equilibrium and speciation at: https://bit.ly/2lq6 Lzl	**Activities** • List reproductive isolating mechanisms that keep species separate. • Describe one example of evolution in current times. **INFORMAL TEST: GENERAL EVOLUTION**	☐ ☐ ☐	**83%**		
Week 5 (22/08) **4 days**		**Core Concepts, Skills and Values** Evidence of common ancestors for living hominids,including humans. Out of Africa hypothesis **Requisite Pre-Knowledge** Revise genetics and variation (Grade 12). Humanskeleton (Grade 10) **Resources** (other than textbook) **to enhance learning** Mind the Gap Study Guide, past examination papers, videos and power points	**Activities** • List similarities and tabulate differences between Humans and the African apes • Interpret diagrams/phylogenetic trees to show progressive evolution using fossil evidence. • Describe the Out of Africa" hypothesis using fossil evidence **INFORMAL TEST: HUMAN EVOLUTION**	☐ ☐ ☐ ☐	**100%**		
Week 6 (29/08) **5 days**		**Revision**	**Activities** Data response questions, case studies, questions from past papers Revision-Mind the Gap Study Guide,past examination papers, videos and power points				

Week 7 (05/09) **5 days**		**Revision**	**Activities** Data response questions, case studies, questions from past papers Revision-Mind the Gap Study Guide,past examination papers, videos and power points			
Week 8 (12/09) **5 days**		**PREPARATORY EXAMINATION**	**PREPARATORY EXAMINATION**			
Week 9 (19/09) **5 days**		**PREPARATORY EXAMINATION**	**PREPARATORY EXAMINATION**			
Wk 10 (26/09) **4 days**		**PREPARATORY EXAMINATION**	**PREPARATORY EXAMINATION**			
Wk 11 (03/10) **5 days** **Term Ends**		**PREPARATORY EXAMINATION**	**PREPARATORY EXAMINATION**			

Annual Teaching Plan - TERM FOUR (09 weeks) - 43 DAYS (13 October – 12 December)

Week Number (Week Ending)	Completion Date	Topic for the week	INFORMAL ASSESSMENT		% Curriculum Coverage	SMT Signature and Date	FORMAL ASSESSMENT - SBA
			ACTIVITIES/TASKS /INFORMAL TESTS	TICK			
Week 1 (17/10) **4 days**		**Revision** Mind the Gap Study Guide, past examination papers, videos and power points Data response questions, case studies, questions from past papers					
Week 2 (24/10) **5 days**		**Revision** Mind the Gap Study Guide, past examination papers, videos and power points Data response questions, case studies, questions from past papers					
Week 3 (31/10) **5 days**		**Revision** Mind the Gap Study Guide, past examination papers, videos and power points Data response questions, case studies, questions from past papers					
Week 4 (07/11) **5 days**		**Revision** Mind the Gap Study Guide, past examination papers, videos and power points Data response questions, case studies, questions from past papers					

Week 5 (14/11) **5 days**		**Paper 1** **Marks: 150** **Time:** 2½ hours **Paper 2** **Marks: 150** **Time:** 2½ hours. **Cognitive levels:** Knowing science - 40%; Understanding science - 25%; Applying scientific knowledge - 20%; Evaluating, analysing and synthesising science knowledge - 15% **Degrees of difficulty for examination and test questions:** Easy - 30%; Moderate - 40%; Difficult - 25%; Very difficult - 5%	FINAL NSC EXAMINATION	**PREPARATION FOR FINAL NSC EXAMINATION** SBA WEIGHTING: 25% FINAL NSC EXAMINATION: 75%

Topic	Marks	Topic	Marks
Reproduction in vertebrates	8	DNA: Code of life	17
Human reproduction	41	Meiosis	21
Responding to the environment (humans)	54	Genetics andinheritance	48
Human endocrine systemand Homeostasis	34	Evolution	54
Responding to the environment (plants)	13		

Informal Assessment

A minimum of three informal tasks should be done per week. These tasks can be marked by learners or teachers.

NB:

- It is recommended that a consolidation task/informal test is completed at the end of a concept/topic.
- It is vital that practical skills are taught and assessed in an integrated way in the context of theoretical concepts.
- Collectively, the informal tasks must reflect all degrees of difficulty and cognitive levels.