



COURSE OUTLINE
HUMAN BIOLOGY – ATAR YEAR 11: 2022
UNIT 1 AND UNIT 2



Term	Week	Topic and key teaching points	Syllabus content	Assessment
1	1	<p><u>Investigating Human Biology</u></p> <p>Ch 1.1 Studying Human Biological Science Questions 1.1</p> <p>Ch 1.2 Scientific method Questions 1.2</p> <p>Ch 1.3 Investigating humans Questions 1.3</p> <p>Act 1.1 Hypothesising Act 1.2 Investigating how pollen causes hay fever Act 1.3 Designing controlled experiments Act 1.4 Testing a hypothesis Act 1.5 Testing the product claims for Hairnu Act 1.6 Tabulating data Act 1.6 Graphing</p>	<p>Course orientation Course documents and class expectations Assessment and absence procedures Resources and equipment</p> <p>Science Inquiry Skills – SIS1, SIS2, SIS3, SIS4, SIS5, SIS7 Identify, research and construct questions for investigation; propose hypotheses; and predict possible outcomes Design investigations, including procedure(s) to be followed, the materials required, and the type and amount of primary and/or secondary data to be collected; conduct risk assessments; and consider research ethics, including animal ethics Conduct investigations, including monitoring body functions; use microscopy techniques; and perform real or virtual dissection, safely, competently and methodically for the collection of valid and reliable data Represent data in meaningful and useful ways; organise and analyse data to identify trends, patterns and relationships; qualitatively describe sources of measurement error, and uncertainty and limitations in data; and select, synthesise and use evidence to make and justify conclusions Interpret a range of scientific and media texts, and evaluate processes, claims and conclusions by considering the quality of available evidence; and use reasoning to construct scientific arguments</p>	<p>HOMEWORK Chapter 1 review questions</p>



COURSE OUTLINE

HUMAN BIOLOGY – ATAR YEAR 11: 2022

UNIT 1 AND UNIT 2



			Communicate to specific audiences, and for specific purposes, using appropriate language, nomenclature, genres and modes, including scientific reports	
1	2 - 3	<p style="text-align: center;"><u>Cells make up the human body</u></p> <p>Ch 2.1 Cells Questions 2.1</p> <p>Ch 2.2 Cell structure Questions 2.2</p> <p>Ch 2.3 Cell requirements Questions 2.3</p> <p>Ch 2.4 How cells make a body Questions 2.4</p> <p>Act 2.1 Observing cells Act 2.5 What size is it? Act 2.4 Investigating diffusion through a differentially permeable membrane Act 2.6 Investigating surface area and volume Act 2.7 Looking at tissues</p> <p>STAWA EGGSperimenting with osmosis</p>	<p>Cells and tissues – SU1, SU2, SU3, SU4, SU5</p> <p>The human body is comprised of cells, tissues and organs within complex systems that work together to maintain life</p> <p>Cell organelles maintain life processes and require the input of materials and the removal of wastes to support efficient functioning of the cell</p> <p>The cell membrane separates the cell from its surrounding with a structure, described by the fluid mosaic model, which allows for the movement of materials into and out of the cell by;</p> <ul style="list-style-type: none"> ○ Diffusion ○ Facilitated diffusion ○ Osmosis ○ Active transport ○ Vesicular transport (endocytosis and exocytosis) <p>Factors affecting exchange of materials across the cell membrane include surface area to volume ratio, concentration gradients, and the physical and chemical nature of the materials being exchanged</p> <p>The various tissues of the human body perform specific functions and be categorised into four basic tissue types: epithelial, connective, muscular and nervous</p> <p>Science Inquiry Skills – SIS3, SIS6, SIS7</p> <p>Conduct investigations, including monitoring body functions; use microscopy techniques; and perform real or virtual dissection, safely, competently and</p>	<p style="text-align: center;">HOMEWORK</p> <p style="text-align: center;">Chapter 2 review questions</p> <p style="text-align: center;">TASK 1 SIS</p> <p style="text-align: center;">Second-hand data analysis</p> <p style="text-align: center;">WEIGHTING 6.5%</p>



COURSE OUTLINE

HUMAN BIOLOGY – ATAR YEAR 11: 2022

UNIT 1 AND UNIT 2



			<p>methodically for the collection of valid and reliable data</p> <p>Select, construct and use appropriate representations, including labelled diagrams and images of various cells, tissues and organ systems, to communicate conceptual understanding, solve problems and make predictions</p> <p>Communicate to specific audiences, and for specific purposes, using appropriate language, nomenclature, genres and modes, including scientific reports</p>	
1	4 - 5	<p><u>Cells undergo chemical reactions</u></p> <p>Ch 3.1 Metabolism Questions 3.1</p> <p>Ch 3.2 Enzymes and metabolism Questions 3.2</p> <p>Ch 3.3 Cellular respiration Questions 3.3</p> <p>Ch 3.4 Energy use by the cell Questions 3.4</p> <p>Act 3.2 Investigating aerobic and anaerobic respiration during exercise</p>	<p>Metabolism – SU6, SU7, SU8, SU9</p> <p>Biochemical processes, including anabolic and catabolic reactions in the cell, are controlled in the presence of specific enzymes</p> <p>Cellular respiration occurs, in different locations in the cytosol and mitochondria, to catabolise organic compounds, aerobically or anaerobically, to release energy in the form of adenosine triphosphate (ATP)</p> <p>For efficient metabolism, cells require oxygen and nutrients, including carbohydrates, proteins, lipids, vitamins and minerals</p> <p>Enzyme function can be affected by factors including pH, temperature, presence of inhibitors, co-enzymes and co-factors, and the concentration of reactants and products</p> <p>Science Inquiry Skills – SIS3, SIS4</p> <p>Conduct investigations, including monitoring body functions; use microscopy techniques; and perform real or virtual dissection safely, competently and methodically for the collection of valid and reliable data</p>	<p>HOMEWORK</p> <p>Chapter 3 review questions</p> <p>TASK 2 SIS</p> <p>Enzyme investigation</p> <p>WEIGHTING 6.5%</p>

COURSE OUTLINE

HUMAN BIOLOGY – ATAR YEAR 11: 2022

UNIT 1 AND UNIT 2

			Represent data in meaningful and useful ways; organise and analyse data to identify trends, patterns and relationships; qualitatively describe sources of measurement error, and uncertainty and limitations in data; and select, synthesise and use evidence to make and justify conclusions	
1	6	<p><u>The respiratory system allows gas exchange</u></p> <p>Ch 4.1 Structure of the respiratory system Questions 4.1</p> <p>Ch 4.2 Mechanics of breathing Questions 4.2</p> <p>Ch 4.3 Gas exchange Questions 4.3</p> <p>Ch 4.4 Some effects of lifestyle and environment on gas exchange Questions 4.4</p> <p>Act 4.1 Examining the structure of the lungs</p>	<p>Respiratory System – SU10, SU11 The exchange of gases between the internal and external environments of the body is facilitated by the structure and function of the respiratory system at the cell, tissue and organ levels. The efficient exchanges of gases in the lungs is maintained by the actions of breathing, blood flow, and the structure of the alveoli</p> <p>Science Inquiry Skills – SIS1, SIS2, SIS3, SIS4 Identify, research and construct questions for investigation; propose hypotheses; and predict possible outcomes Design investigations, including procedure(s) to be followed, the materials required, and the type and amount of primary and/or secondary data to be collected; conduct risk assessments; and consider research ethics, including animal ethics Conduct investigations, including monitoring body functions; use microscopy techniques; and perform real or virtual dissection, safely, competently and methodically for the collection of valid and reliable data</p>	<p>HOMEWORK Chapter 4 review questions</p> <p>TASK 3 TEST Cells, tissues and cell metabolism WEIGHTING 5%</p>

COURSE OUTLINE

HUMAN BIOLOGY – ATAR YEAR 11: 2022

UNIT 1 AND UNIT 2

			<p>Represent data in meaningful and useful ways; organise and analyse data to identify trends, patterns and relationships; qualitatively describe sources of measurement error, and uncertainty and limitations in data; and select, synthesise and use evidence to make and justify conclusions</p> <p>Science as a Human Endeavour – SHE4 Lifestyle choices, including being active or sedentary, the use of drugs and type of diet, can compromise body functioning in the short term and may have long-term consequences</p>	
1	7 - 8	<p><u>The circulatory system transports materials throughout the body</u></p> <p>Ch 5.1 Blood as a transport medium Questions 5.1</p> <p>Ch 5.2 Moving blood through the body Questions 5.2</p> <p>Ch 5.3 Blood groups and transfusions Questions 5.3</p> <p>Ch 5.4 The lymphatic system Questions 5.4</p> <p>Act 5.2 Investigating blood flow during exercise Act 5.3 Observing heart structure Act 5.5 Investigating blood pressure Act 5.6 Investigating blood typing</p>	<p>Circulatory System – SU12, SU13, SU14 The transport of materials within the internal environment for exchange with cells is facilitated by the structure and function of the circulatory system at the cell, tissue and organ levels The components of blood facilitate the transport of different materials around the body (plasma and erythrocytes), play a role in the clotting of blood (platelets) and the protection of the body (leucocytes) The lymphatic system functions to return tissue fluid to the circulatory system and to assist in protecting the body from disease</p> <p>Science Inquiry Skills – SIS3, SIS4 Conduct investigations, including monitoring body functions; use microscopy techniques; and perform real or virtual dissection safely, competently and methodically for the collection of valid and reliable data Interpret a range of scientific and media texts, and evaluate processes, claims and conclusions by</p>	<p>HOMEWORK Chapter 5 review questions</p>

COURSE OUTLINE
HUMAN BIOLOGY – ATAR YEAR 11: 2022
UNIT 1 AND UNIT 2

			<p>considering the quality of available evidence; and use reasoning to construct scientific arguments</p> <p>Science as a Human Endeavour – SHE1</p> <p>Blood transfusions rely on determining blood groups and can be used to treat many different diseases and conditions</p>	
1	9 - 10	<p><u>The digestive system supplies nutrients for the body</u></p> <p>Ch 6.1 Types of digestion Questions 6.1</p> <p>Ch 6.2 The alimentary canal Questions 6.2</p> <p>Ch 6.3 The effect of diet on the alimentary canal Questions 6.3</p> <p>Act 6.3 Investigating pancreatic juices</p>	<p>Digestive System – SU15, SU16, SU17, SU18, SU19</p> <p>The supply of nutrients in a form that can be used in cells is facilitated by the structure and function of the digestive system at the cell, tissue and organ levels</p> <p>Digestion involves the breakdown of large molecules to smaller ones by mechanical digestion (teeth, bile and peristalsis) and chemical digestion (by enzymes with distinctive operating conditions and functions that are located in different sections of the digestive system)</p> <p>The salivary glands, pancreas, liver and gall bladder produce or store secretions which aid the processes of digestion</p> <p>Absorption requires nutrients to be in a form that can cross cell membranes into the blood or lymph and occurs at different locations, including the small intestine and large intestine</p> <p>Elimination removes undigested materials and some metabolic wastes from the body, and is a separate process from excretion</p> <p>Science Inquiry Skills – SIS3</p> <p>Conduct investigations, including monitoring body functions; use microscopy techniques; and perform real or virtual dissection safely, competently and</p>	<p>HOMEWORK</p> <p>Chapter 6 review questions</p> <p>TASK 4 TEST</p> <p>Circulatory, respiratory and digestive systems</p> <p>WEIGHTING 5%</p>

COURSE OUTLINE
HUMAN BIOLOGY – ATAR YEAR 11: 2022
UNIT 1 AND UNIT 2

			methodically for the collection of valid and reliable data	
2	1 - 2	<p><u>The excretory system removes waste products</u></p> <p>Ch 7.1 The organs that process and remove waste Questions 7.1</p> <p>Ch 7.2 The liver and skin Questions 7.2</p> <p>Ch 7.3 The kidneys Questions 7.3</p> <p>Ch 7.4 Effects of lifestyle on excretion Questions 7.4</p> <p>Act 7.1 Examining the structure of the kidneys Act 7.2 Looking at nephrons Act 7.3 Investigating kidney output Act 7.4 Investigating urine concentration Act 7.5 Modelling kidney function</p> <p>STAWA A model of a kidney nephron</p>	<p>Excretory System – SU24, SU25, SU26 The excretory system regulates the chemical composition of body fluids by removing metabolic wastes and retaining the proper amounts of water, salts, and nutrients; components of this system include the kidneys, liver, lungs, and skin functioning at the organ level Deamination of amino acids in the liver produces urea, which then is transported to the kidneys for removal The nephrons in the kidney facilitate three basic processes: filtration, reabsorption and secretion during urine formation to maintain the composition of body fluids (hormone control is not required)</p> <p>Science Inquiry Skills – SIS3 Conduct investigations, including monitoring body functions; use microscopy techniques; and perform real or virtual dissection safely, competently and methodically for the collection of valid and reliable data</p> <p>Science as a Human Endeavour – SHE2, SHE4 Treatment of conditions due to system or organ dysfunction has changed through improvements in</p>	<p style="text-align: center;">HOMEWORK Chapter 7 review questions</p>

COURSE OUTLINE
HUMAN BIOLOGY – ATAR YEAR 11: 2022
UNIT 1 AND UNIT 2

			<p>early diagnosis and appropriate use of drugs, physical therapy, radiation therapy, and removal and/or replacement of affected parts</p> <p>Lifestyle choices, including being active or sedentary, the use of drugs and type of diet, can compromise body functioning in the short term and may have long-term consequences</p>	
2	3 - 5	<p><u>The musculoskeletal system allows movement</u></p> <p>Ch 8.1 Types of muscles Questions 8.1</p> <p>Ch 8.2 Structure of skeletal muscle Questions 8.2</p> <p>Ch 8.3 How muscles work Questions 8.3</p> <p>Ch 8.4 Overview of the skeletal system Questions 8.4</p> <p>Ch 8.5 Structure of bone and cartilage Questions 8.5</p> <p>Ch 8.6 Movement of bones Questions 8.6</p> <p>Ch 8.7 Effects of aging on the musculoskeletal system Questions 8.7</p> <p>Act 8.1 Investigating fast and slow twitch fibres Act 8.2 Studying a long bone</p>	<p>Musculoskeletal system – SU20, SU21, SU22, SU23</p> <p>The muscular system is organised to maintain posture and produce movement; muscle fibre contraction can be explained using the sliding filament theory</p> <p>Movement results from the actions of paired muscles, with others acting as stabilisers, to produce the required movement</p> <p>The skeletal framework of the body consists of bone and cartilage which function to provide body support, protection and movement, and is facilitated by the structure and function at cell and tissue levels</p> <p>Articulations of joints of the skeleton are classified according to their structure or the range of movements permitted</p> <p>Science Inquiry Skills – SIS3</p> <p>Conduct investigations, including monitoring body functions; use microscopy techniques; and perform real or virtual dissection safely, competently and methodically for the collection of valid and reliable data</p>	<p>HOMEWORK Chapter 8 review questions</p> <p>TASK 5 TEST Excretory and Musculoskeletal systems WEIGHTING 5%</p> <p>TASK 6 EXT RESP Cells and cell metabolism, Circulatory system, Respiratory system, Digestive system, Excretory system, Musculoskeletal system WEIGHTING 7.5%</p>



COURSE OUTLINE

HUMAN BIOLOGY – ATAR YEAR 11: 2022

UNIT 1 AND UNIT 2



			Science as a Human Endeavour – SHE3 Osteoporosis and osteoarthritis are diseases, primarily of ageing, that cause disability. Increased understanding of the causes of these conditions leads to improved practices for management and prevention	
2	6	EXAM REVISION Targeted revision of key topics Practice analysing and constructing extended responses Exam strategy	UNIT ONE CONTENT	
2	7	EXAM PERIOD	UNIT ONE CONTENT	TASK 7 EXAM UNIT ONE WEIGHTING 15%
2	8	EXAM PERIOD	UNIT ONE CONTENT	TASK 7 EXAM UNIT ONE WEIGHTING 15%
2	9 - 10	<u>DNA determines the structure and function of cells</u> Ch 9.1 DNA, genes and chromosomes Questions 9.1 Act 9.1 Modelling DNA structure and replication Act 9.2 Extracting DNA	DNA – SU1, SU2, SU3 DNA occurs bound to proteins in chromosomes in the nucleus and as unbound DNA in the mitochondria DNA stores the information for the production of protein that determines the structure and function of the cells The structural properties of the helical DNA molecule, include double stranded, nucleotide composition and weak bonds involved in base pairing between the complementary strands, allow for its replication.	HOMEWORK Chapter 9 review questions

COURSE OUTLINE

HUMAN BIOLOGY – ATAR YEAR 11: 2022

UNIT 1 AND UNIT 2

3	1	<p><u>DNA determines the structure and function of cells</u></p> <p>Ch 9.2 Protein synthesis Questions 9.2</p> <p>Genetic Science Learning Centre activities and website research http://learn.genetics.utah.edu/content/</p> <p>Ch 9.3 Epigenetics Questions 9.3</p>	<p>DNA – SU4, SU5 Protein synthesis involves the transcription of a gene on DNA into messenger ribonucleic acid (mRNA) in the nucleus, and translation into an amino acid sequence at the ribosome with the aid of transfer Epigenetics is the study of phenotypic expression of genes, which depends on the factors controlling transcription and translation during protein synthesis, the products of other genes and the environment Science Inquiry Skills – SIS6 Select, construct and use appropriate representations of DNA replication, transcription and translation to communicate conceptual understanding, solve problems and make predictions Science as a Human Endeavour – SHE2 Discoveries made through the use of modern biotechnological techniques have increased understanding of DNA and gene expression</p>	<p>HOMEWORK Chapter 9 review questions</p>
3	2	<p><u>Cells divide for growth, repair, replacement and reproduction</u></p> <p>Ch 10.1 The cell cycle Questions 10.1</p> <p>Act 10.1 Modelling mitosis and cytokinesis Act 10.2 Observing mitosis</p>	<p>Cell Reproduction – SU6, SU7, SU8 Mitosis forms part of the cell cycle producing new cells with the same genetic content The sequence of DNA replication, chromosome duplication and chromosome separation are important processes in the production of identical daughter cells by mitosis for growth, repair and replacement of tissues within the body Stem cells have the ability to divide by mitosis and differentiate into many different tissues, depending on the level of cell potency Science Inquiry Skills – SIS3, SIS5</p>	<p>HOMEWORK Chapter 9 review questions</p> <p>TASK 8 SIS Protein synthesis and Epigenetics WEIGHTING 7%</p>

COURSE OUTLINE
HUMAN BIOLOGY – ATAR YEAR 11: 2022
UNIT 1 AND UNIT 2

3	3		<p>Conduct investigation, safely, competently and methodically for the collection of valid and reliable data</p> <p>Interpret a range of scientific and media texts, and evaluate processes, claims and conclusions by considering the quality of available evidence; and use reasoning to construct scientific arguments</p>	
3	4	<p><u>Cells divide for growth, repair, replacement and reproduction</u></p> <p>Ch 10.2 Producing gametes Questions 10.2</p> <p>Ch 10.3 Variation in daughter cells Questions 10.3</p> <p>Act 10.3 Modelling meiosis</p>	<p>Cell Reproduction – SU10, SU11, SU12, SU13</p> <p>Meiosis produces gametes for reproduction and involves DNA replication, chromosome pairing, and two successive nuclear divisions distributing haploid sets of chromosomes to each gamete</p> <p>Crossing over, non-disjunction and random assortment of chromosomes during meiosis will produce gametes with different genetic content</p> <p>Differences between mitosis and meiosis reflect their roles in the body</p> <p>Variations in the genotypes of offspring, including gender, arise as a result</p>	<p>HOMEWORK</p> <p>Chapter 10 review questions</p>
3	5	<p><u>Cells divide for growth, repair, replacement and reproduction</u></p> <p>Ch 10.4 Cancer Questions 10.4</p> <p>Act 10.4 Investigating the incidence of cancer in Australia</p>	<p>Cell Reproduction – SU9</p> <p>Uncontrolled division of cells can result in the development of a tumour</p> <p>Science as a Human Endeavour – SHE4</p> <p>New technologies, including Pap smear, breast screening and blood tests for prostate cancer, have made early detection of cancers possible</p>	<p>HOMEWORK</p> <p>Chapter 10 review questions</p>

COURSE OUTLINE

HUMAN BIOLOGY – ATAR YEAR 11: 2022

UNIT 1 AND UNIT 2

3	6	<p><u>The structure of the reproductive systems allows reproduction</u></p> <p>Ch 11.1 Structure of the reproductive systems Questions 11.1</p> <p>Ch 11.2 Production of gametes Questions 11.2</p>	<p>Human Reproduction – SU14, SU16 The production of offspring is facilitated by the structure and function of the male and female reproductive systems in producing and delivering gametes for fertilisation and providing for the developing embryo and foetus Human gametes are produced through spermatogenesis and oogenesis, which are specific forms of meiosis, but varying significantly in process and products</p> <p>Science Inquiry Skills – SIS2 Design investigations, including the procedure(s) to be followed, the materials required, and the type and amount of primary and/or secondary data to be collected; conduct risk assessments; and consider research ethics, including animal ethics</p>	<p>HOMEWORK Chapter 11 review questions</p> <p>TASK 9 TEST Cell reproduction and sexual reproduction WEIGHTING 5%</p>
3	7	<p><u>The structure of the reproductive systems allows reproduction</u></p> <p>Ch 11.3 Hormonal control Questions 11.3</p>	<p>Human Reproduction – SU15 Both male and female reproductive systems are regulated by hormones, including the regulation of the menstrual and ovarian cycles</p>	<p>HOMEWORK Chapter 11 review questions</p>
3	8	<p><u>Reproduction produces offspring</u></p> <p>Ch 12.1 Fertilisation Questions 12.1</p> <p>Ch 12.2 Early embryonic development and implantation Questions 12.2</p>	<p>Human Reproduction – SU17, SU18 For the establishment of a pregnancy, conception requires the union of viable sperm and ovum at the optimal time in the ovarian cycle The development of the embryo after implantation involves the differentiation of cells into three different germ layers that will eventually produce specific systems in the body and the placenta</p>	<p>HOMEWORK Chapter 12 review questions</p>
3	9	<p><u>Reproduction produces offspring</u></p> <p>Ch 12.3 Pregnancy Questions 12.3</p>	<p>Human Reproduction – SU19 The stages of labour include birth, during which there are circulatory system changes in the child</p>	<p>HOMEWORK Chapter 12 review questions</p>

COURSE OUTLINE

HUMAN BIOLOGY – ATAR YEAR 11: 2022

UNIT 1 AND UNIT 2

		Ch 12.4 Changes during birth Questions 12.4 Ch 12.5 Maintaining a healthy pregnancy Questions 12.5 Act 12.1 Summarising development Act 12.2 Investigating pregnancy and exercise	Science Inquiry Skills – SIS2 Design investigations, including the procedure(s) to be followed, the materials required, and the type and amount of primary and/or secondary data to be collected; conduct risk assessments; and consider research ethics, including animal ethics Science as a Human Endeavour – SHE5 Lifestyle choices, including diet, illicit drugs, alcohol and nicotine, may affect foetal development	
3	10	<u>Technologies are available to assist reproduction</u> Ch 14.1 Treatment of infertility Questions 14.1 Ch 14.2 Diagnosis of foetal health Questions 14.2	Human Reproduction – SU22, SU23 There are a variety of assisted reproductive technologies to help overcome infertility problems, but each has its limitations, risks and benefits. There are a range of techniques available to genetically screen embryos before implantation or during early development, including blood tests, amniocentesis and chorionic villi sampling Science as a Human Endeavour – SHE1, SHE3 The use of genetic profiling and genetic screening of adults and embryos have implicit ethical considerations Greater understanding of the menstrual cycle, conception and implantation has produced improved methods of the establishment of a pregnancy, along with advancements in contraceptive methods; both have ethical considerations Science Inquiry Skills – SIS5 Interpret a range of scientific and media texts, and evaluate processes, claims and conclusions by considering the quality of available evidence; and use reasoning to construct scientific arguments	HOMEWORK Chapter 14 review questions

COURSE OUTLINE

HUMAN BIOLOGY – ATAR YEAR 11: 2022

UNIT 1 AND UNIT 2

4	1	<p><u>Technologies are available to assist reproduction</u></p> <p>Act 14.1 Should we use assisted reproductive technologies?</p>	<p>Human Reproduction – SU22, SU23</p> <p>There are a variety of assisted reproductive technologies to help overcome infertility problems, but each has its limitations, risks and benefits. There are a range of techniques available to genetically screen embryos before implantation or during early development, including blood tests, amniocentesis and chorionic villi sampling</p> <p>Science as a Human Endeavour – SHE1, SHE3</p> <p>The use of genetic profiling and genetic screening of adults and embryos have implicit ethical considerations</p> <p>Greater understanding of the menstrual cycle, conception and implantation has produced improved methods of the establishment of a pregnancy, along with advancements in contraceptive methods; both have ethical considerations</p>	<p>TASK 10 EXT RESP</p> <p>Reproductive cycles, Fertilisation, Development of a human embryo and foetus, Assisted reproductive technologies</p> <p>WEIGHTING 7.5%</p>
4	2	<p><u>Human reproduction</u></p> <p><u>Reducing the chance of pregnancy and STI's</u></p> <p>Ch 13.1 Contraception Questions 13.1</p> <p>Ch 13.2 Sexually transmitted infections Questions 13.2</p> <p>Act 13.3 Understanding the social consequences of vaccines for STIs</p> <p>Act. 13.1 Researching developments in contraception</p>	<p>Human Reproduction – SU20, SU21</p> <p>Contraception methods that reduce the probability of the union of gametes or implantation all have limitations, risks and benefits, and include methods that;</p> <ul style="list-style-type: none"> ○ Use steroid hormones ○ Physical barriers between gametes ○ Use chemical spermicides ○ Use sterilisation (tubal ligation, vasectomy) ○ Function after coitus (Emergency contraceptive pill and IUD's) <p>Sexually transmitted infections (STI's), diseases transmitted through unprotected sex or genital</p>	<p>HOMEWORK</p> <p>Chapter 13 review questions</p>

COURSE OUTLINE

HUMAN BIOLOGY – ATAR YEAR 11: 2022

UNIT 1 AND UNIT 2

			<p>contact, can be prevented through safe sex methods; early detection and treatment of infection are important and, if left untreated, STI's can lead to serious health consequences</p> <p>Science Inquiry Skills – SIS5 Interpret a range of scientific and media texts, and evaluate processes, claims and conclusions by considering the quality of available evidence; and use reasoning to construct scientific arguments</p> <p>Science as a Human Endeavour – SHE3 Greater understanding of the menstrual cycle, conception and implantation has produced improved methods in the establishment of a pregnancy, along with advances in contraceptive methods; both have ethical considerations</p>	
4	3 - 4	<p><u>Genetics can be used to understand the traits of individuals and families</u></p> <p>Ch 15.1 Mendelian Inheritance Questions 15.1</p> <p>Ch 15.2 Modelling Inheritance Questions 15.2</p> <p>Ch 15.3 Autosomal inheritance of single-gene disorders Questions 15.3</p> <p>Ch 15.4 Sex chromosomes Questions 15.4</p> <p>Ch 15.5 Other types of inheritance Questions 15.5</p> <p>Ch 15.6 Genetic counselling Questions 15.6</p>	<p>Types of Inheritance – SU24, SU25, SU26 Probable frequencies of genotype and phenotype of offspring can be predicted using Punnett squares and by taking into consideration patterns of inheritance, including the effects of dominance, co-dominance, autosomal or sex-linked alleles, and multiple alleles: Huntington's disease, phenylketonuria (PKU), ABO blood groups, red–green colour blindness / haemophilia show different inheritance patterns Pedigree charts can be constructed for families with a particular genetic disorder and can be used to reveal patterns of inheritance and assist in determining the probability of inheriting the condition in future generations</p>	<p>HOMEWORK Chapter 15 review questions</p> <p>TASK 11 TEST Inheritance WEIGHTING 5%</p>



COURSE OUTLINE
HUMAN BIOLOGY – ATAR YEAR 11: 2022
UNIT 1 AND UNIT 2



		Act 15.1 Investigating Mendelian genetic principles in Martians Act 15.2 Examining pedigrees Act 15.3 Studying a family with Huntington's disease	DNA profiling identifies the unique genetic make-up of individuals and can be used in determining parentage Science Inquiry Skills – SIS3, SIS4, SIS6 Conduct investigations, safely, competently and methodically for the collection of valid and reliable data Represent data in meaningful and useful ways; organise and analyse data to identify trends, patterns and relationships; qualitatively describe sources of measurement error and uncertainty and limitations in data; and select, synthesise and use evidence to make and justify conclusions Select, construct and use appropriate representations, including models of DNA replication, transcription and translation, Punnett squares, pedigrees and karyotypes, to communicate conceptual understanding, solve problems and make predictions	
4	5	Review/ Revision Targeted revision of key topics Practice analysing and constructing extended responses Exam strategy	UNIT ONE AND TWO CONTENT	
4	6	EXAM WEEK	UNIT ONE AND TWO CONTENT	TASK 12 EXAM UNIT ONE AND TWO WEIGHTING 25%
4	7	EXAM WEEK	UNIT ONE AND TWO CONTENT	TASK 12 EXAM UNIT ONE AND TWO WEIGHTING 25%