



## Year 12 – General Human Biology

This course is developed using the WA Curriculum as a guide. The order of the content and the time in which they are covered are only a guide. Circumstances may result in changes during the year. Kambalda West District High School reserves the right to alter the order the objectives are taught and time over which they are taught.

Brief description of course with links to WA Curriculum

- Students relate the structure of the different body systems to their function and understand the interdependence of these systems in maintaining life. They explore the coordination of the musculoskeletal, nervous and endocrine system. Students identify the various methods of transmission of diseases and the response of the human immune system. They research new discoveries that help increase our understanding of the causes and spread of diseases in a modern world

### Vocabulary & Grammar

Below is a list of science words and phrases that students should know: the meaning of; and be able to spell; by the end of term:

<p><b>Unit 3</b></p> <p>Hypothesis            Observation            Independent variable            Dependent variable            Control variable            Hormone            Negative feedback loop            Adrenaline            Gland            Cortisol            Metabolism            Addison's disease            Cushing's disease            Diabetes            Glucagon            Insulin            Cartilage            Diaphysis            Ligaments            Marrow            Bursae            Actin            Muscular dystrophy            Fibre            Myosin            Tendons</p>	<p><b>Unit 4</b></p> <p>Lymphocytes            Macrophages            Neutrophils            Apoptosis            Inflammatory response            Specific immune response            Antigen            Pathogens            Non-specific immune response            B lymphocytes            T lymphocytes            Spleen            Thymus            Red Bone marrow            Antibodies            Memory cells            Lymphatic system            Cell mediated immunity            Adaptive immune response            Leukocytes            Phagocytosis            Helper cells            Cytokines            Vaccinations</p>
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There is an expectation that students will make every effort to correctly use capitals, full stops, commas, semi colons, apostrophes, question marks and exclamation marks.



**Semester 1 – UNIT 3**

UNIT Description: Using science enquiry skills the study of human coordination, including: endocrine system, skeletal system, muscular system, nervous system

Week	Topics/Syllabus	Assessment	Resources
<b>Term 1</b>			
1	<b>Science Inquiry Skills</b> <ul style="list-style-type: none"> <li>- Elements of investigations (hypothesis, method, etc.)</li> <li>- Writing a hypothesis</li> <li>- Interpreting and evaluating scientific texts</li> <li>- Representing data in meaningful and useful ways including finding means and mediums; discussing measurement error and accuracy and limitations of data</li> </ul>		
2	<b>Endocrine System</b> <ul style="list-style-type: none"> <li>- Structure and function of the endocrine system (glands included are hypothalamus, pituitary, adrenal gland, pancreas, thyroid, pineal and parathyroid, testicles, ovaries and placenta)</li> </ul>		
3	<ul style="list-style-type: none"> <li>- Negative feedback loop of hormone action (stimulus, receptor, modulator, effector, response and feedback)</li> <li>- Role of thyroxine, cortisol, growth hormone and adrenaline in the regulation of metabolism</li> </ul>		
4	<ul style="list-style-type: none"> <li>- Endocrine disorders and their symptoms</li> <li>- Hormone replacement therapies for the treatment of endocrine disorders</li> </ul>	Task 1: Endocrine system investigation	
5	<b>Skeletal System</b> <ul style="list-style-type: none"> <li>- Structures and functions of the skeletal system</li> <li>-</li> </ul>		
6	<ul style="list-style-type: none"> <li>- The structure and development of long bones provide for strength, growth and repair</li> <li>- The location of specific skeletal structures allows for a range of movements</li> </ul>		
7	<ul style="list-style-type: none"> <li>- Damage caused by sporting injuries to the skeletal system</li> <li>- Treatment of sporting injuries (medication, first aid or surgery)</li> </ul>	Task 2: Skeletal systems test	
8	<b>Muscular system</b> <ul style="list-style-type: none"> <li>- Structures and functions of the muscular system in facilitating locomotion and balance</li> <li>- How muscles work in groups to bring about desired actions</li> </ul>		
9	<ul style="list-style-type: none"> <li>- Dysfunctions of the muscular systems and how they affect individuals</li> <li>- Treatment of dysfunctions of the muscular systems</li> <li>- Advances in treatment for muscular systems</li> </ul>	Task 3: Disorders that cause dysfunctions of the muscle system extended response	
10	<b>EST Revision</b> <ul style="list-style-type: none"> <li>- Explicit teaching of how to study and techniques</li> <li>- Guided revision</li> </ul>		

<b>Term 2</b>			
1	EST REVISION?		
2	EST Revision?	Task 4: EST	
3	<b>Nervous System</b> <ul style="list-style-type: none"> <li>- Structures and functions of the nervous system</li> <li>- Structure and functions of the central nervous system (brain, cerebellum, cerebrum, brainstem and spinal cord) and peripheral nervous system</li> </ul>		
4	<ul style="list-style-type: none"> <li>- Structure and function of receptors (eye, ear and skin)</li> </ul>		
5	<ul style="list-style-type: none"> <li>- Reflex arcs and the neurons involved</li> <li>- Interactions between the nervous system and musculoskeletal system for coordination, walking and balance</li> </ul>		
6	<ul style="list-style-type: none"> <li>- Effect of damages to the nervous system</li> <li>- new innovations of treatment for nervous system damage</li> </ul>	Task 5: Nervous system test	
<b>End of Unit 3</b> <b>Start of Unit 4: Infectious Diseases</b>			
7	<b>Diseases</b> <ul style="list-style-type: none"> <li>- Comparison of different types of pathogens (bacteria, viruses, fungi and parasites)</li> </ul>		
8	<ul style="list-style-type: none"> <li>- Characteristics of common diseases (Ross river disease, influenza, food poisoning, tinea and malaria)</li> </ul>		
9	<ul style="list-style-type: none"> <li>- Debunking myths and misconceptions around disease, its transmission and appropriate treatment or preventative measures</li> <li>- The development of the microscope and how it was important in linking pathogens to diseases</li> <li>-</li> </ul>		
10	<ul style="list-style-type: none"> <li>- Transmission and spread of infectious diseases by local, regional and global movement</li> <li>- Three different mechanisms of transmission (contact, contamination, and disease-specific vectors)</li> </ul>		
<b>END OF SEMESTER 1</b>			

## Semester 2 – UNIT 4

**Unit Description:** Using science enquiry skills, the study of infectious diseases: disease, vaccines and immunology, community and global health

Week	Topics/Syllabus	Assessment	Resources
<b>Term 3</b>			
1	<ul style="list-style-type: none"> <li>- Methods of prevention for transmission of different diseases (quarantine, immunisation and disruption of life cycle)</li> </ul>		
2	<ul style="list-style-type: none"> <li>- Different hygiene practices and how they affect the transmission of disease</li> <li>- The 'hygiene hypothesis'. Exploring the theory that increase in allergy disorders in modern society is a consequence of decreased exposure to infection in early childhood</li> </ul>	Task 6: Diseases and pathogens test	
3	<b>Vaccines and Immunology</b> <ul style="list-style-type: none"> <li>- The responses in human body systems that target pathogens (inflammatory response in the circulatory system)</li> </ul>	Task 7: Micro-organisms investigation	
4	<ul style="list-style-type: none"> <li>- Function of antibodies and memory cells for short term and long term immunity</li> </ul>		
5	<ul style="list-style-type: none"> <li>- Treatments for the variety of pathogens and diseases to reduce infection or severity (antiseptics, antivirals and antibiotics)</li> <li>- Misuse of medicinal treatments against pathogens, causes the development of multi-resistant bacteria</li> </ul>		
6	<ul style="list-style-type: none"> <li>- Exploring how vaccinations produce memory cells to gain immunity of specific diseases</li> <li>- Natural exposure to a pathogen and how it can produce immunity to a specific disease</li> </ul>		
7	<ul style="list-style-type: none"> <li>- Comparing the effect of introducing foreign bacteria and viruses to isolated communities against the outside world</li> </ul>	<b>Task 8: Vaccines and Immunology Test</b>	
8	<b>Community and global health</b> <ul style="list-style-type: none"> <li>- Basic outline of water sanitation</li> <li>- Comparison of global standards of water sanitation</li> </ul>		
9	<ul style="list-style-type: none"> <li>- Basic outline of waste treatment</li> <li>- Comparison of global standards of waste treatment</li> </ul>	<b>Task 9:</b> comparing local, regional and global response to COVID-19	
10	<ul style="list-style-type: none"> <li>- Global comparison of the presence of pathogens and disease vectors</li> <li>- Identify different travel warnings and how they reduce risk of infection</li> </ul>		
<b>Term 4</b>			
1	<ul style="list-style-type: none"> <li>- Population density and movement patterns influence the transmission of disease</li> </ul>		
2	<ul style="list-style-type: none"> <li>- The effect of social behaviour on the transmission, spread and persistence of sexually transmitted infections</li> </ul>		
<b>END OF SEMESTER 2</b>			



## ASSESSMENT OUTLINE 2022 GENERAL HUMAN BIOLOGY YEAR 12

A number of assessments will be used throughout the term to identify the students understanding in the course and be used to determine a grade. Student achievement will be reported using the following descriptors.

### Semester 1

Assessment Type SCSA Weighting	Task Description	KWDHS Weighting	Due Date
Science Inquiry 30%	<b>Task 1: Endocrine System Investigation</b>	15%	Term 1, Week 4
Test 35%	<b>Task 2: Skeletal System test</b>	7.5%	Term 1, Week 7
Extended Response 20%	<b>Task 3: Disorders of the muscular system</b>	10%	Term 1, Week 9/10
Externally Set Task 15%	<b>Task 4: EST Endocrine system?</b>	15%	Term 2, Week 2/3
Test 35%	<b>Task 5: Nervous system test</b>	7.5%	Term 2, Week 6

### Semester 2

Assessment Type SCSA Weighting	Task Description	KWDHS Weighting	Due Date
Test 35%	<b>Task 6: Diseases and pathogens test</b>	10%	Term 3, Week 2
Science Inquiry 30%	<b>Task 7: Micro-organisms growth investigation</b>	15%	Term 3, Week 3/4
Test 35%	<b>Task 8: Vaccines and Immunology test</b>	10%	Term 3, Week 7
Extended Response 20%	<b>Task 9: local, regional and global response to COVID-19</b>	10%	Term 3/4, Week 9-1

It is expected that all assessments will be completed to the best of your ability and be submitted by the deadlines set. Please make yourself aware of the Assessment Policy as failure to meet deadlines has severe consequences.

Grade	Description	The student demonstrates achievement that:
A	Excellent	has greatly exceeded the expected standard. Achievement is well beyond what is expected at this year level.
B	Good	exceeds the expected standard.
C	Satisfactory	at the expected standard.
D	Limited	is below the expected standard.
E	Very Low	is below the minimum acceptable for this year level.

Student Signature: \_\_\_\_\_

Parent/Guardian Signature: \_\_\_\_\_