

Course Title	Year 10 Sports Science 1	Course Code	9485
Course	Year 10 Sports Science	Unit Value	1.0
Units:	Anatomy and Physiology of the Human Body		
	Factors affecting Performance		

CONTENT SUMMARY

Students should develop knowledge and understanding of:

Anatomy and Physiology of the Human Body

- definitions – anatomy, physiology

1 Skeleton and joints

- The four major functions of the skeleton:
- Examples of major bones of the body to highlight these functions.
- Relevance to performance and participation in physical activity.
- Examples of different types of joints:
- Describe the components of each type of joint.
- Describe the range of movements which includes:
- Ligament, cartilage and synovial fluid problems.

2 Muscles and tendons

- How muscles and their composition, function and action, affect movement and performance: fast twitch for power and strength activities, slow twitch for endurance activities.
- How activities and exercise affect the composition and efficiency of muscles, focusing on:
 - deltoid, trapezius, pectorals, biceps, triceps, latissimus dorsi, abdominals, gluteals, quadriceps, hamstrings, gastrocnemius.
- How improved muscle functioning can improve performance and participation in physical activities.
- The role and function of tendons, ligaments during movement.

3 Circulatory and Respiratory systems

- cell – structure, function and types
- body structure – cells, tissues, organs, systems
- homeostasis – meaning, importance, affect on human performance
- circulatory system (cardiovascular system) – functions and types of circulation, heart and structure, cardiac cycle, pulse, blood pressure, blood vessels, blood structure and function, blood flow around the body at rest and during exercise and heart rate
- heart and circulatory responses to exercise (immediate and training responses): hypertrophy, stroke volume, cardiac output, arteriovenous oxygen difference (AVO₂) and blood pressure
- respiratory system–structure, factors relevant to oxygen and carbon dioxide transport, pressure differentials, mechanics of breathing
- respiration and exercise, respiration rate, tidal volume, ventilation, vital capacity, oxygen uptake (VO₂) and VO₂ maximum

Factors affecting Performance

4 Motivation and mental preparation

- Meaning of motivation.
- Types of motivation:
 - intrinsic and extrinsic,
 - rewards and incentives.
- Arousal and performance; how one is affected by the other.
- Physiological responses of the body to arousal:
 - production of adrenaline,
 - increased heart rate,
 - increased respiration,
 - muscles tense in readiness for action.
- Inverted U Theory (Yerkes-Dodson Theory).
- Causes of over-arousal.
- Causes of decline in performance; anxiety.
- Need for relaxation and visualisation.

- Goal setting – SMARTER (specific, measurable, agreed, realistic, time-phased, exciting, recorded). As a means of controlling anxiety.
- Mental rehearsal.

ASSESSMENT

TASK	DUE DATE	WEIGHTING
Assignment	Week 8 (draft) Week 9 (final)	25%
Term 1 Exam	Week 9	25%
Term 2 Exam	Week 18	25%
Practical Work	Ongoing	25%

Attendance and participation

Students are expected to submit all assessment items and attend all classes, participate in a positive manner and seek support whenever it is required. It is your responsibility to catch up on missed work when absent from class.

Late submission of work

Students are encouraged to submit work on time, as it is a valuable organisational skill. Students are encouraged to complete work even if it is late, as there are educational benefits in doing so. If you do not submit your work to your class teacher, make sure that it is signed and dated by either another member of staff in the faculty staffroom, or a member of the front office staff. No work will be accepted after marked work has been returned, or accepted after the unit has completed. Computer and/or printer failure will not be accepted as a valid reason for late work. Make sure you backup, keep hard copies and rough notes.

Cheating and dishonest practice

The integrity of the College's assessment system relies upon all involved acting in accordance with the highest standards of honesty and fairness. Any departure from such standards will be viewed very seriously. Accordingly:

- Plagiarism - claiming authorship of someone else's work (intentionally or otherwise) - is a serious misdemeanour, and attracts severe penalties.
- Students are required to acknowledge the source of all material that is incorporated into their own work.
- Students may not submit the same item for assessment in more than one unit, unless specific agreement has been reached with the class teacher.

RIGHT TO APPEAL

You can appeal against your assessment if you feel that the result you obtained is not fair. You should first talk to your class teacher, and if you are not satisfied with the explanation you must discuss the situation with the Executive Teacher of the faculty concerned. If you still do not feel that your result is fair you should talk to the Deputy Principal Programs for further advice on the 'appeal process'.

Executive Mark Armstrong Class Tracey Marris

Unit Grade Descriptors for Sports Science:

A student who achieves the grade A typically	A student who achieves the grade B typically	A student who achieves the grade C typically	A student who achieves the grade D typically	A student who achieves the grade E typically
<p>KNOWLEDGE, UNDERSTANDING AND APPLICATION</p> <ul style="list-style-type: none"> • Demonstrates a comprehensive understanding and application of concepts, terminology, rules and strategies <p>CRITICAL ANALYSIS</p> <ul style="list-style-type: none"> • Demonstrates critical analysis and reflects thoughtfully on experiences <p>EFFECTIVE COMMUNICATION</p> <ul style="list-style-type: none"> • Communicates effectively using a variety of modes demonstrating an excellent grasp of key concepts and terminology <p>PERFORMANCE SKILLS</p> <ul style="list-style-type: none"> • Demonstrates a broad range of highly developed motor skills on a continual basis during individual or team activities • Consistently responds to corrective feedback • Demonstrates excellent ability to plan and organise • Consistently works with initiative and independence to develop and practise relevant skills • Consistently participates enthusiastically in a wide range of activities • Demonstrates an excellent understanding of safety issues, procedures and uses equipment safely • Is an enthusiastic and productive member/leader in any team role 	<p>KNOWLEDGE, UNDERSTANDING AND APPLICATION</p> <ul style="list-style-type: none"> • Demonstrates a broad understanding and application of concepts, terminology, rules and strategies <p>CRITICAL ANALYSIS</p> <ul style="list-style-type: none"> • Thinks critically and reflects on experiences <p>EFFECTIVE COMMUNICATION</p> <ul style="list-style-type: none"> • Communicates effectively using a variety of modes demonstrating a good grasp of key concepts and terminology <p>PERFORMANCE SKILLS</p> <ul style="list-style-type: none"> • Demonstrates an excellent understanding of safety issues, procedures and uses equipment safely • Demonstrates a range of well-developed motor skills on a regular basis during individual and team activities • Regularly responds to corrective feedback • Demonstrates thorough ability to plan and organise • Regularly works with enthusiasm and independence to develop and practise relevant skills • Regularly participates enthusiastically in a wide range of activities • Demonstrates a good understanding of safety issues, procedures and uses equipment safely 	<p>KNOWLEDGE, UNDERSTANDING AND APPLICATION</p> <ul style="list-style-type: none"> • Demonstrates a sound understanding and application of concepts, terminology, rules and strategies <p>CRITICAL ANALYSIS</p> <ul style="list-style-type: none"> • Reflects on experiences <p>EFFECTIVE COMMUNICATION</p> <ul style="list-style-type: none"> • Communicates effectively demonstrating a sound grasp of key concepts and terminology <p>PERFORMANCE SKILLS</p> <ul style="list-style-type: none"> • Demonstrates a range of motor skills on a regular basis in controlled situations • On most occasions will respond to corrective feedback • Demonstrates sound ability to plan and organise • Works with supervision to develop and practise relevant skills • Participates in a range of activities • Demonstrates a sound understanding of safety issues and procedures and uses equipment safely • Contributes to and works with group members to complete set tasks 	<p>KNOWLEDGE, UNDERSTANDING AND APPLICATION</p> <ul style="list-style-type: none"> • Understands, applies and recognises basic concepts, terminology, rules and strategies with guidance <p>CRITICAL ANALYSIS</p> <ul style="list-style-type: none"> • Is developing reflection skills <p>EFFECTIVE COMMUNICATION</p> <ul style="list-style-type: none"> • Communicates basic concepts and terminology in concrete terms <p>PERFORMANCE SKILLS</p> <ul style="list-style-type: none"> • Demonstrates some motor skill development on an irregular basis • Occasionally responds to corrective feedback • With assistance demonstrates basic planning and organisational skills • Works under supervision to practise and develop skills • Participates with encouragement in activities • With direction understands safety procedures and generally uses equipment safely • With supervision undertakes set tasks in group situations 	<p>KNOWLEDGE, UNDERSTANDING AND APPLICATION</p> <ul style="list-style-type: none"> • Understands and recognises limited basic concepts, terminology, rules and strategies with assistance <p>CRITICAL ANALYSIS</p> <ul style="list-style-type: none"> • Rarely demonstrates reflection skills <p>EFFECTIVE COMMUNICATION</p> <ul style="list-style-type: none"> • Communicates simple concepts and terminology with assistance <p>PERFORMANCE SKILLS</p> <ul style="list-style-type: none"> • With assistance demonstrates limited motor skill development • Rarely responds to corrective feedback • With direct instruction demonstrates limited planning and organisational skills • Works under direct supervision to practise skills • Demonstrates limited participation in activities • Rarely demonstrates safety procedures and the correct use of equipment • Demonstrates limited interaction with others in group situations