

## Assessor Marking Guide

<b>Programme Name</b>	<b>Health and Fitness Coach (Personal Trainer) (Level 4)</b>	
<b>Assessment Number</b>	<b>Assessment 1 of 4</b>	
<b>Assessment Title</b>	<b>Skeletal System Quiz</b>	
<b>Course Number</b>	<b>Course 1</b>	<b>Version 2 Level 4 Credit 10</b>
<b>Course Title</b>	<b>Anatomy and Physiology</b>	

*Internal feedback related to design of assessment tools should be submitted via the online Continuous Improvement Form (eCIF).*

**This assessment leads to the following graduate profile and learning outcomes.**

<b>NZQA GPO</b>	<b>Learning Outcome</b>	<b>Task #</b>
Apply knowledge of anatomy and physiology to adapt and deliver safe and effective exercise programmes to individuals. (15 credits)	<b>2.1</b> Identify and describe the structure and function of major systems of the human body and their physiological responses (acute and chronic) to exercise. (7 credits)	Tasks 1 – 3

<b>NZQF Level 4 Descriptors</b>	
<b>Knowledge</b>	<ul style="list-style-type: none"> <li>Broad operational and theoretical knowledge in a field of work or study</li> </ul>
<b>Skills</b>	<ul style="list-style-type: none"> <li>Select and apply solutions to familiar and sometimes unfamiliar problems.</li> <li>Select and apply a range of standard and nonstandard processes relevant to the field of work or study.</li> </ul>
<b>Application</b>	<ul style="list-style-type: none"> <li>Self-management of learning and performance under broad guidance.</li> <li>Some responsibility for performance of others.</li> </ul>

### ADMINISTRATION

**Assessors are required to provide feedback to students:**

- Constructive feedback to the student must be documented within assessment evidence. Including where resubmission is required.
- Notes on demonstrated performance and application of skills, knowledge, attributes; future improvement/development planning e.g., task management, study skills; relationship to other programme content and use in career.

**Student evidence must be assessed against all specified criteria to meet learning outcomes.**

- Any adaption in assessment methods must be documented and attached to the assessment by the assessor (where deemed necessary to be fair and transparent in relation to student's specified needs).
- Assessment Pack Cover should be dated and signed by assessor when the student has received the final result.
- Assessment opportunities must be indicated accurately.  
Where any practical criteria are not achieved, an additional practical sheet must be used for reassessment for all practical outcomes and attached to this assessment pack. Refer to Assessment opportunities policy for additional detail.
- The student must sign the post-assessment agreement after receiving final result.
- It is the Assessors responsibility to ensure all relevant documentation is included in the assessment prior to reporting and filing.

- Samples of assessments will be forwarded to internal and/or external parties for moderation as required.

Where appropriate **sample answers and or exemplars** may be included: Sample answers are a guide only providing an example of the sufficiency of qualitative and quantitative evidence the assessor could expect to see.

<b>MARKING SCHEDULE</b>	
<i>Give feedback to student on successes, for N add a note to the student on here or on their assessment evidence (e.g. in Turnitin) about how to improve for resubmission.</i>	
<b>Task Evidence</b>	<b>Achievement Criteria / Judgement</b>
Task 1	<p>a) All answers provided in the table must be correct.</p> <p>b) All <b>FIVE</b> sections of the spine are provided, as well as the main function of the spine.</p>
Task 2	<p>a) All answers provided in the table must be correct.</p> <p>Explanations provided need to be accurate and detailed enough to show understanding.</p> <p>Tutor discretion applies to names of bones as multiple answers are possible</p>
Task 3	<p>a) Correct answer is provided.</p> <p>Bone Strength via increasing bone mineral density – Just “Bone mineral density” is also accepted.</p> <p>b) Identify a health condition related to poor bone health, describe it, and outline at least three risk factors for developing it. Word count met.</p> <p>Options include, but are not limited to: Osteoporosis/Paget’s Disease/Osteonecrosis/Cancer/Arthritis. Description to be accurate, and three accurate risk factors have been identified.</p> <p>c) Three sports/exercises have been provided with an explanation that refers to at least one of the three characteristics of exercise.</p> <p>Exercise examples may include things like: basketball, running, strength training (weights), plyometrics, gymnastics etc. All sports/exercise must be loaded or higher impact exercises</p> <p>Student relates the sport to strain magnitude, velocity, or frequency</p> <p>E.g. basketball is high in all three characteristics, running is high frequency, gymnastics would be high magnitude, velocity etc. These all put stress on the bones that help with growth and maintenance.</p> <p>d) One sport/exercise and an appropriate recommendation has been given.</p> <p>Exercises will include low impact exercises such as yoga, cycling, swimming, water sports etc</p> <p>Appropriate recommendations will include combining sports such as adding running, weightlifting to your routine or cross-training</p>

## Skeletal System Quiz

### Model Answers

#### Task 1: Structure of the Skeletal System

a) Of the following synovial joints name the type of joint it is; and **all** of the main bones that make up each joint. Then circle all of the movement/s that each joint makes.

Type of joint - choose from: ball-and-socket, hinge, pivot, ellipsoidal

Joint	Wrist	Neck	Knee	Shoulder
Type	Ellipsoidal	Pivot	Hinge	Ball and Socket
Movement	Flexion, extension, adduction, abduction	Flexion, extension, rotation	Extension, flexion, rotation	Flexion, extension, adduction, abduction, rotation
Bones	Example: radius (you can't use this in your answer) Carpal bones, ulna Note: individual carpal bone names are acceptable if learners list them - Scaphoid, Lunate, Trapezium, Trapezoid, Capitate, Hamate, Triquetrum, Pisiform	C1 vertebrae C2 vertebrae	Femur, Tibia, Fibula, Patella	Scapula, Clavicle, Humerus

b) Name the five sections of the spine and explain the spine's main function.

The 5 sections of the spine are the Cervical – Thoracic – Lumbar – Sacrum – Coccyx.

The main function is to protect the spinal cord. Other functions include body structure and support.

## Task 2 – Function of the Skeletal System

- a) There are six main functions of the skeletal system. Complete the following table. A fully completed row has been provided as an example.

**Note:** tutor discretion applies as there are multiple answers possible for the type/names of bones column.

Function	Description	Type of bone OR name of individual bone that performs the function
Adipose/fat storage	Fat tissue is also stored within the bone in the bone marrow, which is additional energy storage and can be released when required to maintain physiological processes.	Pelvic bones
Blood cell production	Both red and white blood cells are formed in the bone marrow within bones.	pelvis, sternum, humerus, femur
Protection	Bone is the hardest substance in your body. It is used in many places to protect the vulnerable organs underneath from outside forces	Flat bones e.g. rib cage
Movement	Bones provide attachment points for ligaments and tendons. Muscles are attached to bones via tendons. The bones act as rigid levers for movement to occur.	Arm bones: humerus, radius, ulna
Storage of minerals	The bones store minerals such as calcium, iron, potassium and phosphorous and release them into the blood when the body needs to use them.	Pelvis, sternum, vertebrae and clavicle
Support	The skeleton provides a structural framework, like scaffolding, which provides a structure for our body	The vertebrae supports the torso and head

### Task 3 – Responses to training of the skeletal system

a) What is the key aspect of bones that we want to improve with our training?

See marking schedule above

b) Identify a health condition related to poor bone health, describe it, and outline at least three risk factors for developing it. (50-80 words)

Osteoporosis is a disease where new bone generation does not keep up with old bone removal. The bones become weak and brittle and more at risk of breaking. Three risk factors include being over the age of 50, being physically inactive and low levels of micronutrients such as calcium and vitamin D.

c)

See marking schedule above.

d)

See marking schedule above.

End of Quiz