

Welcome to the Sport team at Weymouth College!
We hope you are looking forward to studying with us.

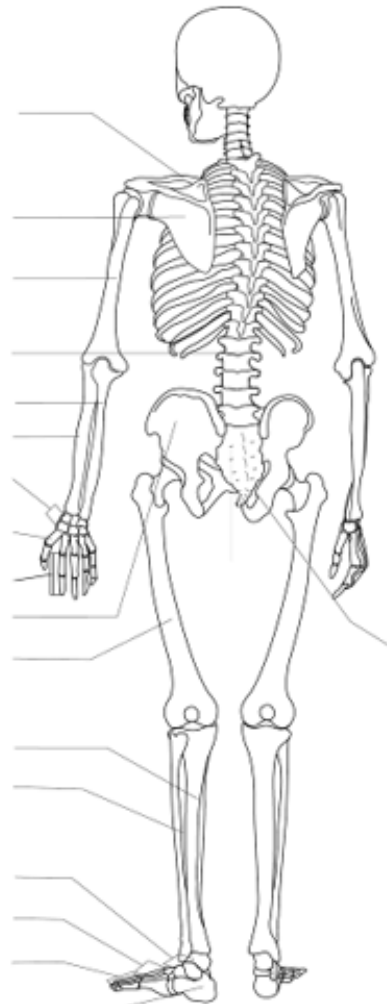
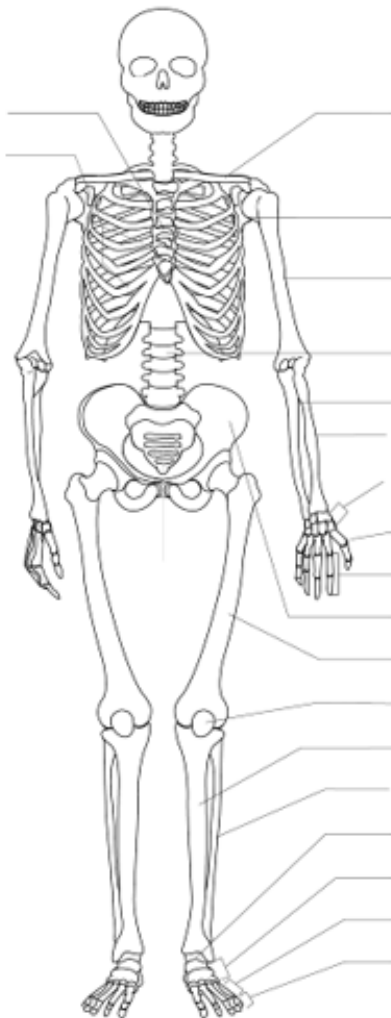


Task 1: Skeletal system

All of our Sport courses at Weymouth College involve the study of Anatomy and Physiology, this knowledge underpins many other topics studied throughout the course. Using the internet to help, label the diagram below by writing the name of the bone at the end of the leader lines. Research axial and appendicular skeleton. Select two different colours, one for the axial skeleton and one for the appendicular skeleton, and use them to colour the coding circles and the corresponding structures in the diagram. Make some notes under the skeleton describing the functions of the axial and appendicular skeleton.

Axial skeleton ○

Appendicular skeleton ○



Notes:

Task 2: Types of bones

Complete the table below on the different types of bones

Type of bone	Definition	Example
Short		
Long		
Irregular		
Flat		
Sesamoid		

Long bones are crucial for skeletal mobility. A long bone consists of a hollow cylindrical shaft, known as the diaphysis, that is formed of compact bone. The knobby ends of the bone are known as the epiphysis and formed of cancellous bone. Bones are the hardest connective tissue in the body, this is due to them acting as a store for calcium. As a result of regular exercise more calcium is deposited, increasing bone density. The bone matrix also contains collagen, which gives bone tissue a flexible strength, allowing it to cope with a certain amount of impact, for example from a tackle in rugby. Hard or compact bone makes up the outer layer, giving them strength. Cancellous, or spongy, bone is typically found at the ends of the long bones. It is not as dense as hard bone because it contains cavities filled with bone marrow.

Match the following terms with the correct definition:

Diaphysis epiphysis articular cartilage growth plate
 bone marrow Collagen calcium

Definition	Term
99% of the store of this mineral is found in bone- it keeps bone hard and strong	
The shaft of a long bone	
A connective tissue found in the spaces inside bone that is the site of blood cell production and fat storage	
A thin layer of a glassy-smooth substance that covers the end of long bones to prevent friction and wear and tear	
A fibrous protein with great strength that is the main component of bone	
The end portion of a long bone that flares out	
Also called the epiphyseal plate, this is the area of growing bone found in children and adolescents; it can be easily injured	

Task 3: Synovial Joints

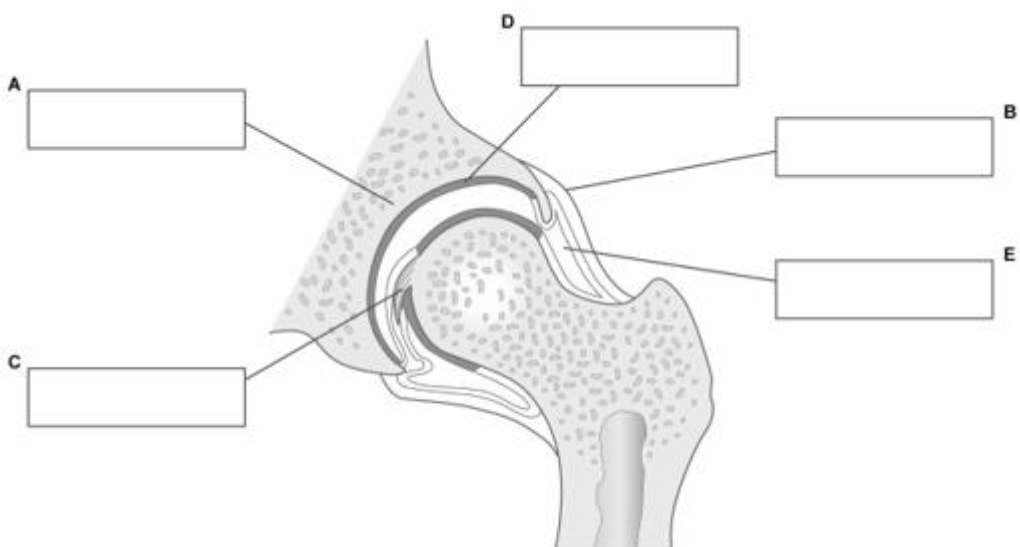
A synovial joint is a type of joint which allows a wide range of movement. There are six types of synovial joint that you will learn about on the course, for example ball and socket or hinge. Whilst each type of synovial joint is slightly different in structure they all have common features that help with stability and mobility.

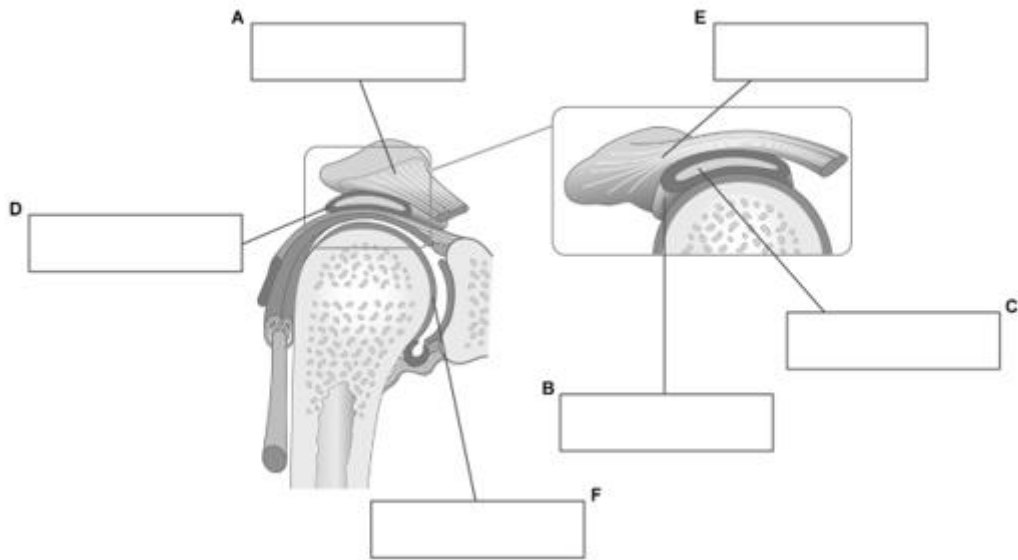
Using the following website <https://opentextbc.ca/anatomyandphysiology/chapter/9-4-synovial-joints/> (and any others you wish), complete the table below explaining each feature and its role/function. In the last column of the table place an S if it helps with stabilising the joint and an M if it helps with joint mobility/movement.

Feature	Explanation	Function	S/M
Joint capsule			
Articular cartilage			

Synovial fluid			
Synovial membrane			
Ligament			
Bursae			
Pads of fat			
Meniscus			

See if you can identify some of these features in the hip and shoulder joints below





Task 4: Nutrition

Write down everything you had to eat and drink on a day of your choice and record under the headings identified below. Be sure to record sufficient information on the different types of food, the portion size consumed and the cooking method used. Don't forget snack items either. This will be known as your 24-hour diet recall and you will make frequent reference to it throughout the activities undertaken in this unit.

Meal	Food
Breakfast	
Mid-morning	
Lunch	

Mid afternoon	
Evening	
Snacks	

Task 5: Nutrition Comparison

Eat like an athlete

<https://www.bbcgoodfood.com/howto/guide/eat-athlete-hub>

Tour de France- Cycling

<https://www.cyclingweekly.com/news/racing/tour-de-france/this-is-what-you-have-to-eat-to-compete-in-the-tour-de-france-182775>

James Haskell - Rugby

<http://www.jameshaskell.com/how-to-eat-like-a-rugby-player>

Using one of the above links or a source you have found yourself. Write a paragraph in the space below comparing your 24 hour diet recall to a selected professional athlete. Think about the following points.

- Calorie intake
- Protein / Carbohydrate / Fat intake
- Demands of the sport
- Source of the ingredients
- Hydration

Task 6 – Please present as a typed word document (hand written if no access to printer at home)

Athlete case study. In order to demonstrate your understanding of the broad and expansive subject of sport (and exercise science), please compile a case study of an athlete of your choice, which shows your understanding and ability to link to a sports performer the following areas:

Please include a **bibliography** at the end of your work – this is a list of all the sources where information has been obtained from e.g. specific websites/books/magazines/newspapers

Introduction – introduce the athlete you have chosen and outline why you have selected them to complete your case study.

- A) **Nutrition** – what type of nutrition/diet would your athlete consume and why? Consider calories and food types to complement their training.
- B) **Lifestyle** – what lifestyle choice would your athlete have to make in order to ensure their body is at peak performance for training and competition?
- C) **Injuries** – what injuries has your athlete had to overcome? What was the cause of the injury and recovery process? What are likely injuries to occur in the sport they compete in?
- D) **Physical** – discuss their physical make up and how it is suited/adapted to their sport, consider muscular system, cardiovascular, respiratory & energy systems how do these all impact on their sport?
- E) **Training** – Consider the variety and types of training the athlete would have to do, does this focus around certain competitions? E.g. Olympics?
- F) **Performance analysis** – provide an analysis on their performance, this could be from a one off performance or a summary perhaps of a 'season'.

***Where possible the use of images/graphs/tables can be used to support your case study.**

We look forward to welcoming you to Weymouth College!