



BTEC National Extended Certificate in Sport.
BTEC National Diploma in Sport



BTEC NATIONAL IN SPORT

Why study this subject?

- This is a Vocational qualification, equivalent in size to 1 A Level.
- This qualification is particularly appropriate for learners who are interested in Sport and progressing to a career in sport and physical activity development, either directly, or through higher education at University.
- There are 4 units of study - 3 are mandatory and there is 1 optional unit which internally set and externally verified.

What you will be studying

Year 12	Year 13
Unit 1: Anatomy and Physiology	Unit 2: Fitness training and programming for health sport and well-being.
Unit 3: Professional development in the sports industry	Unit 7: Practical Sports Performance

There are larger qualifications available;
Diploma – 2 A levels
Extended Diploma – 3 A levels

More flexibility = more interesting units =
higher attainment = more UCAS points

Diploma – 2 A levels

Mandatory units	3 Optional units
Unit 1: Anatomy and Physiology	Unit 5: Application of fitness testing
Unit 2: Fitness training and programming for health sport and well-being.	Unit 7: Practical Sports Performance
Unit 3: Professional development in the sports industry	Unit 25: Rules, regulations and officiating
Unit 4: Sports Leadership	Unit 26: Technical and tactical demands in Sport
Unit 22: Investigating business in Sport and Active leisure	Unit 18: Work experience in Active Leisure
Unit 23: Skill acquisition in Sport	Unit 8: Coaching for performers

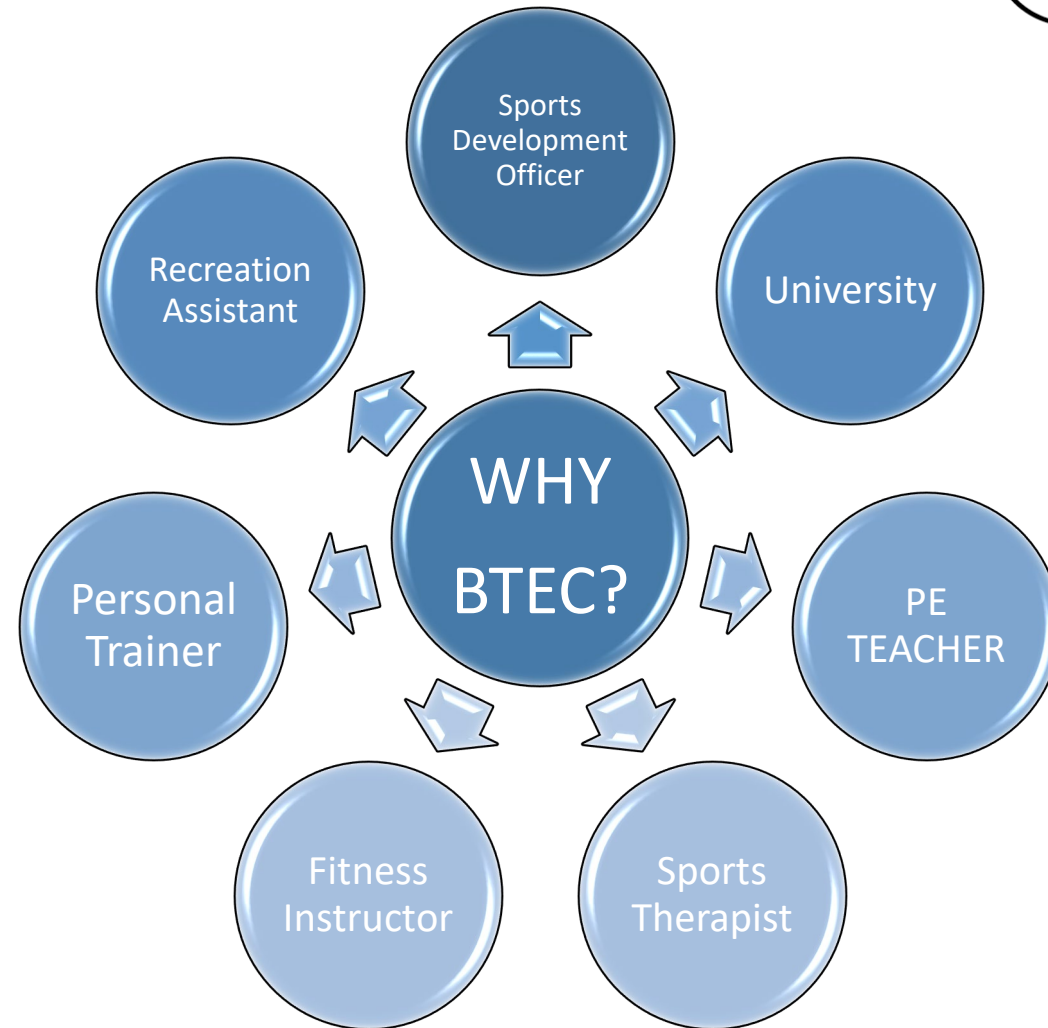
Assessment Methods

- Unit 1 – 1.5 hour exam
- Unit 2, 19 & 22 – externally set task in exam conditions and marked by Pearson
- All other units are assessed by assignments set by Pearson with a range of evidence, internally assessed and externally verified by Pearson.
- Entry requirements – 5 x grade 4 including Maths and English, particularly English as there is a lot of extended written work. BTEC Sport at level 2 is very useful.



Why BTEC?

- The BTEC National Extended Diploma in Sport is recognised by Universities so it can lead to study at Higher Education for entrance in to Sports Careers such as:





Anatomy and Physiology 1

Getting to know your unit

Assessment

This unit is assessed by an examination that is set and marked by Pearson.

To understand what happens during sport and exercise, you must know about body systems. This unit explains how the body is made up of a number of different systems, how these systems interact and work together, and why they are important to sports performance. You will:

- ▶ be introduced to the structures and functions of the five key systems and the effects that sport and exercise has on them
- ▶ investigate the structure and function of the skeletal and muscular systems and their role in causing movement in sport and exercise
- ▶ examine the structure and functions of the cardiovascular and respiratory systems
- ▶ understand why the heart works as it does and how it works with the lungs to allow sportspeople to cope with the demands of sport
- ▶ look at the three different energy systems and the sports in which they are predominantly used.

This is a mandatory unit and introduces knowledge that will link with all other units in the course.

How you will be assessed

This unit will be assessed by an examination set by Pearson. The examination will last 1 hour and 30 minutes and will contain a number of short answer and long answer questions. There will be a total of 90 marks available in the examination. You will be assessed for your understanding of the following topics in relations to sports performance:

- ▶ the skeletal system
- ▶ the muscular system
- ▶ the respiratory system
- ▶ the cardiovascular system
- ▶ the energy system.

During this examination you will need to show your knowledge and understanding of the interrelationships between these different body systems for sports performance.

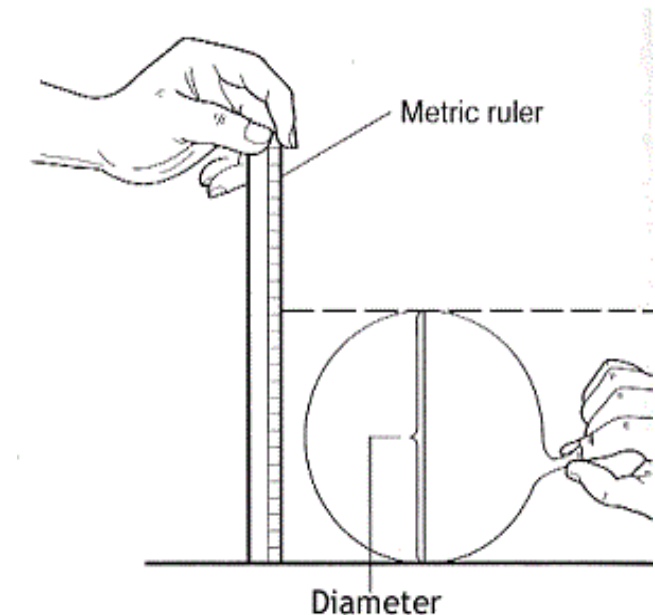
Measuring Lung Capacity

The amount of air that you move in and out of your lungs while breathing normally is called TIDAL VOLUME. This amount of air provides enough oxygen for a person who is resting.

It is possible to inhale and exhale more forcefully - the maximum amount of air moved in and out of the lungs is called the VITAL CAPACITY.

In this activity, you will be measuring the vital capacity and the tidal volume of your own lungs, this actual number can then be compared with a number derived from an equation that measures vital capacity. In effect, you are measuring an actual number, based on laboratory measurements, to a theoretical number, based on an equation. If you have any breathing difficulties (asthma or other condition), you should not participate in this activity, instead only take the data on your lab partner or group.

Balloon Method



Measuring Lung Capacity

How to Take Measurements with a Balloon

1. Measuring Tidal Volume -- Stretch a round balloon several times to stretch it out. Inhale normally and then exhale normally into the balloon. Do not force your breathing. Pinch the end of the balloon and measure its diameter. Repeat this so that you have 3 total measurements and can take the average and record in the data table.
2. Measuring Vital Capacity - Repeat the procedure, only this time inhale as much air as you can and exhale forcefully. Record three measurements in the data table.

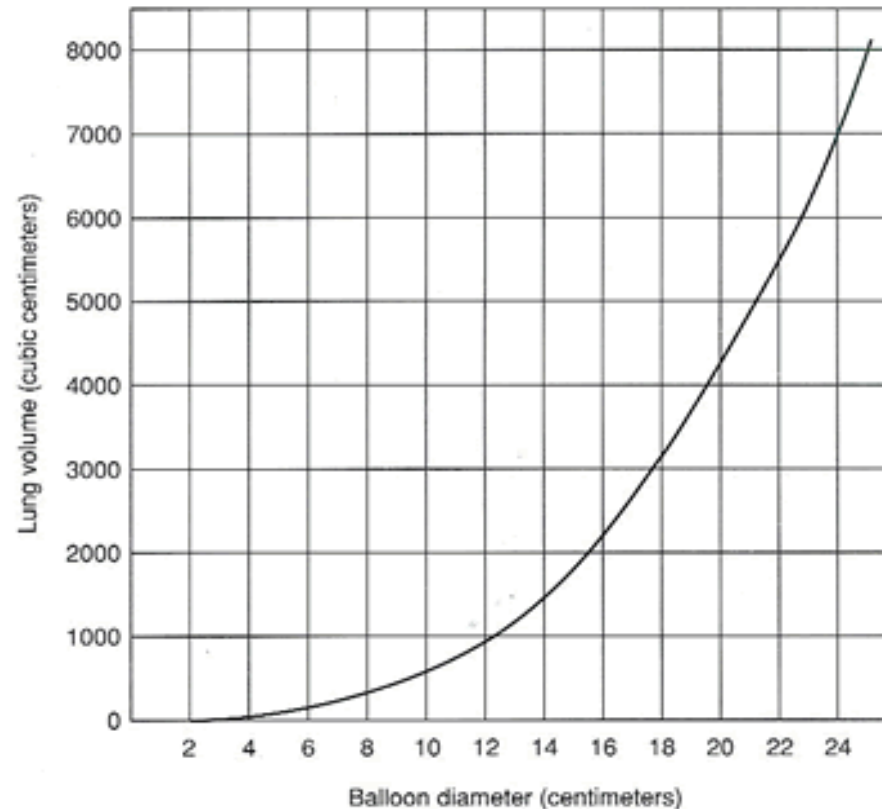
Measuring Lung Capacity

3. Convert the diameters to a volume using the graph and record this in your table.

Tidal volume and vital capacity

Tidal volume is the amount of air inspired or expired in a normal breath when the person is at rest. It is the amount of air the person can breathe in or out without forcing their breathing. On average this is 0.5 litres.

Vital capacity is the volume of air that can be inspired or expired per breath, including forced breathing. Vital capacity can be as much as 4.8 litres.



Tidal Volume – average person is 500ml – less than 3cm

Vital Capacity – average person 3 – 5 litres (3000 – 5000).

* 6.2+ elite swimmers

Exam Practice

Tidal volume and vital capacity

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(a) State the meaning of the term 'vital capacity'.

(1)

Answer	Mark
Award one mark for providing a definition of vital capacity. <ul style="list-style-type: none">• <u>Maximum</u> amount of <u>air</u> expired after <u>maximum</u> inhalation (1)	1
<u>Do not accept - oxygen/carbon dioxide.</u>	

Exam Practice

Shelly is a cross country runner. During a training run her tidal volume increases.

10 (a) Explain the effects an increased tidal volume would have on Shelly's cross country performance.

Answer	Mark
Award two marks for identifying the effects and two marks for linked expansion. More CO ₂ leaves the body (1) and more oxygen taken in (to the working muscles) (1). These maintain the intensity/speed of her running (1) and delay fatigue/enabling her to run a faster time (1) Accept any other appropriate answer.	4

(4)

The question is worth – 4 marks
What happens to tidal volume when exercising? Why do we need this to happen?

A photograph of a female gymnast in a white leotard with red and blue accents, performing a handstand on a pommel horse. She is in a split handstand position with her legs straight up and arms extended downwards. The background shows a blurred audience in a stadium.

Application of Fitness Testing 5

This unit explains the principles of fitness testing including factors affecting the selection and administration of tests, such as ensuring the validity, reliability and suitability of the tests.

You will explore a range of fitness tests and the administration process of each test. You will then consider the selection of appropriate tests for specific sports performers, demonstrating your ability to conduct a range of fitness tests in accordance with safety and ethical requirements.

Finally, you will evaluate and compare results to draw meaningful conclusions about a specific person's fitness.

Learning Aim B - Explore fitness tests for different components of fitness

- Prepare a presentation for the head coach that justifies the fitness tests that you have selected to carry out on your team or individual. This must include six appropriate tests to be carried out. This will allow your team leader to decide whether you have developed the necessary skills, and are fully prepared, to undertake the practical component of the fitness testing procedures.

How many tests do you know? Do you know what type of fitness they are testing for? Complete the blank sheet with a partner naming as many as you can.

Component of Fitness – Tests

Aerobic Endurance	Muscular Endurance	Strength	Flexibility	Body Composition	Speed	Co-ordination	Power	Agility	Reaction Time	Balance
Multi stage Fitness test	1 min press up test	Bench Press 1RM test	Sit and Reach	Skinfold caliper test	Sprint test – 20/30/40/50/60 m	Wall- toss test	Vertical jump test	Illinois Agility Run	Ruler drop test	Stork stand
12 Min Cooper Run	1 min sit up test	Grip Dynamometer	Shoulder Flex test	BIA – Bioelectrical impedance analysis			Standing long jump	T-Test		Beam walk
VO2 Max test	Wall sit test	7 Stage abdominal Test	Calf Muscle flexibility test	Body Mass Index - BMI			Margaria Kalamen test	Side Step test		
Harvard Step test			Trunk rotation test	Girth Measurements			Seated medicine ball throw			
Rockport Walk test							Cricket ball throw test			
							Wingate test			

TASK

On your circle map - choose six tests for your client and justify your choice on the outer circle.

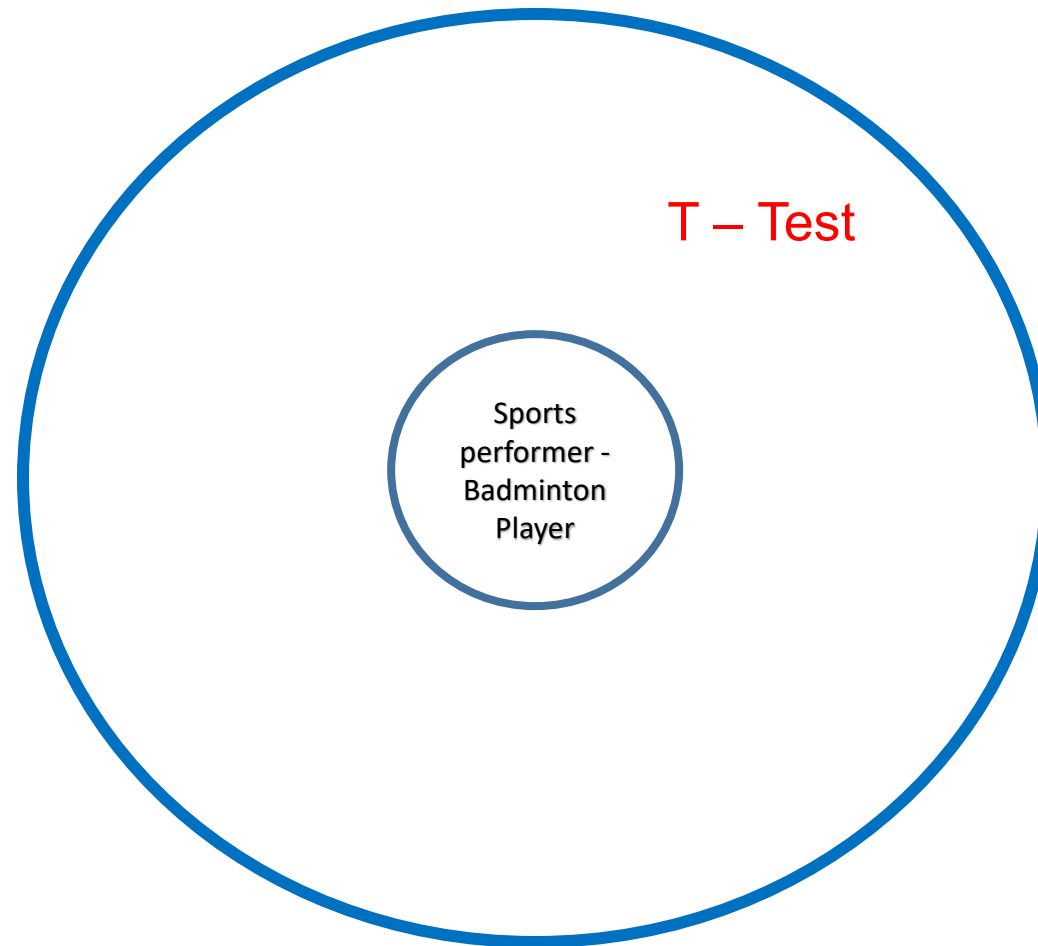
Pick 1 of the following sports performers as your client.

Midfielder in Football

Weightlifter

Badminton Player

Forward in Rugby (Hooker)



The T-Test focuses on agility, a badminton player needs to be able to play a shot and return to the middle 'T' of the court quickly so they are ready for the next shot

FOR – Justify why you have picked the test.