

Getting Started Guide



AS and A Level Physical Education

Pearson Edexcel Level 3 Advanced GCE in Physical Education (9PE0)

Pearson Edexcel Level 3 Advanced Subsidiary GCE in Physical Education (9PE0)

Getting Started: GCE Physical Education 2016

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1. Introduction

This "Getting Started guide" gives you an overview of the new GCE Physical Education qualification to help you to get to grips with the changes to content and assessment, and to help you understand what these changes mean for you and your students.

The new AS and A Level PE specifications have been developed for centres and students. We have listened to feedback from centres and worked with examiners, teachers, centres and in collaboration with higher education to provide a specification that explores all facets of Physical Education, - theory and practical, science and socio cultural-, and which provides a natural development from KS4 up to higher education and beyond.

The PE qualification has a **straightforward structure** with four engaging and up to date components, - i. Anatomy & physiology, ii. Exercise physiology, iii, Psychology & skill acquisition, iv, Sport and Society. In addition we have retained Practical / coursework assessment (Non Examined Assessment or NEA). All of which is assessed through a combination of externally examined papers and non-examined assessments. We hope that *"The new specification content encourages students to contextualise theory and to develop and apply their knowledge, understanding and quality of performances in practical assessments"*.

The **methods of assessment** will enable students to develop a multitude of skills, including numeracy, communication and an understanding of practical performances in order to support progression to the next level of study, and position candidates in order to access the growing number of physical education, sport and physical activity higher education programmes.

The AS and A Level specifications have been designed in order to **both compliment and build up on GCSE** learning, while also allowing students to begin their study of PE for the first time without feeling in any way handicapped.

The AS and A Level Physical Education course has been **designed to be co - teachable**, with the same topics at both AS and A Level providing flexibility for centres. At A Level students are required to study additional content within the topic areas to further enhance their knowledge. Please note that AS and A Level content will be assessed to a different standard, appropriate to the level of study.

The specification has been designed to **facilitate employment in the sport, leisure and tourism sector** – the knowledge, skills and understanding from this qualification positions candidates strongly for employment in a range of roles in this dynamic and growing employment sector.

This Getting Started guide provides an overview of the new AS and A level specifications, to help you get to grips with the changes to content and assessment, and to help you understand what these mean for you and your students.

We will be providing a package of support to help you plan and implement the new specification.

- **Course Planner** - We will give you an editable course planner and scheme of work that you can adapt to suit your department.
- **Mapping Documents** - Our mapping documents highlight key differences between your current GCE Physical Education specification and our new specification.

- **Teaching and learning:** There will be a range of free teaching and learning support to help you deliver the new qualifications, including; topic booklets, with in depth material about the topic and resource/further reading lists and guidance on teaching approaches to deliver the content in a practical way.
- **Preparing for exams and NEA:** We will also provide a range of resources to help you prepare your students for the assessments, including: levelled exemplars of student work with examiner commentaries for both the external and internal assessments. Sample Assessment Material (SAM) is already available that provides a realistic and clear guide as to how the theory element of the subject will be examined, with clarification of the different standards and expectations for AS and GCE
- **Tracking learner progress:** ResultsPlus provides the most detailed analysis available of your students' exam performance. It can help you identify the topics and skills where further learning would benefit your students.
- **Additional help and support:** Our subject advisor service, led by Penny Lewis, and online community will ensure you receive help and guidance from us and that you can share ideas and information with other teachers. You can sign up to receive e-updates from Penny Lewis to keep up to date with qualification updates and product and service news. To contact the PE and sport team, email TeachingPEandSport@pearson.com or phone UK: 0207 010 2188

2. What's changed?

2.1 How have AS and A level changed?

Changes to AS and A level qualifications

From September 2016, A level Physical Education (PE) will be a linear qualification. This means that all examinations must be sat and non-examination assessment (NEA) submitted at the end of the course. More information about the implications of the move to linear assessment is given on page **xx**.

From September 2016, AS level PE will be a stand-alone qualification. This means that it cannot be used to contribute towards an A level PE grade. More information about the relationship between AS and A level is given on page **xx**.

Changes to content requirements

The content requirements for AS and A level PE have been revised. All awarding organisations' specifications for AS and A level PE must meet these criteria.

- Applied anatomy and physiology, including Biomechanics
- Exercise physiology
- Applied movement analysis
- Physical training
- Use of data
- Sport psychology
- Skill acquisition
- Sport and society
- Practical performance (Performer or coach)
- Performance development, analysis and evaluation

Changes to Assessment Objectives

The AS and A level PE Assessment Objectives have been revised. The Assessment Objectives are the same for both AS and A level.

		AS level	A level
AO1	Demonstrate knowledge and understanding of the factors that underpin performance and involvement in physical activity and sport.	23%	23%
AO2	Apply knowledge and understanding of the factors that underpin performance and involvement in physical activity and sport.	23%	23%
AO3	Analyse and evaluate the factors that underpin performance and involvement in physical activity and sport.	24%	24%
AO4	Demonstrate and apply relevant skills and techniques in physical activity and sport Analyse and evaluate performance	30%	30%

The new AO4 focuses at the non-examined assessment separately. There are two strands to this assessment objective. The first strand focuses on practical performance and the second on performance development and analysis.

2.2 Changes to the specification

There are two theoretical components of the specification; components 1 & 2. These combine to make up 70% of the qualification. The remaining 30% comes from NEA which is split into components 3 & 4, each consisting of 15% of the overall specification.

Specification overview

Component	Assessment		Content overview
	<u>Advanced subsidiary</u>	<u>Advanced</u>	
Component 1: Scientific Principles of Physical Education	Written examination: 1 hour and 45 minutes Scored out of 90 marks and represents 40% of the	Written examination: 2 hour and 30 minutes Scored out of 140 marks and represents 40% of the	Topic 1: Applied anatomy and physiology Topic 2: Exercise physiology and applied movement analysis

	qualification.	qualification	
Component 2: Psychological and social principles of physical education	Written examination: 1 hour and 15 minutes Scored out of 60 marks and represents 30% of the qualification	Written examination: 2 hour and 30 minutes Scored out of 100 marks and represents 30% of the qualification.	Topic 3: Skill acquisition Topic 4: Sport psychology Topic 5: Sport and society
Component 3: Practical Performance	Non-examined assessment: internally marked and externally moderated. Scored out of 24 marks and represents 15% of the qualification	Non-examined assessment: internally marked and externally moderated Scored out of 40 marks and represents 15% of the qualification.	Skills performed in one Physical activity as a player/performer OR Skills performed in one physical activity as a coach
Component 4: Performance analysis and performance development programme.	Non-examined assessment: internally marked and externally moderated Performance analysis. Scored out of 24 marks and represents 15% of the qualification.	Non-examined assessment: internally marked and externally moderated Performance analysis and performance development programme. Scored out of 40 marks and represents 15% of the qualification.	AS and A level Performance Analysis, Within their chosen role students will investigate two components of a physical activity (one physiological component and either a technical or a tactical component) in order to analyse and evaluate the effectiveness of their own performance. A level only The Performance Development Programme (PDP) is designed to lead on from the student's Performance Analysis. The purpose of the PDP is to optimise the student's performance in the role of a player/performer or coach.

Coverage of all 4 components is required for both AS and full GCE, greater depth in some areas differentiates between AS and GCE.

All elements of the specification are compulsory, with the only choice of content being in component 3 where candidates decide to be assessed as a performer or as a coach.

Changes to specification content

Continuity with 2008 Edexcel Physical Education specification

2008 Edexcel specification	2016 Edexcel specification
<p>Unit 1. Participation in sport and recreation</p>	<p>Component 1: Scientific Principles of Physical Education</p>
<p>Section 1.1. Healthy & active lifestyles The development of active leisure and recreation. Healthy lifestyle Effects of exercise — responses and adaptations of the body system Fitness and training Fitness assessment</p>	<p>Topic 1: Applied anatomy and physiology</p> <p>Muscular skeletal system Cardio-respiratory system and cardiovascular Systems Neuro-muscular system Energy systems: fatigue and recovery</p> <p>Topic 2: Exercise physiology and applied movement analysis</p> <p>Diet and nutrition and their effect on physical activity and performance. Preparation and training methods in relation to maintaining and improving physical activity and performance. Injury prevention and the rehabilitation of injury Linear motion Angular motion Projectile motion Fluid mechanics</p>
<p>Section 1.2. Opportunities & pathways The development of competitive sport Performance pathways Lifelong involvement The long-term athlete</p>	<p>Component 2. Psychological and social principles of physical education.</p> <p>Topic 3: Skill acquisition</p> <p>Coach and performer The classification and transfer of skills Learning theories Practices Guidance Feedback Memory models</p> <p>Topic 4: Sport psychology</p> <p>Factors that can influence an individual in physical Activities Dynamics of a group/team and how</p>

	<p>they can influence the performance of an individual and/or team</p> <p>Goal setting Attribution theory Confidence and self-efficacy Leadership</p> <p>Topic 5: Sport and society The factors leading to the emergence and Development of modern day sport. Globalisation of sport. Commercialisation of sport. Ethics and deviance in sport. The relationship between sport and the media. Development routes from talent identification through to elite performance. Participation and health of the nation.</p>
<p>Unit 2. The critical sports performer</p> <p>2.1 Personal Performance 2.2 Local Study 2.3 National Study 2.4 Performance Analysis</p>	<p>Component 3: Practical Performance</p> <p>Personal performance</p>
<p>Unit 3. Preparation for optimum sports performance</p>	
<p>3.1 Short-term preparation</p> <p>Short-term physiological preparation Short-term physiological preparation Short-term psychological preparation Short-term technical preparation Fatigue and recovery</p>	
<p>3.2 Long-term preparation</p> <p>Long-term physiological preparation Long-term psychological preparation Long-term technical preparation</p>	
<p>3.3 Managing elite performance</p> <p>Centres of excellence Technical support</p>	
<p>Unit 4. The developing sports performer</p> <p>Task 4.1 (Development Plan) Task 4.2 (International Study) Task 4.3 (Progressive Participation) Task 4.4 (Life Plan)</p>	<p>Component 4: Performance analysis and performance development programme.</p> <p>Performance analysis Performance development programme</p>

Changes to assessment

Three key changes to the subject Assessment Objectives (AO):

- Practical performance and performance analysis and development planning have a designated AO

- Reduced emphasis on demonstration of knowledge and understanding (AO1), with a corresponding increase in emphasis on the ability to analyse and evaluate (AO4).

The combination of changes to the Assessment Objective's and additional subject content has resulted in the following key changes to assessment; further detail is given in the detailed assessment section below.

- Increased weighting of theoretical content (70%)
- Theoretical content assessed via two written examinations, (total assessment time increased to 5 hours)
- Reduced number of activities required for practical assessment (1)
- Reduced number of activities to select from for assessment
- Performance must be in the role of a player/performer or coach rather than official

3. Planning

3.1 Planning and delivering linear AS and A level courses

Both the AS and the A level qualifications are linear, with assessments taken at the end of the course. There will be no January assessment window. For A level, centres will need to decide whether they are delivering the A level on its own or co-teaching AS and A level students together, as this may impact on the approach to teaching in the first year.

Students may opt to be examined at the end of year 12 as an AS and then decide to carry on to A' Level, however all entry assessments for the A' Level will need to be sat at the end of the course, AS NEA cannot be resubmitted.

With a linear A level, consideration will need to be given to leaving sufficient time for revision in the second year, particularly to revisit topics studied in the first year. The structure of the course supports ongoing revision as students develop knowledge and understanding throughout.

3.2 Suggested resources

To support in the teaching and learning of the new specifications, we will provide a suggested resources list to capture a range of resources you may find useful. The list can be viewed in the topic guides and Physical Education page of the Edexcel website.

3.3 Co-teaching AS and A level

One of the first decisions centres will need to make is the approach to offering AS and A level.

It is important that centres realise that all four components need to be studied for both AS and A' Level. There is an increase in both breadth and depth for A' Level; there is additional material within each component that is not required for AS (identified in the specification in bold) and also the assessment level at A' Level is reflected of the expected increased academic maturity. Unlike the current specification, if candidates opt to sit examinations at the end of year 12 it does not count towards the full A' Level at all, all exams and all NEA to be sat / resubmitted again.

The benefits of a linear A level course include more flexibility in structuring the course, more time for teaching in the first year, greater student maturity when completing assessments and more opportunity for students to make links between different elements of the course. On the other hand, it means that all students must embark on a two-year course; any student who leaves the course after one year, for whatever reason, will leave with no qualification.

Centres wishing to offer the AS alongside the A level will need to decide whether they can run separate AS and A level classes, or whether AS and A level students will need to be taught in the same class. Co-teaching means that students may be able to delay their decision to take the full A level once they have experience of the subject content.

3.4 Delivery models

	Option 1	Option 2	Option 3	Option 4	Option 5
Enrolment	Only an A level course is offered:	Students enrol on either an AS course or an A level course, with no option to		Students enrol on either an AS course or an A level course, but can	

	no AS course available.	switch later on.		switch later on. OR All students enrol on an AS course and decide later whether to do the full A level.
Teaching	Only A level is taught.	AS and A level students are taught separately.	AS and A level students are taught in the same class.	AS & A' Level students are co-taught in the same class.
End of year 1	Internal exam on year 1 topics, using A level-style questions.	AS students sit AS exams. A level students sit an internal exam on year 1 topics, using A level-style questions.	Teaching finishes in time for revision for AS exams. All students sit AS exam. Students decide whether to continue to A level once they have their AS results.	Students confirm by the AS entry deadline whether they want to continue to A level. Only those not continuing sit the AS exam. All other students sit an internal exam, using A level-style questions.

Centres co-teaching the AS will deliver components 1 to 4 in the first year. The topics could be run in parallel or taught sequentially, depending on what is most appropriate for staffing and timetabling within each centre. Centres offering only the A level may also start with Topics 1 to 4 in the first year and then repeat with additional material in the second year, or alternatively components 1 & 3 be taught in year 1 with units 2 and 4 being added during year 2.

4. Content guidance

4.1 Component 1, Scientific Principles of Physical Education

40% of the qualification, written examination lasting 2 hours and 30 minutes, 140 marks.

Topic 1: Applied anatomy and physiology

70 marks

Overview

Students will understand the anatomical/structural and physiological / functional roles performed in the identified systems of the body. They will understand how the controlled stress of exercise will affect the systems and the way that the effect is measured. The topic will cover how different stresses / types of exercise will bring about both acute responses and chronic adaptations. The principles of Newton's Three Laws of Motion force, centre of mass and stability will also be covered and are essential to a student's understanding of how sporting technique and performance can be improved. Students will understand concepts of energy and how they relate to physical activity and sport

Topic 2: Exercise physiology and applied movement analysis

70 marks

Overview

Students will understand the importance of diet and nutrition pre, during and post physical activity. They will also study fatigue and recovery, which will build from their knowledge of energy systems in Topic 1: Applied anatomy and physiology. Students will gain an understanding of how to apply knowledge of energy systems and how to train, maintain and improve their performance. This includes an understanding of fitness components, methods of training and physiological adaptations. Students will also understand how to prevent and rehabilitate from injury. Students will be able to demonstrate an understanding of movement analysis through the use of examples to include linear motion, angular motion, projectile motion and fluid mechanics.

Assessment overview

- Students must answer all questions.
- The assessment comprises two sections:
 - o Section A - Applied anatomy and physiology
 - o Section B - Exercise physiology and applied movement analysis.
- The assessment consists of short answer, long answer and extended answer questions.
- Calculators can be used in the assessment.

4.2 Component 2; Psychological and social principles of physical education

30% of the qualification, written examination lasting 2 hours and 30 minutes, 100 marks.

Topic 3: Skill Acquisition

Overview

Students are required to show an understanding of the nature and development of skills in sport. This understanding could be enhanced and developed through applied practical experiences in the role of either coach and / or performer. Students should have an awareness of the relevant learning theories and how they relate to skill development. At A Level, students will develop a detailed appreciation of the role of memory systems in the acquisition of skill. Students are expected to be able to relate knowledge of practices, feedback and guidance to practical performance situations. Students should be able to understand how quantitative data can be generated in appropriate areas of skill acquisition and be able to produce and evaluate the meaning of such data.

Topic 4: Sports psychology

(Topic 3 & 4 have a combined allocation of 50 marks)

Overview

Students will have an understanding of the role that sports psychology has in facilitating optimal sporting performance of an individual athlete, sports teams and individuals in the teams. Students will understand the different psychological views, theories and perspectives, as indicated in the specification, and be able to apply this understanding by way of explanation and analysis to behaviours that ultimately affect sporting performance. Central to this topic will be the ongoing debate offering explanations between either nature or nurture or the interaction of both. Students will look at the theories and then apply the different interpretation of each to the different situations and scenarios identified. They will be able to demonstrate both support for, and challenge to a given theory or perspective and provide sporting examples to support this view.

Topic 5: Sport and society

50 marks

Overview

Students will understand the dynamic relationship between sport and society. They will understand the parallels between societal changes and sport and will utilise this knowledge and understanding to consider historical and contemporary events and trends and potential future developments. Students will understand how, as society developed and became increasingly commercial and political, these phenomena were reflected in sport. Students will understand the context of varying ethics including pressures on performers to behave in a deviant manner and consider a range of factors that influence deviance and the response of national and international organisations. Students will understand the relationship between media and sport and the role of social media.

Assessment overview

- Students must answer all questions.
- The assessment comprises two sections
 - o Section A . Skill acquisition and sport psychology
 - o Section B. Sport and society
- The assessment is out of 100 marks.
- The assessment consists of short answer, long answer and extended answer questions.

4.3 Component 3 Practical performance.

15% of the qualification, centre assessed and externally moderated

Overview

Students will be required to perform in one physical activity, in the role of either player/performer or coach. They will be required to demonstrate their skills while under pressure, in conditioned practice and a formal/competitive situation. Students must choose and perform one physical activity from the set list shown in the specification. Students should be taught to make relevant and appropriate links between their learning in Components 1 and 2 and use this to benefit their performances in the physical activities. Students are required to demonstrate their ability to:

- perform a range of skills and techniques in physical activity
- make decisions, implement strategies, tactics and/or compositional ideas, and apply knowledge and understanding of rules and regulations while performing physical activity
- apply knowledge and understanding of theories, concepts, principles and methods to physical activity and performance

Assessment overview

- First assessment: May/ June 2018.
- The assessment is out of 40 marks
- Marks must be submitted at the end of the course.
- The assessment will be internally marked by the centre and externally moderated by Pearson
- The assessment consists of students completing one physical activity from the set list shown in the specification and in the Practical Performance Assessment Guide.
- Students can be assessed in either the role of player/performer or coach.
- There is separate assessment criteria for each physical activity.
- Centres must ensure that marks for each performance submitted are valid for the series in which they are submitted

4.4 Component 4 Performance analysis and performance development programme.

15% of the qualification, centre assessed and externally moderated

Performance Analysis Overview

In the Performance Analysis, in either the role of player / performer or coach, students will investigate two components of a physical activity (one physiological component and either a technical or a tactical component) in order to analyse and evaluate the

effectiveness of their own performance. Students will demonstrate knowledge and understanding of performance analysis in order to produce an evaluation to demonstrate strengths and weaknesses and areas for development of a performance

Performance Development Programme Overview (PDP)

The PDP is designed to lead on from the student's Performance Analysis. The purpose of the PDP is to optimise the student's performance in the role of a player/performer or coach.

Player/performer

As a player/performer, students will identify one of the two components of a physical activity they worked on in their Performance Analysis (physiological, technical or tactical). They will then plan, perform and record their performance in this component (physiological, technical or tactical) of the physical activity over 8 – 10 weeks. They will apply appropriate principles and methods of training and SMART(ER) targets to a plan designed to optimise performance. They will then critically evaluate the outcomes of their programme against its original aims.

Coach

As a coach, students will identify one of the two components of a physical activity they worked on in their Performance Analysis (physiological, technical or tactical). They will then plan, perform and record their coaching performance in this component of the physical activity, with the involvement of the individual or group they are coaching, over 8 – 10 weeks. Through the delivery of a coaching programme the student will demonstrate enhanced knowledge and application of coaching principles and theory. They will then critically evaluate the outcomes of their programme against its original aims.

Assessment overview

- First assessment: May / June 2018.
- The assessment will be internally marked by the centre and externally moderated.
- The assessment consists of 40 marks.
- Marks must be submitted at the end of the course prior to moderation
- The assessment consists of students producing a Performance Analysis and then developing a Performance Development Programme.
- Students can be assessed in either the role of player/performer or coach.
- There is separate assessment criteria for the Performance Analysis and the Performance Development Programme.
- Students are assessed only on their analysis and evaluation of the Performance Analysis and PDP
- They are not assessed on whether or not any improvement occurs in their performance.

5. Assessment guidance

5.1 Question types

A range of question types has been used across the AS and A level Physical Education assessments. The question types reflect the skills students should demonstrate both in terms of the questions themselves and in the way the associated mark schemes are constructed. The question types reflect not only the content being assessed but also the skills associated with psychology.

The different question types utilised are as follow.

The assessments comprise short answer and extended open response questions. Short answer response questions have been used to assess both discrete knowledge and understanding of physical education concepts (AO1) as well as the application of these concepts to a particular context (AO2). Questions assessing AO1 target lower-order skills. Short answer questions also allow for the development of student responses, requiring students to make connections and show a logical chain of reasoning and therefore access higher-order cognitive skills and demand (AO3). Extended open response questions have been used to assess across the breadth of assessment objectives.

5.2 Command word taxonomy

Taxonomy has also been defined and will be applied consistently to ensure students are rewarded for demonstrating the necessary skills. Careful consideration has been given to the taxonomies associated to particular question types, to ensure that assessment objectives are targeted consistently across questions. Please note: The list below does not necessarily have to be used in every paper/session and is provided for guidance only.

One of the key changes is that a single command word will be used per item moving forward; dual injunctions e.g. describe and evaluate, will no longer be used

Command words	Definition
Assess	An account of something with the relative importance of ideas balanced against each other and an evaluative statement.
Analyse	Examine something methodically and in detail, typically in order to explain and interpret it.
Calculate	Obtain a numerical answer, showing relevant working. If the answer has a unit, this must be included.
Classify	Group or place on a scale
Compare	Explore similarities and differences between two or more factors
Consider	Analysis of a stimulus to make a judgement
Define	Statement of translation
Describe	An account of something without reasons.
Discuss	Explore issues, lines of reasoning and situations, articulating different viewpoints
Examine	Justification or exemplification of a point using analysis or evaluation.
Explain	How and why, the meaning of something with reasons.
Evaluate	Use analysis to make a judgement.

Give	The recall of a fact or an example.
Identify	Establish or indicate who or what someone or something is.
Interpret	Explain the meaning of something with reference to a stimulus.
Justify	Articulate a viewpoint with reasons.
List	The recall of a series of names or things.
Name	The recall of a word or set of words by which someone or something is known.
Outline	A brief outline of non - linked points.
State	The recall of a fact or an example
Suggest	Analysis and evaluation of a data based stimulus.
Summarise	Express the most important facts or ideas about something.
Using an example	Often used with explain or describe where it requires an example to Exemplify the point(s) being made

5.3 Examination Paper Structure

The AS and A'Level papers will follow a similar structure, - although mark allocation and time allocation for each paper will be less for the AS papers, as indicated in The Specification Overview in section 2.2.

Component 1 (Scientific Principles of Physical Education) is examined in one paper that is split equally into two sections. Each section is marked out of 70 marks. In both sections students should answer all questions and in both sections questions will be made up from a variety of the command words from the Taxonomy above, with structured questions eventually giving way to an essay question at the end of each section. This essay question is worth 15 marks (12 for the AS level essay).

Component 2. (Psychological and Social Principles of Physical Education) is also examined in one paper that is split into two sections. The two sections are; two sections: Section A – Skill acquisition and sport psychology and Section B – Sport and society.

Both sections are marked out of 50, with the last two questions in each section being 15 mark essay questions.

5.3 Sample examination style questions and mark schemes

AS Component 1: Scientific Principles of Physical Education

1. (a) Define the term *pressure gradient*. (1)
- (b) Examine how the body uses pressure gradients in order to facilitate inspiration and expiration. (6)

Question number	Acceptable answer	Mark
1(a)	A pressure gradient is when there is a difference in neighbouring or adjoining pressures (1).	(1)

Question number	Indicative content	
1(b)	<p>AO1 = 3 marks, AO3 = 3 marks</p> <ul style="list-style-type: none"> • The primary respiratory muscles contract (AO1). • The intercostals pull the ribs up and outwards and the diaphragm flattens the floor of the rib cage (AO3). • This leads to an increased thoracic space, which creates a low pressure within the lungs (AO3). • A pressure gradient now exists between the low lung/pulmonary pressure and high atmospheric pressure (AO1). • This leads to air travelling from the high-pressure area to the low-pressure area, allowing inspiration to take place (AO3). • Air will continue to flow into the lungs until the pressures between the two areas are equalled or no gradient exists (AO3). • The elastic recoil of the primary respiratory muscles/diaphragm and intercostals muscles pulls them back into place, reducing the size of the thoracic cavity and increasing the pressure in the cavity (AO1). • This means that a pressure gradient exists with high lung/pulmonary pressure and relatively low atmospheric pressure (AO3). • Air moves along the gradient, from high to low and so leaves the body. Expiration is now complete (AO3). <p>Students who only show achievement against AO1 will not be able to gain marks beyond level 1.</p>	
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–2	<ul style="list-style-type: none"> • Some accurate and relevant knowledge (AO1). • Simple or generalised statements supported by limited evidence (AO1). • Limited balancing of ideas against each other (AO3). • Limited evaluative statement (AO3).
Level	Mark	Descriptor
Level 2	3–4	<ul style="list-style-type: none"> • A good level of accurate and relevant knowledge (AO1). • A line of reasoning is presented and supported by some evidence (AO1). • Examines a wide range of ideas, balancing ideas against each other (AO3). • An evaluative statement which is relevant (AO3).
Level 3	5–6	<ul style="list-style-type: none"> • A high level of accurate and relevant knowledge (AO1). • Articulates a clear viewpoint with clarity and precision which is well substantiated (AO1). • Critically examines a wide range of issues balancing ideas against each other (AO3). • Clear evaluative statement which is thorough and focussed (AO3).

2. Analyse how the characteristics of the different skeletal muscle fibres help contribute to success in different sports. (12)

Question number	Acceptable answer								
8	<p>Indicative content Skeletal muscle fibre characteristics</p> <table border="1" data-bbox="427 488 1482 1093"> <thead> <tr> <th data-bbox="427 488 810 582">Slow twitch (Type 1) (All AO2)</th> <th data-bbox="815 488 1075 582">FOG (IIa) (All AO2)</th> <th data-bbox="1080 488 1482 582">FTG (IIx) formerly known as IIb (All AO2)</th> </tr> </thead> <tbody> <tr> <td data-bbox="427 589 810 1093"> <ul style="list-style-type: none"> Thin in diameter Lots of capillaries Lots of myoglobin Big/dense mitochondria Better suited to using oxygen Resistant to fatigue Slower rate of force production Able to maintain force production for long time </td> <td data-bbox="815 589 1075 1093"> <ul style="list-style-type: none"> For all the characteristics of the other fibres, Type IIa fibres fall between the extremes of Type 1 and Type IIx </td> <td data-bbox="1080 589 1482 1093"> <ul style="list-style-type: none"> Wide in diameter Few capillaries Few myoglobin Small/less dense mitochondria High levels of ATP & PC stores Larger stores of muscle glycogen Rapid rate of force production Only able to produce force for short periods of time High fatigability </td> </tr> </tbody> </table> <ul style="list-style-type: none"> The characteristics of the different fibres should be related to the demands of the student's identified sports (AO3). Type 1 fibres are most suited to endurance-based sports such as marathon running, endurance cycling or other appropriate example(s) because of their ability to use oxygen and produce force for long periods of time (AO3). Type IIx fibres are most suited to short-duration, high-intensity activities such as 100 m sprint, long jump or other appropriate examples because of their ability to exert rapid force (AO3). Type IIa fibres are most suited to intermittent sports such as team games, tennis or other suitable examples because of their ability to use oxygen without fatigue and produce force at high rates when required (AO3). <p>All points should be supported by accurate examples from different sports.</p>			Slow twitch (Type 1) (All AO2)	FOG (IIa) (All AO2)	FTG (IIx) formerly known as IIb (All AO2)	<ul style="list-style-type: none"> Thin in diameter Lots of capillaries Lots of myoglobin Big/dense mitochondria Better suited to using oxygen Resistant to fatigue Slower rate of force production Able to maintain force production for long time 	<ul style="list-style-type: none"> For all the characteristics of the other fibres, Type IIa fibres fall between the extremes of Type 1 and Type IIx 	<ul style="list-style-type: none"> Wide in diameter Few capillaries Few myoglobin Small/less dense mitochondria High levels of ATP & PC stores Larger stores of muscle glycogen Rapid rate of force production Only able to produce force for short periods of time High fatigability
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Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	<ul style="list-style-type: none"> There are limited links between theory and practice. Limited technical language supports isolated elements of knowledge and understanding (AO2). Limited analysis of the factors that underpin performance and

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		<p>involvement in physical activity and sport (AO3).</p> <ul style="list-style-type: none">• Analysis is not used to make a judgement (AO3).
Level 2	4-6	<ul style="list-style-type: none">• Makes few links between theory and practice. Basic technical language supports some elements of knowledge and understanding (AO2).• Attempts some analysis of the factors that underpin performance and involvement in physical activity and sport (AO3).• Analysis may not be used to make a clear judgement (AO3).
Level 3	7-9	<ul style="list-style-type: none">• Makes some links between theory and practice. Some appropriate technical language supports a good knowledge and understanding (AO2).• Good analysis of the factors that underpin performance and involvement in physical activity and sport (AO3).• Uses analysis to make a judgement but without full substantiation (AO3).
Level 4	10-12	<ul style="list-style-type: none">• Makes strong links between theory and practice. Appropriate technical language supports a very good knowledge and understanding (AO2).• Comprehensive analysis of the factors that underpin performance and involvement in physical activity and sport (AO3).• Uses analysis to make a clear judgement and supports this with examples (AO3).

AS Component 2: Psychological and Social Principles of Physical Education

1. Explain **three** ways in which a coach might use positive reinforcement to develop sporting performance using the Stimulus Response (SR) bond.(6)

Question number	Acceptable answer	Additional guidance	Mark
1	<p>Stimulus</p> <p>Verbal praise for correct response/encouraging the repetition of the desired response (1). Tangible reward for correct response (1). Use observational learning – vicarious experiences – to stimulate positive performances (1).</p> <p>Other appropriate examples are acceptable.</p> <p>Response</p> <p>Develop positive emotions to associate with desired response (1). Video training/competition to highlight best performances (1). Goal setting to increase desire to achieve best performances through a structured timeline (1).</p> <p>Other appropriate examples are acceptable.</p>	<p>Two marks will be awarded per explanation: one mark for the stimulus linked to one mark for the response.</p> <p>The same 'response' cannot be used for different stimuli.</p>	(6)

2. Under-arousal can lead to a poor performance.

Discuss the approaches an athlete could take to increase their level of arousal to optimal levels. (12)

Question number	Indicative content
2	<p>AO1 = 4, AO3 = 8 marks</p> <p>Approaches that will increase an athlete's levels of arousal:</p> <ul style="list-style-type: none"> • set your own (shared) goals that are achievable goals (AO3) • use imagery before an event (AO3) • use positive talk, both in preparation and in competition (AO3) • use music prior to a competition to help maintain focus by controlling negative thoughts (AO3) • coach or captain giving a team talk (AO3) • singing the national anthem (AO1) • performing a pre-event ritual (e.g. the Haka) (AO1). <p>Other appropriate examples are acceptable.</p> <p>Students who only show achievement against AO1 will not be able to gain</p>

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	marks beyond level 1.	
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	<ul style="list-style-type: none"> Limited understanding of the factors that underpin performance and involvement in physical activity and sport. This is communicated in a basic way with simple or generalised statements (AO1). Limited analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). Analysis is not used to make a judgement (AO3).
Level 2	4-6	<ul style="list-style-type: none"> Attempts some understanding of the factors that underpin performance and involvement in physical activity and sport and expresses ideas with some clarity (AO1). Attempts some analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). Analysis may not be used to make a clear judgement (AO3).
Level 3	7-9	<ul style="list-style-type: none"> Evidence of some understanding of the factors that underpin performance and involvement in physical activity and sport. Communicated in a logical writing structure (AO1). Good analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). Uses analysis to make a judgement but without full substantiation (AO3).
Level 4	10-12	<ul style="list-style-type: none"> Comprehensive understanding of the factors that underpin performance and involvement in physical activity and sport. Communicated in a logical, clear writing structure (AO1) Comprehensive analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). Uses analysis to make a clear judgement and supports this with examples (AO3).

1. Justify why governments are keen to promote a culture of mass participation in sport and physical activity. (8)

3	<p>AO1 = 4 marks, AO3 = 4 marks</p> <ul style="list-style-type: none"> Physically healthier population means less money spent on health service (AO3). Mentally healthier population means less cost to the health service, improving mental and social wellbeing (AO3). Healthier populations so companies do not lose money on days off (AO3). Improved national unity/community spirit inspires population (AO1). Larger base to pyramid so more opportunities for talent identification (AO1). Reduction in crime and social control due to cathartic nature of sport (AO3). People busier so less free time for antisocial behaviour (AO1). Breaking down of social and racial barriers means a more integrated society (AO3). Consumer spending/VAT on leisure activities gives money back to the government (AO1). Healthier population can mean fewer people on sickness benefits (AO3). <p>Students who only show achievement against AO1 will not be able to gain marks beyond level 1.</p>
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A `Level. Component 1: Scientific Principles of Physical Education

1. During intense racing, an endurance swimmer will require a greater volume of air per breath than when at rest.
 Explain how the swimmer achieves a greater volume of air per breath during a race. (6)

Question number	Acceptable answer	Additional guidance	Mark
1	<p>A linked explanation which makes reference to any of the following points (up to a maximum of six marks). Air flow will always travel down the pressure gradient, from a high- to a low-pressure area (1).</p> <p>Blood flowing into the alveoli is venous blood – relatively high in CO₂ but low in O₂ (1); during intense efforts there is need for a greater diffusion and so a bigger gradient is required (1), which is created by increased depth of breathing (1).</p> <p>When the alveoli are filled with air after inspiration, that air will be high in O₂ and lower in CO₂ (1), which creates pressure gradients for both gasses/oxygen and carbon dioxide, but in the opposite directions (1).</p> <p>For O₂ the pressure is high in the alveoli and low in the blood (1) so the gradient runs from the alveoli to the blood (1).</p> <p>For CO₂ the pressure is high in the blood and low in the alveoli (1) so the gradient runs from the blood and the alveoli (1).</p>	A maximum of 2 marks for non-linked statements.	(6)

- 2 (a) Explain how **three** of the structural characteristics of slow twitch muscle fibres enable the fibres to be better suited to endurance activities. (6)

Question number	Acceptable answer	Additional guidance	Mark
2(a)	<p>Any three of the following linked responses.</p> <p>Thin in diameter (1) – short diffusion distance/less body mass to be carried (1). Large numbers of capillaries (1) – facilitates oxygenated blood delivery/removal of waste/slows blood flow through the muscle, allowing more time for gas exchange (1). Large amount of myoglobin (1) – oxygen reserve/transportation of oxygen from blood to mitochondria (1). Large and numerous mitochondria (1) – facilitates high</p>	A maximum of 2 marks for non-linked statements.	(6)

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	capacity to use oxygen/large amount of ATP produced (1).		
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2 (b) Structural responses provide functional benefits.

Explain how **four** structural responses experienced during a warm up would lead to functional improvements in a performance. (8)

Question number	Acceptable answer		Additional guidance	Mark
2(b)	<p>One mark awarded for any of the following points up to a maximum of four marks (knowledge in isolation).</p> <p>Vaso constriction means that blood vessels in non-working body parts become smaller (1).</p> <p>Vaso dilation means that blood vessels in working body parts become bigger (1).</p> <p>Decreased muscle viscosity increases muscle elasticity and functional strength (1).</p> <p>Increased production of Synovial fluid provides easier movement at a joint (1).</p> <p>Vaso dilation and vaso constriction together allow vascular shunting to take place (1).</p>	<p>One mark awarded for any of the following points up to a maximum of four marks (linked reasoning).</p> <p>This limits the blood volume within the blood vessels (1).</p> <p>This enables the blood vessels to accept more blood (1).</p> <p>This reduces the risk of injury and increases the performance of the muscle (1).</p> <p>This increases the range of movement/flexibility (1).</p> <p>This results in the delivery of oxygen to where it is most needed (1)</p>	<p>Any other appropriate structural response linked to performance.</p> <p>A maximum of 2 marks for non-linked statements.</p>	(8)

3. Analyse whether interval training is a valid method of training for an elite marathon Runner. (15)

Question number	Indicative content
3	<p>AO2 = 5 marks, AO3 = 10 marks</p> <ul style="list-style-type: none"> Discussion centred around the suitability or not of interval training for an elite marathon runner (AO3). <p>Argument against using interval training/reasons why it is not valid</p> <ul style="list-style-type: none"> Marathon running is traditionally an endurance-based event (AO2). Interval training is 'traditionally' associated with high-intensity and short

		<p>duration activities, even maximum intensity (AO2).</p> <ul style="list-style-type: none"> • Marathon runners would rarely work at maximum intensity (AO2). • Continuous and Fartlek would be more traditional methods of training for a marathon (AO2). <p>Argument in favour of using interval training/reasons why it is valid</p> <ul style="list-style-type: none"> • Interval training is very adaptable (AO3). • The work and the rest periods can be manipulated in order to achieve the desired outcome (AO3). • Interval training is used to enable an athlete to work at a higher than normal intensity, but this can be adapted for a marathon runner (AO3). • A marathon is a race and a measure of speed, and an elite athlete will want to run faster and win the race (AO3). • To improve speed the athlete needs to overload and interval training facilitates this (AO3). • Long intervals of up to 20 minutes performed in sets of three are a good way to improve functional threshold (AO3).
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-3	<ul style="list-style-type: none"> • There are limited links between theory and practice. Limited technical language supports isolated elements of knowledge and understanding (AO2). • Limited analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). • Analysis is not used to make a judgement (AO3).
Level 2	4-6	<ul style="list-style-type: none"> • Makes few links between theory and practice. Basic technical language supports some elements of knowledge and understanding (AO2). • Attempts some analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). • Analysis may not be used to make a clear judgement (AO3).
Level 3	7-9	<ul style="list-style-type: none"> • Makes some links between theory and practice. Some appropriate technical language supports a good knowledge and understanding (AO2). • Good analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). • Uses analysis to make a judgement but without full substantiation (AO3).
Level 4	10-12	<ul style="list-style-type: none"> • Makes strong links between theory and practice. Appropriate technical language supports a very good knowledge and understanding (AO2). • Comprehensive analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). • Uses analysis to make a clear judgement and supports this with examples (AO3).
Level 5	13-15	<ul style="list-style-type: none"> • Makes many insightful and significant links between theory and practice. Appropriate technical language supports a significant level of knowledge and understanding (AO2). • Sophisticated analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). • Uses analysis to make a fully informed judgement and supports this with examples (AO3).

A 'Level Component 2: Psychological and Social Principles of Physical Education.

1. A generally non-aggressive person displays aggressive tendencies when playing competitive sport.
Using examples, explain the view expressed by Social Learning Theorists in relation to aggressive behaviour in sport. (6)

Question number	Acceptable answer	Additional guidance	Mark
1	<p>A linked explanation which makes reference to any of the following points (up to a maximum of six marks).</p> <p>Social learning theory is based on the view that our behaviour is related to our experiences (1). These experiences can be from personal experience (1), e.g. if we acted aggressively in a sporting confrontation then we were more likely to get our own way (1). They can be from vicarious modelling (1), e.g. seeing how a professional performer used intimidation of an official to influence the decision (1). They can be a result of verbal persuasion from a coach or significant other (1), e.g. being told that the referee is more likely to give you the decision if you challenge their earlier decisions aggressively (1).</p>	A maximum of 2 marks for non-linked statements.	(6)

2. Feedback is used by coaches to develop sports skills.
Discuss how different types of feedback benefit from the use of technology. (15)

Question number	Indicative content
2	<p>AO1 = 5 marks, AO3 = 10 marks</p> <p>Types of feedback (AO1):</p> <ul style="list-style-type: none"> • knowledge of performance • knowledge of results • extrinsic/augmented • intrinsic • terminal • concurrent • positive • negative • brief • detailed. <p>Examples of relevant technology (AO1):</p> <ul style="list-style-type: none"> • laser guidance • Prozone

	<ul style="list-style-type: none"> • dartfish • heart rate monitors • GPS • smartphone apps. <p>Examples of applied technology (AO3):</p> <ul style="list-style-type: none"> • Concurrent - heart rate monitors allow performer to maintain running pace. • Terminal - performers review heart rate during a training performance to access time spent in a training zone/critical threshold. • Prozone used by Queens Park Rangers to provide data on knowledge of performance • laser technology used by shooter, Robert Foth, to give concurrent feedback while aiming. <p>Each type of feedback should be supported by an example of relevant technology and how it is used by coaches to develop sports skills (AO3).</p> <p>Other appropriate examples of applied technology are acceptable. Students who only show achievement against AO1 will not be able to gain marks beyond level 1.</p>	
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	<ul style="list-style-type: none"> • Limited understanding of the factors that underpin performance and involvement in physical activity and sport. This is communicated in a basic way with simple or generalised statements (AO1). • Limited analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). • Analysis is not used to make a judgement (AO3).
Level 2	4–6	<ul style="list-style-type: none"> • Attempts some understanding of the factors that underpin performance and involvement in physical activity and sport and expresses ideas with some clarity (AO1). • Attempts some analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). • Analysis may not be used to make a clear judgement (AO3).
Level 3	7–9	<ul style="list-style-type: none"> • Evidence of some understanding of the factors that underpin performance and involvement in physical activity and sport. Communicated in a logical writing structure (AO1). • Good analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). • Uses analysis to make a judgement but without full substantiation (AO3).
Level 4	10–12	<ul style="list-style-type: none"> • Very good understanding of the factors that underpin performance and involvement in physical activity and sport. Communicated in a logical, clear writing structure (AO1). • Very good analysis of the factors that underpin performance and involvement in physical activity and sport (AO3). • Uses analysis to make a clear judgement and supports this with examples (AO3).
Level 5	13–15	<ul style="list-style-type: none"> • Excellent knowledge and understanding of factors that underpin performance and involvement in physical activity and sport. Communicated in a coherent writing structure with

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		clarity and precision (AO1). <ul style="list-style-type: none">• Sophisticated analysis of the factors that underpin performance and involvement in physical activity and sport (AO3).• Uses analysis to make a fully informed judgement and supports this with examples (AO3).
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3. Outline how global sport has changed over the last 20 years due to 'Americanisation'.

Question number	Acceptable answer	Mark
3	Any four of: <ul style="list-style-type: none">• 'Americanisation' is copying of American values in sport (1)• values such as the Lombardian ethic/will to win at all costs (1)• where it is seen as acceptable to do 'whatever it takes' to win (1)• the 'hyping of events to make them a bigger spectacle (1)• pay per view and its impact on sport (1)• franchising of sports clubs (1)• high salaries and increased commercialisation of sport and the sports stars (1). Other appropriate examples are acceptable.	(4)

