Physical Education

These tasks must be completed and emailed to Mrs Pettengell (cpettengell@jfk.herts.sch.uk) before you can start your Year 12 PE Course in September.
Please research the topics on the internet to help you answer the questions. There are many internet sites to assist you.
Word process/Powerpoint your responses using plenty of pictures/images to complement your work.
You should use your chosen sport (the one you plan to be assessed in at A Level) in all examples and where possible link responses to a specific skill (eg taking a penalty in football/marking a shot in netball/serving in tennis).

Anatomy & Physiology Tasks

A & P Task 1 - Use powerpoint or word to complete all these tasks:

Choose a skill from your sport & complete a movement analysis for the three phases of that skill. The three phases are;

1. Preparation phase,
2. execution phase
3. follow through phase

Your movement analysis for each of the three phases must include pictures & a table identifying the following; 'Joint, Joint type, Movement, Agonist & Type of contraction.' as shown in my example below;

(Please don't use this example!)

Example of how to complete - 'Preparation phase of a tennis serve movement analysis for task 1; you will need to do this for all three phases of the skill'

Joint	Joint type	movement	agonist	Type of contraction
Right shoulder	Ball & socket	extension	Posterior deltoid & latissimus dorsi	concentric
Right elbow	hinge	flexion	Bicep brachii	concentric
Lumber vertebrae	gliding	extension	Erector spinae	concentric
Right wrist	condyloid	extension	Wrist extensors	concentric
Right hip	Ball & socket	flexion	Illiopsoas – hip flexor	concentric
Right knee	hinge	Flexion	Hamstring – Bicep femoris	concentric
Right ankle	hinge	Dorsi flexion	Tibialis anterior	concentric
Left shoulder	Ball & socket	flexion	Medial & Posterior deltoid	concentric
Left elbow	hinge	extension	Tricep brachii	concentric
Left wrist	condyloid	extension	Wrist extensors	concentric
Left hip	Ball & socket	flexion	Iliopsoas – hip flexor	concentric
Left knee	hinge	flexion	Hamstring – Bicep femoris	concentric
Left ankle	hinge	Dorsi flexion	Tibialis anterior	concentric

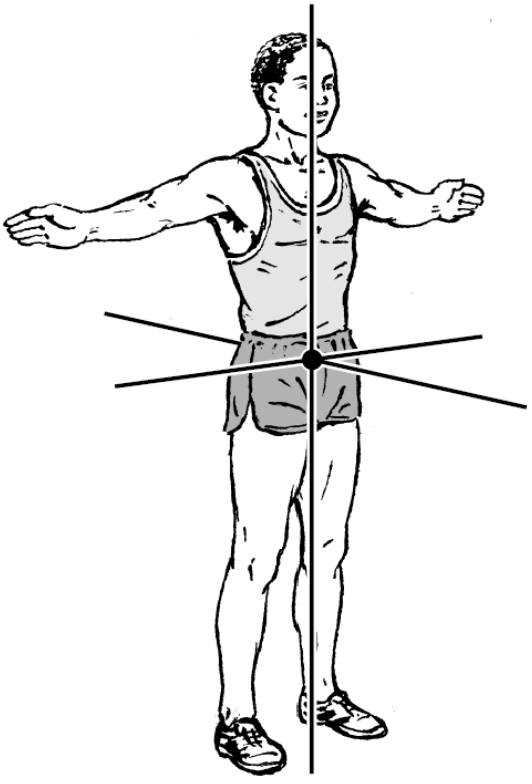
A & P Task 2 – Axis of rotation

The names axis of the rotation used by OCR A Level PE are a little different from Edexcel GCSE. **Please note, as below, the vertical axis is now the longitudinal axis.**

For each of the three axis of rotations (as shown in the picture below) **give an example from your sport where the performer moves in that axis of rotation when performing a skill/movement Use pictures to support your answer.**

Complete this task in Powerpoint or Word.

e.g for a forehand in tennis the performer moves through the longitudinal axis of rotation



A & P Task 3a – Designing a drill to improve skills

Design a drill to improve the skill you have analysed in Task 1.

Include the following points;

-Coaching points
-Diagram of the drill – showing players, cones, goals, movements, passes etc
-Aim of the drill
-Explanation of how you would know the performer has made progress & you would know to progress the drill to make it more challenging

Task 3b

Now design a progressive practice for this drill – show how you would change the drill to make it more challenging for the performer. Include the following;

-Coaching points
-Diagram of the drill
-Aim of the drill
-Explanation of how you would know the performer has made progress & you would know to progress the drill to make it more challenging

Exercise Physiology Tasks

1. There are three main energy systems used by the body to provide energy for physical activity. Watch the following video clip from Youtube by James Morris on the ATP-PC System and answer the following questions.

   https://www.youtube.com/watch?v=r9SFsWbMO0w&list=PLzh4kOin3WAqIaIBIRyqgiNXw-73LmHET&index=22&t=4s

1. What does ATP stand for?
2. Explain the structure of ATP (what is it comprised of) and it's role within the body
3. What happens when ATP is broken down?
4. How many seconds of energy does the initial breakdown of ATP provide?
5. The ATP-PC system is one of the three energy systems used in the body to resynthesise ATP. Identify three sporting examples that would predominantly use the ATP-PC system and justify why this would be the predominant energy system used.

Skill Acquisition Tasks

There are 6 criteria you need to be able to use to classify skills:

1. **Define** each continuum (highlighted below)

- **Muscular movement**; (Gross – Fine)
- **Environmental Involvement**; (Open – Closed)
- **Continuity**; (Discrete - Serial – Continuous)
- **Pacing**; (Self-Paced - Externally-Paced)
- **Difficulty**; (Simple – Complex)
- **Organisation**; (Low – High)

2. **Choose a skill in your sport** (eg. free throw in basketball) and classify it on the 6 continua.
3. Outline all the different types/methods of **practice** that can be used in skill learning and then focus on which types would be most suitable to deliver your chosen skill and why.
4. Outline the 4 methods of **guidance** that exist and again justify which methods would be most suitable when teaching/learning your chosen skill and why.
5. Finally consider the different types of feedback that can be used by a teacher/coach during skill learning. Which types do you think would be most successful when teaching your chosen skill to a novice? Justify your choices.

Contemporary Issues Tasks

Modern Technology in Sport

Please complete the following activities and questions. Use resources to help aid you with your answers. Please provide detailed examples/answers. Showcase your knowledge and understanding:

A LEVEL REFORM

A Level Physical Education
Topic Exploration Pack

Suggested activities

Activity 1: Development of equipment and facilities and their effect on participation in sport

1. Based on this image, identify two technological developments to sports facilities and explain how they could increase participation in sport.

2. For the following technological innovations, describe how they might affect participation in sport and physical activities.

a) Running Blades

b) Safety Clothing and Equipment

c) Lawn Darts (modified sports equipment)

d) Segways

Activity 2: The effect of technology on participation in sport and physical activity

Fitness apps, usually based on smartphone technology, are seen as one way of increasing participation in sport.

1. Complete the table of benefits and limitations of fitness apps as a means of improving participation in sport:

Benefits	Limitations

Activity 3: Technology and its effects on fairness and entertainment in sport

Sports such as Rugby Union, Cricket and American Football have introduced Television Match Officials (TMOs) to adjudicate decisions when the on-field referee is uncertain.

Read the following report from a leading sport science think tank in 2014*:
'Leading sports sociologists have generated fascinating findings on the use of video replay technology to help match officials in sport. Video referral technologies, as used by 'third umpires' in cricket and 'television match officials (TMO's) in rugby have been welcomed by some NGB's as making their sports fairer. However, opinion is divided on whether such systems have changed sports for the better, either for performers or spectators.

While surveys have shown that most players like the improved accuracy that comes from video referral technology, several players have expressed concerns when interviewed. Professional rugby players have expressed frustration that they have scored tries that the referee has initially given, but informal requests from opposition players to use the TMO has led to the decision being overturned. Players in

away matches have noticed that in stadia where there are giant screens, replays of foul play or refereeing controversies may lead to the crowd influencing officials.

Other players are concerned that with more and more decisions being referred to video officials, the flow of the game is impeded by the sheer number of stoppages. In rugby, close decisions sometimes take up to five minutes to decide. In cricket, video referral technologies have occasionally been wrong, affecting the outcome of matches, leagues and tournaments.

For spectators, opinion on the use of video replays for officiating is similarly mixed. In cricket, teams can decide which technologies are used and which are not, which leads to inconsistency and disagreement across the sport. Given that video replay technologies are expensive, the way professional sport if refereed becomes very different from grass-roots sport.

Overall, as much as spectators like fairness, they also like to be entertained. Video replays provide drama and debate, but if they disrupt gameplay, is it worth it? While some welcome the influence of these innovations, some long to return to the days when the referee's decision was final.'

1. Complete the table of arguments for and against the use of TMO's in sport:

Arguments for...	**Arguments against...**