

Physiological Factors Affecting Performance

Applied Anatomy and Physiology

Exercise Physiology

Tutor: Dave Carnell (see Dave's profile at end)

Benefits of attending:

- you'll be part of an intense, highly professional and productive day that's also relaxed and enjoyable
- focus on powerful tips, tools, techniques and ideas: a variety of classroom based activities and role plays to make learning interactive whilst maintaining a crucial focus on both exam technique and 'getting through' the huge specification
- increased knowledge and confidence
- hard copy and electronic materials
- plenty for everyone of any level of experience - even if role play isn't your thing!

10.00-11.30

AS - Applied Anatomy and Physiology:

Skeletal and muscular systems

- Planes of movement: don't break the glass! Kinaesthetic learning exercise
- Motor neurone/units & action potentials - it's all about the order! Teaching and learning ideas
- 'All or none law' - why is there no such thing as a weak contraction?
- Fibre Types: structure and function picture activity
- Fibre type recruitment: climb the ladder and link to activation thresholds

Cardiovascular and Respiratory systems

- Vascular shunt mechanism: Role play exercise
- HR, Q & VE: chunk them together using two graphs
- Mechanics of breathing: five steps to success
- Transport of O₂/CO₂- but where has it gone? Hidden with our old favourite 'gaseous exchange'. It's all about pressure & affinity - role play exercise

Coffee / discussion: 11.30-11.45

11.45-1.00

AS Exercise Physiology:

- Diet and nutrition: energy intake, expenditure and balance
 - Negative, Positive or Neutral: who needs which?
- Ergogenic aids
 - templates for group research task
 - role play exercise
- Training methods - aerobic, strength & flexibility training
 - planning personal health and fitness programmes: essential exam technique
 - identifying activities/sports where each method is key
 - coach + athlete - 'role play' scenarios
- The impact of training on lifestyle diseases: CHD & asthma – practical teaching ideas

Lunch / discussion: 1.00-1.45

1.45-3.30 (with short break during session)

***A level - Applied Anatomy and Physiology:**

Energy for exercise:

- ATP-PC (phosphocreatine), Glycolytic & Aerobic Energy Systems: practical role play activity for each
- The energy continuum: oral presentation activity (link to NEA)
- Exam technique: successfully tackle compare v evaluate questions - summary sheet prompts

Environmental effects on body systems:

- exercise at altitude: role play exercise
- exercise in the heat: graphical explanation of CV drift + practical teaching activity

*** A level - Exercise Physiology:**

Injury prevention and the rehabilitation of injury

- acute v chronic and soft v hard tissue injuries:
 - injury classification exercise to help differentiate
- injury prevention:
 - worksheet activity to identify extrinsic & intrinsic causes of injury
- responding to injuries and medical conditions in a sporting context:
 - active learning of SALTAPS & PRICE
- rehabilitation of injury:
 - three stages of treatment: acute, sub-acute & rehabilitation
 - group research task **Treatment** templates
 - match up exercise (common treatments and common injuries)

Dave:

- has been teaching OCR A Level PE for over 25 years
- he is subject leader for PE at a King Edward VI SFC in Stourbridge – annually a 'top 6 college' nationally
- he is a well established author and very popular and experienced INSET tutor, known for his practical approaches to teaching and learning in A&P and Exercise Physiology