**Sample Course Outline**

Physical Education Studies

ATAR Year 12

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Sample course outline

Physical Education Studies – ATAR Year 12

Unit 3 and Unit 4

| **Week** | **Syllabus content** | **Assessment** |
| --- | --- | --- |
| 1 | **Developing physical skills and tactics*** develop and refine sport specific skills and techniques to enhance performance
* select and adapt skills and techniques in a variety of competitive situations
* select and apply advanced tactical responses varying in complexity
	+ various environmental conditions
	+ strengths and weaknesses of opposition
	+ responding to opposition
	+ phases/stages of play
* select and adapt tactics in a variety of competitive situations

Note: the above content areas are ongoing and will be addressed throughout the practical skill development teaching and learning activities.**Functional anatomy*** structure of skeletal muscle
	+ epimysium
	+ fascicle
	+ perimysium
	+ muscle fibre
	+ myofibril
* the role of myosin, actin and the sarcomere in sliding filament theory
 |  |
| 2 | **Functional anatomy*** structure of skeletal muscle
	+ epimysium
	+ fascicle
	+ perimysium
	+ muscle fibre
	+ myofibril
* the role of myosin, actin and the sarcomere in sliding filament theory
* relationship between the velocity and duration of muscle contraction to the amount of force exerted by the contraction
	+ force–velocity
	+ force–length
* function of the nerves, spinal cord, motor unit (dendrite, axon, neuron)
 |  |
| 3 | **Functional anatomy*** relationship between muscle contraction and nerve function
* characteristics of fast and slow twitch fibres and their relationship to physical performance types (sprint, endurance)
	+ Type I
	+ Type IIa
	+ Type IIb
 |  |
| 4 | **Biomechanics*** definition of momentum and how it applies to a selected sport
	+ conservation of momentum (Newton’s Second Law of Motion)
	+ impulse–momentum relationship
	+ coefficient of restitution
* definition and application of the following concepts in a set sport
	+ moment of inertia
	+ angular momentum
	+ levers
	+ three classes of levers
 |  |
| 5 | **Biomechanics*** relationship between torque and the use of levers in sport: torque = force x perpendicular distance of lever arm
* application of biomechanical principles to analyse physical skills
	+ balance
	+ coordination continuum
	+ force-motion
	+ force-time
	+ inertia
	+ optimal projection
	+ range of motion
	+ segmental interaction
	+ spin
 |  |
| 6–7 | **Biomechanics*** definitions of fluid, laminar and turbulent flow
* definitions of pressure drag (form drag), surface drag (skin friction) and wave drag and how they apply to sporting contexts
* Bernoulli’s principle - effect of shape and pressure differential
 |  |
| 8–9 | **Biomechanics*** Bernoulli’s principle - effect of shape and pressure differential
* changes in flight paths in spinning balls–the Magnus effect in relation to
	+ top spin
	+ back spin
	+ side spin
	+ no spin
 | **Task 1:** topic test – functional anatomy and biomechanics(10.5%) |
| 10–12 | **Exercise physiology*** relationship between energy demands and nutritional requirements during physical activity
	+ phases of activity – pre-competition, during exercise, recovery
	+ nutritional considerations – balanced diet, glycemic index, fats, proteins, carbohydrates, fluid replacement
 | **Task 2**: soccer skill performance – developing skills and tactics(5.25%) |
| 13–14 | **Exercise physiology*** physiological changes brought on by the use of performance enhancers
	+ protein powders
	+ anabolic steroids
	+ stimulants
 | **Task 3:** soccer game performance – developing skills and tactics(5.25%) |
| 15 | **Exercise physiology*** implications of preparing and performing in varying environmental conditions
	+ heat/humidity
	+ altitude
	+ cold
 | **Task 4:** laboratory activity – exercise physiology and biomechanics(7%) |
| 16–17 | **Exercise physiology*** training programs designed to improve performance in relation to:
	+ [periodisation](http://www.trainingsmartonline.com/swimming_and_triathlon_periodisation.php): micro cycle, macro cycle, pre-season, in-season, off-season
	+ specific energy system requirements
	+ [peaking](http://www.eis2win.co.uk/gen/news_peaking.aspx)
	+ [overtraining](http://physiotherapy.curtin.edu.au/resources/educational-resources/exphys/00/overtraining.cfm)
	+ injured athletes
	+ [tapering](http://www.nswis.com.au/ArticleDocuments/234/Tapering.pdf)
	+ recovery
	+ maintenance
 | **Task 5:** topic test – exercise physiology(7%) |
| 18 | Revision and catch up**Task 6: Semester 1 Written examination** **Task 7: Semester 1 Practical examination** | **Task 6:** Semester 1 written examination (14 %)**Task 7:** Semester 1 practical examination – developing skills and tactics(4.5%) |
| 19 | **Motor learning and coaching*** definition of transfer of learning
* categories of transfer of learning
	+ skill to skill
	+ theory to practise
	+ training to competition
 |  |
| 20 | **Motor learning and coaching*** effects of transfer of learning
	+ positive
	+ negative
	+ zero effects
* impact of positive, negative and zero effects of transfer of learning on skill execution and movement efficiency
 |  |
| 21 | **Motor learning and coaching*** analyse movement skills of self and others to identify errors, provide feedback and suggest corrections to improve performance
 |  |
| 22 | **Motor learning and coaching*** design coaching/training activities to improve performance in selected skills, including shaping, chaining, static-dynamic, simple-complex
* use of different leadership styles – democratic, authoritarian and laissez-faire to suit audience needs
 |  |
| 23 | **Motor learning and coaching*** use checklists and video to analyse and reflect on the performance of self and others in physical activity
 |  |
| 24 | **Motor learning and coaching*** learning and skill development in relation to correction and improvement of self and others
	+ use of video analysis
	+ reflective journals
	+ peer/mentor/coach feedback
	+ questionnaires
 | **Task 8:** volleyball skill performance – developing skills and tactics(5.25%) |
| 25 | **Sports psychology*** mental skills strategies used pre-, during and post-performance to manage stress, motivation, concentration, self-confidence and arousal levels
	+ self-talk
	+ relaxation
	+ performance routines
	+ goal-setting
	+ imagery
 | **Task 9:** volleyball game performance – developing skills and tactics(5.25%) |
| 26–27 | **Sports psychology*** Carron’s model of group cohesion
	+ the relationship between social loafing and group cohesion
	+ the influence of social loafing on individual and group performance
	+ strategies to improve group cohesion
	+ factors affecting group cohesion
* environmental
* leadership
* personal
* team
 | **Task 10:** *Remember the Titans* – sport psychology(7%) |
| 28 | Revision |  |
| 29 | **Task 11: Semester 2 Written examination****Task 12: Semester 2 Practical examination** | **Task 11:** Semester 2 written examination (24.5 %)**Task 12:** Semester 2 practical examination – developing skills and tactics(4.5%) |