PRIFYSGOL glyndŵr UNIVERSITY MODULE SPECIFICATION FORM

Module Title:	Applied Exercise Physiology	**Level**:	5	**Credit Value**:	20

Module code:	FAW503	**Is this a new module?**	Yes	**Code of module being replaced**:	SPT503

Cost Centre:	GASP	**JACS3 code**:	C600

Trimester(s) in which to be offered:	1, 2 and 3	**With effect from:**	September 2017

School:	School of Social and Life Sciences	**Module Leader:**	Dr Tim Donovan

Scheduled learning and teaching hours	35 hrs
Guided independent study	165 hrs
Placement	0 hrs
Module duration (total hours)	200 hrs

Programme(s) in which to be offered	Core	Option
BSc (Hons) Football Coaching and the Performance Specialist	✓	☐
BSc (Hons) Sports Coaching and Performance Development	✓	☐
BSc (Hons) Sport and Exercise Sciences	✓	☐

Pre-requisites
None

Office use only

Initial approval August 2016

APSC approval of modification May 2017 Version 2

Module Aims

This module aims to:

- Explore techniques used to monitor physiological variables and be able to relate them in an applied setting.
- Ensure that students have practical experience of applied physiological testing techniques and are fully aware of the safety issues relating to physiological monitoring and prescription of training.
- Examine, quantify and analyse the body's acute response to sport and exercise and chronic adaptation to training, with reference to the various systems of the body (e.g. cardiovascular, respiratory, metabolic, musculoskeletal and energy systems).
- Demonstrate how physiological knowledge can be used to enhance performance.

Intended Learning Outcomes

Key skills for employability

KS1	Written, oral and media communication skills
KS2	Leadership, team working and networking skills
KS3	Opportunity, creativity and problem solving skills
KS4	Information technology skills and digital literacy
KS5	Information management skills
KS6	Research skills
KS7	Intercultural and sustainability skills
KS8	Career management skills
KS9	Learning to learn (managing personal and professional development, self-management)
KS10	Numeracy

At the end of this module, students will be able to		Key Skills	
1	Demonstrate an ability to work competently and professionally in an applied sport and exercise environment.	KS1	KS2
		KS3	KS4
2	Analyse, calculate and evaluate physiological test data.	KS1	KS4
		KS5	KS10
3	Examine the impact of training principles on physiological adaptation.	KS1	KS4
		KS6	
4	Evaluate the impact of variables that impact on performance/training (e.g. nutrition/ergogenic aids, fatigue, sleep and muscle damage).	KS1	KS4
		KS6	

Transferable/key skills and other attributes
Working independently, working in groups, academic writing skills, practical and laboratory skills, and the use of IT.

Derogations
N/A

Assessment:

Assessment 1: **Practical**
In small groups the student will assess the physical requirements for a sport/position. The student must identify the relevant physiological requirements and plan/prioritise a series of tests to examine the strengths and weaknesses of your athlete.

The students will perform a range of the physiological tests that have been identified (which will be decided by the module tutor) on the athlete and provide a written report detailing the area that need to be addressed.

Assessment 2: **Report**

Individually the student will assess a week long training diary for an athlete and examine how it complies with the training principles. The student will examine the impact that the training diary will have on the physiological variables which influence performance/training of the athlete, based on their sport, age, level or gender.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)	Duration (if exam)	Word count (or equivalent if appropriate)
1	1 and 2	Practical	40%	20 mins	
2	3 and 4	Report	60%		2500 words

Learning and Teaching Strategies:

A combination of lead-lectures, practical workshops and seminars will form the basis of this module. Students will be required to undertake background reading and experiential work will be conducted across a range of sports. Formative assessments will be provided through practical tasks and feedback to students on performance in class-based tasks.

Syllabus outline:

Applied physiological testing – Lab v field and Max v sub max testing
Athlete development
Age/maturation and gender related physical and physiological development; impact on performance and training.
Aerobic, anaerobic power, anaerobic capacity, flexibility, strength, power, agility and body composition tests.
Physiological profiling
Training Principles (Overload, recovery, tapering etc.) and programmes
Fatigue and muscle damage
Nutrition, hydration and ergogenic aids

Bibliography:

Essential reading

Åstrand, P-O., Rodahl, K., Dahl, H.A. and Strømme, S.B. (2003). *Textbook of Work Physiology.* 4th ed. Champaign, Ill: Human Kinetics.

Eston, R. and Reilly, T. (eds.) (2009), *Kinanthropometry and Exercise Physiology Laboratory Manual: Tests, Procedures and Data.* London: E & F N.

Pescatello, L.S. (ed.) (2014), *ACSM's Guidelines for Exercise Testing and Prescription*. 9th ed. Philadelphia, PA: Lippincott Williams & Wilkins.

Other indicative reading

Gore, C. J. (2000), *Physiological Tests for Elite Athletes*. Champaign, IL: Human Kinetics.

Heyward, V.H. (2014), *Advanced Fitness Assessment & Exercise Prescription*. 7th ed. Champaign, IL: Human Kinetics.

Jarvis, K. (2015), *Strength and Conditioning for Football*. London: Bloomsbury Sport

Jeukendrup, A. and Gleeson, M. (2004), *Sport Nutrition*. Champaign, Ill: Human Kinetics.