

<b>Module Code:</b>	FAW510 / SIR502
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<b>Module Title:</b>	Applied Exercise Physiology
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<b>Level:</b>	5	<b>Credit Value:</b>	20
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<b>Cost Centre(s):</b>	GASP	<b>JACS3 code:</b> <b>HECoS code:</b>	C600 100433
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<b>Faculty:</b>	Social & Life Sciences	<b>Module Leader:</b>	Chelsea Moore
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Scheduled learning and teaching hours	35 hrs
Guided independent study	165 hrs
Placement	0 hrs
<b>Module duration (total hours)</b>	<b>200 hrs</b>

<b>Programme(s) in which to be offered (not including exit awards)</b>	Core	Option
BSc (Hons) Football Coaching and the Performance Specialist	✓	
BSc (Hons) Sport, Health and Performance Science	✓	
BSc (Hons) Sports Injury Rehabilitation	✓	

<b>Pre-requisites</b>
None

**Office use only**

Initial approval: 13/08/2018  
 With effect from: 23/09/19  
 Date and details of revision: Addition  
 of SIR programme and minor changes to  
 assessment narrative and syllabus outline June  
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Version no: 3

Version no: 4

## Module Aims

This module aims to:

Explore techniques used to monitor physiological variables and be able to relate them in an applied setting.

Develop practical experience of applied physiological testing techniques and become 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

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 skills and other attributes

Working independently, academic writing skills, practical and laboratory skills, data analysis, and the use of IT.

## Derogations

SIR502 – Sports Injury Rehabilitation students must pass both elements of assessment with 40% or above

## Assessment:

Indicative Assessment Tasks:

### Assessment 1: **Coursework**

Document evidence/ practice-based competencies of a range of physiological tests. In small groups you will perform a range of physiological tests (e.g.  $VO_{2max}$ , lactate threshold). Test procedures, health and safety considerations and data collection will be written up individually, on worksheets provided, for formal submission and assessment.

### Assessment 2: **Report**

Students will complete a laboratory report assessing students' ability to analyse and interpret physiological test data and write a written lab report on the results.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)	Duration (if exam)	Word count (or equivalent if appropriate)
1	1 & 2	Coursework	40	N/A	1600
2	3 & 4	Report	60	N/A	2400

## Learning and Teaching Strategies:

A combination of lead-lectures, practical workshops and seminars will form the basis of this module. You 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 given based on performance in class-based tasks.

## Syllabus outline:

The principles of training  
Neuromuscular Adaptations to strength training  
Data analysis and SPSS  
Muscular skeletal adaptations to strength training  
Body composition training  
Cardiovascular and respiratory adaptations to endurance training  
Lactate threshold testing  
Metabolic adaptations to endurance training  
Blood sampling  
Metabolic adaptations to anaerobic exercise  
Sprint field tests  
 $VO_2$  max testing

**Indicative Bibliography:**

**Essential reading**

Kenney, W.L., Wilmore, J.H. and Costill, D.L. (2012). Physiology of Sport and Exercise. 5<sup>th</sup> ed. Champaign, Ill: Human Kinetics.

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

**Other indicative reading**

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

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

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

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

McArdle, W. D. Katch, F. I. and Katch, V. L. (2007) Exercise Physiology: Energy, Nutrition & Human Performance. 6<sup>th</sup> ed. Philadelphia: Williams and Wilkins.

Maud, P.J. and Foster, C. (Eds). (2006). Physiological Assessment of Human Fitness. 2<sup>nd</sup> ed. Champaign, IL: Human Kinetics.

Sharkey, B.J. (2013). Fitness and Health. 7<sup>th</sup> ed. Champaign, IL: Human Kinetics.