

**Summary Information**

<b>Module Code</b>	5505SPRT
<b>Formal Module Title</b>	Physiology of Strength and Conditioning Exercise
<b>Owning School</b>	Sport and Exercise Sciences
<b>Career</b>	Undergraduate
<b>Credits</b>	20
<b>Academic level</b>	FHEQ Level 5
<b>Grading Schema</b>	40

**Module Contacts**

**Module Leader**

Contact Name	Applies to all offerings	Offerings
Colin Lewis	Yes	N/A

**Module Team Member**

Contact Name	Applies to all offerings	Offerings
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**Partner Module Team**

Contact Name	Applies to all offerings	Offerings
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**Teaching Responsibility**

<b>LJMU Schools involved in Delivery</b>
LJMU Partner Taught

## Partner Teaching Institution

Institution Name
Nelson and Colne College Group

## Learning Methods

Learning Method Type	Hours
Lecture	15
Seminar	8
Tutorial	15
Workshop	10

## Module Offering(s)

Offering Code	Location	Start Month	Duration
SEP-PAR	PAR	September	12 Weeks

## Aims and Outcomes

<b>Aims</b>	The module will introduce students to the principles of the physiology of strength and conditioning, providing a comprehensive overview of the changes in physiologic function during exercise and due to exposure in extreme environments (hot, cold and hypobaric) and the implications for training and performance. The module will also address the effect of different types of training on performance, how to optimise sport performance and age and gender considerations. Laboratory and field based physiological assessments will be utilised to demonstrate physiological changes under different exercise and environmental conditions and hence, apply the theory into practice. Students will discuss relevant fundamental theory and applied research concerning the administration and delivery of effective strength and conditioning training to elite athletes.
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## Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Perform several physiological measurements, which are used to evaluate and monitor improvements in training components of fitness (i.e. endurance, strength, power).
MLO2	Design and safely implement effective training sessions to improve a specific athlete's strength, speed, endurance and power.
MLO3	Justify the choice of exercise for a selected individual.

MLO4	Explain the physiological adaptations that occur due to acute and chronic exercise training.
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## Module Content

### Outline Syllabus

Key Physiological components covered within this module:• Hormonal Regulation of Exercise• The Energy Systems• Body Composition and Effects• Fatigue and its Effects• Ventilation and Energy Metabolism• Acute and Chronic responses to exercise• Environmental influences on performance

Key Strength and Conditioning components covered:• Types of Training (e.g., Aerobic, resistance, power)• Practical sessions covering the demonstration and evaluation different exercises• Periodisation of training programmes• Excessive training, overreaching, overtraining• Tapering for peak performance• Detraining and retraining

## Module Overview

### Additional Information

None.

## Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Practice	Practical Skills	40	0	MLO1, MLO2
Exam	Oral Exam	60	0	MLO3, MLO4