



**ACADEMIC SERVICES**

**MODULE SPECIFICATION**

Part 1: Basic Data					
Module Title	Science of Training Response and Adaptation				
Module Code	UISV65-30-M	Level	M	Version	1
UWE Credit Rating	30	ECTS Credit Rating	15	WBL module?	No
Owning Faculty	Hartpury	Field	Sport Science		
Department	Sport	Module Type	Standard		
Contributes towards	MSc Applied Strength and Conditioning Postgraduate Diploma Applied Strength and Conditioning Postgraduate Certificate Applied Strength and Conditioning Postgraduate Diploma Sports Studies Postgraduate Certificate Sports Studies				
Pre-requisites	None		Co- requisites	None	
Excluded Combinations	None		Module Entry requirements	None	
First CAP Approval Date	20 September 2016		Valid from	01 September 2016	
Revision CAP Approval Date			Revised with effect from		

<b>Review Date</b>	01 September 2022
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Part 2: Learning and Teaching	
Learning Outcomes	<p>On successful completion of this module students will be able to:</p> <ol style="list-style-type: none"> <li>1. Defend an advanced systematic understanding of the adaptations that occur from resistance training within a variety of physiological systems. (A)</li> <li>2. Exhibit a comprehensive knowledge and critical awareness of advanced planning and programming strategies inherent within different periodisation models. (A, B)</li> <li>3. Critically and analytically assess the complexity of the dose-response relationship of physical training. (B)</li> <li>4. Critically analyse activities to determine the utilisation of the energy systems during various types of exercise. (B)</li> <li>5. Evaluate critically current research and advanced scholarship pertaining to growth and maturational processes that impact upon the development of young athletes. (B)</li> </ol>

	6. Synthesize and evaluate theories regarding the use of biomechanical and physiological monitoring tools for the purposes of tracking long term athlete development, and develop critiques of them. (B)																									
Syllabus Outline	<p>This module aims to elevate knowledge and understanding of planning and programming for athletic development from a holistic approach. Broadly, this module will include the following topics;</p> <ul style="list-style-type: none"> <li>• Critical analysis of planning, programming and periodisation,</li> <li>• Dose response relationships to physical training</li> <li>• Mathematical modelling of fitness and fatigue,</li> <li>• Physiological regulation,</li> <li>• Neural, structural, molecular, biochemical, cardiovascular adaptations to resistance training,</li> <li>• Paediatric considerations to the prescription of resistance training,</li> <li>• Overtraining Syndrome,</li> <li>• Athlete monitoring strategies,</li> <li>• Recovery strategies,</li> <li>• Placebo effect in strength and conditioning practice.</li> </ul>																									
Contact Hours	<p>Indicative delivery modes:</p> <table> <tr> <td>Lectures, guided learning, seminars etc.</td> <td>66</td> </tr> <tr> <td>Self-directed study</td> <td>6</td> </tr> <tr> <td>Independent learning</td> <td>228</td> </tr> <tr> <td><b>TOTAL</b></td> <td><b>300</b></td> </tr> </table>	Lectures, guided learning, seminars etc.	66	Self-directed study	6	Independent learning	228	<b>TOTAL</b>	<b>300</b>																	
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Teaching and Learning Methods	<p><b>Scheduled learning</b> includes lectures, seminars, tutorials, project supervision, demonstration, practical classes and workshops; fieldwork; external visits; work based learning; supervised time in studio/workshop. These scheduled learning sessions will be interactive, discursive, reflective, participatory, collaborative and practice related, employing a variety of teaching and learning methods.</p> <p><b>Independent learning</b> includes hours engaged with essential reading, case study preparation, assignment preparation and completion etc. These sessions constitute an average time per level as indicated in the table below.</p> <p><b>Virtual Learning Environment (VLE)</b> This module is supported by VLE where students will be able to find all necessary module information. Direct links to information sources will also be provided from within VLE.</p>																									
Key Information Sets Information	<p>Key Information Sets (KIS) are produced at programme level for all programmes that this module contributes to, which is a requirement set by HESA/HEFCE. KIS are comparable sets of standardised information about undergraduate courses allowing prospective students to compare and contrast between programmes they are interested in applying for.</p> <table border="1"> <thead> <tr> <th colspan="5">Key Information Set - Module data</th> </tr> </thead> <tbody> <tr> <td colspan="5">Number of credits for this module</td> </tr> <tr> <td colspan="4"></td> <td>30</td> </tr> <tr> <th>Hours to be allocated</th> <th>Scheduled learning and teaching study hours</th> <th>Independent study hours</th> <th>Placement study hours</th> <th>Allocated Hours</th> </tr> <tr> <td>300</td> <td>72</td> <td>228</td> <td>0</td> <td>300</td> </tr> </tbody> </table>	Key Information Set - Module data					Number of credits for this module									30	Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours	300	72	228	0	300
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	<p>The table below indicates as a percentage the total assessment of the module which constitutes a -</p> <p><b>Written Exam:</b> Unseen written exam, open book written exam, In-class test  <b>Coursework:</b> Written assignment or essay, report, dissertation, portfolio, project  <b>Practical Exam:</b> Oral Assessment and/or presentation, practical skills assessment, practical exam</p> <p>Please note that this is the total of various types of assessment and will not necessarily reflect the component and module weightings in the Assessment section of this module description:</p> <table border="1" data-bbox="592 517 1270 752"> <tr> <td colspan="2">Total assessment of the module:</td> <td></td> <td></td> </tr> <tr> <td>Written exam assessment percentage</td> <td></td> <td>25%</td> <td></td> </tr> <tr> <td>Coursework assessment percentage</td> <td></td> <td>75%</td> <td></td> </tr> <tr> <td>Practical exam assessment percentage</td> <td></td> <td>0%</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>100%</td> </tr> </table>	Total assessment of the module:				Written exam assessment percentage		25%		Coursework assessment percentage		75%		Practical exam assessment percentage		0%					100%
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Reading Strategy	<p><b>Essential Reading</b>  Core material will be indicated to the student via pre-course material, module guides and through their accessing a dedicated VLE programme presence. No requirement for the purchase of set text(s) will be made and students will have full access to Hartpury library services, online applications, and inter-library loans. The input of the module leader will supplement the normal library provision expected at M-level so that research sources and relevant texts will be identified to the student and issues revolving around their access to them resolved.</p> <p><b>Further Reading</b>  Students are expected to identify all other reading relevant to their chosen topic for themselves. They will be required to read widely using the library catalogue, a variety of bibliographic and full text databases, and Internet resources. Many resources can be accessed remotely. The purpose of this further reading is to ensure students are familiar with current research, classic works and material specific to their interests from the academic literature, wider professional sources and in-house publications of related national accrediting and sports governing bodies – e.g. the British Association of Sport and Exercise Sciences (BASES), the United Kingdom Strength &amp; Conditioning Association (UKSCA), British Weight Lifting (BWL) and the National Strength and Conditioning Association USA (NSCA).</p> <p><b>Access and Skills</b>  Formal opportunities for students to develop their library and information skills are provided within the induction period and student skills sessions. Additional support is available through online resources. This includes interactive tutorials on finding books and journals, evaluation information and referencing. Sign up workshops are also offered.</p>																				
Indicative Reading List	<p>The following list is offered to provide validation panels/accrediting bodies with an indication of the type and level of information students may be expected to consult. As such, its currency may wane during the life span of the module specification. However, as indicated above, CURRENT advice on readings will be available via other more frequently updated mechanisms.</p> <p><b>Books:</b></p> <p>Beachle, T. R. and Earle, R. W., eds (Current Edition). <i>Essentials of Strength and Conditioning</i>. Leeds: Human Kinetics.</p> <p>Cardinale, M., Newton, R., and Nosaka, K. (Current Edition). <i>Strength and Conditioning: Biological Principles and Practical Applications</i>. Chichester: Wiley-</p>																				

	<p>Blackwell.</p> <p>Chandler, T. J. and Brown, L. E., eds. (Current Edition). <i>Conditioning For Strength and Human Performance</i>. Baltimore: Lippincott Williams and Wilkins.</p> <p>Fleck, S. J, and Kraemer W. J. (Current Edition). <i>Designing Resistance Training Programmes</i>. Leeds: Human Kinetics.</p> <p>Foran, B., ed. (Current Edition). <i>High-Performance Sports Conditioning</i>. Leeds: Human Kinetics.</p> <p>Hamill, J. and Knutzen, K.M. (Current Edition). <i>Biomechanical Basis of Human Movement</i>. Philadelphia: Lippincott, Williams &amp; Wilkins.</p> <p>Joyce, D. and Lewindon, D. (Current Edition). <i>High-Performance Training for Sports</i>. Leeds: Human Kinetics.</p> <p>Liebenson, C. (Current Edition) <i>Functional Training Handbook</i>. Philadelphia, US: Springhouse Publishing Company.</p> <p><b>Journals:</b></p> <p>Strength and Conditioning Journal</p> <p>UKSCA Performance Journal</p>
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<b>Part 3: Assessment</b>	
Assessment Strategy	<p>The aim of the assessment strategy is to evaluate an advanced understanding of training responses and adaptations. In addition, students will be assessed on their ability to research topics covered in the module. Therefore, summative assessment centres upon completion of:</p> <p>Written examination: The written examination allows the students the opportunity to demonstrate that they have gained sufficient understanding of the underpinning theoretical knowledge of the module content.</p> <p>Written assignment: Throughout the course of this module students will engage with a range of topics regarding training methodologies, response and adaptation related to strength and conditioning practice. This assessment will require students to critically appraise the literature pertaining to each of these topics, and detail how this acquired knowledge can inform practice.</p> <p>To support students in achievement, formative assessment opportunities such as individual feedback on draft submissions of sections of the written assignment, peer-review and oral assessments will be incorporated.</p> <p>In line with the College’s commitment to facilitating equal opportunities, a student may apply for alternative means of assessment if appropriate. Each application will be considered on an individual basis taking into account learning and assessment needs. For further information please refer to the VLE.</p>

Identify final assessment component and element	Written Examination	
% weighting between components A and B (Standard modules only)	<b>A:</b> 25%	<b>B:</b> 75%
<b>First Sit</b>		
<b>Component A</b> (controlled conditions) <b>Description of each element</b>	<b>Element weighting</b>	

1. Written Examination (1.5 hours)	100%
<b>Component B</b> <b>Description of each element</b>	<b>Element weighting</b>
1. Written Assignment (3000 words)	100%

<b>Resit (further attendance at taught classes is not required)</b>	
<b>Component A</b> (controlled conditions) <b>Description of each element</b>	<b>Element weighting</b>
1. Written Examination (1.5 hours)	100%
<b>Component B</b> <b>Description of each element</b>	<b>Element weighting</b>
1. Written Assignment (3000 words)	100%
If a student is permitted a retake of the module under the University Regulations and Procedures, the assessment will be that indicated by the Module Description at the time that retake commences.	