

Module Title:	App Anatomy and Sport Physiology
Language of Instruction:	English
Credits:	10
NFQ Level:	6
Module Delivered In	4 programme(s)
Teaching & Learning Strategies:	The learning outcomes detailed above will be achieved through the following teaching methodologies: <ul style="list-style-type: none"> • Lectures – The lecturer will use a combination of lecture, Questions & Answers, group discussion, PowerPoint presentation and CD-Rom support where appropriate. • Practicals – Students will work in pairs and small groups on (i) applied anatomy and functional movement analysis tasks, including joint actions and stretching and strengthening exercises for principal muscles (Term 1) (ii) basic instructional skills in the areas of circuit training, resistance training and core stability (Term 2) • Problem Solving Exercises – Students will work as part of a team and will work together to resolve various tasks associated with applied anatomy and sports physiology in both theory and practical classes. • Class Discussion/Debate - Students will be encouraged to actively participate in the class sessions which will develop their analytical and communication skills. • E-Learning – The module will be supported with on-line learning materials through Blackboard. • Self-Directed Independent Learning – The emphasis on independent learning will develop a strong and autonomous work and learning practices.
Module Aim:	The aim of this module is to develop students' scientific knowledge and understanding of bodily systems responses to exercise and sports performance. Students will be introduced to a broad range of topics in the area of applied anatomy and sports physiology, giving them a framework within which to understand how sportspeople respond and adapt to different types of training. Students will gain an understanding of how to prescribe appropriate and effective training programmes to enable the sportsperson to achieve optimum performance.
Learning Outcomes	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Apply the fundamental principles of anatomy and physiology (bones, joints, spinal column and muscles) to basic functional movement and exercise prescription
LO2	Explain the principles of training and their application to the components of fitness in designing effective training programmes
LO3	Recognise the relative contribution of aerobic and anaerobic energy metabolism in the design of periodised training programmes for different sports
LO4	Apply the physiological basis of warm-up and cool-down to different sports
LO5	Describe the basic principles of muscle contraction and the factors that influence force development
LO6	Distinguish between the possible causes of fatigue during exercise of different intensity and duration and describe the causes and impact of overtraining
LO7	Describe the cardiovascular, respiratory and metabolic adaptations to endurance training
LO8	Display a basic level of competency with regard to exercise demonstration and exercise instruction in (i) circuit training; (ii) resistance training and (iii) core stability
Pre-requisite learning	
Module Recommendations <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
Incompatible Modules <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements <i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i>	
No requirements listed	

Module Content & Assessment

Indicative Content
<p>Basic & Applied Anatomy</p> <ul style="list-style-type: none"> Structural and functional characteristics of bone and muscle Functional anatomy and movement analysis (origin and insertion of muscles, joint actions, stretching and strengthening exercises for principal muscles)
<p>Components of Fitness & Principles of Training</p> <ul style="list-style-type: none"> Health and performance-related components of fitness defined Application of principles of training to components of fitness Basic principles of programme planning & periodisation Application of programme planning to stages of development/LTPAD
<p>Basic Energy Systems</p> <ul style="list-style-type: none"> Aerobic and anaerobic energy metabolism Training the energy systems Energy cost/physiological demands of field games; design of appropriate training programmes
<p>Warm-up and Cool-down</p> <p>n/a</p>
<p>Muscle Contraction</p> <ul style="list-style-type: none"> Basic physiology of muscle contraction Characteristics of muscle fibre types Factors affecting generation of force
<p>Fatigue & Overtraining</p> <ul style="list-style-type: none"> Causes of fatigue & implications for training Over-reaching, overtraining/ unexplained underperformance syndrome – causes, impact on bodily systems & prevention
<p>Adaptations to Training</p> <ul style="list-style-type: none"> Cardiovascular Respiratory Metabolic
<p>Exercise and Fitness Instructional Skills</p> <ul style="list-style-type: none"> Circuit Training Introduction to Resistance Training Core Stability

Assessment Breakdown	%
Continuous Assessment	10.00%
Practical	30.00%
End of Module Formal Examination	60.00%

Continuous Assessment				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Other	In class examination at the end of Term 1	1,2,3,4	10.00	Week 6

No Project

Practical				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	Functional anatomy practical assessment at the end of Term 1 Exercise instruction assessment at the end of Term 2	1,2,4,8	30.00	Sem 1 End

End of Module Formal Examination				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	3 Hour Written Examination	1,2,3,5,6,7	60.00	End-of-Semester

ITCarlow reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	30 Weeks per Stage	2.00
Practicals	30 Weeks per Stage	1.00
Estimated Learner Hours	30 Weeks per Stage	3.67
	Total Hours	200.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_BBGAA_D	BA in Sport Coaching & Business Management (GAA)	1	Mandatory
CW_BBRUG_D	BA in Sport Coaching & Business Management (Rugby)	1	Mandatory
CW_BBSOC_D	BA in Sport Coaching & Business Management (Soccer)	1	Mandatory
CW_BBSMC_B	Bachelor of Arts (Honours) in Sport Management and Coaching	1	Mandatory