School of Sport, Exercise & Rehabilitation Sciences

2015-16 Academic Year

Module Availability for

Incoming International Exchange Students

IMPORTANT INFORMATION: PLEASE READ CAREFULLY

Module availability refers to the period of time an exchange student is with us:

- "Semester 1" (September to December) only*
- "Semester 2" (January to June) only
- "Full Year" (September to June)

*(*some modules have alternative assessments for these students - which may mean a number of exams & coursework before Christmas, so please be aware that there may be assessment bunching at this time)*

Please read through the availability of modules carefully before choosing your options.

Important Notes:

1. Module title, content, assessment, delivery & staffing may be subject to change a part of ongoing Quality Assurance processes – for 2015-16 there will be some changes to assessment %, and possible other module amendments these will be confirmed by August 2015.

3. Timetables are not confirmed until the start of term and may be subject to change due to unforeseen circumstances.

2. Exchange students may be limited within certain modules through a numbers capping process.

3. Students who attend in Semester 1 (Autumn term - September to December) may need to undertake slightly different assessments before they leave for Christmas if a final exam is normally stipulated. This will mean additional assessment for those modules.

4. Students attending in Semester 2 (Spring term - January to April + exam period in May) are expected to attend the summer exams in May/June).

5. Those attending the Full Year are expected to be at University from September to June. Absences must be confirmed with the UoB Study Abroad Office.

6. It is not possible to resit assessments in Year 3 modules.

7. Resit assessments for Year 1 & 2 modules normally take place at the end of August.

8. Whilst we attempt to keep this document as up to date as possible, please check the date on the footer & send any queries to m.r.toms@bham.ac.uk or i.jones.1@bham.ac.uk

Year 1 Modules:

Module Title: Human Physiology	Module Code: 20422
Semester: 1	Credits: 20
Module Leader: Dr George Balanos	Lecture Times: TBC
Module Availability: Semester 1	
Module Description: An introductory course of lectures in human physiology covering the functions of the nervous, cardiovascular and respiratory systems, the kidney, fluid balance and thermoregulation. Aims: To provide a course of study in human physiology, and prepare students for advanced study in exercise physiology and specific systems in subsequent years.	
Assessment: 15% MCQ1; 25% MCQ2; 15% Practical class report 1; 30% MCQ3; 15% Practical class report 2	

Module Title: Psychological Foundations in Sport & Exercise	Module Code: 23646
Semester: 1	Credits: 20
Module Leader: Dr Maria Kavassanu	Lecture Times: TBC
Module Availability: Full Year & Semester 1	
Module Description: An appreciation for the various personality and social-psychological factors that underlie participation and performance in physical activity contexts is an important aspect of Sport and Exercise Science. This module offers a broad survey of the sport and exercise psychology literature and consists of five parts. The first part examines individual differences and sport behaviour with particular emphasis on anxiety and self-efficacy; the second is about motivation in physical activity contexts; the third covers material in group processes; the fourth discusses morality in sport including aggression; and the fifth discusses issues in exercise psychology.	
Module Assessment: 25% Field Observation; 15% Poster; 60% Exam	

Module Title: Functional Anatomy & Human Movement	Module Code: New Module
Semester: 1	Credits: 20
Module Leader: Dr Vikki Burns	Lecture Times: TBC
Module Availability: Full Year & Semester 1	
Module Description: This module will focus upon the complementary sciences of Biomechanics, Functional Anatomy and Neuroantomy in examining the behaviour of the musculo-skeletal system in the performance of sport.	
Module Assessment: TBC	

Module Title: Biochemistry & Cell Physiology	Module Code: 23607
Semester: 2	Credits: 20
Module Leader: Dr Sarah Aldred	Lecture Times: TBC
Module Availability: Full Year & Semester 2	
Module Description:	

This module will provide a sound basis in biochemistry and cell physiology which will be taken forward and built upon in the 2nd and 3rd years; will specifically provide the ground work for the second year module in Exercise Metabolism and the final year modules in Exercise Biochemistry, Muscle Fatigue and Damage, Sports Nutrition and Physical Activity and Health. The module covers: the structure and function of important biomolecules including carbohydrates, fats, proteins and nucleic acids; the structure and function of organelles; the biochemical characteristics of muscle fibres; the structure and function of muscle fibres; membrane transport; proteins as enzymes, receptor, antibodies; major pathways of energy metabolism and how these are regulated; the mobilisation and utilisation of fuels for exercise and the hormonal responses to exercise; examples of important techniques in biochemistry.
Module Assessment: 20% MCQ; 20% Lab Write Up; 10% Short Writing; 50% Exam

Module Title: Introduction to Sport Policy & Management	Module Code: 23858
Semester: 2	Credits: 20
Module Leader: Mr Paul Brannagan	Lecture Times: TBC
Module Availability: Full Year & Semester 2	
Module Description: This is the first of a new sport policy strand that will run through the three years of the programme. The module will introduce students to key aspects of sport and leisure management policy in the UK. It will develop students' knowledge and understanding of key government policies focusing upon community, elite and school sport. Students will be introduced to the fundamental issues associated with the management of sport and will examine the 'place' of sport and leisure within British society.	
Module Assessment: 25% Group Presentation; 75% Essay	

Year 2 Modules:

Module Title: Applications of Sport Psychology	Module Code: 23609
Semester: 1	Credits: 20
Module Leader: Dr Jennifer Cumming	Lecture Times: TBC
Module Availability: Full Year & Semester 1	
Module Description: A sound understanding of psychological theories and the ability to critically evaluate relevant empirical evidence are important prerequisites for successful application of psychological knowledge in sport and exercise sciences. This module provides an overview of various sport psychology topics at an intermediate undergraduate level. The significant role of individual characteristics and social processes when designing interventions to enhance sport performance and participation is explained.	
Module Assessment: 20% MCQ Class Test; 20% Design Proposal; 60% Coursework	

Module Title: Exercise Physiology	Module Code: 23647
Semester: 1	Credits: 20
Module Leader: Dr James Fisher	Lecture Times: TBC
Module Availability: Full Year & Semester 1	
Module Description: This module builds on the knowledge and understanding provided by level 1 modules in Human Physiology and Biochemistry. The responses of the major physiological systems of the body to exercise and environment are studied. The integrative nature of the neural, muscular, metabolic, respiratory and cardiovascular responses is examined in some detail.	
Module Assessment: 20% Coursework; 20% In Class Test; 60% Exam	

Module Title: Sports Development	Module Code: 23864
Semester: 1	Credits:
Module Leader: Mr Ceri Wynne	Lecture Times: TBC
Module Availability: Full Year & Semester 1	
Module Description: This module focuses upon policy, process and practice in sports development. It will develop students' knowledge and understanding of youth sport development, community sports development (social inclusion and health), elite sport development and sporting events.	
Module Assessment: Essay 50%; Exam 50%	

Module Title: Exercise Metabolism	Module Code: 19172
Semester: 2	Credits: 20
Module Leader: Dr Andy Blannin	Lecture Times: TBC
Module Availability: Full Year & Semester 2	
Module Description: This module builds on the first year module *Biochemistry and Cell Physiology* and provides the basis for the biochemistry orientated modules in the third year: *Sports Nutrition* and *Mechanisms of*	

Adaptations to Training. In this module students will examine the mechanisms that activate fuel mobilisation, transport and oxidation and of pathways activated during exercise. The module will also focus on methods to study metabolism from whole body to the molecular level as well as analytical skills. Then with the basic knowledge of metabolic pathways and the available methods the final part of the autumn term will explore the metabolic interactions of different organs. The regulation and mechanisms for the response to exercise and adaptations to exercise training will be examined. The module will evaluate the exercise signals and molecular signalling routes by which strength training leads to muscle hypertrophy and endurance training to mitochondrial biogenesis. The module will also explore the health benefits of regular activity and the underlying mechanisms. The final part of the module will introduce reactive oxygen and nitrogen species, as well as components of the immune system and how they are affected by exercise. At the end of the module the students should be able to present an integrative overview of the mechanisms by which metabolism is regulated during exercise and the molecular adaptation in the muscle as well as whole body metabolism in response to chronic exercise.
Module Assessment: 20% MCQ Tests; 20% Critical Evaluation; 60% Exam

Module Title: Sensation & Movement	Module Code: 20105
Semester: 2	Credits: 20
Module Leader: Dr Francois-Xavier Li	Lecture Times: TBC
Module Availability: Full Year & Semester 2	
Module Description: This module forms a link between the introductory material on the nervous system in year one and many of the modules and research projects in year three. We look at how the nervous system responds to the external world, processes information and produces appropriate outputs. The course is mainly based on two textbooks and the lectures are intended to add interest and originality to the core material covered by these books. The module covers selected aspects of the physiological operation of the nervous system and also acts as an introduction into the higher order processes linking information to action.	
Module Assessment: 10% Coursework; 30% In-class Test; 50% Exam	

Module Title: Innovation & Professional Practice in Sport	Module Code: 23862
Semester: 2	Credits: 20
Module Leader: Dr Mark Griffiths	Lecture Times: TBC
Module Availability: Full Year & Semester 2	
Module Description: The module adopts a model-based approach to sports instruction. Drawing from theories of learning, students will be encouraged to consider critically a range of instructional models (e.g. TGFU, Sport Education) and how these might be applied. A model based approach offers a framework within which to consider pedagogical approaches to sport, and students will be expected to identify, plan, adapt and apply teaching/coaching models to a variety of sporting contexts.	
Module Assessment: 25% MCQ Test; 25% Critical Reflection; 50% Essay	

Year 3 Modules:

*The following Third Year (Level H) modules are normally timetabled at the same time, so you may only be able to choose ONE from any Group:

Semester 1		Semester 2	
Group A	**Group B**	**Group C**	**Group D**
Applied Motor Control	Character Development	Motivation in Sport & Exercise Settings	Exercise as Medicine
Molecular Adaptation to Training	Environmental Physiology	Exercise & Behavioural Immunology	Cardiovascular and Respiratory Control in Exercise
Psychology of Lifestyle Physical Activity	Techniques in Neuroscience	Sports Nutrition	Neuroplasticity & Neurorehabilitation
Politics and Sport	Health Psychology	Sociology of Sport: Participation & Performance	Oxidative stress in Exercise, Ageing, and Disease
Sport Psychophysiology		Skill Acquisition & Motor Learning	

Group A:

Module Title: Applied Motor Control	Module Code: 23652
Semester: 1	Credits: 20
Module Leader: Dr Francois-Xavier Li	Lecture Times: TBC (Group A)
Module Availability: Full Year & Semester 1	
Module Description: The way complex movements are coordinated has been the object of research for nearly a century. Although much progress has been made, this is still a very active field of research with debates on how the brain is controlling our movements. This debate will be the topic of the first third of the module. The second third will investigate how we can apply the current knowledge to help adult sport persons improving their motor coordination and efficiency. Finally the last part of the module will investigate how to control their movements.	
Module Assessment: 30% Coursework; 70% Exam	

Module Title: Molecular Adaptations to Training	Module Code: 26419
Semester: 1	Credits: 20
Module Leader: Dr Andy Philp	Lecture Times: TBC (Group A)

Module Availability: Full Year & Semester 1
Module Description: Regular exercise and training leads to increases alterations in daily energy requirements and fuel oxidation. Much of this adaption at the whole body level is due to molecular alteration in the skeletal muscle which influences important muscle qualities such as strength and endurance. This module will examine current approaches used to study training adaptation, from whole-body systemic markers, through to gene and protein modification in skeletal muscle. Special attention will be given to the mechanisms that lead to these adaptations, specificity in adaptation resulting from endurance and resistance training, and examine the interaction between exercise and diet to improve skeletal muscle performance during health and disease.
Module Assessment: 40% Coursework; 60% Exam

Module Title: Psychology of Lifestyle & Physical Activity	Module Code: 20102
Semester: 1	Credits: 20
Module Leader: Dr Frank Eves	Lecture Times: TBC (Group A)
Module Availability: Full Year & Semester 1	
Module Description: Lifestyle physical activity such as personally powered transport (walk or cycle to work, stair climbing etc) is the current target of public health. Current approaches to physical activity promotion are based within the Socio-Ecological model. Such an approach recognises that the environment and policy decisions can have major impacts on physical activity, in addition to the effects of intrapersonal and interpersonal factors. This course takes an inclusive approach to the issue. Hence it outlines the energy minimization of locomotion, the perceptual processes that govern ego-motion and the fit of this perception with the environment. Following this, the social and environmental determinants of lifestyle physical activity are outlined. Thus issues about the development of habitual behaviour, and effect of social and environmental constraints on that behaviour are covered. The course ends with a series of lectures on interventions based on the nascent Socio-Ecological model of lifestyle physical activity.	
Module Assessment: 30% Coursework; 70% Exam	

Module Title: Politics & Sport	Module Code: 22048
Semester: 1	Credits: 20
Module Leader: Dr Jonathan Grix	Lecture Times: TBC (Group A)
Module Availability: Full Year & Semester 1	
Module Description: This module explores the key political issues and controversies of sport in contemporary society. The study of sport cuts across many critical issues and core themes including the meaning of sport, the politics of sport, approaches to the study of sport, the commercialisation of sport (in particular sponsors, owners and promoters), global sport (e.g. the Olympic Games), the instrumentalisation of sport for political purposes (including studying other countries and their sports systems), sports policy processes in the UK, sports development and the leveraging of sports mega-events for social, economic, political and reputational benefits.	
Module Assessment: 50% Coursework 50%; 50% Exam	

Module Title: Sport Psychophysiology	Module Code: 22473
Semester: 1	Credits: 20
Module Leader: Professor Chris Ring	Lecture Times: TBC (Group A)
Module Availability: Full Year & Semester 1	
Module Description: This module examines key topics in the psychology of sport (e.g., anxiety and performance, competition, emotion, aggression) and exercise (e.g., cognitive function, pain, mood) from a psychophysiological perspective.	
Module Assessment: 30% Essay; 70% Exam	

Group B:

Module Title: Character Development in Sport & Exercise	Module Code: 26381
Semester: 1	Credits: 20
Module Leader: Dr Ian Boardley	Lecture Times: TBC (Group B)
Module Availability: Full Year & Semester 1	
Module Description: This module builds on some of the psychology elements from the Year 2 SPECS Sport Science in Movement and Year 1 SES Foundations of Sport & Exercise Psychology modules. More specifically, it focuses on the elements of these modules relevant to morality and ethics in sport and exercise. The primary aim is to explore how sport and exercise can be used most effectively to develop desirable behaviours such as fair play and prosocial behaviour in participants. In addition, the module will also consider the effects of sport and exercise participation on character traits that extend beyond sport and exercise participation.	
Module Assessment: 25% Essay; 15% Poster; 60% Exam	

Module Title: Environmental Physiology	Module Code: 23942
Semester: 1	Credits: 20
Module Leader: Dr George Balanos	Lecture Times: TBC (Group B)
Module Availability: Full Year & Semester 1	
Module Description: The physiological adaptations that take place due to exposure to challenging environmental conditions are fascinating and provide clear insight into normal physiology and homeostatic mechanisms. The module will cover three main areas: altitude, pressure (diving), cold/hot environments. In each section of the module the basic physiological adaptations will be described before exploring challenges that are imposed on the human body during exercise in these conditions. Each section will have seminars and a practical component.	
Module Assessment: 40% Coursework; 60% Exam	

Module Title: Techniques in Neuroscience	Module Code: 23519
Semester: 1	Credits: 20
Module Leader: Dr Raymond Reynolds	Lecture Times: TBC (Group B)

Module Availability: Full Year & Semester 1
Module Description: This module will cover a variety of techniques used to investigate the role of the nervous system in controlling human behaviour, with an emphasis on neural control of movement.
Module Assessment: 30% Coursework Essay; 70% Exam

Module Title: Health Psychology	Module Code: New Module
Semester: 1	Credits: 20
Module Leader: Dr Anna Phillips	Lecture Times: TBC (Group B)
Module Availability: Full Year & Semester 1	
Module Description: The module will address the major issues in Health Psychology from the contribution of psychological, behavioural, and physiological factors and processes to health and illness to the application of psychological theories and techniques to the prevention and amelioration of illness and the promotion of health.	
Module Assessment: 35% Critical Debate Essay; 5% Online quizzes to accompany some lectures; 60% Exam	

Group C:

Module Title: Motivation in Sport & Exercise Settings	Module Code: 23610
Semester: 2	Credits: 20
Module Leader: Professor Joan Duda	Lecture Times: TBC (Group C)
Module Availability: Full Year & Semester 2	
Module Description: The overall purpose of this module is to foster an in-depth understanding of the motivation-related determinants of participation, performance, and persistence in sport and exercise activities. In this module, the major theoretical frameworks and empirical findings related to the study of motivation in the physical domain will be examined. The implications of this body of literature for sound interventions focused on the enhancement of physical activity will also be addressed.	
Module Assessment: 30% Essay; 70% Exam	

Module Title: Exercise & Behavioural Immunology	Module Code: 19176
Semester: 1	Credits: 20
Module Leader: Dr Vikki Burns	Lecture Times: TBC (Group C)
Module Availability: Full Year & Semester 2	
Module Description: This module examines how exercise and psychological factors influence immune function and what consequences these alterations may have for health. It includes developing an understanding of basic and neuroendocrine immunology, and applying this to athletic, healthy, older, and patient populations. Topics include the role of the immune system in overtraining, how stress and exercise influence wound healing and vaccination responses, and the role of stress and exercise in the	

progression of HIV and cancer. Students will learn to critically evaluate the existing literature, design plausible proposals for future research, and how to convey the findings of research to a lay audience.
Module Assessment: 10% Popular Science Article; 30% Study Proposal; 60% Exam

Module Title: Sports Nutrition	Module Code: 20101
Semester: 2	Credits: 20
Module Leader: Dr Gareth Wallis	Lecture Times: TBC (Group C)
Module Availability: Full Year & Semester 2	
Module Description: This module provides a biochemical and physiological explanation of nutrition requirements of different types of exercise and sports. Particular note is taken of the interaction between nutrition and exercise performance. You will be expected to draw on your knowledge of physiology and biochemistry, interpret scientific studies after critical reading and analysis and should be able to translate the theory into practical advises for athletes.	
Module Assessment: 30% Essay; 70% Exam	

Module Title: Sociology of Sport: Participation & Performance	Module Code: 26424
Semester: 2	Credits: 20
Module Leader: Dr Martin Toms	Lecture Times: TBC (Group C)
Module Availability: Full Year & Semester 2	
Module Description: This module will build upon the foundations of sociology explored in the year 1 module. It then explores a number of these concepts (for example interactionist and figurational theories and the work of theorists like Bourdieu, Elias and Foucault) as they apply to the spectrum of participation in sport (with a focus upon coaching). Students will be involved in the sociological analysis of issues such as (for example) talent identification; participant development; the coach athlete dyad; and the influence of the family on participation from the perspectives of key stakeholders, using the theoretical frameworks (e.g. social capital) to explore the meaning of participation at these levels. Theoretical analysis will be used to further develop depth and breadth of understanding of these issues and implications for teachers and coaches. Other areas that will be explored include (for example) power, social positioning and socialisation. All of these will be explored along the spectrum of participation to performance levels, with emphasis on the engagement of the students on theorising and reflecting upon their own developmental experiences.	
Module Assessment: 40% essay; 60% exam	

Module Title: Skill Acquisition & Motor Learning	Module Code: 24983
Semester: 2	Credits: 20
Module Leader: Mr Luke Wilkins	Lecture Times: TBC (Group C)
Module Availability: Full Year & Semester 2	
Module Description: Skill acquisition and motor learning encompasses an area of study that explains how we acquire,	

develop and retain new movement skills. The first part of the module, will explore the key concepts and theoretical frameworks for understanding how performers progress from novices with low levels of proficiency to experts who have mastered their skills. In the second part of the module students will learn how to assess motor skill proficiency and design training programs that optimise the quality and speed of skill acquisition.
Module Assessment: 40% Assignment Research Proposal; 60% Exam

Group D:

Module Title: Exercise as Medicine	Module Code: 27534
Semester: 2	Credits: 20
Module Leader: Dr Jet Veldhuijzen van Zanten	Lecture Times: TBC (Group D)
Module Availability: Full Year & Semester 2	
Module Description: By the end of this module, students should be able to: discuss and design exercise regimes for (clinical) populations; discuss and design exercise promotions for (clinical) populations; discuss the physiological and psychological benefits of exercise; discuss the associations between physiological and psychological benefits of exercise.	
Module Assessment: 10% Summary of Proposal; 30% Study Proposal; 60% Exam	

Module Title: Cardiovascular & Respiratory Control in Exercise	Module Code: New module
Semester: 2	Credits: 20
Module Leader: Dr Mike White	Lecture Times: TBC (Group D)
Module Availability: Full Year & Semester 2	
Module Description: TBC	
Module Assessment: TBC	

Module Title: Neuroplasticity & Neurorehabilitation	Module Code: 23945
Semester: 2	Credits: 20
Module Leader: Dr Michael Grey	Lecture Times: TBC (Group D)
Module Availability: Full Year & Semester 2	
Module Description: Recent advances in neuroscience demonstrate how the central nervous system (CNS) has a remarkable capacity to adapt and change over the course of one's life or after injury. Activity-dependent neuroplasticity is the adaptation that occurs in the CNS as an individual learns new motor skills or relearns previously acquired movements. Principles of neuroplasticity, movement science, and learning provide a foundation for innovation in rehabilitation therapies. This course will examine the mechanisms of plasticity from the cellular to system level. The course will cover the basic science of neuroplasticity relevant to the normal CNS as it develops and ages; and the how it contributes to	

the recovery of function following injury to the nervous system. We will review mechanisms of plasticity from the synaptic level to the brain. We will examine how advances in neuroplasticity and neurorecovery have influenced rehabilitation. The format of this course will utilize formal lectures on current theories of neuroplasticity and class discussion on current literature in each of these areas. Case studies will be utilized to apply current theories to practical application.
Module Assessment: 30% In-class Essay; 70% Assignment

Module Title: Oxidative Stress in Exercise, Aging & Disease	Module Code: 23944
Semester: 2	Credits: 20
Module Leader: Dr Sarah Aldred	Lecture Times: TBC (Group D)
Module Availability: Full Year & Semester 2	
Module Description: This module will examine current research and knowledge in 3 main areas: 1) Oxidative stress and the exercise paradox – radical release in exercise, 2) The Free radical theory of ageing examining average lifespan and maximum lifespan, 3) Diseases associated with oxidative stress examining linked pathologies.	
Module Assessment: 15% Training Study; 25% Essay; 60% Exam	

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