

Welcome to Sports and Exercise Science BSc (Hons)

Short course introduction

The Sport and Exercise Science degree at the University of Northampton focuses on the scientific principles that underpin sport and exercise. Our programme of study is practical based, stimulating, well-structured and research-informed covering a range of topic areas including biomechanics, physiology, and psychology. The practical elements of the degree make use of purpose-built laboratories to develop the students' knowledge and understanding of the key issues within sport and exercise science. Our academic staffs are research active, enthusiastic, and experienced teachers. Our careers and employability module ensures our graduates are well-prepared for employment. Additionally, the programme offers internship opportunities with three local professional sports clubs in the area.

Course overview

Evidence as to the need for exercise for fitness and health is now widely accepted in industry, education, medicine and sport. This increasingly important role has led to a demand for scientific evidence to improve sport performance. These factors have contributed to sport becoming one of the most rapidly advancing areas of study. The course aims to develop graduates who can think critically and analytically from a scientific perspective, and who also possess a range of personal and transferable skills. We have purpose-built laboratories which enable physiological, biomechanical and psychological practical skills to be developed alongside the practical experiences gained throughout all areas of sport and exercise science. The first year provides an introduction to the core disciplines which underpin the academic analysis of sport and provides a platform from which knowledge, understanding and practical/laboratory skills are developed. In years two and three students can select modules from a range of modules which allows students to tailor their studies towards a particular area of interest within Sport and Exercise Science.

In year one students acquire a sound understanding of the fundamentals of sport and exercise science. This will be achieved through study of the areas of biomechanics, physiology, fitness training methods and psychology. Once a theoretical base has been established more specialised areas of sport and exercise science, such as anthropometry and biomechanical analysis, are developed in the final two year along with further work in the main science-based subjects. In year two students combine the compulsory core modules (Sport Research Methods) with selected modules from across the subject area. There will be opportunity to contextualise theory in practical sessions and courses will be underpinned by research methods.

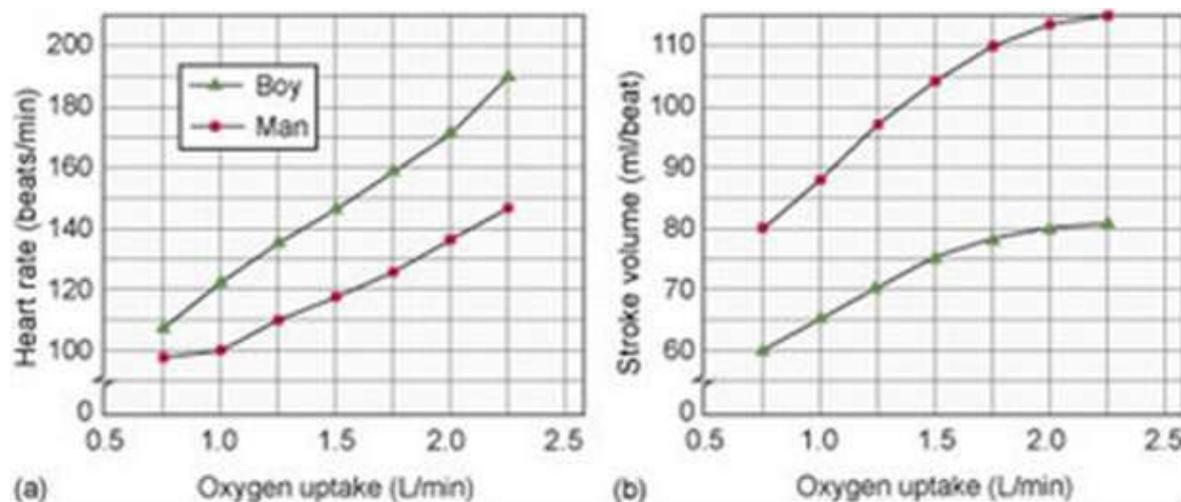
Our sport and Exercise Science programmes also features an optional career and employability module in the first year, which focus on developing students' awareness of their subject-specific and transferable skills and a reflective approach to learning. We feel that this experience gives our graduates a head start when applying for employment or postgraduate training/study. The final year of study will enable students to develop a critical understanding of the scientific principles underpinning sport and exercise performance. Further specialisation within a specific sport and exercise discipline culminates in an individual piece of research work on a topic of their choice.

The modules are taught in structured programmes that are delivered within the classroom, sports hall and laboratories or in a blended learning environment. All sessions are supported by our online learning environment, NILE. Students can expect two hours of contact time each week for each module. Classes are delivered in a variety of means – lectures, seminars and practicals and our aim is to provide opportunities for students to become actively involved in their learning. As such, for each two hours of contact time there will be an additional 3 hours of non-contact directed study. Personal tutorials, and meetings with a personal academic tutor are additional to the time spent in the class and would average another one hour per week.

Typical modules undertaken throughout the three years of study include:

- Anatomy and human movement
- Biomechanical basis of sport and exercise
- Injury prevention and rehabilitation
- Physiological function and response
- Contemporary Issues in Sports Physiology
- Psychology of individuals and groups in sport
- Research methods.

Pre-course activities



The figure above outlines the heart rate and stroke volume profile during a graded exercise test for a boy compared to a man.

Explain why the boy has a higher heart rate (HR) throughout the duration of the exercise. Then define the term stroke volume (SV) and again explain why SV is constantly lower for the boy during the exercise period.

Additionally try and explain the link between the lower SV and higher HR for the boy during the exercise period, think about cardiac output.

Any that students can do to get into/involved with the content in advance – as above, this is more to help applicants prepare for starting the programme with us, so that they can hit the ground running as much as possible.

Click on the link below for additional pre-course activities you may wish to work through.

<http://www.exercise-works.org/latest-news/2016/4/12/new-mooc-course-on-physical-activity-viaphysiopedia-and-exe.html>

There is no requirement to complete any of the pre-course activities prior to the start of your course.

Course, core reading list

Physiology of Sport and Exercise (4th edn), Human Kinetics. Wilmore. J.H., Costill, D.L, Kenney, W.L, 2008.

Foundation of sport and exercise psychology Robert S. Weinberg, Daniel Gould c2011.

Essential reading for sport and exercise psychology Daniel Smith, Michael Bar-Eli 200.

Sports biomechanics: the basics: optimising human performance. A&C Black. Blazeovich, A.J., 2013.

New Functional Training for Sports. Human Kinetics. Boyle, M., 2016.

Strength and Conditioning for Sports Performance. Routledge. Jeffreys, I. and Moody, J. eds., 2016.

Lists of materials required:

No material required.