

Newsletter 2018

IBERS Institute of Biological, Environmental and Rural Sciences

*Sport, Exercise &
Human Health*

List of Courses

BSc

Sport and Exercise Science
Human Biology and Health

Interested? Phone **Dr Marco Arkesteijn** on
01970 628559 or Email: **maa36@aber.ac.uk**

Volunteering with Disability Sport Wales and the Mid Wales Pathway Development Hub



The team of Sport and Exercise Science students volunteering regularly at the Mid Wales Pathway Development Hub of Disability Sport Wales

In September 2017 a fantastic opportunity arose for students to volunteer alongside potential Paralympic Athletes from mid Wales. Fortnightly, athletes with a range of disabilities gather at Penglais School to develop technique, complete strength and conditioning exercises and have fun!

As volunteers we were asked what interested us most from coaching, biomechanics, strength and conditioning, physiology, nutrition and performance analysis. This means we have been able to tailor this opportunity to not only

benefit the athletes but also to be able to enhance our CV's with practical work experience in the area we desire. It has also been a great networking opportunity as we can benefit from the contacts we have made and they can also signpost us in the right direction to get further work experience.

The Development Hub is a really exciting venture as it is the first one like it in Wales and as students at Aberystwyth University we are so lucky to have such an amazing opportunity on our doorstep. It's been so interesting to be able to transfer what we have learnt in lectures to apply it to real life situations and see what it is like to be a Sport and Exercise Scientist in the 'real world'. It has also given us the opportunity to do our own further research in how to best apply our knowledge to disabled athletes, as each of the athletes have different needs, we have had to think creatively in order to adapt our knowledge to fit them.

Anna Jones, third year and Exercise Science Sport

Insight into a third year module: a student's perspective

I have benefited from taking the Advanced Biomechanics module in my third year of Sports and Exercise Science. With my interest being focused on sports analysis, I felt this module was suitable in helping me to understand basic biomechanical aspects that will be beneficial when applying for a job related to sports analysis.

The module covered a variety of different aspects, and allowed us to use different types of equipment, including force plates, electromyography and 3D motion analysis systems. Additionally, the module allowed us to test on real life participants, and gave us the opportunity to provide feedback to runners on their running techniques, and suggest possible ways to prevent injury. Following the use of this equipment and testing of the participants, we were taught how to interpret the biomechanical data collected. We learnt about the different ways of processing kinematic data.

At first, the content seemed difficult to understand, but given the intensity of the module, my understanding became very clear, with regular and critical feedback. The module is very intense, with assignments being completed week after week, at first it may seem a lot, however, the module has helped me motivate myself to do better.

**Rhiannon Thomas,
third year Sport and Exercise Science**

First year students role-playing their way to understand the barriers to physical activity

Although 'only' in the first year of their degree programmes, as future sport, exercise, or health scientists it's never too early to experience working with clients! In their *Foundations of Exercise Psychology* module our BSc Sport & Exercise Science and BSc Human Biology & Health students learn how to translate theoretical principles into practical tools to help facilitate behaviour change. Here they engage in role-play scenarios - one as the healthy lifestyle practitioner, one as the GP-referred patient - and find solutions to barriers to physical activity that the patient may have; the students develop practical skills for their remaining time as students as well as in any career path that they take.



Students were tasked to be patient or professional as part of the module's activities.

Genetics and biochemistry: it's got nothing to do with sport and exercise science, right?

Last semester saw the first cohort of Sport and Exercise Science students take the modules Applied Genetics, Biochemistry and the Cellular Basis of Life. Inclusion of such modules into the Sport and Exercise Science degree scheme allows students to see the importance of how genetics and biochemistry impacts health and sporting performance. For instance, our genetic make-up influences our

muscle characteristics which in-turn influences running performance.

The inclusion of these modules has already benefited students in their other modules. For instance, in the module Human Anatomy, understanding of the cell structure and contents (taught in Biochemistry and the Cellular Basis of Life) helped students understand muscle structure and bone

development. Similarly, as part of the Study and Communication Skills module, some students were asked to present for 5 minutes on the association between genetics and biochemistry and sport and exercise. The presentations demonstrated understanding of the basic principles and the ability of the students to apply it to wider applications in sport and exercise.

Getting to grips with practical skills!

Students gain hands-on experience of a variety of techniques during their studies. Here, Sport and Exercise Science students use surface electromyography to better understand how a muscle produces force during a fatiguing hand grip strength test.

