



Sports and Exercise Science & Medicine



Physiological & Exercise Testing 1: Aerobic Fitness & Physical Activity

Aims:

- Enable students to understand the principles, assumptions, strengths and limitations of commonly used tests of cardiorespiratory fitness and physical activity
- Provide students with hands on practical experience of performing these tests and an appreciation of when particular tests are most appropriate (residential week)
- Provide students with experience of analysing, interpreting and critically evaluating data collected

Intended Learning Outcomes: By the end of this course students will be able to:

- Critically evaluate the principles, assumptions, strengths and limitations of commonly used tests of cardiorespiratory fitness and physical activity - Perform a range of tests to determine cardiorespiratory fitness and physical activity level
- Critically review and analyse the data collected in the practical sessions
- Communicate their findings clearly and concisely in a written report

This course starts on 19 September 2016.

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Instructions: Clicking on the section name will show / hide the section.

▶ Course Information

Topic 1

▶ Final Assessment - deadline 09/1/17

Topic 2

▶ Block 1 - Aerobic fitness and physical activity - an introduction w/c 19 September 2016

Topic 3

▶ Block 2 - Maximal exercise testing w/c 3 October 2016

Topic 4

▼ Block 3 - Submaximal cycle ergometer tests w/c 17 October 2016

Topic 5



This week's topic is on Submaximal cycle ergometer tests and how they can be used to predict  $\dot{V}O_2^{\max}$ .

The learning outcome for this week:

- Perform submaximal exercise tests to estimate maximal oxygen uptake both with direct measurement of oxygen uptake and estimation of oxygen uptake from exercise work rate
- Critically evaluate the assumptions, limitations and errors associated with a range of laboratory-based sub-maximal exercise tests

Available from 17 October 2016, 9:30 AM

<b>Course code</b>	Core courses MED5356, MED5357, MED5358, MED5359, MED5365	
<b>Title of course</b>	Sport & Exercise Science & Medicine	
<b>Course lead contact</b>	Dr Stuart Gray ( <a href="mailto:stuart.gray@glasgow.ac.uk">stuart.gray@glasgow.ac.uk</a> )	
<b>No of credits</b>	180 (60 credits per year)	
<b>Level of course (UG/PG) &amp; year</b>	MSc (36 months part-time)	
<b>No. of students</b>	30	
<b>Platforms used</b>	<ul style="list-style-type: none"> <li>• Moodle</li> </ul>	
<b>Multimedia content</b>	<ul style="list-style-type: none"> <li>• Video – Camtasia screen recordings or mini-lectures</li> <li>• SCORM packages e.g. Storyline Articulate</li> </ul>	<b>Learning activities</b>
		<ul style="list-style-type: none"> <li>• Forums</li> <li>• Wikis</li> <li>• Quizzes</li> </ul>
<b>Describe your online learning approach.</b>	<p>This is an online distance MSc programme, running over the course of 3 years. The first year comprises 5 core courses, the second year students choose 3 out of 9 possible optional courses, and the third year is dedicated to a dissertation project.</p> <p>The teaching itself is provided by weekly lectures (2-4 hours/week), recorded via Camtasia. Compared with a traditional lecture, the Camtasia recordings are organised around smaller chunks of information. These recordings are complemented by online lab courses, which are essentially videos of experimental techniques in the lab e.g. for testing somebody's fitness and</p>	

	<p>strength. Students are then given data (generated by the on-campus students) which they are required to analyse for whatever purpose the measurements are made. There is also a week-long residential week at the end of the first year, where the students get a hands-on experience of carrying out these tests themselves.</p> <p>Students are also able to discuss the lecture material or raise queries pertaining to administrative or technological issues through a Moodle forum, which is moderated by staff.</p>
<p><b>Why was this online approach taken?</b> i.e. what issue was it trying to solve?</p>	<p>The programme was developed as an online version of an existing on-campus MSc degree programme in order to open it up to people who could not give up a year of work. The online students are mostly professionals who benefit from the information presented in the courses, but would not otherwise give up their career for a full-time year-long Master's degree. It also potentially opens up the programme to foreign markets, although the majority of the current students are based in the UK.</p>
<p><b>What advice would you give to other teachers</b> taking this approach for the first time?</p>	<p>In the development stage, first of all, discuss your plans with the Digital Education Unit to make sure you have access to technologies and you know how to use them. Get advice on how to best approach recording a lecture, whether it is to break it up into smaller chunks, etc. Also, allow for sufficient time to do it, because it is easy to underestimate how much time it actually takes.</p> <p>In the delivery stage, the major piece of advice would be to not just put the material online, but also manage it. Online presence is crucial, so make sure you are available on discussion boards – stimulating discussion or answering in response to a discussion.</p>
<p><b>What student support needs should be taken into account?</b> i.e. how did you support their transition into this way of learning?</p>	<p>The Digital Education Unit within MVLS has put together a site ensuring that the students are digitally literate, i.e. showing them how to work within the online environment and making sure that the devices they use are at the correct specifications.</p> <p>Attention has to be given to the fact that the students have varied schedules. Some of the students asked for the videos to be downloadable, as they were only available for streaming at first. After this request we made sure that they could access the material offline (e.g. in transit).</p>
<p><b>What are the lessons for the institution and the sector</b> from this work?</p>	<p>Overall, the programme has been a success – we have seen an upward trend in enrolment since the first year and students are largely satisfied with the course and its availability online. This serves as an evidence that online environment can work well for the right student group.</p> <p>With regards to teaching practice, it is valuable to realize that the materials developed for online purposes can be used to enhance the on-campus instruction as well. Developing online courses gives the lecturer a bank of resources that are available to use with their on-campus students – perhaps in a more flipped classroom approach – and thus benefit from the increased opportunity for discussion in face-to-face sessions.</p> <p>Nonetheless, the development of a course such as this takes a lot of time and effort and it is not something that can be done on the side. It needs a dedicated group of people who have a definite goal and put proper effort into reaching it. Even though the time investment decreases after the first cohort, it still stays significantly high because of discussion monitoring and assessment. Hence, from the viewpoint of the institution, it is important to ensure there is appropriate staff available at all stages of development and delivery of the course.</p>