

EXERCISE AND SPORTS SCIENCE SCHOOL PACKAGES

Bond University
Institute of Health and Sport





Bond University's Exercise and Sports Science team has developed a range of activities to promote greater understanding of the exercise sciences for Year 10-12 physical education high school students. These packages allow students with an interest in the science of sport, and the use of technology and athlete testing to learn from highly-experienced staff at the Bond Institute of Health and Sport.

Schools and teachers can choose one package, or a suite of packages (below), relevant to their current physical education curriculum schedule. Bond University will provide a detailed workbook for each visiting group, which allows students to record and quantify the outcomes, and where relevant, answer specific questions and discuss the scientific basis of the results.

PACKAGES*

1. Aerobic Testing: Maximal Oxygen Uptake ($\text{VO}_{2\text{max}}$) Test

Maximal aerobic capacity ($\text{VO}_{2\text{max}}$) is a fundamental physiological test of an individual's cardiovascular and cardiorespiratory fitness. Two students will have the opportunity to undertake the test on a cycle ergometer. The aim is to test athletes and record workloads, heart rates, Rating of Perceived Exertion (RPE) as well as the volume of oxygen consumption (VO_2) through the use of a metabolic cart.

2. GPS Technology Module

Global positioning systems (GPS) are common in professional team sports for tracking player movement and running velocity. Students can undertake small sided games (e.g. touch) while wearing GPS units to understand the outputs of velocity, number of sprints, distance covered and time spent in different zones.

3. Anaerobic Testing: 10-Second and 30-Second Power Tests and 40 m sprints

This session will focus on the two anaerobic systems - the alactic and lactic-glycolytic energy systems. Set duration power tests will be undertaken on indoor Wattbikes (3 - 4 students) while timing gates will be used to determine outdoor sprint times (5-10 students, weather permitting). The tests provide data on short- and medium-term power and velocity.

4. Force Plate Testing and Body Composition Measurement

Force plate technology permits the measurement of ground reaction forces and flight times for biomechanical analysis of movement, and students will measure force and power using different types of jumps. Alternately, the Bond University 'BodPod' provides a non-invasive estimate of body composition through air displacement for high precision calculation of fat and lean mass. Students will have exposure to each of these scientific instruments to gain insight on the science of movement and anthropometry.

5. Recovery Experience

Using the High Performance Training Centre's hot (33°C - 34°C) and cold (13°C - 14°C) plunge pools plus the 25m heated swim pool, students experience contrast water immersion and the type of protocols used by elite athletes to enhance recovery from training and / or competition.

PRICING**

| No. of students | 1 - 15 Students | 16+ Students |
|---------------------------------------|-------------------|-------------------|
| Packages 1-4 (60-90 minutes) | \$250 per package | +\$25 per student |
| Recovery Experience 30 minutes | \$125 | +\$25 per student |
| Full day/all packages | \$1,000 | +\$25 per student |

To enquire now, contact SPEXevents@bond.edu.au

*Please note a minimum of 4 weeks' notice is required for package bookings

**This pricing was correct at time of print, please confirm current pricing with above email

bond.edu.au

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