

Sports science programs

Laboratory sports testing day programs for high school students



For enquiries and bookings

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Communities
Sport & Recreation

Students test their physical skills while exploring aspects of the PDHPE syllabus with a Sydney Academy sports science program. Using equipment not available to most schools, our expert sports scientists deliver an experiential program that gives students an opportunity for hands-on learning.

These same professionals have worked with members of the Waratahs, NSWIS Winter Sports Program, Manly Sea Eagles and other elite athletes to improve their performance.

The program includes:

- Sports testing
- Tailored sports science demonstrations for years 10, 11 and 12

Programs generally take 3 hours and cover syllabus learning outcomes from Stages 5 and 6. We tailor our programs to the learning outcomes you nominate.

Some of the relevant curriculum outcomes we can cover include the following:

Stage 5

PASS Physical Fitness module

- Physical fitness
- Developing physical fitness
- Measurement and evaluation

Stage 6

PDHPE Preliminary Core Topic 2 – The Body in Motion

- How do the musculoskeletal and cardiorespiratory systems of the body influence and respond to movement?
- What is the relationship between physical fitness, training and movement efficiency?
- How do biomechanical principles influence movement?

PDHPE HSC Core Topic 2 – Factors Affecting Performance

- How does training affect performance?
- How can nutrition and recovery strategies affect performance?

PDHPE HSC Option Topic 4 – Improving Performance

- How do athletes train for improved performance?
- What are the planning considerations for improving performance?

Sport, Lifestyle and Recreation Fitness module

- Nature of fitness
- Fitness programming
- Improving fitness

Sample one-day program

9am	arrive
9:30am-12:30pm	Session 1 – Energy systems and practical VO ₂ laboratory demonstration
12:30 – 1pm	Lunch
1-4pm	Session 2 – Sports testing

Sports testing

Each student receives a score card to record their results and compare themselves to talented athletes of a similar age. The uses and limitations of each test are discussed. Our sport scientists cover methods of improving each of the following fitness variables:

- Height and weight
- Aerobic fitness – beep test
- Explosive strength – vertical jump
- Acceleration and speed – 10m, 20m and 30m sprints with timing lights
- Flexibility – stand and reach or sit and reach
- Abdominal condition – 7-stage abdominal test
- Agility – 5-0-5 test with timing lights.

Sports science demonstrations

These are designed for Stage 5 and 6 students studying PDHPE or Sport, Lifestyle and Recreation. They get an opportunity to experience a range of tests used to assess the athletic performance of elite athletes, such as:

- Height and weight
- Blood pressure
- Explosive strength – counter-movement jump
- Anaerobic tests – 10-second or 30-second bike tests measuring peak power
- Lactate profile – endurance exercise test.
- VO₂ testing-Optional running treadmill /bike test
- Cybex isokinetic test – force production capabilities of muscles around the knee joint

Sports scientists explain the physiological basis of each test, with a focus on the energy systems used for different types of exercise. They discuss how the results compare to those of elite athletes, and which training methods can improve performance.

Did you know?

We can also provide Sports testing and Sports Science demonstrations at your school, or you could select a Sports Science program as part of your School Camp at the Sydney Academy of Sport and Recreation Centre. Contact us for more details.



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