

# High Performance Athlete Testing and Specialist Services



	
	

Dr Scott Taylor  
Federation University



# Federation Health, Sports and Aquatic Centre (HSA)

Located within the state of the art Health and Sports Precinct on the Mt Helen Campus, the Federation Health, Sports and Aquatic Centre features a heated indoor 25 metre pool, fully equipped Health and Fitness Centre, indoor sports stadiums, active studio and tennis courts.

## Federation Health and Fitness Centre

The new and improved Federation University Health and Fitness Centre features the latest equipment from Technogym and provides our members with an outstanding user experience. The equipment can be synchronised to the FedMoves app which has been specifically developed for Federation University and available for download from the App Store (iPhone) and Play Store (Android).

All Health and Fitness Centre gym instructors are not only fully qualified with VicFit accreditation, but many possess or are currently completing a degree in human movement, physical education or even a Graduate Diploma in Exercise Rehabilitation. All staff have expertise and experience in all aspects of strength and conditioning, fitness, health and well being.

## Aquatics at HSA

HSA features an eight lane 25 metre swimming pool, heated to 29 degrees, ideal for both the recreational swimmer and the serious lap swimmer.

At Federation Health, Sports and Aquatic Centre, we are proud to offer a wide range of aquatic programs and classes for people of all ages and abilities including lap swimming, water aerobics classes and learn to swim classes.





## Athlete testing at Federation

Federation University Australia has a range of specialised testing packages delivered by our team of dedicated professionals available to sporting organisations, schools and individual athletes. These tests are designed to give an accurate representation of an individual's athletic ability and sports specific fitness.

### Physiology testing

A physiological assessment helps to assess the current state of health and fitness in an individual. These performance assessments can be used to identify talent, track progress and prescribe accurate science-backed training. Some of our physiological tests include:

- V02 max testing
- Blood lactate testing
- Running economy and cycling efficiency testing
- Functional threshold and critical power and pace zones

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### Biomechanics testing

Understanding an athlete's physiological profile is useful, however athlete's physiology only tells part of their success story. Often the interplay between technique and physiology is what separates the novice from the elite. This interplay is difficult to detect by eye and should be measured in a lab-based setting. At Federation University, we offer a range of biomechanical testing including:

- Joint motion assessment
- Muscle activation profiling (electromyography)
- Pedal force assessment
- Running economy
- Cycling efficiency
- Cycling aerodynamic testing (notio aerometre)\*
- Isokinetic joint specific strength testing

\*you must have an ANT or bluetooth enabled power meter for this test

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## Strength and conditioning testing

Alongside our physiological and biomechanical testing, Federation University offers a range of strength, power, speed and change of direction testing. These tests are designed to benefit both individual and team athletes specifically, those involved in faster paced and explosive sports. Some of our strength and conditioning tests include:

- Strength testing (RM, isometric and eccentric)
- Sprint testing (speed, power, force, stride analysis)
- Force-velocity profiling (gymaware and 1080 sprint)
- Agility and change of direction
- Joint specific strength (Isokinetic dynamometry)

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## Team, school or group testing

Federation University offer testing packages for sports teams and groups that combine the most proven and time effective testing methods to determine player fitness capabilities, relevant to your sport. Some of our team and group tests include:

- Strength testing (mid thigh pull)
- Sprint testing 20m sprint with timing lights and/or 1080 sprint
- Vertical jump testing (countermevent and running)
- Change of direction testing
- Aerobic fitness testing (YO-YO IRT/IET)





## Meet our specialised team

### Dr Scott Talpey

Scott is a Senior Lecturer in Exercise Science, with a PhD in Strength and Conditioning. Scott holds degrees from Springfield College and Southern Connecticut State University, and brings international coaching experience and exercise science knowledge to Federation University. Scott holds both ASCA and NSCA strength and conditioning qualifications. Scott is also a keen baseball and basketball fan.



### Dr Ryan Worn

Ryan is a Lecturer in Exercise Science, with a PhD in biomechanics, specialising in cycling efficiency and fatigue. Ryan is a former elite cyclist and national record holder, and now a passionate distance runner. Ryan has qualifications in cycling coaching and strength and conditioning and has coached many athletes to success.



### Sam Carr

Sam holds a masters degree in Strength and Conditioning and works at the Federation Health, Sports and Aquatics Centre as an expert in team and athlete testing. Sam is a keen footballer and understands the importance of proper testing and planning for team sport athletes.





## Testing packages and pricing

PACKAGE	PRICING	DESCRIPTION
<b>CYCLING PHYSIOLOGY PACKAGES</b>		
Gold Testing Package	\$250	VO2 max, blood lactate, motion analysis and pedal force testing with written report.
Silver Testing Package	\$200	VO2 max, blood lactate testing with written report.
Bronze Testing Package	\$150	VO2 max with written report
VO2 Max testing	\$150	VO2 max with written report
Blood lactate testing (with power zones)	\$100	Incremental exercise test with blood lactate analysis
Functional Threshold Power testing	\$75	20-minute functional threshold power test
Critical power testing	\$75	1 hour of power testing at various paces and intensities.
Wingate (anaerobic capability) testing	\$50	Assessment of anaerobic cycling ability
Efficiency testing	\$150	Oxygen consumption and pedal technique for a given pace and conditions
<b>CYCLING BIOMECHANICS PACKAGES</b>		
Gold Testing Package	\$185	Pedal force, joint motion, electromyography testing with written report.
Silver Testing Package	\$150	Pedal force, joint motion with written report.
Bronze Testing Package	\$125	Joint motion analysis with written report
Aerodynamic testing (Notio Aerometer and CDA)	\$125	Field based testing of drag using a Notio aerometer and custom CDA calculations. *Please note, you must have an ANT or Bluetooth enabled power meter for this test.
Motion analysis	\$125	Joint motion analysis with written report
Pedal technique assessment	\$100	Pedal technique analysis with written report
Muscle function (EMG)	\$150	Electromyographical analysis with written report
<b>RUNNING PHYSIOLOGY PACKAGES</b>		
Gold Testing Package	\$250	VO2 max, blood lactate and motion analysis testing with written report.
Silver Testing Package	\$200	VO2 max, blood lactate testing with written report.
Bronze Testing Package	\$150	VO2 max with written report
VO2 max testing	\$150	VO2 max with written report
Blood lactate testing (with pace zones)	\$100	Incremental exercise test with blood lactate analysis
Functional Threshold Power/Pace testing	\$75	20-minute functional threshold power/pace test
Economy testing	\$150	Oxygen consumption and running technique for a given pace and conditions (e.g., comparison of different running shoes)
<b>RUNNING BIOMECHANICS PACKAGES</b>		
Gold Testing Package	\$185	Stride video analysis, joint motion, electromyography testing with written report.
Silver Testing Package	\$150	Stride video analysis and joint motion with written report
Bronze Testing Package	\$125	Joint motion analysis with written report
Video gait analysis	\$75	Stride video analysis with written report
Motion analysis	\$125	Joint motion analysis with written report
Muscle function (EMG)	\$150	Electromyographical analysis with written report

## Testing packages and pricing

PACKAGE	PRICING	DESCRIPTION
<b>STRENGTH AND CONDITIONING PACKAGES</b>		
Repetition Maximum testing	\$75	Establishment of maximum strength for a given amount of repetitions with a safety spotter.
Isometric strength testing	\$75	Establishment of maximum isometric strength, typically in the mid-thigh position
Force-velocity testing	\$150	Establishment of an individual force velocity profile across jumping and sprinting tasks.
Lift specific force, velocity, and power (gymaware)	\$100	Establishment of an individual force velocity profile for a targeted lift
Jump testing (vertical jump variants)	\$50	Establishment of maximum jumping capability across different jump types.
Reactive Strength Index testing	\$75	Repeated jump tests to determine reactive strength index
Eccentric strength testing	\$150	Eccentric strength testing with the K-Box device and instrumented force platforms.
Sprint testing (power, force, and speed)	\$100	Force-velocity-power and sprint time testing with the 1080 sprint device.
Agility and Change of Direction testing	\$150	505, Illinois and light gate reactive testing.
Throwing velocity	\$75	Measurement of throwing (and bowling) velocity using a radar gun.
Isokinetic Dynamometry (joint specific strength)	\$125	Establishment of joint specific strength and symmetry through isokinetic dynamometry
Body composition testing (Gold testing package)	\$200	Skinfolds and four bioelectrical impedance scans to assess body fat and muscle mass percentage. *Scans at different time points to assess changes.
Body composition testing (Silver testing package)	\$150	Four bioelectrical impedance scans to assess body fat and muscle mass percentage. *Scans at different time points to assess changes.
Body composition testing (Bronze testing package)	\$100	Two bioelectrical impedance scans to assess body fat and muscle mass percentage. *Scans at different time points to assess changes.
<b>TEAM SPORTS (UP TO 20 ATHLETES)</b>		
Gold Testing Package	\$500	A combination of field and lab-based testing of speed, power, strength, endurance, agility and jump performance
Silver Testing Package	\$350	A combination of field and lab-based testing of speed, power, strength, endurance, agility and jump performance
Bronze Testing Package	\$250	A combination of field and lab-based testing of speed, power, strength, endurance, agility and jump performance
<b>SCHOOL GROUP TESTING (UP TO 50 STUDENTS)</b>		
Gold Testing Package	\$450	A combination of field and lab-based testing of speed, power, strength, endurance, change of direction and jump performance
Silver Testing Package	\$400	A combination of field and lab-based testing of speed, power, strength, endurance, change of direction and jump performance
Bronze Testing Package	\$350	A combination of field and lab-based testing of speed, power, strength, endurance, change of direction and jump performance



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