

Physiology Equipment

Gas analysis

Item	Amount	Description	Picture
Cortex Metalyser 3B	1	Both the Cortex Metalyser 3B and the Cosmed Quark B2 are breath by breath gas analysis devices. Both measure the levels of concentration of oxygen and carbon dioxide respired, along with ventilation and heart rate plus much more. Common uses: VO_2 max or any test including direct gas analysis.	
Cosmed Quark B2	1		
Cosmed K4B2	1	As above but is portable so can be used outside the lab	
Douglas bag system	5	The douglas bag system includes a Douglas bag rack, servomex and dry gas meter. Results can be used to calculate VO_{2max} , VCO_2 , and RER. Common uses: VO_{2max} , intermittent vs continuous protocols in 1 st and 2 nd year.	

Ergometers

Item	Amount	Description	Picture
Monark Wingate Ergometer (Ergomedic 894 E)	2	<p>Wingate Anaerobic Test (WAnT) is used to determine an athlete's peak anaerobic power and anaerobic capacity. Test results include</p> <ul style="list-style-type: none"> •Peak Power •Anaerobic Power •Mean Power •Anaerobic Capacity •Fatigue Index <p>Common uses: Short or repeated sprints</p>	
Lode Excalibur Sport	1	<p>The Lode Excalibur is the gold standard in ergometry it allows you to set a protocol based on work rate. The software auto-adjust resistance according to the revolutions per minute (rpm) of the subject</p> <p>Common uses: VO2 Max, Intermittent or continuous cycle tests, low wattage tests.</p>	
Monark Ergometer (1x 834 E, 2x 824 E, 3x 874 E)	6	<p>Monark ergometer allows you to set work load which can be altered throughout the test.</p> <p>Common uses: VO2 Max, Intermittent or continuous bike tests – generally 1st and 2nd years.</p>	
Wattbike Trainer	2	<p>Wattbike trainers have been scientifically designed to simulate the sensation of 'real' cycling. The Wattbike can deliver technical and performance data.</p> <p>Common uses: Time trials, power tests, technique tests.</p>	
Monark Arm ergometer (Rehab trainer 881 E)	2	<p>Monark ergometer allows you Test upper body fitness and endurance. The arm cranks can work independently of each other, the length and angles can also be altered. Common uses: Cardiac rehabilitation exercises, upper body fitness.</p>	

Blood pressure

Item	Amount	Description	Picture
Digital sphygmomanometer (3x Omron M5-1, 1x AND UA-767)	4	The digital sphyg. can measure blood pressure by attaching a cuff to the upper arm.	
Manual sphygmomanometer (Accoson 0339)	6	Used alongside a stethoscope the manual sphyg. can also measure blood pressure.	
Stethoscope (Littmann)	12	Used alongside the manual sphyg. to hear for the tapping sounds to measure blood pressure.	

Light gate system

Item	Amount	Description	Picture
New test	1	Timing gate system Common uses: Sprints and acceleration.	
Fusion Smart speed	1	Complex timing gate system. Common uses: Tests speed, acceleration, agility and response time plus much more.	

Monitoring system

Item	Amount	Description	Picture
Suunto t6 Heart rate monitor	9	These are downloadable heart rate monitors that are coded to stop the chance of interference. They can be paired with the Wattbike Trainer.	
Suunto GPS			
Suunto team system	9	These are also downloadable heart rate monitors. Using a laptop you can monitor a group of people in real time and save the data.	
Polar heart rate monitor	5	These are un-coded heart rate monitors which will show the heart rate on a watch receiver.	

Blood analysis

Item	Amount	Description	Picture
Analox P-GM7	1	This analox gives fast and accurate reading. It can be set to measure either blood lactate or blood glucose via a capillary blood sample.	
Analox P-LM5	1	This analox gives fast and accurate reading. This is a portable machine which measures blood lactate.	
Accu-check	2	The accu-check is easy to use and is portable. It can measure blood glucose, blood lactate, total cholesterol, and triglycerides.	

Body composition

Item	Amount	Description	Picture
Bioelectrical Impedance Analysis (Body stat)	1	Bioelectric impedance analysis (BIA) is a simple method for determining the lean body mass. Common uses: Measuring body composition and hydration state.	 A white rectangular BIA device with a digital display and several buttons. It is connected to a black cable with red and black electrodes. Below the device are several blue and white patterned adhesive electrodes.
Skinfold Calipers (Harpender)	6	Skinfold Calipers are precision instruments designed for use in the performance of Skinfold thickness measurements (from which estimates of body fat are derived). Common uses: Measuring body composition.	 A silver metal Harpenden skinfold caliper with a black handle and a circular dial with a needle.
Bod Pod	1	Assesses body composition through Air Displacement Plethysmography for health, wellness, and performance. It is the 'Gold Standard' accuracy using whole-body densitometric principles Common uses: Measuring body composition through fat and fat-free measurements.	 A white, pod-shaped Air Displacement Plethysmography (ADP) device. It is situated in a room with a computer monitor and keyboard on a desk in the background.

Strength, power and flexibility

Item	Amount	Description	Picture
Sit and reach	2	The sit and reach measures lower back and hamstring flexibility.	
Sergeant Jump	1	Jump height is measured by subtracting jump height from the maximum reach of a participant.	
Jump meter	1	The jump meter is a belt that goes around the participants' waist. Jump height is measured by the length of the string around the waist and the floor plate after a completed jump.	
Fusion smart speed jump mat	1	The smart speed jump mat measured jump height digitally taking into consideration the participant's weight. It can measure flight time, contact time, jump height, impulse, peak power output, reactive strength index, flight time to contact time ratio.	
Hand grip dynamometer		The hand grip dynamometer is a simple and quick test to measure grip strength. It has a measurement range of 7-99.5 kg.	
Goniometer		Goniometers can be used to measure range of motion in participants.	

Miscellaneous

Item	Amount	Description	Picture
Woodway treadmill	1	Maximum running speeds are 15.5 mph or 25km/h and the maximum incline is 20%. Common uses: VO ₂ Max test, lactate threshold tests, time trials.	
Ear thermometer (TH809 Infrared Ear thermometer)	1	The ear thermometer can measure temperature quickly, safely and reliably. It can measure temperature in Celsius (34 - 42.2°C), and Fahrenheit (93.2 - 108°F).	