
Explanation of Tests

Each of the following tests will be performed in the Exercise Science Laboratory on the main campus of Columbus State University. You will be provided instructions on how to best prepare for each test once you have scheduled for your selected assessments. Generally, wearing athletic clothing, removing all jewelry/metals, and avoiding stimulants (caffeine, energy drinks, etc.) will give you optimal results!

Arterial Health

Arterial health screening measures your blood pressure while laying down. During the test, a blood pressure cuff will be used at the arm to assess blood pressure. Then, a leg cuff will be used along with a pen-like transducer to gently sense the artery in your neck. As the leg cuff inflates, the speed and direction of blood flow can be determined. These measurements provide an assessment of stiffness in central arteries.

Estimated Duration: 20 minutes

BodPod

The BodPod is an egg-shaped chamber that measures your body weight and volume to determine fat and fat-free mass. You will sit in a chamber wearing fitted clothing (compression shorts, sports bra, swim cap, etc.) while the air around you is measured. This test is not recommended if you feel claustrophobic.

Estimated Duration: 15 minutes

Cholesterol & Glucose Panel

Cholesterol screening requires a text-sm finger stick, retrieving ~5 drops of blood. This blood will then be analyzed to measure lipids such as total cholesterol, low-density-lipoproteins (LDL), and high-density lipoproteins (HDL) as well as your blood glucose. For best results, this test should be performed fasting and in the morning.

Estimated Duration: 10 minutes

DXA

A DXA scan (short for Dual-Energy X-ray Absorptiometry) is a highly accurate body scan that measures your fat, lean, and bone mass. You will lay on a padded table while a machine passes over your body emitting very low levels of radiation. This is considered the gold standard for assessing body composition. DXA cannot be performed on those with surgical implants (knee replacements, rods, etc.), heart pacemakers, or a bodyweight exceeding 350 lb.

Estimated Duration: 15 minutes

Maximal Aerobic Fitness

Maximal aerobic fitness, or VO₂max, is a maximal effort test performed on a bike or treadmill. VO₂max test measures of your ability to use oxygen during intense exercise. You will wear a mask over your mouth and nose to measure oxygen and carbon dioxide as you breath in and out. As you exercise, the speed or resistance will increase, like running faster or going up a steeper hill. You go until you are too tired to continue to determine your cardiorespiratory fitness.

Estimated Duration: 30 minutes

Resting Metabolic Rate

Resting metabolic rate (RMR) testing is used to measure your energy expenditure at rest (i.e. the amount of calories burned). You will lay with a hood-like dome over your head while the air your breath is measured for 20-30 minutes. From this, daily energy expenditure based on your physical activity can also be determined.

Estimated Duration: 30 minutes

Wingate

A Wingate Anaerobic Test (WaNT) is a 30-second, all out sprint on a stationary cycle. You will pedal at a light resistance for a warm up, then perform a sprint against a heavy resistance to determine your anaerobic fitness. This test provides measures such as peak power output and fatigue index (how quickly your power drops).

Estimated Duration: 10 minutes