



Physical Education: Cambridge National in Sports Science

Why is the study of Sports Science important?

Elite sport has evolved hugely in the past few decades and has embraced sport science disciplines wholeheartedly. Sports Science considers every minute detail of an athlete's training programme, rest time, environment and psychology in the pursuit of excellence. The OCR Cambridge National award in Sport Science offers students the opportunity to study key areas of Sport Science, including, anatomy and physiology linked to fitness; health; injury and performance; the science of training and application of training principles and psychology in sport and sports performance.

Sport is a high-profile and expanding industry and there is a growing need for qualified professionals and capable volunteers. It is also widely recognised that regular participation in sport and physical activity is beneficial both to individuals and to society as a whole. This course provides a perfect foundation for students who wish to move into this form of employment post education and will motivate students to carry on participating in physical activity long after they leave.

What skills will the study of Sports Science teach you?

The Cambridge National in Sport Science offers students the opportunity to:

- Understand and apply the fundamental principles and concepts of Sport Science
- Develop learning and practical skills that can be applied to real-life contexts and work situations
- Think creatively, innovatively, analytically, logically and critically
- Develop independence and confidence in using skills that are relevant to the Exercise, Physical Activity, Sport and Health sector and more widely
- Prepare participants for physical activity in ways which keeps them safe as well as learning how to react should injuries happen and how to recognise common medical conditions
- Learn how to conduct fitness tests, including interpreting and feeding back on the data you get from these as well as how to design, implement and evaluate fitness training programmes
- Develop knowledge and delve into the world of sports nutrition to understand how what we eat and drink can impact our performance in sport
- Develop the skills of team working, research and planning and understand that sports performance goes far beyond just the simple physiology

What will you know and understand from your study of Sports Science?

Reducing the risk of sports injuries:

Taking part in sport and physical activity puts the body under stress. Students will learn how to reduce the risk of injury when taking part in sport through activities such as warm-ups, and knowing how to respond to injuries and medical conditions in a sport setting are all vital skills within the sport and leisure industry



OPEN ELEMENT SUBJECT OVERVIEW

Applying principles of training:

The role of a coach is to keep their performers in peak condition by monitoring individuals' fitness and designing bespoke training programmes. Students will learn the principles of training and how different methods target different components of fitness. They will also learn how to conduct fitness tests, interpret the results and design and evaluate fitness programmes.

Sports nutrition:

Correct nutrition is a vital part of a sports person's preparation; incorrect nutrition can lead to deterioration in performance and overall health. Students will learn about different nutrients and supplements and their importance to different activity types. They will also learn about the effects of a poor diet on performance and health and will develop and evaluate diet plans for performers.

How can you deepen your understanding of Sports Science?

- Sports Science Enrichment
- Topend Sports Website <https://www.topendsports.com/>
- Brian Mac Website <https://www.brianmac.co.uk/>
- Fitness enrichment
- First aid qualifications
- Sports Scholars Programme
- Cambridge National in Sport Science Student Book with Digital Access.
 - Author: Layla Green, Andy Neal, Keith Smith, Brett Sutcliffe
 - ISBN: 9781009118934
 - Publisher: Cambridge University Press
 - Date: June 2022
- Cambridge National in Sport Science (J828): Second Edition
 - Author: Ross Howitt, Mike Murray
 - ISBN: 9781398350298
 - Publisher: Hodder Education
 - Date: March 2022

**How are you assessed in Sports Science?**

There are 6 assessment points each year that we term Praising Stars©. We assess how students, at their current stage of study, are on track to reach their end of stage targets which are formulated on aspirational expectation from their KS2 starting points. We make an informed prediction from our holistic assessments based on our subject mapping of expectation across the Sports Science curriculum. The Sports Injuries unit is a timetabled exam. The question paper consists of short-answer questions, extended-response questions and some use of multiple-choice questions. The other units are centre-assessed and OCR moderated tasks.

R181 - Assignment 80 marks - Applying the principles of training: fitness and how it affects skill performance



OPEN ELEMENT SUBJECT OVERVIEW

R183 - Assignment 40 marks - Nutrition and sports performance

R180 - Exam - 80 marks - Reducing the risk of sports injuries and dealing with common medical conditions

Key Assessment Objectives

The 4 key performance objectives for Sports Science are:

PO1: Recall knowledge and show understanding of Sport Science concepts

PO2: Apply knowledge and understanding of Sport Science concepts

PO3: Analyse and evaluate knowledge, understanding and performance

PO4: Demonstrate and apply sporting skills and processes relevant to Sport Science.

Exam and Coursework requirements

R180: Reducing the risk of sports injuries and dealing with common medical conditions

This is assessed by an exam. By completing this unit you will prepare as a participant to take part in physical activity in a way which minimises the risk of injuries occurring. It will also prepare you to know how to react to common injuries that can occur during sport and physical activity, and how to recognise the symptoms of some common medical conditions. Topics include:

- Different factors which influence the risk and severity of injury
- Warm up and cool down routines
- Different types and causes of sports injuries
- Reducing risk, treatment and rehabilitation of sports injuries and medical conditions causes, symptoms and treatment of medical conditions

R181: Applying the principles of training: fitness and how it affects skill performance

This is assessed by a set assignment. By completing this unit, you will conduct a range of fitness tests, understand what they test and their advantages and disadvantages. You will identify the key skills used in two selected activities and demonstrate these skills, design tests to compare your skill level to others in the group. You will also learn how to design, plan and evaluate a fitness training programme. You will then interpret the data collected from these fitness tests and learn how best to feed this back. Topics include:

- Components of fitness applied in sport
- Principles of training in sport
- Organising and planning a fitness training programme
- Evaluate own performance in planning and delivery of a fitness training programme



OPEN ELEMENT SUBJECT OVERVIEW

RI83: Nutrition and sports performance

This is assessed by a set assignment. By completing this unit you will gain an understanding of healthy, balanced nutrition. You will consider the necessity of certain nutrients and their role in enabling effective performance in different sporting activities. The knowledge you gain will be used to produce an appropriate, effective nutrition plan for a performer. Topics include:

- Nutrients needed for a healthy, balanced nutrition plan
- Applying different dietary requirements to varying types of sporting activity
- Developing a balanced nutrition plan for a selected sporting activity
- How nutritional behaviours can be managed to improve sports performance

How can Sports Science support your future?

The qualification will also help you to develop learning and skills that can be used in other life and work situations, such as:

- Completing research
- Working with others
- Planning training programmes
- Evaluating and making recommendations to help improve performance
- Creating and delivering presentations
- Writing reports
- Leadership skills
- Healthy living and lifestyle skills

This qualification will complement other learning that you're completing for GCSEs or vocational qualifications at Key Stage 4 and help to prepare you for further study, Apprenticeships or employment.

Study of Sports Science can lead to a wide range of careers:

- Personal trainer
- PE Teacher
- Exercise physiologist
- Dietician or Nutritionist
- Sports administrator
- Fitness centre manager
- Sports coach
- Sports development officer
- Sports therapist



Sports Science Course Overview

| Term | Year 1 | Year 2 |
|----------|--|------------------------|
| Autumn 1 | R181 Applying the principles of training | R183 - Nutrition |
| Autumn 2 | | |
| Spring 1 | R181 Applying the principles of training | R180 - Sports Injuries |
| Spring 2 | | |
| Summer 1 | R183 - Nutrition | |
| Summer 2 | | |