Curriculum Intent:

The Sports Science course is a GCSE qualification offered to students at KS4 which runs in parallel with the GCSE Physical Education qualification. The sports science qualification seeks to build upon the learning at key stages 3.

Elite sport has embraced sport science disciplines wholeheartedly in the past few decades, moving from a perspective which assumed the primacy of natural talent in producing outstanding performance, to one which considers every minute detail of an athlete's training programme, rest time, environment and psychology in the pursuit of excellence. The Cambridge Nationals in Sport Science offer learners the opportunity to study key areas of sport science including anatomy and physiology linked to fitness, health, injury and performance; the science

The Sports Science qualification has been designed with practical and engaging ways of teaching in mind and enable learners to:

• Develop a range of skills through involvement in sport and physical activity in different contexts and roles

• Develop their ability to apply theoretical knowledge to practical situations

• Gain a better understanding of the complexity of different areas of sport and the sports industry

• Increase their awareness of different ways to stay involved in sport and physical activity and of different careers and roles within sport.

The course consists of four units. Most of the time will be led by a member of staff but students will also be required to undertake independent learning especially when submitting coursework for assessment.

Unit 1 Reducing the risk of Sports Injury's - 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.

This unit is externally assessed through a one-hour exam.

Unit 2 Applying the 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.

Unit 5 Sports Nutrition - Correct nutrition is a vital part of a sport 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.

Unit 6 Technology in Sport - Optimising new technology can give sports performers an advantage over their competitors. In this unit students will consider ways technology is used to enhance sports performance and experience for both spectators and performers.

Students will evaluate the impact of technology in sport, considering the downsides as well as its advantages.

The units have been selected to be completed in the following order: Unit 2 Principles of training first, this is a mandatory unit that has to be completed, but is a good unit to start the course with as it involves practical assessments which fit in with the added lesson time in year 10 (three lessons per week). It also introduces the students to an understanding of fitness that will underpin all other units when looking at including practical examples. This unit is scored out of 60 marks and the order of assignments within the unit is dictated by the exam boards set assessment plans.

Unit RO45 – Diet and Nutrition has been selected to be completed secondly as this will follow on logically from the training unit. This is an optional unit. Students knowledge of fitness requirements and practical examples will benefit student's ability to score higher in the NEA assessments. This unit is scored out of 60 marks and the order of assignments within the unit is dictated by the exam boards set assessment plans.

The third unit to be completed is the examination unit RO41 Sports Injuries. This is a mandatory unit and is completed with the external examination being sat in January of Year 11. This is to allow students the time to focus on this exam to maximise performance as it is outside of the normal examination window. It also allows students the opportunity to re-sit in the summer exam window if required to improve their grade. This unit is scored out of 60 marks.

The final unit to be completed is RO46 Technology in Sport. This is an optional unit and is selected because the previous knowledge students have learnt helps with structuring answers when looking at gameplay, performance and spectatorship that underpin the grading for this unit. This also involves a range of different assessment methods that students enjoy. This unit is scored out of 60 marks and the order of assignments within the unit is dictated by the exam boards set assessment plans.

75% of the course is based on coursework; Just like GCSE's you can pass at different levels. With this type of course you can gain a Pass (4), Merit (5/6), Distinction (7) or Distinction * (8) depending on the quality of your work. 25% of the course is assessed through a one-hour exam in year 11.

Curriculum implementation:

Year		Term		Content
10	Unit R042 – The Principles of training.	Autumn	1	**Introduction to the course and learning content, how students are assessed and timeline/ deadline of coursework submissions.** **Learning Outcome 1: Know the principles of training in a sporting context** the principles of training in a sporting context; o progression. o specificity. o reversibility/regression. o moderation.

				o variance. Submission of assignment (NEA) via Microsoft Teams – this assignment is completed as a written report; students use this task to start their coursework – it is scored out of 10.
	Unit R042 – The Principles of training.	Autumn	2	**Learning Outcome 2: Know how training methods target different fitness components** aerobic and anaerobic exercise, i.e. o difference between aerobic and anaerobic exercise. o methods of training aerobically and anaerobically. • The components of fitness; o strength. o power. o agility. o balance. o flexibility. o muscular endurance. o cardiovascular endurance. Submission of assignment (NEA) via Microsoft Teams – Students submit this as a selection of training cards. This is a difficult piece of coursework and combination is the most important part of this assignment. It is scored out of 15 **Learning Outcome 3: Be able to conduct fitness tests** tests which assess fitness, i.e. o according to protocols and guidelines set down by the fitness industry o tests for each component of fitness, - power - agility - balance - flexibility - muscular endurance - cardiovascular endurance o maximal or sub-maximal. o test sequence • how to interpret the results of fitness tests, o against normative data o validity o reliability Submission of assignment (NEA) via Microsoft Teams – Assignment is completed as a written report and witness statement on the practical element of the fitness tests. Students are also

				graded on their practical ability in the fitness tests. This is scored out of 15 marks.
	Unit R042 – The Principles of training.	Spring	3	**Learning Outcome 4: Be able to develop fitness training programmes** Design a fitness training programme, o gather details about the subject the programme is for. o clarify the aims of the training programme o set realistic goals which can be measured o duration of the training programme o suitability of activities Submission of assignment (NEA) via Microsoft Teams – this assignment is in the form of a written training programme and evaluation on a subject in the class. Students will plan and complete the programme as well as evaluate the plan. This assignment is scored out of 20 marks.
	Unit R045: Sports nutrition	Spring	4	**Learning Outcome 1: Know about the nutrients needed for a healthy, balanced diet** characteristics of a balanced diet; o meets the nutritional requirements of an individual o includes foods from all of the food groups o contains a variety of foods o suits the needs/tastes of the individual • what nutrients are & the role of nutrients in a healthy, balanced diet; o carbohydrates o fats o proteins o fibre o water o vitamins and minerals • food sources of nutrients; o carbohydrates o fats o proteins o fibre o vitamins and minerals Submission of assignment (NEA) via Microsoft Teams – this is competed through a leaflet on diet. This is a good starter task for students to complete. This assignment is scored out of 9 marks and is the smallest assignment.

	Unit R045: Sports nutrition	Summer	5	**Understand the importance of nutrition in sport** the importance of nutrition before, during and after exercise, i.e. o before (e.g. hydrate, provide energy source, quick energy boost) o during (e.g. stay hydrated, replenish carbohydrates if lengthy exercise) o after (e.g. rehydrate straight away, eat a meal containing carbohydrates and protein within 2 hours to aid recovery) • the reasons for the varying dietary requirements of different activity types. • the use of dietary supplements Submission of assignment (NEA) via Microsoft Teams – this is assessed through a presentation delivered by the students to the teacher one on one. This assignment is scored out of 18 marks **Know about the effects of a poor diet on sports performance and participation** • the definition of malnutrition • the effects of overeating on sports performance and participation. • the effects of under eating on sports performance and participation. • the effects of dehydration on sports performance and participation. Submission of assignment (NEA) via Microsoft Teams – this assessment is produced through crating four posters on the four different area. This assignment is scored out of 15 marks
	Unit R045: Sports nutrition	Summer	6	**Be able to develop diet plans for performers** • How to design a diet plan; o gather details about the performer that the diet plan is for. o clarify the aims of the diet plan. o set realistic goals which can be measured. o duration of the diet plan. o suitability of diet plan. o organisation of diet plan. • how to evaluate the effectiveness of the diet plan; o recording the outcomes subjectively.

				o improvement. Submission of assignment (NEA) via Microsoft Teams – the assessment is produced through the production of a two-week diet plan on a subject, including an evaluation of the diet plan. This assignment is scored out of 18 marks
11	Unit R041: Reducing the risk of sports injuries	Autumn	1	**Understand different factors which influence the risk of injury** This unit is assessed through an external 90-minute exam. This is set by the exam board. Students will look at all four Learning aims based around sports injuries. The exam will involve a combination of different style exam questions with the longest being an 8 mark extended answer question at the end of the exam paper. Exam technique will also be taught alongside content and exam types of questions that meet the AO style of questions. • extrinsic factors which can influence the risk of injury, i.e. o type of activity (e.g. contact sports present different injury risks from gymnastic activities) o coaching/supervision, i.e. - poor/incorrect coaching techniques - ineffective communication skills - importance of adhering to rules and regulations o environmental factors, i.e. - weather - playing surface/performance area and surrounding area - other participants o equipment, i.e. - protective equipment (e.g. shin pads in football, gum shield in boxing, helmet in cycling, goggles in skiing) - performance equipment (e.g. hockey stick, cricket ball, rock climbing harness) - clothing/footwear suitable for playing surface/weather conditions/specific sport or activity o safety hazards, i.e. - risk assessments - safety checks - emergency action plans • intrinsic factors which can influence the risk of injury, i.e. o physical preparation, i.e. - training - warm up - cool down - fitness levels - overuse - muscle imbalances

				o individual variables, i.e. - gender - age - flexibility - nutrition - sleep - previous/recurring injuries o psychological factors, i.e. - motivation - aggression - arousal/anxiety levels o posture and causes of poor posture, i.e. - poor stance/gait (e.g. bending your knees or hunching your shoulders when standing) - sitting positions (e.g. slumping/slouching on the sofa rather than sitting upright) - physical defects (e.g. muscles weaken around an injured area) - lack of exercise (e.g. lack of core muscle strength means less support, being overweight puts strain on posture) - fatigue (e.g. tired muscles will be unable to support the skeleton properly) - emotional factors (e.g. having low self-esteem/lack of confidence can influence posture) - clothing/footwear (e.g. wearing shoes with high heels can affect posture) o sports injuries related to poor posture, i.e. - pelvic tilt - lordosis - kyphosis - round shoulder - scoliosis. **Understand how appropriate warm up and cool down routines can help to prevent injury** • the physical benefits of a warm up • the psychological benefits of a warm up • key components of a warm up; o pulse raising o mobility o dynamic movements o stretching o skill rehearsal phase

				• physical benefits of a cool down • key components of a cool down; o pulse lowering o stretching • specific needs which a warm up and cool down must consider o suitability as preparation for a particular activity/sport o environmental factors
	Unit R041: Reducing the risk of sports injuries	Autumn	2	Mock examination to be sat in November to look at testing knowledge and reviewing exam technique. **Know how to respond to injuries within a sporting context** • acute and chronic injuries o acute injuries o chronic injuries • types, causes and treatment of common sports injuries; o soft tissue injuries o overuse injuries o fractures o concussion o abrasions o contusions o blisters o cramp o injuries related to children • how to respond to injuries and medical conditions in a sporting context; o SALTAPS o R.I.C.E. • Emergency Action Plans (EAP) o emergency personnel o emergency communication o emergency equipment

				Know how to respond to common medical conditions • the symptoms of common medical conditions; o Asthma o Diabetes o Epilepsy • how to respond to these common medical conditions; o Asthma o Diabetes o Epilepsy o when to refer the performer on to a professional and how to do so. External examination – 90 minute exam on sports injuries set by exam board. (date TBC by exams officer).
	Unit R046: Technology in sport	Spring	3	**Know how technology is used in sport** • how technology is used to enhance performance; o fitness testing o training aids o equipment o clothing and footwear o injury prevention and recovery • how technology is used to enhance game play; o video refereeing o 'Hawk-Eye' o goal-line technology o 'Hot spot' o radio o stadiums • how technology is used to enhance spectatorship; o stadiums o officials o commentary/punditry o television o internet Submission of assignment (NEA) via Microsoft Teams – this assignment will be completed through a written report on technology in the three areas of sports technology. This assessment is scored out of 12 marks.
	Unit R046: Technology in sport	Spring	4	**Understand the positive effects of sports technology** • the positive effects of sports technology;

				o in performance, - reducing injury - recovery time from injury is reduced - improved training aids o in game play; - enhances how the sport is played - increases competition - improves accuracy o in spectatorship; - increased fan base - see all the action - health care - transport **Understand the negative effects of sports technology** • the negative effects of sports technology; o in performance, - skills may deteriorate - rule/regulation changes o in game play; - prolongs game duration - detracts from the ethics of sport - cost o in spectatorship Submission of assignment (NEA) via Microsoft Teams – Assignments 2 and 3 are completed as one assignment through a question and answer recorded interview with the teacher. This is through the exam board set questions and is worth the most marks out of all assignments. This assignment is score out of 30 marks.
	Unit R046: Technology in sport	Summer	5	**Be able to evaluate the impact of technology in sport** • the factors affecting the use of technology in sport; o application of technology o reasons for the introduction of technology o history/tradition o reactions of key stakeholders o features of the technology which affect its use • the impact the technology has had;

				o has it had unintended positive and/or negative consequences o developments and adaptations made to the technology o developments and adaptations made to the sport o implications for the future Submission of assignment (NEA) via Microsoft Teams – this assignment is completed through a PowerPoint presentation on one selected piece if technology in a sport e.g. VAR in football. This assignment is scored out of 18 marks.
		Summer	6	

Assessment:

Sport Science	
Unit R041: *Reducing the risk of sports injuries*	
30 GLH 1 hour written paper 60 marks (60 UMS) OCR set and marked	This question paper: • comprises short-answer questions, extended-response questions and some use of multiple-choice questions • assesses the quality of written communication.
Unit R042: *Applying principles of training*	
30 GLH Approx 10 hours internal assessment 60 marks (60 UMS) Centre-assessed and OCR-moderated	The assessment for this unit: • comprises of centre-assessed task(s).

Unit R045: *Sports nutrition*	
30 GLH Approx 10 hours internal assessment 60 marks (60 UMS) Centre-assessed and OCR moderated	The assessment for this unit: • comprises of centre-assessed task(s).
Unit R046: *Technology in sport*	
30 GLH Approx 10 hours internal assessment 60 marks (60 UMS) Centre-assessed and OCR-moderated	The assessment for this unit: • comprises of centre-assessed task(s).

The uniform mark boundaries for each of the assessments are shown below:

Unit GLH	Max Unit Uniform Mark	Unit Grade							
		Distinction* at L2	Distinction at L2	Merit at L2	Pass at L2	Distinction at L1	Merit at L1	Pass at L1	U
30	60	54	48	42	36	30	24	18	0

The learner's uniform mark for the externally assessed unit will be combined with the uniform mark for the centre-assessed units to give a total uniform mark for the qualification. The learner's overall grade will be determined by the total uniform mark. The following table shows the minimum total mark for each overall grade:

Qualification	Max Uniform Mark	Qualification Grade							
		Distinction* at L2	Distinction at L2	Merit at L2	Pass at L2	Distinction at L1	Merit at L1	Pass at L1	U
Award	120	108	96	84	72	60	48	36	0
Certificate	240	216	192	168	144	120	96	72	0

Further curriculum support:

What could I do after completing this course?

Completing this course can lead to students taking the Level 3 BTEC Extended Certificate in Sport. The course is designed to enable students to gain a nationally recognised A Level qualification that will equip them to enter employment or progress onto higher sports qualifications at undergraduate level.