KS4 OCR CAMBRIDGE NATIONALS SPORT AND EXERICSE SCIENCE LEVEL 2.

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.

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

By completing this unit students will be prepared to take part in physical activity in a way which minimises the risk of injuries occurring. It will also prepare them 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:

Topic Area 1: Different factors which influence the risk and severity of injury

Topic Area 2: Warm up and cool down routines

Topic Area 3: Different types and causes of sports injuries

Topic Area 4: Reducing risk, treatment and rehabilitation of sports injuries and medical conditions

Topic Area 5: Causes, symptoms and treatment of medical conditions

Examination: 1 hour 15 minutes

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

By completing this unit, students will conduct a range of fitness tests, understand what they test and their advantages and disadvantages. They will also learn how to design, plan and evaluate a fitness training programme. Students will then interpret the data collected from these fitness tests and learn how best to feed this back.

Topics include:

Topic Area 1: Components of fitness applied in sport

Topic Area 2: Principles of training in sport

Topic Area 3: Organising and planning a fitness training programme

Topic Area 4: Evaluate own performance in planning and delivery of a fitness training programme

R183: Nutrition and sports performance

By completing this unit, you will gain 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:

Topic Area 1: Nutrients needed for a healthy, balanced nutrition plan

Topic Area 2: Applying differing dietary requirements to varying types of sporting activity

Topic Area 3: Developing a balanced nutrition plan for a selected sporting activity

Topic Area 4: How nutritional behaviours can be managed to improve sports performance.

The units have been selected to be completed in the following order: Unit R181 – applying the principles of training, this is a mandatory unit that must 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). The practical assessments will follow set sports from the exam boards list and students must demonstrate their skills and attributes within two selected sports. 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 80 marks and the order of assignments within the unit is dictated by the exam boards set assessment plans.

Unit RO183 – Nutrition and Sports Performance is an optional unit and is selected because the previous knowledge students have learnt helps with structuring answers when looking at healthy active lifestyles and components of a healthy diet 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 40 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 R180 – reducing the risk of 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 70 marks and involves a one hour and fifteen-minute exam.

63% 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. 37% of the course is assessed through a one-hour and fifteen-minute exam in year 11.

Curriculum implementation:

Year		Term		Content
10	**Unit R181- Applying the principles of training: fitness and how it affects skill performance**	Autumn	1	Introduction to the course and learning content, how students are assessed and timeline/ deadline of coursework submissions. Topic Area 1: Components of fitness applied in sport. • Relevance of components of fitness to different sports • Application of components of fitness to skill performance • Assess components of fitness Cardiovascular endurance/ stamina Muscular endurance Speed Strength Power Agility Balance Flexibility Coordination Reaction time Submission of assignment (NEA) via Microsoft Teams – this assignment is completed as a written report on fitness tests and practical assessments; students use this task to start their coursework – it is scored out of 18.
	Unit R181- Applying the principles of training: fitness and how it affects skill performance	Autumn	2	Topic Area 2: Principles of training in sport Principles of training Goal setting in a sporting context Methods of training and their benefits Aerobic and anaerobic exercise Continuous training Fartlek training Interval training Circuit training Plyometrics Weight/ resistance training HIIT (High Intensity Interval Training) Submission of assignment (NEA) via Microsoft Teams – Students submit this as a written report and through practical demonstrations that involve video evidence. This is a difficult piece of coursework and combination is the most important part of this assignment. It is scored out of 24

	Unit R181- Applying the principles of training: fitness and how it affects skill performance	Spring 3	3	Topic Area 3: Organising and planning a fitness training programme Factors when designing a fitness training programme Planning a fitness based training programme: suitable warm up and cool down □ Activities/main content of programme □ Duration of plan □ Duration of sessions □ Equipment and facilities □ Coaching points □ Adaption of programme based on each session and mid-term testing Recording results from fitness training programme Submission of assignment (NEA) via Microsoft Teams – Assignment is completed as a written report in the form of a training programme and witness statement on the practical element of the programme. This is scored out of 14 marks.
	Unit R181- Applying the principles of training: fitness and how it affects skill performance	Spring	4	**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 – Assignment is completed as a written report in the form of a training programme evaluation. This is scored out of 14 marks.
	Unit R183: Nutrition and sports performance	Summer	5	**Topic Area 1: Nutrients needed for a healthy, balanced nutrition plan** **Characteristics of a balanced nutrition plan** **Carbohydrates** **Fats** **Proteins** **Fibre** **Water** **Vitamins and minerals** **The role of nutrients in sports and their sources**

				Submission of assignment (NEA) via Microsoft Teams – Assignment is completed as a written report in the form of a diet poster. This is scored out of 6 marks.
	Unit R183: Nutrition and sports performance	Summer	6	Applying differing dietary requirements to varying types of sporting activity The dietary requirements of endurance/aerobic activities Before endurance/aerobic activity: □ Hydration □ Carbohydrate loading During endurance/aerobic activity: □ Maintain hydration □ Maintain carbohydrate levels After endurance/aerobic activity The dietary requirements of short intense/anaerobic activities The dietary requirements of strength-based activities Submission of assignment (NEA) via Microsoft Teams – this assignment is completed through a PowerPoint presentation and video evidence of the presentation. This assignment is scored out of 12.
	Unit R180: Reducing the risk of sports injuries and dealing with common medical conditions	Autumn	1	This unit is assessed through an external 75-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. **Topic Area 1: Different factors which influence the risk and severity of injury** • 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. **Topic Area 2: Warm up and cool down routines** • 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
11	**Unit R180: Reducing the risk of sports injuries and dealing with common medical conditions**	Autumn	2	Mock examination to be sat in November to look at testing knowledge and reviewing exam technique. **Topic Area 3: Different types and causes of sports injuries** • 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 **Topic Area 4: Reducing risk, treatment and rehabilitation of sports injuries and medical conditions** • 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 • 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 – 75 minute exam on sports injuries set by exam board. (date TBC by exams officer).
	Unit R183: Nutrition and sports performance	Spring	3	**Developing a balanced nutrition plan for a selected sporting activity** 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 12 marks.
	Unit R183: Nutrition and sports performance	Spring	4	How nutritional behaviours can be managed to improve sports performance The effect of overeating on sports performance □ How overeating can be manipulated for selected sports □ Increased nutrients □ Performance benefits The effects of undereating on sports performance Effect on components of fitness □ Reduced energy levels □ Reduced concentration □ Weight management Submission of assignment (NEA) via Microsoft Teams – the assessment is produced through the production of a written report on the effects of over and under-eating. This assignment is scored out of 10 marks.
		Summer	6	

Assessment:

Unit	**Marks**	**Duration**	**GLH***	**insert text**
R180: Reducing the risk of sports injuries and dealing	70	1 hour 15 mins	48	Written paper, OCR set and marked

Unit	Marks	Duration	GLH*	insert text
with common medical conditions				
R181: Applying the principles of training: fitness and how it affects skill performance	80	Approx. 16 hours	48	Centre-assessed tasks, OCR moderated

Optional:

There are a further two optional units. Students select one.

Unit	Marks	Duration	GLH*	insert text
R182: The body's response to physical activity and how technology informs this	40	Approx. 8-10 hours	24	Centre-assessed tasks, OCR moderated

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.