

# **THE BRITISH SCHOOL OF GRAN CANARIA**



## **SUMMARY OF SUBJECT CONTENT**

**KEY STAGE 5  
Y12-Y13**

**ACADEMIC YEAR 2020-2021**

## **CONTENTS**

ART	3
BIOLOGY	4
BUSINESS	6
CHEMISTRY	8
ENGLISH LITERATURE	10
FRENCH	11
GEOGRAPHY	13
GERMAN	15
HISTORY	16
INFORMATION TECHNOLOGY	18
MUSIC	21
PHYSICAL EDUCATION	22
PHYSICS	23
A2 SPANISH	25

## ART

The students will be working on their own personal projects. They must select their own starting points, produce observational images, research Artists and Art movements, experiments and develop materials, refine their chosen processes and designs, and produce final pieces. Final pieces for the Coursework projects can be produced over any period of time and the students do not require supervision. Final pieces for the exam project at the end of Y12 need to be produced under supervision during a 15h exam. In Y13 the students will produce one large scale coursework project on A2 and a Sketch book; they also produce a written investigation related to the coursework 1500 words. The students are expected to design every aspect of their own projects and should be able to work independently.

### Topic List Y12

- | <b>Term 1</b>        | <b>Term 2</b>  | <b>Term 3</b> |
|----------------------|----------------|---------------|
| ○ Coursework Project | ○ Exam Project | ○             |

### Topic List Y13

- | <b>Term 1</b>                                    | <b>Term 2</b>                                    | <b>Term 3</b> |
|--|--|---------------|
| ○ Coursework Project and<br>Personal Study Essay | ○ Coursework Project and<br>Personal Study Essay | ○             |

## BIOLOGY

The International Advanced Level in Biology aims to:

- enable students to develop their interest in Biology and how different areas of Biology relate to each other
- appreciate how society makes decisions about Biology-related issues and how Biology contributes to the success of the economy and society,
- develop a deeper appreciation of the skills, knowledge and understanding of how Science works.

The syllabus includes inspiring topics that include current scientific developments, and motivating practical work. Experiments cover a range of different topic areas and require the use of a variety of different practical techniques.

It is not compulsory to study Chemistry alongside A Level Biology, although a good understanding of Chemistry is very useful to help understand the biochemical elements of the Biology course.

### Topic List Y12

<b>Term 1</b>	<b>Term 2</b>	<b>Term 3</b>
Unit 1	Unit 2	○ Revision
○ Biochemistry of common molecules	○ Eukaryotic and prokaryotic cells	
○ Cardiovascular disease (CVD)	○ Stem cell research	
○ Lifestyle factors affecting CVD	○ Cell differentiation	
○ Protein-synthesis	○ Plant transport	
○ DNA replication	○ Uses of plant material	
○ Inheritance and inherited disease	○ Habitats, niches and adaptation	
○ Practical investigation skills (Unit 3)	○ Measures of biodiversity	
	○ Extinction, sustainability and conservation	
	○ Practical investigation skills (Unit 3)	

**Topic List Y13****Term 1**

## Unit 4

- Biochemistry of photosynthesis
- Direct indicators and proxy indicators of climate change
- Impact of climate change
- Plant succession
- DNA profiling
- Viral and bacterial infection
- Forensic science
- Practical investigation skills (Unit 6)

**Term 2**

## Unit 5

- Biochemistry of respiration
- Muscle contraction
- Homeostasis
- Plant hormones, germination and flowering
- Brain structure and function
- Nerve structure and function
- Effect of chemicals on brain function
- Effect of genes and the environment on development and learning
- Genetic engineering

**Term 3**

- Revision

## BUSINESS

A Level Business enables students to understand and appreciate the nature and scope of business, and the role it plays in society. The units delivered covers economic, environmental, ethical, governmental, legal, social and technological issues, and encourage a critical understanding of organisations, the markets they serve and the process of adding value. Students will study different business concepts and strategies in relation to their own country and in an international context. The skills and theory of strategic management will be thoroughly explored as will motivational theories, economic activities and project management. The AS course builds on the work done at IGCSE and builds on the work done at AS Level. The curriculum is outlined below:

### Topic List Y12

Term 1	Term 2	Term 3
<ul style="list-style-type: none"><li>○ <b>Business and its environment:</b></li><li>○ Enterprise</li><li>○ Business structure</li><li>○ Size of business</li><li>○ Business objectives</li><li>○ Stakeholders in a business</li><li>○ <b>People in organisations:</b></li><li>○ Management and leadership</li><li>○ Motivation</li><li>○ Human resource management</li></ul>	<ul style="list-style-type: none"><li>○ <b>Marketing:</b></li><li>○ What is marketing?</li><li>○ Market research</li><li>○ The marketing mix</li><li>○ <b>Operations and project management:</b></li><li>○ The nature of operations</li><li>○ Operations planning</li><li>○ Inventory management</li></ul>	<ul style="list-style-type: none"><li>○ <b>Finance and accounting:</b></li><li>○ The need for business finance</li><li>○ Sources of finance</li><li>○ Costs</li><li>○ Accounting fundamentals</li><li>○ Forecasting cash flows and managing working capital</li><li>○ <b>Exam preparation and revision</b></li></ul>

## Topic List Y13

### Term 1

- **Business and its environment:**
  - Business structure
  - Size of business
  - External influences on business activity
- **People in organisations:**
  - Human resource management
  - Organisational structure
  - Business communication

### Term 2

- **Marketing:**
  - Marketing planning
  - Globalisation and international marketing
- **Operations and project management:**
  - Operations planning
  - Capacity utilisation
  - Lean production and quality management
  - Project management

### Term 3

- **Finance and accounting:**
  - Costs
  - Budgets
  - Contents of published accounts
  - Analysis of published accounts
  - Investment appraisal
- **Strategic management:**
  - What is strategic management?
  - Strategic analysis
  - Strategic choice
  - Strategic implementation

## CHEMISTRY

Edexcel International Advanced Level: IAS (XCH01) and IAL (YCH01)

The course aims to develop:

- \* an interest in chemistry
- \* an appreciation of scientific issues and their impact on the economy and society
- \* an understanding of How Science Works
- \* knowledge and understanding of the subject.

The course requires students to:

- \* recall and show understanding of scientific knowledge
- \* select, organise and communicate information
- \* analyse and evaluate scientific information
- \* apply scientific knowledge and processes to unfamiliar situations
- \* assess the validity, reliability and credibility of information.

### Topic List Y12

<b>Term 1</b>	<b>Term 2</b>	<b>Term 3</b>
<ul style="list-style-type: none"><li>○ Formulae, equations and amount of substance</li><li>○ Atomic structure and the periodic table</li><li>○ Bonding and structure</li><li>○ Introductory organic chemistry and alkanes</li><li>○ Alkenes</li></ul>	<ul style="list-style-type: none"><li>○ Energetics</li><li>○ Intermolecular forces</li><li>○ Redox chemistry and groups 1, 2 and 7</li><li>○ Introduction to kinetics and equilibria</li><li>○ Organic chemistry: halogenoalkanes, alcohols and spectra</li></ul>	<ul style="list-style-type: none"><li>○ Revision</li></ul>



### Topic List Y13

#### **Term 1**

- Kinetics
- Entropy and energetics
- Chemical equilibria
- Acid-base equilibria
- Organic chemistry: carbonyls, carboxylic acids and chirality
- Spectroscopy and chromatography

#### **Term 2**

- Redox equilibria
- Transition metals and their chemistry
- Organic chemistry: arenes
- Organic nitrogen compounds: amines, amides, amino acids and proteins
- Organic synthesis

#### **Term 3**

- Revision

## ENGLISH LITERATURE

English Literature is an academically rigorous subject that mirrors university study and refines the students' craft as academic writers. The curriculum is diverse as pupils study a range of pre-1900 and post-2000 poetry, prose and drama. The course encourages pupils to read widely and independently. They will be expected to engage critically and creatively with the reading material and develop and effectively apply their knowledge of literary analysis and evaluation. This course will allow them to explore the contexts of the texts they are reading and others' interpretations of them and undertake independent and sustained studies to deepen their appreciation and understanding of English literature, including its changing traditions. During the course, students learn new knowledge whilst simultaneously developing a range of soft skills which enable students to:

- read widely and independently
- engage critically and creatively with a substantial body of texts and develop ways of responding to them
- develop and effectively apply their knowledge of literary analysis and evaluation
- explore the contexts of the texts they are reading and others' interpretations of them
- undertake independent and sustained studies to deepen their appreciation and understanding of English literature, including its changing traditions
- learn to partake in intellectual debates
- learn to plan, refine and craft a written argument.

### Topic List Y12

<b>Term 1</b>	<b>Term 2</b>	<b>Term 3</b>
<ul style="list-style-type: none"><li>○ Prose – <i>The Kite Runner</i></li><li>○ Modern drama – <i>A Streetcar Named Desire</i></li></ul>	<ul style="list-style-type: none"><li>○ Post-2000 poetry collection</li><li>○ Shakespeare - <i>Othello</i></li></ul>	<ul style="list-style-type: none"><li>○ Revision</li></ul>

### Topic List Y13

<b>Term 1</b>	<b>Term 2</b>	<b>Term 3</b>
<ul style="list-style-type: none"><li>○ Prose – comparative paper - <i>Frankenstein</i></li><li>○ Pre-1900 Romantic poetry</li></ul>	<ul style="list-style-type: none"><li>○ Prose – comparative paper - <i>The Handmaid's Tale</i></li><li>○ Shakespeare - <i>Hamlet</i></li></ul>	<ul style="list-style-type: none"><li>○ Unseen poetry</li></ul>

## FRENCH

A-level French builds upon your existing knowledge gained at GCSE. The emphasis of the A-level language course focuses on improving communication through different means as well as being able to use it in a variety of situations, developing key skills areas.

The course has been designed to give students a profound understanding of French. Not only will they develop their grammar and vocabulary but also their understanding of how people live and use language on a day-to-day basis.

The course aims to develop an interest in, and enthusiasm for, language learning. It is hoped that by the end of the course your child will be able to communicate confidently and effectively in the language, for a range of purposes.

### Topic List Y12

<b>Term 1</b>	<b>Term 2</b>	<b>Term 3</b>
<ul style="list-style-type: none"><li>○ <u>Youth matters</u> (Family relationships and friendships, Peer pressure and role models, Music and fashion, Technology and communication)</li><li>○ <u>Lifestyle, health and fitness</u> (Food and diet, Sport and exercise, Health issues, Urban and rural life)</li></ul>	<ul style="list-style-type: none"><li>○ <u>Environment and travel</u> (Tourism, travel and transport, Natural disasters and weather, Climate change and its impact, Energy, pollution and recycling)</li><li>○ <u>Education and employment</u> (Education systems and types of schooling, Pupil/student life, Volunteering and internships, Jobs and unemployment)</li></ul>	<ul style="list-style-type: none"><li>○ Exam revisions</li></ul>

### Topic List Y13

#### **Term 1**

- Technology in the French-speaking world (Scientific advances, Technological innovations, Impact on life and environment)
- Ethics in the French-speaking world (Beliefs, Law and order, Moral issues (e.g. euthanasia, adoption, genetic modification))
- Current affairs
- MAI 68

#### **Term 2**

- Society in the French-speaking world (Migration, Equality, Politics, Customs)
- Current affairs
- MAI 68

#### **Term 3**

- Exam revisions

## GEOGRAPHY

The course will enable students to be inspired by their geographical understanding, to engage critically with real world issues and places, and to apply their geographical knowledge, theory and skills to the world around them. Students will grow as independent thinkers and as informed and engaged citizens, who understand the role and importance of geography as one of the key disciplines relevant to understanding the world's changing peoples, places and environments. Students will study discrete Human and Physical elements both in Year 12 and Year 13. The course is challenging and incorporates skills such as data interpretation and manipulation, evaluative essays and the critical ability to make connections between the sciences and humanities subjects.

### Topic List Y12

Term 1	Term 2	Term 3
<ul style="list-style-type: none"> <li>● <b>Hydrology and Fluvial Geomorphology</b></li> </ul> <p>The drainage basin system.</p> <p>Discharge relationships within drainage basins.</p> <p>River channel processes and landforms.</p> <p>The human impact.</p>	<ul style="list-style-type: none"> <li>● <b>Population</b></li> </ul> <p>Natural increase as a component of population change.</p> <p>Demographic transition.</p> <p>Population resource management.</p> <p>The management of natural increase.</p>	<p><b>Full, timed exam practice.</b></p>
<ul style="list-style-type: none"> <li>● <b>Atmosphere and weather</b></li> </ul> <p>Diurnal energy budgets.</p> <p>The global energy budget.</p> <p>Weather processes and phenomena.</p> <p>The human impact.</p>	<ul style="list-style-type: none"> <li>● <b>Migration</b></li> </ul> <p>Migration as a component of population change.</p> <p>Internal migration.</p> <p>International migration.</p> <p>A case study of international migration.</p>	
<ul style="list-style-type: none"> <li>● <b>Rocks and weathering</b></li> </ul> <p>Plate tectonics.</p> <p>Weathering and rocks.</p> <p>Slope processes.</p>	<ul style="list-style-type: none"> <li>● <b>Settlement Dynamics</b></li> </ul> <p>Changes in rural settlements.</p> <p>Urban trends and issues of urbanisation.</p> <p>The changing structure of urban settlements.</p> <p>The management of urban settlements.</p>	

The human impact.

**Topic List Y13**

**Term 1**

● **Coastal Environments**

Coastal processes

Characteristics and formation of coastal landforms.

Coral Reefs.

Sustainable management of coasts.

● **Hazardous**

**Environments**

Hazards resulting from tectonic processes.

Hazards resulting from mass movement.

Hazards resulting from atmospheric disturbances.

Sustainable management of hazardous environments.

**Term 2**

● **Environmental management**

Sustainable energy supplies.

The management of energy supplies.

Environmental degradation.

The management of a degraded environment.

● **Global interdependence**

Trade flows and trading patterns.

International debt and international aid.

The development of international tourism.

The management of international tourism.

**Term 3**

**Full, timed exam practice.**

## GERMAN

Students at this level are expected to understand the main ideas of complex text and spoken language about both concrete and abstract topics; interact with a degree of fluency and spontaneity that makes interaction possible without strain; produce clear, detailed text on a wide range of subjects; and explain a viewpoint on a topical issue, giving the advantages and disadvantages of various options. Students will be expected to communicate formally and informally in a range of contexts and to understand a wider range of texts and styles than they can produce themselves.

### Topic List Y12

- | <b>Term 1</b>   | <b>Term 2</b>   | <b>Term 3</b>   |
|---|---|---|
| <ul style="list-style-type: none"><li>○ German-speaking countries and people</li><li>○ TV, press; phones, internet</li><li>○ Leisure activities</li><li>○ Image and fashion</li><li>○ Family, friendship, partnerships</li><li>○ Sport, healthy lifestyle,</li><li>○ Alcohol, smoking, drugs eating disorders</li><li>○ Health issues</li></ul> | <ul style="list-style-type: none"><li>○ Tourism, environment, transport and pollution, climate change.</li><li>○ German school system, student issues, career choices, job, unemployment.</li></ul> | <ul style="list-style-type: none"><li>○ Revision and exam preparation</li></ul> |

### Topic List Y13

- | <b>Term 1</b>   | <b>Term 2</b>   | <b>Term 3</b>   |
|---|---|---|
| <ul style="list-style-type: none"><li>○ Pollution, renewable energy sources, recycling</li><li>○ Technology in the workplace, progress made in medicine, gene technology</li><li>○ Youth crime, Internet crime, measures to reduce it</li></ul> | <ul style="list-style-type: none"><li>○ Immigrants in Germany, racism, integration</li><li>○ Poverty in Germany, solutions for developing countries</li><li>○ Democracy, war and terrorism</li><li>○ National socialism</li></ul> | <ul style="list-style-type: none"><li>○ Revision and exam preparation</li></ul> |

- Germany in the 2<sup>nd</sup>  
World War



## HISTORY

Students begin their A Level History course with an in-depth study of the United Kingdom from 1964 to 1990, an era that continues to shape and resonate in Britain, Europe and the wider world to this day. Students consider how far this period was characterised by significant social, cultural, economic and political change. Students then contemplate a broad sweep of Russian history, from the cataclysmic revolution of 1917 to the equally seismic fall of the Berlin Wall and the breakup of the Russian empire in 1990 and assess how far Russia changed during this period. In year 13 students study the defining element in international relations since 1945; the Cold War and are encouraged to analyse the differing historical interpretations advanced by Historians to explain its outbreak, intensity and partial resolution. Finally, students study the continuingly pertinent issue of race relations in the U.S.A. and the extent to which people of colour were 'free at last' by 2009.

### **Topic List Y12**

<b>Term 1</b>	<b>Term 2</b>	<b>Term 3</b>
<ul style="list-style-type: none"><li>○ Britain, 1964-1990</li><li>○ Labour in power 1964-1970, 'White hot heat'?</li><li>○ States of emergency 1970-1974.</li><li>○ There is no alternative. The Thatcher response, 1979-1990.</li><li>○ A changing society, 1964-1990.</li></ul>	<ul style="list-style-type: none"><li>○ Russia, 1917-1991. From Lenin to Yeltsin.</li><li>○ Communist government in the USSR, 1917-1991</li><li>○ Industrial and agricultural change, 1917-1991.</li><li>○ Control of the people, 1917-1991</li></ul>	<ul style="list-style-type: none"><li>○ Social developments 1917-1991.</li></ul>

### Topic List Y13

#### **Term 1**

- The World Divided. Superpower Relations, 1943-1990.
- Historical interpretations. What explains the outbreak and development of the Cold War in the years 1943-1953?
- Conciliation and confrontation, 1953-1964.
- Stalemate and détente, 1964-1979.
- Renewed confrontation and resolution, 1980-1990.

#### **Term 2**

- Civil Rights and Race Relations in the USA, 1865-2009.
- Free at last! 1865-1877.
- The triumph of "Jim Crow, 1883-1900.
- Roosevelt and race relations 1933-1945.
- I have a dream, 1954-1968.

#### **Term 3**

- Race relations and Obama's campaign for the presidency, 2000-2009.

## Computer Science

Learners will follow the syllabus of the Cambridge exam board and is increasingly becoming a popular subject at university.

It is envisaged that learners will use the skills and knowledge of computer science acquired through this course in one of three ways:

- to provide a general understanding and perspective of the development of computer technology and systems, which will inform their decisions and support their participation in an increasingly technologically dependent society
- to provide the necessary skills and knowledge to seek employment in areas that use computer science
- to develop their knowledge and understanding of computer science through entry to higher education, where this qualification will provide a useful foundation for further study of computer science or more specialist aspects of computer science.

### Topic List Y12

Term 1	Term 2	Term 3
○ Information Representation	○ Database and data modelling	○ Introduction to programming
○ Communication and internet technologies	○ Systems software	○ Practise exam questions
○ Ethics and Ownership	○ Security and data integrity	
○ Processor Fundamentals		

### Topic List Y13

Term 1	Term 2	Term 3
○ Programming	○ Communication and internet technologies continued	○ Computational thinking and problem solving
○ Software development	○ Security	○ Algorithm design
○ Data Representation	○ Systems software continued	○ Further programming

○

○

○

## Mathematics

The AS and A level course aims to:

- develop an understanding of coherence and progression in mathematics and of how different areas of mathematics can be connected
- recognise how a situation may be represented mathematically and understand the relationship between 'real-world' problems and standard and other mathematical models and how these can be refined and improved
- acquire the skills needed to use technology such as calculators and computers effectively, recognise when such use may be inappropriate and be aware of limitations
- develop an awareness of the relevance of mathematics to other fields of study, to the world of work and to society in general
- take increasing responsibility for their own learning and the evaluation of their own mathematical development.

### Topic List Y12

<b>Term 1</b>	<b>Term 2</b>	<b>Term 3</b>
<ul style="list-style-type: none"><li>○ <b>Pure Maths 1</b></li><li>○ Algebra and functions;</li><li>○ Coordinate geometry in the <math>(x, y)</math> plane;</li><li>○ Trigonometry;</li><li>○ Differentiation;</li><li>○ Integration.</li></ul>	<ul style="list-style-type: none"><li>○ <b>Statistics 1</b></li><li>○ Mathematical models in probability and statistics;</li><li>○ Representation and summary of data; probability;</li><li>○ Correlation and regression;</li><li>○ Discrete random variables;</li><li>○ Discrete distributions;</li><li>○ The Normal distribution.</li></ul>	<ul style="list-style-type: none"><li>○ <b>Revision &amp; Exams</b></li></ul>
<ul style="list-style-type: none"><li>○ <b>Pure Maths P2</b></li><li>○ Proof</li><li>○ Algebra and functions;</li><li>○ Coordinate geometry in the <math>(x, y)</math> plane;</li><li>○ Sequence &amp; series</li><li>○ Exponentials &amp; logarithms</li></ul>		

## Topic List Y13

### Term 1

- **Pure Maths P3**
- Algebra and functions;
- Trigonometry;
- Exponentials & logarithms
- Differentiation;
- Integration;
- Numerical methods.
- **Pure Maths P4**
- Proof
- Algebra and functions;
- Coordinate geometry in the  $(x, y)$  plane;
- Binomial expansion
- Differentiation
- Integration
- Vectors

### Term 2

- **Mechanics 1**
- Mathematical models in mechanics;
- Vectors in mechanics;
- Kinematics and dynamics of a particle moving in a straight line;
- Statics of a particle;
- Moments.

Or

- **Decision Maths D1**
- Algorithms
- Algorithms on graphs
- Critical path analysis
- Linear Programming

### Term 3

- **Revision & Exams**

## MUSIC

Cambridge International AS and A Level Music learners develop an appreciation of, and an informed critical response to, music of the Western tradition from at least two genres and periods.

Learners discover how to listen attentively and responsively to develop a better musical understanding as well as learning to communicate this understanding in an essay manner.

As part of the course, learners are encouraged to develop their own creative and interpretative skills through the disciplines of composing and performing in Western and/or non-Western traditions.

### **Topic List Y12 (9483)**

#### **Listening.**

Pupils will study the following works this year (2021)

#### **Section A- Compositional Technique and Performance Practice (35 marks)**

Arcangelo Corelli Concerto Grosso Op. 6 No. 8 ('Christmas')

Johann Sebastian Bach Orchestral Suite No. 3, BWV 1068

#### **Section B- Understanding Music (35 marks)**

Peter Ilyich Tchaikovsky 1812 Overture, Op.49

Samuel Barber Knoxville: Summer of 1915, Op.24

Peter Sculthorpe Third Sonata for Strings 'Jabiru Dreaming' (1994)

#### **Section C (30)**

Open Essay writing covering an array of musical contexts.

#### **Practical Musicianship**

##### **Practical (60 marks)**

A musical performance consisting of 2 contrasting pieces between 6-10 minutes in duration.

##### **Composition (40 marks)**

2 short contrasting compositions (1-2 minutes)

### **Topic List Y13 (9483)**

Pupils will choose coursework options and areas of study due to their skill set.

A Level candidates will choose two of the following.

Component 3- Extended performance. (100 marks)

Component 4- Extended composition. (100 marks)

Component 5- Investigating Music. (100 marks)

## PHYSICAL EDUCATION

In A Level Physical Education you will learn about:

- The diverse nature of sport.
- The interdependence of various areas of sport and physical education.
- Sporting success and failure.
- How athletes need to adapt physically and mentally to the changing sports environment.
- Investigating the impact of technology and commercialism on participation and performance.
- How to refine and analyse your own performance.
- How to make decisions about what to do in your own fitness and training.

The course consists of **four** components:

- **Component 1**-you will learn about the physiological and biomechanical workings of the body. You will be introduced to the anatomical make-up of a performer and how this works alongside training, nutrition and recovery to impact performance.
- **Component 2** you will develop knowledge of the psychological and social principles that underpin physical education and sport. You will explore the role that sports psychology has in facilitating optimal sporting performance of an individual athletes
- **Component 3** you will develop your practical skills in the role of either a player or a coach. You will demonstrate a range of skills, tactics and strategies or compositional ideas while under pressure, in both a conditioned practice and a formal/competitive situation.
- **Component 4** you will undertake an **independent study** to complete a **Performance Analysis and a resulting Performance Development Programme (PDP)** in your chosen sport as a performer or coach and sports teams.

### Y12 A Level Topic list

Term 1	Term 2	Term 3
<ul style="list-style-type: none"><li>○ Applied Anatomy and Physiology</li><li>○ Skill Acquisition</li></ul>	<ul style="list-style-type: none"><li>○ Applied Anatomy and Physiology</li><li>○ Skill Acquisition</li></ul>	<ul style="list-style-type: none"><li>○ Exercise Physiology</li><li>○ Skill Acquisition</li></ul>

### Y13 A Level Topic list

Term 1	Term 2	Term 3
<ul style="list-style-type: none"><li>○ Biomechanics of Movement</li><li>○ Sports Psychology</li><li>○ Skill Acquisition</li></ul>	<ul style="list-style-type: none"><li>○ Sport and Society</li><li>○ Skill Acquisition</li></ul>	<ul style="list-style-type: none"><li>○ Revision and examination practice</li><li>○ Coursework and practical completed</li></ul>



## PHYSICS

Students progress from GCSE Science to:

- sustain and develop their interest in physics and its applications
- develop an understanding of the link between theory and experiment
- improve their skills in the design and execution of experiments
- gain essential knowledge and understanding in physics
- learn about applications of physics and engineering in the wider world

Practical work is undertaken regularly, and there is room for students to develop their own investigations. The study of Physics requires strong mathematical skills, so it is beneficial (but not mandatory) to study A Level Mathematics with Physics.

### Topic List Y12

Term 1	Term 2	Term 3
Mechanics	Electricity	Revision
<ul style="list-style-type: none"> <li>● Graphs of motion</li> <li>● Suvat equations</li> <li>● Projectiles</li> <li>● Drag &amp; terminal velocity</li> <li>● Work and energy</li> <li>● Power</li> </ul>	<ul style="list-style-type: none"> <li>● Potential divider</li> <li>● Sensing and control circuits</li> </ul>	
Materials	Waves & Light	
<ul style="list-style-type: none"> <li>● Fluid flow</li> <li>● Hooke's law</li> <li>● Stress, strain, Young modulus</li> <li>● Material properties</li> </ul>	<ul style="list-style-type: none"> <li>● Wavefronts and rays</li> <li>● Wave properties</li> <li>● Stationary waves</li> <li>● Reflection, refraction, total internal reflection</li> <li>● Diffraction</li> <li>● Phase, polarization, Doppler effect</li> <li>● Electromagnetic spectrum</li> </ul>	
Electricity		
<ul style="list-style-type: none"> <li>● Series and parallel circuits</li> <li>● Charge, current, e.m.f., resistance</li> <li>● Superconductivity</li> </ul>	<ul style="list-style-type: none"> <li>● Photoelectric effect</li> <li>● Solar cells</li> </ul>	

### Topic List Y13

Term 1	Term 2	Term 3
Further Mechanics	Oscillations	Revision
<ul style="list-style-type: none"> <li>● Momentum</li> <li>● Circular Motion</li> </ul>	<ul style="list-style-type: none"> <li>● Simple harmonic motion</li> </ul>	
Electricity & Magnetism	<ul style="list-style-type: none"> <li>● Damping</li> </ul>	
<ul style="list-style-type: none"> <li>● Field shapes</li> <li>● Coulomb's Law</li> <li>● Capacitors</li> <li>● Motor effect</li> <li>● Electromagnetic induction, Lenz's law</li> </ul>	<ul style="list-style-type: none"> <li>● Resonance</li> </ul>	
<ul style="list-style-type: none"> <li>● Generators, transformers</li> </ul>	Nuclear Physics	
Particle Physics	<ul style="list-style-type: none"> <li>● Alpha and beta decay</li> </ul>	
<ul style="list-style-type: none"> <li>● Atomic structure</li> <li>● Particle accelerators</li> <li>● Particle detectors</li> </ul>	<ul style="list-style-type: none"> <li>● Gamma emission</li> </ul>	
<ul style="list-style-type: none"> <li>● Particle detectors</li> <li>● Standard model</li> </ul>	<ul style="list-style-type: none"> <li>● Fission and fusion</li> </ul>	
<ul style="list-style-type: none"> <li>● Particle interactions &amp; equations</li> </ul>	<ul style="list-style-type: none"> <li>● Nuclear equations</li> </ul>	
	Thermal Physics	
	<ul style="list-style-type: none"> <li>● Temperature scales</li> </ul>	
	<ul style="list-style-type: none"> <li>● Heat transfer</li> </ul>	
	<ul style="list-style-type: none"> <li>● Specific heat capacity</li> </ul>	
	<ul style="list-style-type: none"> <li>● Internal energy</li> </ul>	
	<ul style="list-style-type: none"> <li>● Gas laws</li> </ul>	
	Astrophysics	
	<ul style="list-style-type: none"> <li>● Gravitational fields</li> </ul>	
	<ul style="list-style-type: none"> <li>● Stefan's law, spectra, Wien's law</li> </ul>	
	<ul style="list-style-type: none"> <li>● Stellar classification</li> </ul>	
	<ul style="list-style-type: none"> <li>● Hertzsprung Russell Diagram</li> </ul>	
	<ul style="list-style-type: none"> <li>● Hubble's law</li> </ul>	
	<ul style="list-style-type: none"> <li>● Fate of universe, dark matter</li> </ul>	

## A2 SPANISH

Students taking this A2 subject will sit the exam at the end of Year 12. In Unit 1, students must answer orally a series of questions on a general topic area of their choice. In Unit 2, listening, reading, grammar and writing are assessed. Unit 3 is another oral exam in which students defend a stance on an issue of their choice. Finally, Unit 4 involves the study of a literary text set by Edexcel. This exam is taken as an opportunity to engage students in further reading and in providing pupils with opportunities to increase their knowledge and awareness of current affairs. Both oral units take place in April/May.

### Topic List Y12

#### Term 1

- **UNIT 4:** Estudio de una obra literaria. Prácticas de creación textual.

#### Term 2

- **UNIT 2:** Técnicas y prácticas de examen.
- **UNIT 1/UNIT 3:** Preparación de las unidades orales del examen. Seguimiento de prensa y de temas de actualidad. Investigación de dos de las áreas indicadas en el temario oficial.

#### Term 3

- **UNIT 2:** Técnicas y prácticas de examen.
- **UNIT 4:** Práctica de examen.