



**THE CEDARS  
SCHOOL**

**Sixth Form**

**A Level  
Course Booklet**

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# A Level Studies at The Cedars

## Admissions Procedure and Entry Criteria

Please consult the [Sixth Form Admissions](#) page of the school website for details of the admissions process. We welcome applications from external candidates. The admissions procedure and entry criteria are explained in the school's [Admissions Policy](#). All internal and external applicants must complete a [Sixth Form Supplementary Application Form](#) by the deadline date given on the website.

**Academic entry criteria:** five grades at 7 and three grades at 6 from the students' best eight GCSEs, and at least a Grade 7 in each of the subjects to be studied at A Level.

## A Level Reform

Government reforms of post-16 education 2015-17 have resulted in important changes to the content, delivery and assessment of A Levels which may be summarised as follows:

- Students will need to have command of a larger body of core knowledge than before. Coursework is retained in many subjects, but makes up a smaller proportion of the overall grade.
- A Level courses had been *modular*: divided into discrete units across AS Level (in Year 12) and A Level (in Year 13). A Levels are now *linear*, two-year qualifications. Examination papers cover topics studied over the whole course.
- Although AS examinations can still be sat, they do not contribute to the overall A Level grade. AS qualifications are now valued at 40% of a full A Level.
- In view of the higher demands of A Level study, it is expected that most students will take three A Levels.

At The Cedars, students whose prior attainment indicates they are suited to a stimulating and challenging workload will be encouraged to take four A Levels. Other students have the option of pursuing an Extended Project Qualification, which is worth 50% of an A Level.

## A Level Teaching, Directed and Independent Study

Success at A Level requires high levels of self-motivation, consistent hard work, and a thirst for learning. Our sixth form students progress quickly through material; benefitting from the personal attention and individual support available with small class sizes. Each A Level subject is allocated FOUR teaching lessons, and TWO additional periods of directed study tasks, per week. *For every 45 minute lesson, students are expected to devote 90 minutes to independent study.*

## Assessment, Monitoring & Reporting

Formal assessments are set in each subject at the end of every half term, and these are reported to parents as A Level attainment grades, together with grades for attitude and effort. A student's attainment is measured against target grades based on [Alps benchmark data](#) of prior GCSE attainment. A student's academic progress is monitored by the Head of Sixth Form as well as by his subject teachers. Tutors play a key role in supporting students and parents throughout the Sixth Form, and there is a formal parents evening each year.

## Academic Enrichment, Personal Development, Initiative and Leadership in Service

Sixth Form students at The Cedars are pioneers. They belong to the first cohorts of young men who are laying the foundations of a new Sixth Form and setting a tone of excellence in service which others will build upon for generations to come.

- While A Level study can tend toward narrow and compartmentalised learning, our commitment to [Eudaimonia](#) encourages students to appreciate the interconnectedness of knowledge and to foster broad academic and cultural interests:
  - The Common Core Curriculum provides all Sixth Form students with an introduction to some major themes in philosophy, anthropology, ethics, theology and the social teaching of the Church, and provides a coherent framework for health and relationships education.
  - Visiting speakers offer insights into the application of specialised knowledge in a host of professional settings.
  - Subject teachers encourage students to pursue areas of interest beyond the confines of the classroom and the course specification; making full use of lectures and university study days.
  - Sixth Form students take responsibility and initiative, and develop their presentation skills via the Becket Seminars, in which they explain A Level topics to younger students.
- Effective time management and personal organisation is encouraged and monitored through effective use of the Sixth Form Diary & Study Log and through supervised study periods.
- Students develop their study skills, critical thinking, and prepare for university and career plans in meetings with their Tutor, the Head of Sixth Form and during regular group sessions.
- As prefects and House Captains, and by taking a leading role in music, sport and extra-curricular clubs and activities, students develop talents, grow in virtue and set a tone of leadership in service that lies at the heart of the school's ethos: *In Gaudio Serviamus*.
- Through subscriptions to online careers platforms ([ULAS](#) and [CareersMenu](#)) visiting speakers, presentations, and university taster programmes, students gradually acquire a broad appreciation of the range of opportunities open to them beyond A Levels: traditional undergraduate and degree apprenticeships, apprenticeships and school leavers employment programmes, as well as gap year opportunities.
- Sixth Form students set an example to other students through their adherence to school rules, attendance and punctuality. [The Sixth Form Dress Code](#) encourages students to express their personality while showing a seriousness of purpose and respect for others.

# Art & Design

**Course Leader:** Mr C Strinati

**Examination board:** Edexcel Fine Art (9AD01)

Fine Art is work produced as an outcome of the students' personal experience, rather than being created exclusively for a practical function or a tightly prescribed brief. Students learn to use a wide range of materials and techniques including painting and drawing, printmaking, sculpture, ceramics, textiles and alternative media (non-traditional methods such as mixed media, installation, site specific work, assemblage and digital media). Students also develop their cultural and critical understanding of art while studying a wide range of artists and designers. Many extra-curricular activities happen throughout the course including exhibition and gallery visits, life drawing, portfolio workshops, visiting artists, studio sessions and the end of year summer exhibition

The skill set developed within the subject supports a wide range of careers which require originality of thought and a creative approach to problem-solving problems. A Level Art and Design provides important preparation for a future career in advertising, architecture, illustration, film, photography and all aspects of design.

## Content

Component 1: *Personal Investigation*

Students produce a body of work and final realisation developed from a starting point. Within the component, students will explore a wide range of media and artists, developing skill and understanding as work progresses. There is also a personal study that needs to be completed in which students explain their interest in other artists and their developing work (1000-3000 word essay).

Component 2: *Externally Set Assignment*

Students receive an externally set theme and have a period of 8 -12 weeks to go through the creative process, researching artists and exploring media before they produce a final realisation under controlled conditions. This takes the form of a 15 hour timed realisation where the work that has been planned is completed under supervised conditions.

## Assessment

Component 1 - Personal Investigation portfolio and personal study 60 %

Component 2 - Externally Set Assignment (40%)

## **Specific Entry Requirements:**

GCSE Art at Grade 7 or above.

# Biology

**Course Leader:** Mr B Rix

**Examination board:** AQA (A Level 7402)

This is a linear, two-year A Level qualification.

The specification builds on concepts and skills that have been developed in the new GCSE science specification. It presents biology as an exciting, relevant, topical and challenging subject.

## Content

- |   |   |
|---|---|
| 1 Biological molecules  | 5 Energy transfers in and between organisms.                                |
| 2 Cells   | 6 Organisms respond to changes in their internal and external environments. |
| 3 Organisms exchange substances with their environment.               | 7 Genetics, populations, evolution and ecosystems.                          |
| 4 Genetic information, variation and relationships between organisms. | 8 The control of gene expression.   |

## Assessment

<b>Paper 1</b>	<b>Paper 2</b>	<b>Paper 3</b>
<b>What is assessed?</b> Topics 1– 4, including relevant practical skills.	<b>What is assessed?</b> Topics 5–8, including relevant practical skills.	<b>What is assessed?</b> Topics 1–8, including relevant practical skills.
<b>How is it assessed?</b> Written exam: 2 hours 91 marks 35% of A- level	<b>How is it assessed?</b> Written exam: 2 hours 91 marks 35% of A- level	<b>How is it assessed?</b> Written exam: 2 hours 78 marks 30% of A- level

## Practical assessment

Practical work is at the heart of science.

Students must keep a log of all their practical work which will be checked by AQA inspectors.

There are 12 required practicals that all students must undertake. These practicals and their relevant skills will be assessed in the written exams. Overall, at least 15% of the marks for an A Level Biology qualification will require the assessment of practical skills.

***The 12 required practicals are:***

1. Investigation into the effect of a named variable on the rate of an enzyme-controlled reaction.
2. Preparation of stained squashes of cells from plant root tips; setup and use of an optical microscope to identify the stages of mitosis in these stained squashes and calculation of a mitotic index.
3. Production of a dilution series of a solute to produce a calibration curve with which to identify the water potential of plant tissue.
4. Investigation into the effect of a named variable on the permeability of cell-surface membranes.
5. Dissection of animal or plant gas exchange or mass transport system or of organ within such a system.
6. Use of aseptic techniques to investigate the effect of antimicrobial substances on microbial growth.
7. Use of chromatography to investigate the pigments isolated from leaves of different plants, eg leaves from shade-tolerant and shade-intolerant plants or leaves of different colours.
8. Investigation into the effect of a named factor on the rate of dehydrogenase activity in extracts of chloroplasts.
9. Investigation into the effect of a named variable on the rate of respiration of cultures of single-celled organisms.
10. Investigation into the effect of an environmental variable on the movement of an animal using either a choice chamber or a maze.
11. Production of a dilution series of a glucose solution and use of colorimetric techniques to produce a calibration curve with which to identify the concentration of glucose in an unknown 'urine' sample.
12. Investigation into the effect of a named environmental factor on the distribution of a given species.

***Specific Entry Requirements:***

GCSE Biology and GCSE Maths at Grades 7 or above. GCSE English at Grade 6 or above.

# Chemistry

**Course Leader:** Dr P. Virgili

**Examination board:** AQA (7504)

## Course Content

### 1. Physical chemistry

- 1.1 Atomic structure
- 1.2 Amount of substance
- 1.3 Bonding
- 1.4 Energetics
- 1.5 Kinetics
- 1.6 Chemical equilibria,  
Le Chatelier's principle and  $K_c$
- 1.7 Oxidation, reduction and redox  
equations
- 1.8 Thermodynamics
- 1.9 Rate equations
- 1.10 Equilibrium constant  $K_p$  for  
homogeneous systems
- 1.11 Electrode potentials and electrochemical  
cells
- 1.12 Acids and bases

### 2. Inorganic chemistry

- 2.1 Periodicity
- 2.2 Group 2, the alkaline earth metals
- 2.3 Group 7(17), the halogens
- 2.4 Properties of Period 3 elements and their  
oxides
- 2.5 Transition metals
- 2.6 Reactions of ions in aqueous solution

### 3. Organic chemistry

- 3.1 Introduction to organic chemistry
- 3.2 Alkanes
- 3.3 Halogenoalkanes
- 3.4 Alkenes
- 3.5 Alcohols
- 3.6 Organic analysis
- 3.7 Optical isomerism
- 3.8 Aldehydes and ketones
- 3.9 Carboxylic acids and derivatives
- 3.10 Aromatic chemistry
- 3.11 Amines
- 3.12 Polymers
- 3.13 Amino acids, proteins and DNA
- 3.14 Organic synthesis
- 3.15 Nuclear magnetic resonance  
spectroscopy
- 3.16 Chromatography

## Assessment

Paper 1	Paper 2	Paper 3
<b>What is assessed</b> Physical chemistry topics (1.1 to 1.4, 1.6 to 1.8 and 1.10 to 1.12) Inorganic chemistry (see 2) Relevant practical skills	<b>What is assessed</b> Relevant Physical chemistry topics (1.2 to 1.6 and 1.9)  Organic chemistry (see 3) Relevant practical skills	<b>What is assessed</b>  Any content  Any practical skills
<b>How is it assessed</b> Written exam: 2 hours 105 marks 35% of A- level	<b>How is it assessed</b> Written exam: 2 hours 105 marks 35% of A- level	<b>How is it assessed</b> Written exam: 2 hours 90 marks 30% of A- level

## Practical assessment



Practical work is at the heart of chemistry.

Students must keep a log of all their practical work which will be checked by AQA inspectors.

There are 12 required practicals that all students must undertake. These practicals and their relevant skills will be assessed in the written exams.

***The 12 required practicals are:***

1 Make up a volumetric solution and carry out a simple acid–base titration

2 Measurement of an enthalpy change

3 Investigation of how the rate of a reaction changes with temperature

4 Carry out simple test-tube reactions to identify:

- cations – Group 2,  $\text{NH}_4^+$
- anions – Group 7 (halide ions),  $\text{OH}^-$ ,  $\text{CO}_3^{2-}$ ,  $\text{SO}_4^{2-}$

5 Distillation of a product from a reaction

6 Tests for alcohol, aldehyde, alkene and carboxylic acid

7 Measuring the rate of reaction:

- by an initial rate method
- by a continuous monitoring method

8 Measuring the EMF of an electrochemical cell

9 Investigate how pH changes when a weak acid reacts with a strong base and when a strong acid reacts with a weak base

10 Preparation of a pure organic solid and test of its purity and a pure organic liquid

11 Carry out simple test-tube reactions to identify transition metal ions in aqueous solution

12 Separation of species by thin-layer chromatography

We will offer a rich practical experience for students that will include more than the 12 required practical activities.

**External links**

There will be opportunities for attending lectures and developing links with the major university institutions in London (Imperial, King's, UCL).

***Specific Entry Requirements:***

GCSE Chemistry and GCSE Maths at Grades 7 or above.

# Common Core Curriculum

**Course Leader:** Mr C. Doran

**This course is not externally examined**

This course focuses upon the dignity of the human person. Through this unifying framework students are introduced to a wide range of philosophical and theological themes. The course takes an historical approach, and charts the dialogue between Christians and their contemporaries in pursuit of the truth about the nature and dignity of the human person through time.

A key objective of the course is to give students the philosophical and theological tools with which to connect knowledge acquired across diverse subject disciplines, and to encourage them to think more deeply about the moral and spiritual dimensions of those disciplines. The latter will be the focus of the case studies students will prepare and present at the end of the course.

Year 12	Year 13
Introduction to key themes in philosophy & theology	Social Teaching of the Church
Christian Anthropology	Historical Controversies regarding the Church & Human Dignity c14-20 <sup>th</sup>
Theology of the Body	Case Studies
Bioethics	

## PSHE

**Course Leader:** Mr C. Doran

**This course is not externally examined**

Topics in personal, social, and health education are delivered via:

- Sixth Form Induction Days in June and September
- Taught sessions during Sixth Form registration time e.g. personal organisation, study skills, preparing for university applications, careers;
- Core Curriculum e.g. the Theology of the Body - relationships & human sexuality; Critical Thinking, etc.
- A programme of guest speakers. These provide students with independent perspectives on a range of topics: STEM, careers, online safety, charitable work and other life experiences.

# English Literature

**Course Leader:** Mr J Gray

**Examination Board:** AQA B

## Course content

This is a linear course covering the study of a range of literary texts of different periods (including pre-1900 and post-2000 writing) grouped by genre (for example, comedy or tragedy; crime or political and social protest writing).

Over the two year A Level course, students will study at least eight texts, two of which will be drama, two prose and two poetry. Students will have the opportunity to explore connections between texts and how texts might be interpreted in a multiplicity of ways, enriched by a reading of a range of critical theory.

In the second year of the course, they will have the opportunity to choose their own texts for study in the “Theory and Independence” unit of the course. Students need to be prepared to engage in detailed textual analysis, creative and independent interpretive thinking, and regular and rigorous essay writing.

### Paper 1 - Aspects of Tragedy

<i>What is assessed?</i>	<i>How is it assessed?</i>
Study of three texts:	<b>Written exam:</b> 2 hours 30 minutes (closed book)
‘King Lear’ William Shakespeare	75 marks
‘Death of a Salesman’ Arthur Miller	<b>Section A:</b> one passage-based question on set Shakespeare text (25 marks)
‘Lamia’, ‘Isabella or ‘The Pot of Basil’, ‘La Belle Dame Sans Merci’, ‘The Eve of St. Agnes’ John Keats	<b>Section B:</b> one essay question on set Shakespeare text (25 marks)
	<b>Section C:</b> one essay question linking two texts (25 marks)
	40% of A Level

### Paper 2 - Elements of Political & Social Protest Writing

<i>What is assessed?</i>	<i>How is it assessed?</i>
Study of three texts: one post-2000 prose text; one poetry and one further text, one of which must be written pre-1900:	<b>Written exam:</b> 3 hours (open book)
‘Songs of Innocence and of Experience’ William Blake	75 marks
‘Harvest’ Jim Crace OR ‘The Kite Runner’ Khaled Hosseini	<b>Section A:</b> one compulsory question on an unseen passage (25 marks)
‘A Doll’s House’ (Methuen Drama Student Edition 2008) Henrik Ibsen (Translated by Michael Meyer)	<b>Section B:</b> one essay question on set text (25 marks)
	<b>Section C:</b> one essay question which connects two texts (25 marks)
	40% of A Level

### **Paper 3 Theory & Independence**

#### *What is assessed?*

Study of two texts: one poetry and one prose text, informed by study of the Critical Anthology.

Each text must be linked to a different section of the Critical anthology.

Students cannot choose texts from any of the A Level exam set text lists.

#### *How is it assessed?*

Two essays of 1250–1500 words, each responding to a different text and linking to a different aspect of the Critical anthology

50 marks

Assessed by teachers. Moderated by AQA.

20% of A Level

#### **Specific Entry Requirements:**

GCSE Grade 7 or above in English Literature.

# Extended Project Qualification (Level 3)

**Teacher:** Mr C Doran

**Examination Board:** AQA (7993)

## Course content

The Extended Project Qualification (EPQ) allows a student to embark upon a largely self-directed enquiry. In discussion with his supervisor, the student decides his own area of research, and with appropriate guidance, works systematically through the process of planning, researching and completing their project.

A project topic may be directly related to a student's main study programme, but should look beyond the specification. It can, alternatively, explore a completely different area of knowledge. A finished project may take the form of:

- a research based written report of c.5000 words
- a production\* e.g. a charity event, a fashion show or sports event etc.
- an artefact\* e.g. a piece of art, a computer game or realised design

\*A written report of c.1000 words must accompany these options

Supported by a guided learning programme of research methods, project management and critical thinking, students record their project process in a production log. The process of recording and completing a project is as important as the finished product, since the final project, the production log and a presentation of their project findings to a non-specialist audience, all contribute to the final assessment.

The EPQ is highly valued by universities. It encourages creativity, curiosity and the acquisition of research skills.

## Examination & Assessment

The production log, project and presentation are internally marked and externally moderated. The EPQ is graded A\* - E.

It is valued at **50%** of a full A Level.

## Specific Entry Requirements:

None.

# Geography

**Course Leader:** Mr J Bell

**Examination Board:** CIE

A Level Geography helps students to develop:

- an understanding of the principal processes operating within physical geography and human geography
- an understanding of the causes and effects of change on natural and human environments
- an awareness of the usefulness of geographical analysis to understand and solve contemporary human and environmental problems
- the ability to handle and evaluate different types and sources of information
- the skills to think logically, and to present an ordered and coherent argument in a variety of ways
- an excellent foundation for studies beyond A Level in Geography, in further or higher education, and for professional courses.

## Course content

The course is divided into physical and human geography and is taught by specialist teachers in these areas. The course content is structured as follows:

### Core Physical Geography

- Hydrology and fluvial geomorphology
- Atmosphere and weather
- Rocks and weathering

### Core Human Geography

- Population
- Migration
- Settlement dynamics

### Advanced Physical Geography

Two options from:

- Tropical environments
- Coastal environments
- Hazardous environments
- Hot arid and semi-arid environments

### Advanced Human Geography

Two options from:

- Production, location and change
- Environmental management
- Global interdependence
- Economic transition

## Examination/Assessment

Four examinations each lasting 1 hour 30 minutes and each worth 25% of the overall A Level grade will be sat at the end of Upper Sixth.

**Specific Entry Requirements:** GCSE Geography Grade 7 or above.

# History

**Teacher:** Mr C Doran

**Examination Board:** AQA (7042)

The best reason for taking History is that you are really interested in the subject. You enjoy exploring and discovering the past. You like reading, writing and discussion, and feel a sense of achievement after successfully confronting and making sense of complex and challenging problems.

The past has given us all our political and religious ideas and institutions, our social customs, and indeed our own personal and family identities. The study of History gives us a unique perspective on the present. Studying aspects of British, European and World History from across a wide time frame will equip you with the skills needed to make mature judgements about a wide range of current affairs.

A Level History is a traditional step along career pathway towards journalism, broadcasting, law, politics, advertising, teaching, publishing and marketing.

### **Course content**

Component 1 (Option J): The British Empire c.1857 - 1967

Component 2 (Option O): Democracy and Nazism: Germany 1918-1945

Component 3 (Personal Study): A personal study based on a topic of student's choice. This should take the form of a question in the context of approximately 100 years. It must not duplicate the content of options chosen for Components 1 and 2.

### **Examination & Assessment**

**Paper 1** The British Empire c.1857-1967 (2 ½ hours) 80 marks. 40% of total.

Section A – one compulsory question linked to historical interpretations (30 marks)

Section B – two from three essays (2 x 25 marks)

**Paper 2** Democracy & Nazism: Germany 1918-1945 (2½ hours) 80 marks. 40% of total.

Section A – one compulsory question linked to primary sources or sources contemporary to the period (30 marks)

Section B – two from three essays (2 x 25 marks)

**Personal Study Coursework Essay** - 3000-3500 words. 40 marks. 20% of total.

Internally marked, externally moderated by AQA

**Specific Entry Requirements:** GCSE Grade 7 or above in History, or GCSE Grade 7 or above in English, for students who have not taken GCSE History.

# Latin

**Teacher:** Mr W J Ash

**Examination Board:** OCR

## Why choose A Level Latin?

OCR's A Level in Latin has been designed to help students develop their understanding of the Latin language and the related ancient literature, values and society. The linear nature of the qualification allows separate components to assess language and literature. Students have a greater choice in the texts they can study. The specification lists interesting and engaging set texts. An A Level in Latin engages students, develops a desire within them to continue learning Latin and helps develop a lifelong enthusiasm for the Classical world.

## Aims and learning outcomes

An A Level in Latin will enable students to:

- develop an appropriate level of competence in the language studied
- acquire the language skills which enable students to read literary texts, both prose and verse, in the original language
- develop an interest in, and enthusiasm for, the literary, historical and cultural features of the ancient world
- acquire the literary skills which enable students to read ancient literature, both prose and verse, in its original language with appropriate attention to literary techniques, styles and genres
- apply analytical and evaluative skills at an appropriate level which show direct engagement with original texts in the ancient language
- make an informed personal response to the material studied
- begin to develop a sensitive and analytical approach to language generally
- develop research and analytical skills that will empower them to become independent students

## What are the key features of this specification?

- a choice of set texts to study, giving the opportunity to create an appropriate and engaging course for students
- the opportunity to be inspired, motivated and challenged by reading widely across a range of set texts
- the opportunity to gain a deeper understanding of the life and culture of the ancient world through the literature studied
- the encouragement to develop and apply critical analytical skills, which will help students in their future study
- the opportunity to develop linguistic skills which will help both in the study and application of English and other languages
- the separation of the assessment of unseen language and set texts in different question papers
- the chance to develop the language and literature skills needed to progress to studying Classics at undergraduate level.

## Content of A Level in Latin (H443)

The OCR A Level in Latin will build on the knowledge, understanding and skills specified for GCSE (9–1). Students will be introduced to a greater range of vocabulary through wider reading of original material, more complex examples of syntax and accidence and the in-depth study of prose and verse literature. There is no defined vocabulary list for the A Level in Latin. Rather, the qualification will require students to know and build upon words and regular compounds of the words, which are listed in the Defined Vocabulary List for AS Level Latin. Students are expected to study a range of authors' work in order to develop a wider vocabulary and more complex understanding of syntax and accidence.



This will enable them to translate unseen passages, and either answer comprehension and grammar questions on an unseen prose passage. The A Level in Latin will also extend the study of ancient literature in terms of breadth and depth, further developing students' ability to critically analyse and evaluate ancient literature. The Prose and Verse Literature components will give students the option to study one author in greater depth or the works of two different authors. The qualification also requires students to read additional literature in translation in order to understand the context from which the set texts have been taken. Over the course of the A Level, students will have studied the works of at least four different authors in preparation for the Language and Literature examinations

### Specification Overview of OCR's A Level in Latin (H443)

Students must take all components: 01, 02, 03 and 04 to be awarded the OCR A Level in Latin.

Component	Content	Assessment	Value
01	Students study texts written by a range of prose authors and the verse unseen author to develop linguistic competence	Unseen Translation (01) 100 marks 1 hour 45 minute written paper 100 marks	33%
02	Prose Composition or Comprehension	1 hour 15 minute paper Written paper 50 marks	17%
03	Students study two Latin Prose Literature set texts in depth. Students also study additional literature in translation in order to understand the context from which the set texts have been taken	Prose Literature 2 hour written paper 75 marks	25%
04	Students study two Latin Verse Literature set texts in depth. Students also study additional literature in translation in order to understand the context from which the set texts have been taken	Verse Literature 2 hour written paper 75 marks	25%

### How do I find out more information?

If students have followed the OCR GCSE course they may be familiar with the website:

[www.ocr.org.uk](http://www.ocr.org.uk)

Join the OCR Classics community: <http://social.ocr.org.uk/groups/classics>

**Specific entry requirements:** GCSE Grade 7 or above in Latin.

# Mathematics and Further Mathematics

**Teachers:** Mr P Moloney, Mr R Teague, Mr S Traynor, Mr B Woodward

**Examination Board:** OCR B (MEI)

## Introduction

A Level Mathematics and Further Mathematics are significantly more challenging than GCSE Mathematics but most students find them correspondingly more interesting and rewarding. Both are regarded as “facilitating subjects” by universities and the logical and analytical thinking skills developed in Mathematics are also highly valued by employers. If you are considering a degree in a STEM subject, Mathematics is essential and Further Mathematics is likely to benefit your application.

Aside from the practical value of Mathematics, it is a deeply fascinating subject which many of us find beautiful. In the words of Martin Gardner, an American mathematician: “*All mathematicians share a sense of amazement over the infinite depth and the mysterious beauty and usefulness of mathematics.*” Famous physicist, Richard Feynman expressed a similar sentiment: “*To those who do not know mathematics it is difficult to get across a real feeling as to the beauty, the deepest beauty, of nature ... If you want to learn about nature, to appreciate nature, it is necessary to understand the language that she speaks in.*” Such enjoyment of Mathematics may sound like an unlikely prospect but the further you go in the subject, the more beauty you will see. Study at A Level will take you to the threshold of some spectacular vistas.

## Summary of Content: Mathematics

Every A Level Mathematics specification has exactly the same content under the latest reforms. We will follow the OCR MEI course which is assessed over three papers:

Paper 1: Pure Mathematics and Mechanics (2 hours)	36.4%
Paper 2: Pure Mathematics and Statistics (2 hours)	36.4%
Paper 3: Pure Mathematics and Comprehension	27.3%

### *Pure Mathematics*

Proof, algebra, graphs, sequences, trigonometry, logarithms, calculus, vectors, functions, numerical methods and differential equations.

### *Statistics*

Probability, the binomial distribution, the normal distribution and hypothesis testing.

### *Mechanics*

Kinematics, forces, Newton’s laws, motion under gravity, friction and moments.

**Specific entry requirements for Mathematics:** GCSE Grade 7 or above in Mathematics.

## Summary of Content: Further Mathematics

There is a 'pure core' which contributes 50% to the overall assessment. In this component, topics covered earlier are developed and new topics – such as complex numbers, group theory, hyperbolic functions and number theory – are introduced. In addition, three smaller modules will be studied: Mechanics, Statistics and Extra Pure. These modules will extend earlier work in their respective strands.

### Assessment

There is no coursework. The following examinations are taken at the end of Year 13.

Core Pure (2 hours 40 minutes)	50%
Mechanics Minor (1 hour 15 minutes)	16.7%
Statistics Minor (1 hour 15 minutes)	16.7%
Extra Pure (1 hour 15 minutes)	16.7%

**Specific entry requirements for Further Mathematics:** GCSE Grade 8 or above in Mathematics.

### Frequently Asked Questions

*Is the new A Level in Mathematics harder than the old one?*

The level of demand is roughly the same. The main change is that it is 'linear': i.e. there are no modules and all exams are taken at the end. This approach allows for much more teaching time and, arguably, deeper learning.

*Does Further Maths cover different topics (from normal maths) or does it just consist of the same topics studied at a higher level?*

A bit of both: many additional topics are introduced but a good part of the course develops topics already encountered in single maths. As a result, further maths is rather more challenging. The most common approach is to study both subjects alongside each other and this is the approach that we will take at The Cedars.

*Is it too narrow to study both Maths and Further Maths?*

It depends on what you want to study at university and how certain you are about your choice. It is certainly worth considering a fourth subject though, and a good mathematician will find the workload involved in "double maths" less than double that of single maths.

*Is it possible to study Further Maths without single Maths?*

No, because a lot of further maths builds on single Maths.

*Will I need a calculator?*

Yes – the CASIO 991ES is a good buy at around £15. If you want to spend more, you could buy a graphical calculator but this is not essential. If you do buy a more high-powered machine, make sure it can be taken into the exam!

# Physics

**Teacher:** Mr D. Harland

**Examination board:** AQA (7408)

## Course Content

The course has been designed to comprise a mixture of familiar topics already encountered at GCSE and new topics to pique the student's interests in the subject, and perhaps inspire them to continue the subject in higher education.

Besides the common core content, students must pick **one** out of the five optional topics depending on their interests or likely areas of future study.

<b>Core content</b>	<b>Optional content</b> (one to be chosen)
1 Measurements and their errors 2 Particles and radiation 3 Waves 4 Mechanics and materials 5 Electricity 6 Further mechanics and thermal physics 7 Fields and their consequences 8 Nuclear physics	9 Astrophysics 10 Medical physics 11 Engineering physics 12 Turning points in physics 13 Electronics

## Assessment

<b>Paper 1</b>	<b>Paper 2</b>	<b>Paper 3</b>
<b>What is assessed</b>  Topics 1–5 and 6.1 (Periodic motion)	<b>What is assessed</b>  Topics 6.2 (Thermal Physics), 7 and 8 <i>Assumed knowledge from sections 1 to 6.1</i>	<b>What is assessed</b>  <b>Section A:</b> Compulsory section: Practical skills and data analysis <b>Section B:</b> Students enter for <b>one</b> of Topics 9, 10, 11, 12 or 13
<b>How is it assessed</b> Written exam: 2 hours 85 marks 34% of A-level	<b>How is it assessed</b> Written exam: 2 hours 85 marks 34% of A-level	<b>How is it assessed</b> Written exam: 2 hours 80 marks 32% of A-level

## Required practicals

As ever, the practical aspects of physics are extremely important, and these will also feature heavily in the course. The third paper of the A Level course focuses on the practicals the student will be doing.

**The required practicals are as follows:**

1. Investigation into the variation of the frequency of stationary waves on a string with length, tension and mass per unit length of the string.
2. Investigation of interference effects to include the Young's slit experiment and interference by a diffraction grating.
3. Determination of  $g$  by a free-fall method.
4. Determination of the Young modulus by a simple method.
5. Determination of resistivity of a wire using a micrometer, ammeter and voltmeter.
6. Investigation of the emf and internal resistance of electric cells and batteries by measuring the variation of the terminal pd of the cell with current in it.
7. Investigation into simple harmonic motion using a mass-spring system and a simple pendulum.
8. Investigation of Boyle's (constant temperature) law and Charles's (constant pressure) law for a gas.
9. Investigation of the charge and discharge of capacitors. Analysis techniques should include log-linear plotting leading to a determination of the time constant  $RC$ .
10. Investigate how the force on a wire varies with flux density, current and length of wire using a top pan balance.
11. Investigate, using a search coil and oscilloscope, the effect on magnetic flux linkage of varying the angle between a search coil and magnetic field direction.
12. Investigation of the inverse-square law for gamma radiation.

Overall, at least 15% of the marks for all A Level Physics courses will require the assessment of practical skills.

**Specific entry requirements:** GCSE Grade 7 or above in Physics & Mathematics.

# Spanish

**Subject Teacher:** Mrs Bowers

**Examination Board:** AQA

## Introduction

The AQA A Level Spanish course builds on the skills and knowledge that students acquired at GCSE. It is a richly blended study of language, culture and society. Apart from enabling students to develop linguistically in the target language and gain a deep understanding of the Spanish-speaking world, the course also promotes the fostering of transferable skills such as effective oral and written communication, critical thinking and research capability.

## Course Content

The course aims to develop students' ability to communicate effectively in Spanish and secure a high level of proficiency in the target language. The course also focuses on how the Spanish-speaking world has been shaped socially and culturally, and how it continues to evolve. These learning objectives will be achieved as students repeatedly engage with authentic spoken and written sources in Spanish.

The topics that will be covered include:

Modern and traditional values	Artistic culture
Cyberspace	Regional Identity
Equal rights	Politics
Immigration	

Students' appreciation of Spanish-speaking society will be enhanced by the study of either two novels or a novel and a film from the Spanish-speaking world.

Grammar will naturally constitute an integral part of the course and students will have ample opportunity to explore and develop a wide range of linguistic structures.

## Assessment

**Paper 1:** Listening, reading and writing – 2 hours and 30 minutes

The paper comprises the assessment of:

Aspects of Hispanic society; artistic culture in the Hispanic world; multiculturalism in Hispanic society; aspects of political life in Hispanic society. Grammar.

**Paper 2:** Writing – 2 hours

This paper will assess one text and one film or two texts from the list set in the specification as well as grammar.

**Paper 3:** Speaking - 23 minutes

This assessment will be based on an individual research project and one of four themes (aspects of Hispanic society; artistic culture in the Hispanic world; multiculturalism in Hispanic society; aspects of political life in Hispanic society).

**Specific Entry Requirement** GCSE Spanish at Grade 7 or above.

# Appendix: Supplementary Application Form

The following is a summary of the [Supplementary Application Form](#).

## Applying to The Cedars

Please look through the whole form before starting to complete it; ensuring you have all the relevant information to hand. We attach particular importance to the Personal Statement. Draft both parts of this carefully in a word processor before cutting and pasting them into this form. External applicants are reminded of the need to submit a School Application Form (which can be downloaded from the school website) in addition to this form. There is no need to duplicate the Personal Statement you submit here. Rather write 'Please see Supplementary Form' in the relevant section of the School Application Form.

Please be especially careful to enter your email address accurately, as the form is set up to send you an email confirmation once you submit it. If you do not receive a confirmation email, please contact Mrs Trzcinska ([ctrzcinska@thecedarsschool.org.uk](mailto:ctrzcinska@thecedarsschool.org.uk)).

\*Indicates required questions

## Student Details

**Qs 1-5 Student Contact information\*** (including mobile number & email address).

## GCSE Courses

**Qs 6 -8 GCSEs Courses currently being studied\* and those already passed (with grades).**

## A Level Option Choices

We expect most students to take three A Level subjects, However, we appreciate and wish to encourage those students with the aptitude and ability to take four subjects if they wish.

**Question 9-12 Choices 1-3 \*, and a Fourth and/or Reserve Option**

Courses Offered	
Art	Geography
Biology	History
Chemistry	Latin
English	Mathematics
Extended Project Qualification*	Spanish
Further Mathematics	

\*The Extended Project Qualification carries 50% of the UCAS points of an A Level.

## Personal Statement

### 13. Course Choices \*

Explain your A Level subject choices in terms of your level of interest, prior knowledge, higher education and career plans. Your statement should be about 400 words.

### 14. Your Choice of Sixth Form \*

Why have you decided to apply to The Cedars? What extra-curricular interests/sports/hobbies do you have? What do you feel you can contribute to the life of the school, its Sixth Form and its ethos? Write 200-300 words.

# Sixth Form Opening Evening – Notes

## Headmaster’s Talk

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## Session 1

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## Session 2

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## Session 3

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## Session 4

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