

## A LEVEL OPTIONS



"Do all the good you can.  
By all the means you can.  
In all the ways you can.  
In all the places you can.  
At all the times you can.  
To all the people you can.  
As long as ever you can."



# Sixth Form

THE **Leys**  
CAMBRIDGE



# Introduction

I hope you find this booklet helpful in finding out more about the Sixth Form. At The Leys we offer its Sixth Formers an exciting and unique experience at the heart of this world-class university city. To find out more please do get in touch or, if you are new to The Leys, please come and visit us to see for yourselves.



“

A fresh and exciting new stage of your education, perhaps the most important and most enjoyable stage of all.

”

## A message from the Headmaster

When I speak to Sixth Formers here at The Leys, I am struck above all by their motivation and the sheer enthusiasm they feel about studying a set of subjects which they have chosen. Our success in recent years, both in terms of A level results and in University admissions, indicates that this is a school which gives its Sixth Formers outstanding teaching, an exceptional learning environment and the best possible qualifications as they move on to Higher Education.

The Sixth Form is both the most important and the most enjoyable stage of your education. Great opportunities are open to you in these two years. Academically, you will be aiming to achieve grades which will open doors to the universities of your choice. Intellectually, you will develop your skills with the support of the teaching staff, yet within a more adult learning environment, with greater emphasis on independent learning. Outside the classroom, you will be able to make significant contributions at a high level in games, the Arts and other extra-curricular activities. Throughout your life at The Leys, you will also have opportunities to develop leadership skills which could be of immense value in later life and you will make friendships with your peers and with members of staff which could endure for many years to come.

The Leys is a particularly friendly and welcoming school, and anyone joining in the Lower Sixth is quickly made to feel at home. Many pupils enter the school at this level, often because of the attraction of our two Sixth Form Houses, Granta and East, which offer alternatives to joining a 13-18 House.

There is a great deal of information in this booklet relating to the academic life of the Sixth Form. I encourage you to study it carefully and to discuss it with your parents.

Sixth Form life at The Leys offers the ideal stepping stone to University. It is both challenging and stimulating, it gives an opportunity for all-round development and it provides a blend of independence and support which ensures that you gain the best possible qualifications and skills to take you on to the next stage.







# Introduction from the Director of Studies

## Mr O E Peck

### Ethos

The School is proud of its Sixth Form pupils and of what they achieve. Helped by committed teachers, they are encouraged to make the transition from 'dependent' to 'independent' learners. It is also hoped that they will acquire adult social skills along with academic qualifications appropriate to their abilities and aspirations. As part of this process, and within clear and firm guidelines, they are accorded greater freedoms in dress, study, time and movement. This changed status is also reflected in relationships with staff: there is a heightened sense of common purpose, of working together as adults, and of shared commitment. Treated as adults, Sixth Formers are expected to behave as such, sharing an increased responsibility for the smooth running of the School and of the Houses, behaving with courtesy and consideration to all within the School community.

### Admission to the Sixth Form

Pupils will normally be admitted to the Sixth Form if they have achieved at least an average of 5.5 at GCSE from their best 8 subjects and at least a grade 4 in Maths and English. A Grade 6 pass at GCSE is almost invariably the minimum requirement for starting an A level subject and a grade 7 is preferred.

### Academic Progress

The main purpose of the Sixth Form at The Leys is academic study. The Sixth Form programme is designed to ensure that pupils settle down quickly and work to the best of their ability. Tutors and teachers work with tutees on study and time-management skills. Formal assessments of progress are made at each half term, and full reports (Records of Work) are sent out twice a year. There is also a Parents' Evening each year where Parents can discuss their son/daughter's progress with their teachers.

### The Tutor

Sixth Formers have an element of choice over their Tutor with whom they meet regularly. Tutors are responsible for advising, monitoring progress and helping pupils with university applications, time management and making full use of School resources. In addition, pupils have easy access to the Director of Studies, the Careers Department, their teachers and their Housemaster or Housemistress.

### Patterns of Work and Study Skills

Pupils will find that work in the Sixth Form will be very different in character from that further down the School. They will be studying a smaller range of subjects - subjects of their choice - in which powers of analysis and conceptual thinking will be central. To meet this new challenge successfully they will need to adopt new approaches.

Most importantly, pupils will be working on their own much more. About a quarter of their timetable and all private study time will be theirs to organise. Time management and clear planning are critical to make best use of this time. Their subject teachers in the Lower Sixth will expect them to spend a minimum of 5-6 hours per week, per subject, in private study.

The School Library is open for study during the day and during prep time on each weekday evening, with a member of staff on duty. Pupils are especially encouraged to make use of the Library at these times.

Equally important is the need for pupils to explore subjects on their own, to read widely, to attend related societies, to visit museums, theatres and libraries, and attend lectures, in Cambridge and elsewhere.

The key to successful Sixth Form study is that pupils should be willing to take the academic initiative.

### Academic Activities

In addition to a wide range of academic clubs and societies, there is a programme of lectures, visits and workshops on such topics as the Arts, the Media and Industry for Sixth Formers which runs through the year. The Russell Group and The Headmaster's Society are opportunities for discussion and debate. In addition, Sixth Formers intending to apply to Oxbridge are invited to attend our own Preparation Days held in the Summer Term.

### Sixth Form Scholarships

The Leys School offers a number of Sixth Form Scholarships under the categories of: Academic, Music, Choral, Art, Drama and Sport. They are open to those entering the School as well as to current pupils who will be entering the Sixth Form in the Autumn Term 2023. The closing date is 7 October 2022 and further details and forms can be obtained from the Admissions Team ([admissions@theleys.net](mailto:admissions@theleys.net)).

## The Wider Curriculum

Although the main focus of the Sixth Form must be academic study, The Leys is committed to a wider education. Sport, theatre trips, choirs, orchestras, productions, debates, social events, clubs, House outings, CCF, Duke of Edinburgh's Award Scheme, Community Service, Societies and guest speakers all encourage Sixth Formers at The Leys to develop skills and interests which will stay with them for the rest of their lives.

## Learning Support and International Support

For pupils who require extra support with their studies, both the Learning Support and International Support departments have highly experienced teachers to help them. Full details are available in the General Information Booklet or from Ms J Sokolowska (Learning Support) and Mr A Bennett-Jones (International Support).

## Careers and Further Education

In the Sixth Form, careers advice and the UCAS application procedure are delivered through a combination of tutorial advice, a PSE programme and direct support from the Careers & HE Department. An individual interview is organised for all pupils in order for them to meet with a member of the Careers Team during the Autumn or Lent term. They will, at this stage, be encouraged to investigate options in their preferred academic areas.

There are several computer-based facilities in the well-resourced Careers Area, which enable pupils to research their areas of interest independently. Additionally, they will be kept informed of Careers Experience Courses or Conferences, Scholarships and Bursaries, Work Experience opportunities and other challenges that will give them insight into areas that they find to be of interest to them. Throughout the year, guest speakers, representing a variety of professions, will visit the school in order to offer pupils advice and a greater understanding with regard to specific careers.

The Careers Department organises a Careers Forum for the Lower Sixth during the Lent term at which pupils have the opportunity to find out more about a number of different careers. At this Forum speakers give brief talks to groups about their careers, followed by a discussion session. There is also a display of stands provided by local employers and gap year organisations.

The Head of UCAS oversees the university admission procedures and provides advice on careers and universities. The UCAS procedure begins in the Lower Sixth and the pupils either take (in the case of new pupils) or augment (in the case of existing pupils) their Morrisby On-line Careers Profile. This is a questionnaire that matches pupils' attributes to potential university courses and career aspirations. Parents and pupils receive a full report and the results of this are discussed with individual tutors. This process is completed early in the academic year, to allow pupils to research universities and the courses on offer using the Careers Library. They can use the results of the research to help them plan and prepare their UCAS applications from the end of the Lower Sixth onwards.

## The Academic Programme

In addition to the A level courses, all pupils have the option to take an Extended Project Qualification (EPQ). This project involves independent research and is well received by universities. There is also a programme of PSE lessons in which pupils study a variety of topics, including Personal and Learning Skills, Careers and University Preparation, Politics and Citizenship, Taster Courses in Languages, Relationships and Personal Health issues. The course is tailored to the needs of pupils in the Sixth Form and is designed to provide mature insights into these important areas.

The choice of A level courses is flexible up to a point and the school will endeavour to accommodate all requests. However, there are constraints on the timetable and parents and pupils need to be aware that there may be certain combinations of subjects that will not be possible to schedule. Where there are problems with a set of choices it will be necessary to discuss the available options with the Director of Studies.

When making choices, please bear the following in mind:

- A subject may not be offered if demand is insufficient
- It is not possible to offer all subject combinations
- Once the blocks have been decided (March), changes in combinations are constrained by the position of the subjects within the blocks
- Choice of courses to be followed should be made by pupils after careful consultation at school and at home.

This booklet is available on the School website, [www.theleys.net](http://www.theleys.net).



## Subjects available

Art	7
Biology	9
Business Studies	10
Chemistry	11
Classical Civilisation	13
Classical Greek	14
Computer Science	15
Design Technology	17
Economics	19
English Literature	20
French	21
Geography	24
History	27
Latin	28
Mathematics and Further Mathematics	29
Music	30
Politics	31
Physics	33
Psychology	35
Theology	35
Spanish	37
Sport Science	39
School Plan	41

## How to Choose?

Pupils should choose subjects that interest them and in which they have ability. This will help to ensure the best possible grades. Career aims may also dictate a particular choice of subjects or, if serious study of a particular subject at a higher level is envisaged, it may be advisable to combine that subject with other complementary subjects. The A level programme allows plenty of breadth and pupils are strongly encouraged to take full advantage of this.

Universities make offers based upon grades. Therefore interest and performance are vital in choosing Sixth Form subjects. It is advisable to consult the UCAS

website as some courses have special requirements e.g. Medicine and Engineering as certain A Levels may be required for those courses. The quality of GCSE results is also important to universities.

Business Studies, Classical Civilisation, Drama and Theatre, Economics, Geography, History, Politics, Psychology and Theology do not require pupils to have studied the subject at GCSE level. They can be started from scratch provided that aptitude has been shown in a relevant GCSE subject. However, pupils need to be aware that starting one or more subjects with no prior background will require real commitment and hard work.

## Programme

### Autumn Term 2022

Presentation of Sixth Form Choices Evening in late September

### January/February 2023

Provisional choices made, Parents' Evening

### March 2023

Timetable blocks set and lists of subjects/sets drawn up. Pupils kept informed of possible problems.

### Autumn Term 2023

Advice panels and registrations with Heads of Departments (first day of term)

# Art

Head of Department, Ms J Hebden

## Introduction

Much of our constructed world starts life as a drawn line. Our homes, clothes, possessions, and surroundings often begin with a line on paper and the Art A level is full of the possibilities of where that next drawing could take you. During Art A level there is scope for a high degree of personal experimentation as pupil's work will expand from their independent theme with the emphasis on ideas, originality, the acquisition of practical skills and contextual study.

In addition to the core course, they will exhibit in public exhibitions, visit galleries in Cambridge, London and Amsterdam and take part in life drawing and multiple visiting artists workshops.

The Art Department contains three main areas:

- Main Studio: Painting, drawing and mixed media.
- Print Room: Etching, Collograph, Relief, and Photo Silk-Screen processes.
- Ceramics Studio: Ceramics, casting, textiles and sculpture.

For the A level course the pupils can choose to specialise in any of these areas or practice across a combination.

Art at A level at The Leys is challenging, exciting and occurs in an atmosphere which is conducive to success.

## Course Structure

### Component 1:

Personal Investigation (60% of total A level marks).

The Personal investigation is a substantial portfolio and related personal study (1000-2500 words) which spans a full year.

### Component 2:

The externally set task (40% of total A level marks)

The Set task is a 6 week project focused on an exam board set topic, The final piece is created over the course of a 15 hour resolution of the project. This is sat across 3 days.

## Assessment Structure

Each unit of work is assessed within the following areas:

Develop: Investigation, research, and analysis of contextual sources.

Refine: Experimentation and an insightful refinement of a wide range of media and techniques.

Record: Recording ideas, insights and observations- often through drawing and photography.

Present: Creating a personal meaningful response that resolves the AO1, 2 and 3 objectives.

### Entry Requirements

Entry Requirement A minimum of Grade 6 in GCSE or equivalent in Art is required, however in some cases a portfolio may be sufficient.

### After A Level

Today's Art student's futures are almost infinite in a fast changing landscape of future study and career. However, this course is an essential springboard for any student who wishes to continue on to: Fine Art, Architecture, Sculpture, Game Design, Critical and Contextual studies, Photography or Fashion, Cinematography and Textiles (to name only a few creative pathways and creative industries).





# Biology

Head of Department, Mr P M Davies

## Introduction

Biology is a window into the fascinating world of animals, plants, fungi, bacteria and protoctists. Biologists can be found working in police forensic departments, hospitals, law firms and as managers of multinational companies. The Biology department is staffed by particularly experienced teachers all of whom continue to be immensely passionate and excited by Biology. The department is well resourced and includes a video microscope, gel electrophoresis equipment for analysing DNA, gene transformation kits, a PCR thermal cycler and live breeding experiments. We also have a Sixth Form study (T10), and an excellent range of textbooks and journals available for use in the department. The course is enriched with a videoconference with the Sanger Institute on the latest research into malaria eradication as well as a trip to the institute to study genomics. The Biology department also leads a biannual expedition to Zimbabwe, Botswana and Zambia.

## Course Structure

The Year 12 content will include two core synoptic modules (Module 1: Development of Practical Skills in Biology and Module 2: Foundations in Biology) as well as two further theory modules (Module 3: Exchange and Transport and Module 4: Biodiversity, Evolution and Disease). The Year 13 content will include two further theory modules (Module 4: Communications, Homeostasis and Energy and Module 5: Genetics, Evolution and Ecosystems). There are three examined theory papers and one internally awarded and externally moderated practical assessment at the end of Year 13.



## Assessment Structure

### Paper 1 Biological Processes (Modules 1,2, 3 & 5)

Section A: Multiple Choice

Section B: Structured and extended response questions  
(2 hours, 15 minutes/Weighting: 37%)

### Paper 2 Biological Diversity (Modules 1,2, 4 & 6)

Section A: Multiple Choice

Section B: Structured and extended response questions  
(2 hours, 15 minutes/Weighting: 37%)

### Paper 3 Unified Biology (All Modules)

Structured and extended response questions  
(1 hour 30 minutes/Weighting: 26%)

### A Level Biology Practical Assessment

## Entry Requirements

It is expected that pupils who study Biology in the Sixth Form will have at least a Grade 6 in Biology and Maths at GCSE and preferably a Grade 7 in both. It is also useful, but not essential, to be studying Chemistry.

## After A Level

Biology opens the door to a diverse range of career opportunities. These include Medicine, Dentistry, Veterinary Science, Environmental Science, Nursing, Pharmaceuticals, Brewing, Biotechnology, Agriculture, Genetics and many, many more.

# Business Studies

Head of Department, Ms L Kamynina

## Introduction

Our Business course focuses on decision-making in the firm:

- “What new product shall we make?” (Marketing)
- “Shall we move to flow production?” (Production)
- “How will this week’s rise in interest rates affect us?” (Economics)
- “What price shall we charge?” (Financial and Marketing and Production)

In addition to marketing, production and human resource management, a substantial amount of time is given to accounting and financial decision making. The financial area covers management of cash flows: analysis of accounts, sources of funds and investment appraisal. Throughout the course, quantitative techniques are employed, such as sampling, and the determination and use of price elasticities, contribution, and break-even.

## Course Structure

The specification is organised into ten sections covering questions such as: What is a Business, what are the ways in which businesses can improve their operational, marketing, human resource and financial performance and How businesses manage the issue of change.

## Assessment Structure

The AQA course is examined through 3 modules. Examinations are assessed using data response (case study) questions, essay questions and in module 1, multiple choice questions. Assessment will be more heavily weighted towards knowledge, understanding and application in modules 1 and 2 and towards analysis and evaluation in module 3.

## Entry Requirements

Those choosing Business must have at least a grade 6 or better at GCSE in both English and Mathematics.

## After A Level

This is an excellent subject for anyone who is thinking of setting up a business on their own eventually; for example, someone studying Art and Design and intending to go on to a further education course which combines these areas. It is a course with a strong practical element, and is highly regarded as an input to engineering, finance, accountancy or HRM. It also combines well with any other subjects.

“

Studying Business Studies will make the transition from school to university then on to the workforce so much easier.

Alesha C Y12

”



# Chemistry

Head of Department, Mr M Newman

Do you ever wonder why the sea is blue, how leaves change colour in autumn, or how a smart phone screen works? Chemistry is about being naturally curious, the type of person who questions why things are and how they work, and also have a love of numbers and analysis. Chemists are considered thinkers, who can work with large amounts of information to make the best, measured decisions. Some of the biggest names in history have been chemists: Marie Curie, Alfred Nobel, and Robert Boyle, so you'll be in great company.

Studying Chemistry at A Level is exciting as its impact is wide-reaching and impressive. Chemistry plays a role in almost every action on earth, and in every object we touch. It's the study of substances, and their composition, structure, and properties.

The Chemistry Department team has both experienced innovative teachers and highly skilled technicians. Pupils will experience a plethora of practical work covering all aspects of the curriculum to both enhance and support their understanding of Chemistry.

## Course Structure

The A Level Chemistry course is taught by two teachers (three lessons per week), each covering a different section of the course. Pupils study the theoretical content as detailed below and develop their practical skills throughout the two-year course completing twelve exam board required practical tasks to gain the Practical Endorsement certificate.

The teaching is separated into sections and in Year 12, pupils will learn about Atomic structure, Amount of substance, Bonding, Energetics, Kinetics, Chemical equilibria, Le Chatelier's principle and K<sub>c</sub>, Oxidation, reduction and redox equations, Periodicity, Group 2, the alkaline earth metals, Group 7(17), the halogens, Introduction to organic chemistry, Alkanes, Halogenoalkanes, Alkenes, Alcohols and Organic analysis.



In Year 13, pupils will learn about Thermodynamics, Rate equations, Equilibrium constant  $K_p$  for homogeneous systems, Electrode potentials and electrochemical cells, Acids and bases, Properties of Period 3 elements and their oxides, Transition metals, Reactions of ions in aqueous solution, Optical isomerism, Aldehydes and ketones, Carboxylic acids and derivatives, Aromatic chemistry, Amines, Polymers, Amino acids, proteins and DNA, Organic synthesis, Nuclear magnetic resonance spectroscopy and Chromatography.

### Assessment Structure

#### Paper 1

##### What's assessed

Physical and Inorganic chemistry topics  
Relevant practical skills

##### How it's assessed

- Written exam: 2 hours
- 105 marks
- 35% of A-Level

##### Questions

Short and long answer questions.

#### Paper 2

##### What's assessed

Physical and Inorganic chemistry topics  
Relevant practical skills

##### How it's assessed

- Written exam: 2 hours
- 105 marks
- 35% of A-Level

##### Questions

Short and long answer questions

#### Paper 3

##### What's assessed

- Any content
- Any practical skills

##### How it's assessed

- Written exam: 2 hours
- 90 marks
- 30% of A-Level

##### Questions

- 40 marks of questions on practical techniques and data analysis
- 20 marks of questions testing across the specification
- 30 marks of multiple-choice questions

### Entry Requirements

It is expected that pupils who study Chemistry in the Sixth Form will have at least a Level 6 in Chemistry and Maths at GCSE and preferably a Level 7 in both. If pupils have studied Combined Science at GCSE, then at least a level 7,7 is preferable and the knowledge that 'catching up' on the content not covered in the Combined Science course in comparison to GCSE Chemistry may be required.

### After A Level

By studying Chemistry at A Level, you will gain skills and qualities in teamwork, technical ability, problem solving, organisation, numeracy, attention to detail, analytics and discipline. Chemistry A Level is a required qualification to study medicine for the majority of MedSchools in the UK as well as excellent preparation for any Science based University course or career.

# Classical Civilisation

Head of Department, Mr A J Welby

## Introduction

Classical Civilisation is a challenging Humanities subject which introduces pupils to foundational literature as well as ideas in Art and Politics which have shaped the Western mind. The specification reflects scholarship of the last 30 years which has focused on the experiences of women and slaves as well as elite men. Pupils analyse, and offer personal responses to, many types of evidence and they are rewarded in their examinations for knowledge of modern scholarship.

## Course Structure

Two teachers deliver the course. In the Lower Sixth pupils begin the World of the Hero module by reading books from Homer’s Iliad. This allows them to reflect on the nature of heroism and the relationship between the poem and the society which produced it. They complete the module by studying books from Virgil’s Aeneid in the Upper Sixth. The Aeneid further examines what it is to be a hero, this time in a world where violence must be tempered with mercy because of the demands of politics. With their other teacher they study modules in Greek Art in the Lower Sixth and the Love and Relationships in the Greek and Roman worlds in the Upper Sixth. In Greek Art they study works of art such as free-standing sculpture, developing their taste and powers of discernment. ‘Love and Relationships’ invites them pupils to consider their own attitudes to the roles of men and women, in the context of love and marriage in two very different societies. Taken as a whole, the course is multi-disciplinary and stretches pupils to think in a number of different ways.

## Assessment Structure

### Paper 1

The World of the Hero 2 hours 20 minutes 100 marks

### Paper 2

Greek Art 1 hour 45 minutes 75 marks

### Paper 3

Politics of the  
Late Republic 1 hour 45 minutes 75 marks

## Entry Requirements

A candidate hoping to study this subject would ideally have achieved a 6 in English GCSE. There is a very considerable amount of reading involved and anyone who struggled with this would be unlikely to enjoy the course.

## After A Level

Classical Civilisation leads naturally to a Degree in Classical Studies or Ancient History. One recent OL went on to study Ancient and Modern History at university. The subject would also be very useful indeed to those hoping to study History and English later on. Another OL studied Engineering and found that the essay writing skills he had developed put him at an advantage over his fellow students. Successful candidates are able to master a large amount of information and marshal it in arguments which are focused and well expressed. These are skills which are valuable in any career.



# Classical Greek

Head of Department, Mr A J Welby

## Introduction

Only a few hundred pupils a year in the UK take A Level Classical Greek. It is therefore a wonderful opportunity for any young person. The course develops linguistic skills to a high level and also introduces pupils to the study of some of the finest literature in the canon. Very small sets create a warm and supportive atmosphere in which pupils are given a forum to express their ideas to the full.

## Course Structure

Two teachers deliver the course. In the Lower Sixth pupils study their verse set text and unseen translation with one teacher and their prose set text and language work (comprehension/composition) with the other. In the Upper Sixth, the pupils begin verse unseen translation as well as continuing with prose translation and language work and study another prose and verse set text. They then revise the texts studied in the Lower Sixth so that they offer four texts in all for the A Level examination. Pupils tend to enjoy translation for its own sake, the pleasure of deciphering a code and the particular trick of rendering a Greek sentence accurately by escaping the gravitational pull of the literal to arrive at an idiomatic English sentence. Pupils are likely to study Plato’s Symposium and Homer’s Odyssey, key texts from philosophy and epic respectively, as well as other influential works of Greek literature in the Upper Sixth. Critical skills are honed and pupils become adept at analysing complex works of literature.

## Assessment Structure

### Paper 1

Unseen Translation	1 hour 45 minutes	100 marks
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### Paper 2

Prose Composition	1 hour 15 minutes	50 marks
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### Paper 3

Prose Literature	2 hours	75 marks
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### Paper 4

Verse Literature	2 hours	75 marks
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## Entry Requirements

7 in Classical Greek at GCSE

## After A Level

Classical Greek is a challenging qualification. Universities and employers recognise that a person who has succeeded in this subject has considerable linguistic and analytic skills. Engagement with literature also ensures that candidates have a cultural knowledge which is beyond the norm in the 21st Century. This A Level opens the way to degrees in Classics and also supports the study of other Humanities and Science subjects.

# Computer Science

Head of Department, Mr T Fung

## Introduction

Computer Science is an intensely creative subject that combines invention and excitement, allowing learners to apply the academic principles learned in the classroom to real world systems. The course values computational thinking, helping pupils to develop the skills needed to solve problems, design systems and understand the power and limits of human and machine intelligence. They will develop an ability to analyse, critically evaluate and make decisions. They will undertake a personal project, which can be tailored to suit their individual needs, choices and aspirations. Key features of the specification encourage:

- Problem solving using computers
- Computer programming and algorithms
- Mathematical skills used to express computational laws and processes, e.g. Boolean algebra/logic and comparisons of the complexity of algorithms

The specification of the AQA A Level Computer Science course has two mandatory Assessment and an additional programming project. The two mandatory assessment are assessed externally in Upper Sixth, while the programming project component is also completed in the final year of study.

## Course Structure

The Course cover a wide range of computer knowledge and skills which helps students in developing effective ways in solving practical problems.

- Systematic approach to problem solving
- Functional programming and algorithms
- Data structures, data representation
- Theory of computation and Pseudocode
- Computer systems, computer organisation and architecture
- Consequences of uses of computing
- Databases and Big Data

## Assessment Structure

**Paper 1 Practical Onscreen Exam** - 40% – 2

Hours 30 Minutes - This paper tests a student's ability to program, as well as their theoretical knowledge of Computer Science. Exam board will issue Preliminary Material, a Skeleton Program and, where appropriate, test data, for use in the exam.

**Paper 2 Written Exam** - 40% - 2 Hours 30 Minutes

– This paper tests a student's theoretical knowledge of computer science.

Non-exam assessment (NEA) - 20% - This assesses student's ability to use the knowledge and skills gained through the course to solve or investigate a practical problem. Students will be expected to follow a systematic approach to problem solving.

## Entry Requirements

Although a GCSE (Grade 6 or higher) in Computer Science is preferable, it is not essential. Strong mathematical and problem solving skills and a genuine interest in how computers work are essential. A minimum of a grade 6 in GCSE Mathematics is required.

## After A Level

This A Level would be very useful for anyone going on to study a range of areas at University, e.g. Computer Science, Computer Engineering, Software Engineering, Mathematics, Science.





# Design Technology

Head of Department, Mr C Battle

## Introduction

The Design Technology course offers a broad investigation of material science and the manmade world. Those studying this subject will gain an understanding of the methods used by Product Designers, Architects and Engineers. Skills learnt include traditional and modern technologies (CAD/CAM). This creative and thought-provoking qualification gives pupils the practical skills, theoretical knowledge and confidence to succeed in a number of careers, especially those in the creative industries. They will investigate historical, social, cultural, environmental and economic influences on design and technology, whilst enjoying opportunities to put their learning into practice by creating products of their choice. They will gain a real understanding of what it means to be a designer, alongside the knowledge and skills sought by higher education and employers.

## Course Structure

During both the Lower Sixth and Upper Sixth, students will receive at least one double theory lesson per week in order to further explore the content delivered at GCSE and then to delve deeper into the real-world applications of the materials, technologies and manufacturing systems that abound in the wider world.

Beyond their theoretical studies, students in the Lower sixth will also develop their designing skills through a series of technical assignments designed to offer challenge and develop their individual and teamwork skills. They will design and build machines, products and graphics to help them communicate to peers and customers using a host of desktop publishing and CAD systems.

The Upper Sixth year focusses heavily on the development of a student chosen 'Major project' which will see them develop an idea from concept to working prototype alongside a detailed design portfolio. This task is completed both in lesson time and necessitates a proactive commitment to work outside of timetabled lessons too.

## Assessment Structure

### Written Paper 1 - Technical principles

- Duration 2 hours and 30 minutes
- 120 marks.
- 30% of A-level

### Written Paper 2 Designing and making principles

- Duration: 1 hour and 30 minutes.
- 80 marks
- 20% of A-level

### Non-exam assessment (NEA)

Practical application of technical principles, designing and making principles and specialist knowledge.

- Substantial design and make task
- 100 marks
- 50% of A-level

## Entry Requirements

To study this subject, it is certainly a major advantage to have experience in designing, CAD/CAM, and working with resistant materials (e.g. wood, metal or plastic). Previous experience of a design course (e.g. Product Design) is usually expected. This should have been passed at Grade 6 or above. However, those without a relevant GCSE, but who have good graphics skills and are able to provide examples of high-quality work, may be considered. They need to be self-motivated and able to organise their time effectively.

## After A Level

Design Technology provides a valuable qualification for anyone considering a future in the creative or technical industries. The subject allows students to explore a wide range of specialist areas which will help them decide upon future areas of study in the relevant fields. Design and Technology is particularly associated with those wishing to pursue Product Design, Engineering or Architecture but it has a wide range of links to various industries thanks to its problem solving nature and reliance upon skills such as project management and delivering upon the needs of others.



# Economics

Head of Department, Ms L Kamynina

## Introduction

Economics has been called the Science of Choice, choice for the individual about what to buy, or what job to do, choice for the firm about what to sell and what price to set, choice for government about how to raise money, and whether to spend on another hospital or more teachers. Economics is about how to analyse the consequences of different options. It is also about understanding and explaining economic events. What is meant by recession? Why was the top rate of tax reduced? What might be the consequences of the UK leaving the EU? What is meant by the “credit crunch”? At all times, the emphasis is on the ability to apply knowledge and critical understanding of economic theory and principles to familiar and unfamiliar situations. Candidates will be expected to analyse economic problems and issues and evaluate arguments and evidence, often from the newspapers or magazines, such as the Economist.

Overall, Economics teaches a variety of skills, including, most importantly, how to think, within the context of current affairs material.

## Course Structure

We study the AQA course which contains 3 modules. The modules are: Markets and Market failure, the National and International Economy and Economic Principles and Issues.

## Assessment Structure

The assessment is through data response and essay questions, although there is some multiple-choice in module 3. Module 3 also has an extended writing section based on an unseen case study. There is no coursework in this subject.



## Entry Requirements

Those choosing Economics must have GCSE Mathematics and English at grade 6. Pupils need to be prepared to do extensive independent reading and will learn a great deal about the British economy over the last fifteen years. Even more importantly they must be ready to learn to write clear, well-organised, concise, objective essays. Material may be presented in written, graphical or numerical form and they will need to be equally comfortable with each.

## After A Level

Economics is a valuable A level for entry to a wide range of university courses, but particularly for Law, Politics, Philosophy, or Engineering, or Economics. Separate university courses exist for those who have, and those who have not, studied the subject at A level. Economics combines well with arts or science subjects. It provides a useful “scientific” input if combined with two arts subjects, or a useful subject in which to develop communication skills if combined with sciences.



# English Literature

Head of Department, Miss A M Garrett

## Introduction

English Literature is an exciting option for A level which would suit those who are independent thinkers, engaged with the wider world and able to discuss literature and ideas through debate and analysis. The A-level is best enjoyed by those who are keen readers looking to develop their knowledge of plays, novels and poetry from all eras and many cultures. Equally it is an A-level suited to the politically minded and those interested in forging connections between their own experiences and how these are reflected in literature. It is an A-level that asks questions as opposed to looking for answers and we habitually examine texts in connection with other artistic mediums such as art, film and music. The A-level will suit those who wish to develop their writing style and those with an enquiring mind.

During the two years pupils will work with two teachers at a time, thus ensuring a great variety in approach and teaching style. The sets are small, allowing plenty of time for discussion. We study a whole range of literature, of different styles and genres, in the context of when and where it was written. Written and oral skills will also be developed, standing pupils in very good stead in whatever they do in the future.

## Course Structure

Pupils have six lessons a week, three with each teacher. In the Drama and Poetry module, the course dedicates one term to each text/collection of poetry. The summer term is dedicated to the coursework module before concluding Year 13 with the final text in the Drama and Poetry course.

The Comparative and Contextual module focuses on one text per term with the coursework unit starting in the Summer term and continuing into the Autumn term of Year 13. The remainder of the course time will then be dedicated to revision.

## Assessment Structure

**The A level is formed of two papers:** The first examines Drama & Poetry pre-1900 (Component 1) and the second assesses pupil knowledge of a genre from the Comparative and Contextual Study paper (Component 2). This will account for 80% of the A-level. Texts choices are regularly reassessed to ensure pupils are encountering literature that resonates with their experiences in a contemporary world, but recent texts include: The Tempest, the poetry of Christina Rossetti, Paradise Lost, The Bloody Chamber, Frankenstein, Beloved, 1984, The Duchess of Malfi and The Handmaid's Tale.

**A level coursework:** Two coursework essays will be written on modern texts: one close textual analysis essay of 1000 words on one text; and one comparative essay of 2000 words on two texts. We will study three post-1900 texts; one of these will be post-2000. This will account for 20% of the A level. Recent texts include: A Streetcar Named Desire, the poetry of Philip Larkin, Falling Man, the poetry of Sylvia Plath, Death and the Maiden, On Chesil Beach and Never Let Me Go.

## Entry Requirements

To make a real success of A level in this subject, it is essential to have a lively mind and to be genuinely excited by reading and by literature beyond the requirements of the syllabus; independent reading of course content outside of the classroom is expected. At least a grade 6 in GCSE or IGCSE English is required. Those choosing English should enjoy variety, be prepared to be involved in class, back their own opinion against those of other people, and tackle the course with real enthusiasm and enjoyment.

## After A Level

Whether the aim is to go into law, journalism, teaching, banking or any other demanding career, English is a sound choice. Even those who do not think of themselves primarily as arts pupils will find that communication skills are essential in any area of working life. If one adds to this the privilege of being able to read the thoughts of some of the best minds that have ever lived, it is clear that English Literature offers a combination of necessary skills and enrichment that can be gained from no other subject.

# French

Head of Department, Mr S Leader

## Introduction

Never before have languages and learning a language become so valuable. Opportunities to work abroad and to travel to all parts of the globe are vastly more enjoyable if one can communicate in the language spoken in that country. Cultural knowledge and understanding remain fundamental to meaningful communication, creating relationships and access to new ideas and influences. The ability to speak another language offers more diverse opportunities and opens the door to new experiences. This A Level course provides the perfect opportunity to extend an existing understanding of a language.

## Course Structure

The course builds on the basic skills of GCSE, but the language is applied to realistic, adult situations. Authentic materials, such as online articles, television broadcasts, novels, films and magazine articles form the basis of reading and listening extracts. Accuracy in writing and speaking is considered to be fundamental, and these skills are developed through practice and training in class, and in individual or small group sessions with native speaker language assistants. Lessons are varied and stimulating. Every opportunity is taken to discuss national, European and global issues in the target language. Innovations, talks and debates by outside speakers and in-school experts are also offered.

## Assessment Structure

Topic work focuses on political and artistic culture and social trends specific to the target-language country. The syllabus is designed to develop listening and reading skills, but also requires candidates to write about film and literature in the target language. There is a written component, which tests comprehension and written skills. There is also an oral exam which includes the presentation and discussion of an independently researched topic relating to an aspect of culture, society or history.

## Entry Requirements

A modern language is an advisable and enjoyable choice for all, and within the grasp of any pupil who has gained a Grade 6 at GCSE.

## After A Level

Many of our pupils have gone on to further study of languages at university, but an increasing number are combining languages with Business Studies, Art, Music, International Relations, Economics and Marketing.



“

Languages set you free; they are a passport to new cultures, offer exciting opportunities in study and work and help build bridges between countries and communities.

Mr S N Leader, Head of French

”



# Geography

Head of Department, Mr P Hicks

## Introduction

With global average temperature expected to increase to 1.5°C above pre-industrial times around 2040, the world population reaching 9 billion by 2050, and increasingly contested geopolitics, there is arguably no more important time to study Geography. A-Level geographers learn how to see the world as a whole as they understand connections between diverse physical systems, environments, and human populations. They will engage critically with contemporary, real-world issues and explore a wide range of places, applying their own geographical knowledge, understanding and skills to make sense of the world around them. Pupils will learn fieldwork skills through a residential trip to the Lake District, and be equipped with research and writing skills as they undertake a field work investigation of their own design. Studying Geography in Sixth Form an enjoyable, stimulating and challenging experience as pupils develop a more in-depth understanding of the world and acquire a range of skills which will prove valuable whatever path they choose to take beyond A Level.

## Course structure

In the Lower Sixth pupils learn about Tectonic Hazards and Processes, Glaciated Landscapes and Change, Regenerating Places, and Globalisation. Then in the Upper Sixth pupils cover The Water Cycle and Water Insecurity, The Carbon Cycle and Energy Security, Superpowers, and Health, Human Rights and Intervention. Towards the end of the course pupils will learn to draw on all their geographical knowledge and understanding to answer synoptic questions which ask them to consider the role and attitudes of different players and future uncertainties.

## Assessment Structure

There are three written exams each lasting 2 hours 15 minutes. Each requires pupils to demonstrate a range of skills from statistical analysis through to forming arguments and giving substantiated opinions in essays.

Pupils also carry out an independent fieldwork project which is worth 20% of the A Level.

## Entry Requirements

Most important are an enthusiasm to learn about the world and a desire to work hard, though a good level of literacy, numeracy and ICT skills, as well as the ability to write extended answers are also important. Having studied Geography for GCSE is helpful but not essential. For those without Geography GCSE, some preparation work will be expected before starting the course.

## After A Level

Each year a number of pupils go onto university to study Geography and related courses such as Anthropology, Geology and Environmental Science. Geography graduates are considered highly employable as they have skills employers want such as literacy, numeracy, ICT and wide general knowledge and therefore go into a broad range of careers such as management consultancy, accountancy, environmental planning and law; fewer than 10% go on to teacher training! Geography is also among the top subjects for graduate earnings.









# History

Head of Department, Mr N R Born

## Introduction

History is so much more than a succession of past events to be interpreted by modern man: our trade is the sum of human experience and our tools the skills to find pattern and sense in the enormous mass of data and the finely focused details that surround us. Ask any current Sixth Form historian and they will tell you that studying History for its own sake is intrinsically rewarding but that the subject also combines very well with any other subject, whether the sciences or arts. It is the subject that nurtures skills crucial to every other discipline and is regarded well on any competitive UCAS application. In each class pupils will be taught a different topic by a subject specialist teaching to their own degree specialism and interest; their subsequent enthusiasm and knowledge combine to offer a popular and very well taught academic A Level. Records illustrate the department's long standing reputation for exam success.

## Course Structure

You will study two periods of history, the Breadth Study and the Depth Study. The Breadth Study offers an opportunity to study broad developments over time, tackling big themes as seen through a long lens. Depending on the number of sets we have we will be offering courses on The Crusades and the Middle East 1071-1204, German unification, division & reunification 1871-1991, and the English Revolutions & Restoration, 1603-1702. Please note that any element of choice of course is subject to timetabling constraints and class size.

In contrast the Depth Study focuses on documents from particular periods of History that have fascinated historians and have been deliberately chosen to complement the Breadth Study. Next year we will be offering courses on Medieval England of Henry II and his sons 1154-1216, on Revolutionary & Stalinist Russia 1917-1953 and on Modern Britain 1951-2007.

## Assessment Structure

There are only two exam papers, taken at the end of the Upper Sixth. The first paper is a Breadth Study, the second is a Depth Study, each worth 40% of the final mark. The final 20% of the total mark is for a Non-Examined Assessment: a submitted essay of 3000 words which will be overseen by a specialist in the topic, but is not from either of the examined courses. Recent essays have addressed the Viking World of the North Atlantic, the Wars of the Roses, Indian nationalism and independence 1857-1947, the British Empire at War, the social revolution in the 1960s, and or the development of civil rights in the US. This is seen especially as an ideal apprenticeship to undergraduate study.

## Entry Requirements

Whilst there are no specific requirements for starting this course, a good level of English is essential, preferably Grade 7 or above at GCSE. Historians learn how to write crisp, lucid and entertaining essays and how to handle historical sources with cynicism and imagination. At A level they begin to investigate the subject further for themselves, reading with interest and purpose, making concise notes and drawing their own conclusions. Above all, they learn to think clearly, broadly and creatively, contributing to lively discussion in lessons. Some fluency in writing, enthusiasm for reading and the courage to draw their own conclusions are an advantage. All these skills are encouraged by individually tailored support throughout the Sixth Form. Good historians are also self-starters who do not always need to be told what to do. Those who want to broaden mind and imagination gain most from History at A level.

## After A Level

Historians' reputation for skill in research and penetrating analysis ensure that they have a route not only into law, journalism and the Foreign Office but also into politics, business and industry. The best universities recognise the value of historical training, which is why History at A Level remains among the most respected qualifications at university entrance.

# Latin

Head of Department, Mr A J Welby

## Introduction

Pupils who have enjoyed Latin GCSE will find even more to engage their minds and hearts at A Level. They develop their language skills even further with unseen translation, including verse translation. They continue the study of Latin literature, engaging with Virgil's Aeneid and the Histories of Tacitus. The subjects sits well alongside other English, History and MFL A Levels and can also provide breadth and balance for pupils studying STEM courses.

## Course Structure

Two teachers deliver the course. In the Lower Sixth pupils study their verse set text and unseen translation with one teacher and their prose set text and language work (comprehension/composition) with the other. In the Upper Sixth, the pupils begin verse unseen translation as well as continuing with prose translation and language work and study another prose and verse set text. They then revise the texts studied in the Lower Sixth so that they offer four texts in all for the A Level examination. While some see the translation of Latin into English as a purely logical exercise, there is actually a great deal of finesse involved in capturing every idea the Latin has expressed in fluent English. Pupils become accustomed to asking the crucial question, "What does this really mean?" The likely set texts include Virgil's Aeneid XII, a key section of the epic in which the anti-hero Turnus' options are narrowing as Fate closes in on him. A likely prose set text is taken from Cicero, the famous advocate whose ability to recount an apparently objective narrative in such a way as to make his client's case was an example of superlative forensic skill.

## Entry Requirements

### Paper 1

- Unseen Translation
- 1 hour 45 minutes
- 100 marks

### Paper 2

- Prose Composition
- 1 hour 15 minutes
- 50 marks

### Paper 3

- Prose Literature
- 2 hours
- 75 marks

### Paper 4

- Verse Literature
- 2 hours
- 75 marks

## Entry Requirements

A 7 or better at GCSE would indicate that a candidate was well placed to enjoy success at A Level.

## After A Level

Latin A Level leads naturally to a Classics degree at University. It is also an ideal preparation for English and History degrees and would certainly be welcomed by tutors in Law, Philosophy and other Humanities subjects. It can also provide a useful breadth for Scientists, helping them maintain and develop their general communication skills alongside their subject specific skills.

# Mathematics and Further Mathematics

Head of Department, Mrs E Prosser

## Introduction

There are many reasons to study Mathematics beyond Year 11. For some, Mathematics will be valuable to their other subjects, for undergraduate degree or career choices. For others, Mathematics may provide a welcome contrast. What is necessary is an enjoyment for the subject and a desire to delve deeper into previous understanding

## Course Structure

Mathematics and Further Mathematics at A Level are divided into two branches: Pure and Applied. The Applied branches are further subdivided into Mechanics and Statistics. A Level Mathematics is broken into approximately two thirds Pure and one third Applied. A Level Further Mathematics is divided more evenly: with half focussing upon Pure (called Core) and half on Applied (in the Options section).

Pure Mathematics extends the knowledge of topics such as Algebra and Trigonometry, as well as new ideas, such as Calculus. There are also Pure Mathematics topics such as Numerical Methods (using calculator and computer techniques to solve equations), Complex Numbers and Group Theory. Although many of the ideas in Pure Mathematics are interesting in their own right, they also serve as an important foundation for other branches of Mathematics.

Statistics develops skills in analysing and summarising numerical data in order to arrive at conclusions about it. Many of the ideas that will be met in this course have applications in a wide area of other fields - from assessing what car insurance is going to cost; to how likely it is that the earth is going to be hit by a comet in the next few years.

In the Mechanics branch, students will learn how to describe mathematically the motion of objects from cars in the street to satellites revolving around a planet.

They will learn the technique of mathematical modelling and many of these ideas form an essential introduction to Cybernetics and Bio-mechanics, as well as the more traditional areas of Engineering and Physics.

The course aims to:

- Develop understanding of Mathematics to promote confidence and foster enjoyment.
- Develop skills to reason logically, to generalise and to construct mathematical proofs.
- Extend the range of mathematical skills and use them in unstructured problems.
- Develop an understanding of coherence and progression in Mathematics and how different areas of Mathematics can be connected.
- Recognise how a situation can be represented mathematically and understand the relationship between real world problems and mathematical models.
- Improve the use of Mathematics as a means of communication.
- Comprehend arguments concerning the application of Mathematics.
- Acquire the skills needed to use technology effectively and recognise their limitations.

We make extensive use of graphical calculators in the course. We also use various computer programmes and apps to help explore and develop certain topics. .

## Assessment Structure

Mathematics: Pure - two 2 hour mixed papers, Applied – one 2 hour paper consisting of a Statistics paper and Mechanics paper.

Further Mathematics: Core – two 1.5 hour mixed papers, Options, one 1.5 hour Mechanics paper, one 1.5 hour Statistics paper. Other options may be chosen with the discretion of the department.



### Entry Requirements

Whilst a good grade at GCSE/ IGCSE is sufficient to study A Level Mathematics (Level 7 or above), what is necessary is a strong technical ability, an enjoyment of rigorous methodology and to be absorbed by complex problem solving. A Level Further Mathematics requires more of the same, but with more abstraction and should be of interest to students with a real passion for the underlying workings of Mathematics. Those who opt for Further Mathematics tend to have strong grades in extension courses in Year 11 (such as Additional Mathematics).

### After A Level

Employers and university admissions tutors view a good grade in Mathematics as proof of a good brain. Further Mathematics indicates a strong desire for rigour and is often important on a path to scientific subjects at top universities. Students who have been successful in Mathematics to date will find the A Level a challenge but one which they should ultimately enjoy!



# Music

Head of Department, Mr M G Kenworthy

## Introduction

A Level Music is an introduction to many aspects and disciplines within the subject of Music, essential for study of the subject in Further Education. A Level Music is recognised as an academic subject for entry to most university subjects. The A Level syllabus followed (AQA) is a varied one, with many options available to accommodate the particular strengths of the individual. Furthermore, with small set sizes at The Leys there is ample time for individual attention and tuition.

## Course Structure

[Everything is externally marked]

**Component 1: Appraising music** (120 marks, 40%)

**Component 2: Performance** (50 marks, 35%)

**Component 3: Composition** (50 marks, 25%)

## Assessment Structure

### Appraising music

**Section A: Listening** (56 marks) 65 minutes. Based on unfamiliar extracts from Area of Study 1 (3 questions, compulsory) AND from two other Areas of Study (3 questions per Area of Study)

**Section B: Analysis** (34 marks) 40 minutes. Based on the set works from Area of Study 1 (2 questions from a choice of 3)

**Section C: Essay** (30 marks) 45 minutes. Write one essay from a choice of 6 on questions from Area of Study 2 - 7 Area of Study 1: Western classical tradition 1650 – 1910 (compulsory) consisting of three strands:

- Baroque: the solo concerto
- Classical: the operas of Mozart
- Romantic: the piano music of Chopin, Brahms and Grieg.

**Areas of Study 2-7: (2 need to be chosen)**

- Pop music
- Music for media



- Music for theatre
- Jazz
- Contemporary traditional music
- Art music since 1910.

### Performance

One recital (minimum 10 minutes). Performance can be either instrumental/vocal as a soloist and/or part of an ensemble.

### Composition

Two compositions (one in response to a brief – chorale – and a free composition). Combined duration of both compositions must be a minimum of 4.5 minutes.

Programme note for each composition up to 150 words for each composition.

## Entry Requirements

A good pass at Music GCSE or similar qualification; a pass at Grade 5 Theory is also advantageous. Grade 5 standard on one or more instruments or voice. Participate fully in all activities, both practical and academic.

## After A Level

As one of the four original subjects available to study when Oxford and Cambridge Universities were founded, Music is still acknowledged as an important and worthwhile subject for study which can open to doors to a plethora of career opportunities including performance, recording, media, marketing, artist management and teaching. Many universities combine Music with other subjects and the rigours of the subject are compatible with both scientific and artistic courses.

# Politics

Head of Department, Mr N R Born

## Introduction

The aims and objectives of the Politics A Level are to enable students to develop their knowledge and understanding of contemporary political structures and the surrounding issues in their historical context, both within the UK, the USA and globally.

By developing a critical awareness of the changing nature of politics and the relationships between political ideas, institutions and processes pupils will come to an informed understanding of the influences and interests which have an impact on decisions in government and politics. By combining the study of the structure of governments and political systems alongside political theories, pupils will become more informed of the rights and responsibilities of individuals and groups and their relationship within a political structure.

The transferable skills garnered from such a study will focus on developing the ability to critically analyse, interpret and evaluate political information to form arguments and make judgements and an informed interest in, and engagement with, contemporary politics in adult life.

## Course Structure

In studying UK Politics you will look at the interaction between people and the political system. This addresses topics such as democracy and participation in the UK, political parties, electoral systems, voting behaviour and the media. The core UK political ideas of conservatism, liberalism, socialism will also be studied in both a historical and philosophical context.

You will also assess the structures of the UK Government, incorporating a detailed understanding of the UK constitution, parliament, Prime Minister and executive, and relationships between the branches of government. In deliberate contrast this will be studied alongside the oppositional political ideas of anarchism, ecologism, feminism, multiculturalism, and nationalism.

In contrast you will be comparing the UK system with the US Constitution and federalism, US congress, US presidency, US Supreme Court, democracy and participation and civil rights, alongside theories of Global Politics, sovereignty & globalisation, global governance, political and economic, global governance and issues of human rights.

## Assessment Structure

There are three papers, each of two hours, sat at the end of the Upper Sixth. Each paper requires pupils to respond in short-form essays to a choice of questions.

## Entry Requirements

Students of Politics learn how to write crisp, lucid and informative essays and how to handle ideas and factual content with precision and meaning. At A Level they begin to investigate the subject further for themselves, reading with interest and purpose, keeping abreast of current affairs and referring to historical examples. Above all, they learn to think clearly, broadly and creatively, contributing to lively discussion in lessons. Some fluency in writing, enthusiasm for reading and the courage to draw their own conclusions are an advantage. All these skills are encouraged by individually tailored support throughout the Sixth Form. The best students of Government & Politics are also self-starters who do not always need to be told what to do. Those who want to understand why current affairs are the way they are will gain the most from this subject.

## After A Level

Students of Politics have a reputation for transferable skills in their detailed knowledge and penetrating analysis, ensuring that they have a route not only into law, politics, journalism and the Foreign Office but also into business and industry. The best universities recognise the value of this training, which is why Government & Politics at A Level has become a respected qualification at university entrance.



# Physics

Head of Department, Mr A P Harmsworth

## Introduction

Physics is, essentially, the study of matter and energy and how these quantities interact. Since matter and energy make up everything in the universe, Physics is, therefore, the study of the most basic components of our existence and, to a greater or lesser extent, the foundation of all other sciences.

Physicists comprise an extremely broad church and the principles of Physics are the basis for all engineering, electronics, computing, telecoms, transport, medical imaging, electricity, energy and more: it is a foundation stone underpinning 21st century living. Indeed, the majority of the UK's manufacturing takes place in Physics-based industry, with sector growth far exceeding all others. Physics-based businesses contribute £220 billion to the UK economy and more than two million people are employed in them. Globally, Physics underpins efforts to reverse humanity's impact on climate change.

For anyone who finds a career in any of the above fields attractive, or who is just curious about the inner workings of the physical world, A level Physics is the ideal choice. Physics is a respected and valued A level to take into Higher Education. Essential for some courses (e.g. Astrophysics, Electronics, Engineering, etc.) it is viewed very favourably indeed for others. The skills learned – analysis, numeracy, problem-solving and communicating complex ideas – are applicable across an enormous range of subjects.

## Course Structure

The AQA course is rigorous and accessible, traditional yet exciting and is relatively straightforward to progress onto from GCSE. In the final year we offer pupils up to three options; pupils find this miniature specialisation particularly engaging. Core content includes the following sections:

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

## A-Level Options

9. Astrophysics
10. Medical physics
11. Engineering physics
12. Turning points in physics
13. Electronics

There are three assessed components, each having a 2 hour exam, and a practical component which is completed on an ongoing basis throughout the course.

There are ample opportunities to ask for individual assistance in all areas of the work. Lessons will be a mixture of discussion, question and answer, problem solving, note taking, experimentation, testing, explanation and demonstration. In practical work, pupils use advanced techniques and equipment not always available at GCSE including computers for data collection, analysis and presentation. Motivated and hard-working pupils generally do very well on this course.

## Assessment Structure

### Paper 1

#### What's assessed:

Sections 1–5 and 6.1 (Periodic motion)

#### How it's assessed

- Written exam: 2 hours
- 85 marks
- 34% of A-level

**Questions:** 60 marks of short and long answer questions and 25 multiple choice questions on content.

### Paper 2

#### What's assessed:

Sections 6.2 (Thermal Physics), 7 and 8

Assumed knowledge from sections 1 to 6.1

#### How it's assessed:

- Written exam: 2 hours
- 85 marks
- 34% of A-level

**Questions:** 60 marks of short and long answer questions and 25 multiple choice questions on content.

### Paper 3

#### What's assessed:

Section A: Compulsory section: Practical skills and data analysis

Section B: Students enter for one of sections 9, 10, 11, 12 or 13

#### How it's assessed:

- Written exam: 2 hours
- 85 marks
- 32% of A-level

#### Questions:

45 marks of short and long answer questions on practical experiments and data analysis.

35 marks of short and long answer questions on optional topic.

## Entry Requirements

We expect you to:

- Have a minimum GCSE grade in Science (6, and at least a 6 from the Physics papers) or Physics (6) and Mathematics (6)
- Enjoy applying Mathematics to the world around you
- Be motivated, organised and willing to participate fully in all aspects of your learning

Studying Mathematics alongside is helpful, but not absolutely essential. However, it remains an excellent complement and vital for those wishing to study a Physics-related subject at university.

## After A Level

Studying A Level Mathematics alongside is extremely helpful, as fluency and accuracy in calculations enables more rapid progress. However, it is not absolutely essential and pupils who do Physics alone can still be successful. Mathematics is of course vital for those wishing to study a Physics-related subject at university.



# Psychology

Subject Lead, Ms J Hudson

## Introduction

Why do people act the way they do? How do we learn? What impact do childhood experiences have on us? What compels certain behaviours and belief systems in individuals?

Psychology is an exciting and diverse subject that essentially looks at the scientific study of human behaviour and experience and incorporates such issues as the nature of thought and memory, social roles and psychopathology. Psychology requires pupils to have both the precision and rigour of Mathematics and the Sciences, in addition to the formulation of argument and discourse of English; it teaches us to better understand humanity and the motivational factors that influence people's actions.

It will suit those thinkers who are proactive, engaged, curious and have a willingness to interpret, analyse and critically evaluate data from both case studies and scientific research evidence. You will need to display an interest in wider reading beyond the textbook and syllabus, which will include academic articles and be able to reference this information in an essay style structure, in order to support your arguments.

Pupils will be encouraged to enter various essay prizes, including those offered by Newnham College, Cambridge, the John Locke Institute and Royal Holloway and will have the opportunity to design and conduct their own ethical research as part of the course.

## Course Structure

The course will consist of 6 lessons split equally between two subject specialist teachers. There are 3 separate areas of study:

1. Introductory topics in Psychology
2. Psychology in context
3. Issues and options in Psychology

## A Level Examination Format

### Paper 1: Introductory Topics in Psychology

1. Social influence
2. Memory
3. Attachment
4. Psychopathology

A written exam of 2 hours (96 marks in total; 33.3% of A-level) consisting of multiple choice, short answer and extended writing questions.

### Paper 2: Psychology in Context

5. Approaches in Psychology
6. Biopsychology
7. Research methods

A written exam of 2 hours (96 marks in total; 33.3% of A-level) consisting of multiple choice, short answer and extended writing questions.

### Paper 3: Issues and Options in Psychology

8. Issues and debates in Psychology
- The three option modules.

A written exam of 2 hours (96 marks in total; 33.3% of A-level) consisting of multiple choice, short answer and extended writing questions.

## Entry Requirements

A minimum of a 7 in Mathematics, English and in at least one of the sciences (or the double award) in addition to a love of learning, natural curiosity and strong work ethic. Pupils will need to demonstrate knowledge and understanding of research methods, scientific processes, techniques of data handling and different methods of statistical analysis.

## After A Level

Psychology, for many, offers a new science subject focused on the working of the human mind. Psychology appeals to all types of pupils and is well respected by many universities and apprenticeship schemes. It presents the opportunity to develop many different skills; critical evaluation, scientific investigation, mathematical analysis, extended writing and informed debating which can then be successfully transferred to a large variety of postgraduate, research or employment pathways.



# Theology

Head of Department, Rev C I A Fraser

## Introduction

Theology is one of the oldest academic disciplines found at university and now at school level. The A level is highly respected by universities and employers. It is on a par with any arts subject that demands several skills; literary, linguistic, philosophical and historical analysis. As such, it will appeal to anyone whose academic horizons are broad and who is interested in all issues connected with religion today. It works well with other arts disciplines, as well as complementing science-based courses. Every year the department sends people on to university to read Theology or Philosophy, including Oxbridge candidates. We never lose sight of the fact that everyone is an individual and all will be given a high degree of personal attention. Results have been excellent with a high proportion of candidates achieving A or B grades.

## Course Structure

We study three papers (Philosophy of Religion, Religion and Ethics and New Testament Studies) which offer a comprehensive theological course, covering ideas from the Fourth Century B.C. to the present day. The combination of papers is designed to introduce our pupils to a wide range of the areas and skills covered by modern Religious Studies syllabuses. There will be regular opportunities to test knowledge and understanding.

## Philosophy of Religion

This paper encourages critical thinking on philosophical issues such as the existence or otherwise of God, the problem of evil and suffering. It also explores philosophical language and the relationship between religion and science. Pupils can expect to engage with most major Western philosophers from Socrates and Plato through to modern times.

## Religion and Ethics

This has been a popular part of the A Level for many years. It covers areas such as what morality is and where it comes from, as well as the ways in which philosophers have attempted to define the best way of determining what makes actions right or wrong. We explore the relationship between religion and morality including Plato's Euthyphro Dilemma. The main ethical theories covered are Utilitarianism, Situation Ethics, Virtue Ethics, Natural Law and Kantian Ethics (all in their original and more modern forms). These will be applied to a variety of ethical issues such as in the area of Sexual Ethics, issues of Justice and of crime and punishment (e.g. the death penalty). We also look at some of the questions arising out of the debates over the meanings and purposes of ethical language (including Emotivism, Intuitionism, and Prescriptivism).

## New Testament Studies

This paper provides the literary "meat" of the course and compliments the other papers well. Pupils can expect to become skilled in techniques of literary and historical analysis as they explore the context of the New Testament, the person of Jesus and how he is presented in the different texts of the New Testament. Pupils will also be encouraged to think about the relevance of these ideas in the modern world as they look at key teachings of Jesus and how these relate to modern ethical and scientific debates. This paper is not currently offered in many other schools and the school is recognised by the exam board for its biblical teaching.

“

I chose Theology as an A Level as I am interested in the bigger questions and the philosophy and ethics of everyday life.

George S, Y12

”

### Entry Requirements

Pupils should be interested in asking fundamental questions about the meaning of existence, even if they are not personally religious. They must be prepared to challenge ideas and received wisdom. They should be open to new ideas and be prepared to defend their corner in discussion when necessary. It is a literary subject, thus good writing skills are essential and pupils should have a grade 6 or better in English and Religious Studies GCSE. There are opportunities to discuss the subject with some of the greatest living theologians through our programme of Theologians' Seminars.

### After A Level

The majority of theologians can be found in careers that encourage critical and analytical thinking. The Law, Computing, the Civil Service, the City and Teaching are major employers of theologians and some have even become Army Officers or Airline Pilots. The simple fact is that Theology will take you wherever you want to go.



# Spanish

Head of Department, Mrs L Reyes

## Introduction

Never before have languages and learning a language become so valuable. Opportunities to work abroad and to travel to all parts of the globe are vastly more enjoyable if one can communicate in the language spoken in that country. Cultural knowledge and understanding remain fundamental to meaningful communication, creating relationships and access to new ideas and influences. The ability to speak another language offers more diverse opportunities and opens the door to new experiences. This A Level course provides the perfect opportunity to extend an existing understanding of a language.

## Course Structure

The course builds on the basic skills of GCSE, but the language is applied to realistic, adult situations. Authentic materials, such as online articles, television broadcasts, novels, films and magazine articles form the basis of reading and listening extracts. Accuracy in writing and speaking is considered to be fundamental, and these skills are developed through practice and training in class, and in individual or small group sessions with native speaker language assistants. Lessons are varied and stimulating. Every opportunity is taken to discuss national, European and global issues in the target language. Innovations, talks and debates by outside speakers and in-school experts are also offered. Topics studied in Year 12 are: the changing state of the family, the digital world, youth culture, festivals and traditions, art and architecture and cultural life in the Hispanic World. Topics studied in Year 13 include: immigration, integration and racism and aspects of political life in the Hispanic world.

## Assessment Structure

Topic work focuses on political and artistic culture and social trends specific to the target-language country. The syllabus is designed to develop listening and reading skills, but also requires candidates to write about film and literature in the target language. There is a written component, which tests comprehension and written skills. There is also an oral exam which includes the presentation and discussion of an independently researched topic relating to an aspect of culture, society or history.

## Entry Requirements

A modern language is an advisable and enjoyable choice for all, and within the grasp of any pupil who has gained a Grade 6 at GCSE.

## After A Level

Many of our pupils have gone on to further study of languages at university, but an increasing number are combining languages with Business Studies, Art, Music, International Relations, Economics and Marketing.





# Sport Science

Head of Department, Mr B Elston

## Introduction

A Level Sport Science provides pupils with the opportunity to gain dynamic theoretical and practical skills within the context of sport. The course offers a well-balanced assortment of arts and sciences, so it can be combined with other subjects from either discipline. Sport Science is a well-recognised A Level for entry to most university courses as there are elements of all three Sciences, History, Geography, Sociology and Psychology within the course. As the sporting world continues to flourish; so do the opportunities to work and apply your knowledge within this sector. Pupils will focus on one major sport, in which they will not only perform in, but conduct an in depth analysis of it too.

## Course Structure

In Year 12 pupils will study the modules which make up Paper 1: 'Applied anatomy and physiology' (Cardio-respiratory system, neuromuscular system, muscular-skeletal system, Analysis of movement, Energy systems), 'Skill acquisition' (Skill, skill transfer, theories of learning, guidance & feedback, information processing) and 'Sport and Society' (Globalisation, Pre- industrial sport, Industrial & post-industrial sport, Post World War II sport, impact of sport on society and society on sport). They will also begin the 'Sport psychology' and the written coursework task following summer exams.





In Year 13 pupils will complete the ‘Sport psychology’ module (Personality, attitudes, arousal, anxiety, aggression, motivation, social facilitation, group dynamics, goal setting, attribution theory, self-efficacy & confidence, leadership, stress management), which also studying the ‘Exercise physiology and biomechanics’ (diet & nutrition, preparation & training methods, injury prevention & rehabilitation, biomechanical principles, levers, linear motion, angular motion, projectile motion, fluid mechanics) and ‘Sport and Society & technology’ modules (Concepts of physical activity & sport, development of elite performers, ethics in sport, violence in sport, drugs in sport, sport and the law).

### Assessment Structure

#### Paper 1

##### “Factors affecting participation and physical activity and sport”

**Section A:** Applied anatomy and physiology

**Section B:** Skill acquisition

**Section C:** Sport and society

**Written exam:** 2 hours. 35% of A level

A combination of multiple choice, short answer and extended writing

#### Paper 2

##### “Factors affecting optimal performance in physical activity and sport”

**Section A:** Exercise physiology and biomechanics

**Section B:** Sport psychology

**Section C:** Sport and society and technology in sport

**Written exam:** 2 hours. 35% of A level.

A combination of multiple choice, short answer and extended writing

### Written and practical coursework

#### “Analysis and Evaluation of Performance”

1. Candidates are assessed as a performer or coach in the full sided version of one activity (15%)
2. Written/verbal analysis and evaluation of performance (15%)

\*Internally assessed, externally moderated.

### Entry Requirements

GCSE Sport Science/PE (at least grade 6) is beneficial as it forms a basic grounding for a greater depth of learning at A Level. \*Pupils coming from schools which do not offer GCSE Sport Science/PE can still do the A level; however some preparation work will be expected before starting the course. An interest in all aspects of sport, a good level of physical fitness, the ability to perform, officiate or lead in at least one sport to a high level is necessary.

GCSE Science (particularly Biology at grade 6) is highly recommended.

### After A Level

There is a huge variety of sports-related courses at universities such as Sports Science and Sports Studies, Sports Management, Sports Medicine, Sports Psychology, Coaching Science, Physical Education, Human Movement Studies, Sports Strength & Conditioning, Rehabilitation and Therapy, Business and Sports development, Physiotherapy, Sport Science with advertising and Sport with Law. Due to the very wide ranging theoretical content studying Sport Science combines well with many other subject areas, and with the appropriate combination can furnish excellent skills for a multitude of other studies or future career paths.



# Boarding Houses

A	North A	Boys' Boarding House
B	Barker	Co-educational Day House
B	Barrett	Co-educational Day House
B	Bisseker	Co-educational Day House
D	Dale	Girls' Boarding House
E	East	Sixth Form Boys' House
F	Fen	Girls' Boarding House
G	Granta	Sixth Form Girls' House
M	Moulton	Junior House
S	School	Boys' Boarding House
W	West	Boys' Boarding House

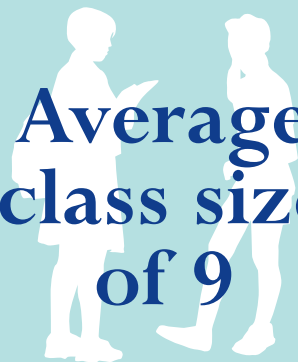


## Teaching Areas



- 1 **Clapham Building**  
Greek, Latin and Classical Civilisation (ground floor, left)  
Theology (ground floor, right)  
History (first floor)  
Geography (second floor)
- 2 **Great Hall**  
Drama  
Science
- 3 **Kelvin Building**  
Business Studies and Economics (first floor)  
ESOL and LS department (top floor)
- 4 **King's Building**  
Mathematics Room K3
- 5 **Music School**  
Music
- 6 **Queen's Building**  
English (first floor)
- 7 **Rugg Centre**  
Design Technology (ground floor)  
Ceramics (ground floor)  
Computing (first floor)  
Art (top floor)
- 8 **Science Department**  
Biology (ground floor)  
Physics (first floor)  
Chemistry (second floor)
- 9 **Sports Hall**  
Physical Education (ground floor)
- 10 **Stamp Building**  
Modern Languages | French | German | Spanish
- 11 **Swimming Pool**
- 12 **Dining Room**
- 13 **Common Room/ Old Gym**

Average  
class size  
of 9



BOYS  
57  
%

GIRLS  
43  
%



210  
PUPILS



76%

ACCEPTED BY  
THEIR CHOSEN  
UNIVERSITY



24

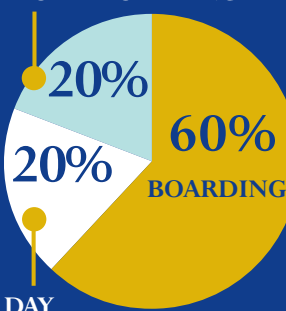
A Level  
Subjects



2 SIXTH  
FORM  
ONLY  
Boarding  
Houses



HOME BOARDING



DAY

5  
THROUGH  
HOUSES



100+  
WIDER  
CURRICULAR  
ACTIVITIES



The Leys School  
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CB2 7AD

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THE Leys

C A M B R I D G E