Senior School

(I)GCSE Options 2025–2027

STREATHAM & CLAPHAM HIGH SCHOOL

GDST
GIRLS' DAY SCHOOL TRUST

Introduction

You are at such an exciting moment in your educational journey: your GCSE options are the first significant crossroad that you reach in your educational pathway in terms of curriculum choice and you will need to choose your learning route wisely. Please take the time to read this booklet carefully, to speak with your teachers about the different GCSE options, and to talk with your family and friends who know you well and who can guide you on your way.

At this educational crossroads you need to look to the distant horizon and to think about the different destinations you hope to reach: the A-Level studies that excite you; the university course that ignites your curiosity; the career path that you hope to follow. Don't worry if you don't yet know any of these destinations: we will help you turn towards these opportunities and bring them into focus.

The most important thing now is to choose wisely: follow your gut instinct about the subjects that you most enjoy and those which you know you are good at. Think about maintaining a balance of skills and interests so that you are developing your critical thinking and knowledge of the world across a range of aptitudes, keeping in mind the importance of creativity and a balanced curriculum too.

I am sure that there are subjects that you are ready to leave behind, and others you are excited to gain a greater depth of understanding in. I hope that you will feel a very special learning energy in the classes where you have all chosen the subject, and you are gaining new skills and understanding together.

GCSEs are demanding but remember that school is about so much more in terms of your learning and your wider life. I hope that many of you will continue your engagement with the academic enrichment opportunities on offer, taking on an HPQ to show off your independent learning and research. Your participation and leadership in sport, drama and music, as well as Kinza, clubs and societies, community work and Duke of Edinburgh Awards are just some of the ways in which your growth and education happen so powerfully beyond the classroom too.

You are the SCHS women of the future, and we hope to help you build the courage and conviction to strive for your dreams, however ambitious, quirky or demanding they might be. We are on this journey together with you, your friends, family and teachers, sharing the way. Do keep talking to us about which GCSE options would best suit you and I wish you every success with all that lies ahead.

Ms Ellott
Head

We build the curriculum to fit the needs of each girl, rather than trying to fit the girls to the curriculum.

Options Timetable 2025

Date	Event	Who is this for?
Thursday 9 January	Options Evening	Parents and Pupils
Thursday 16 January	Year 9 Parents' Evening	Parents and Pupils
Monday 10 February	Deadline for choices	Parents and Pupils
Friday 28 February	Options Blocks published	Parents and Pupils informed

Options Evening provides the opportunity to find out more about each (I)GCSE, along with a presentation for parents and pupils explaining the process.

Other Forthcoming Events

Summer Term 2025	
2 - 6 June 2025	Year 9 Examination Week
30 June 2025	Year 9 End-of Year Reports
Autumn Term 2025	
September 2025	Year 10 Parent Induction Evening
October 2025	Sixth Form Open Evening

General Guidelines on Choice of Subjects

You have nearly completed your first three years of senior school education, which have been designed to give you as much breadth of opportunity as possible. Most of you will now have some idea of where your particular interests and strengths lie.

At this time in Year 9 we ask you to make provisional choices of the option subjects you wish to study at (I)GCSE and from your selection we build the option blocks and timetable. We aim to give you your preferred combination of subjects, but occasionally we cannot. If this does happen, we will do our best to provide suitable alternatives for you.

All pupils will embark on 10 (I)GCSE level courses. These courses are made up of core subjects and options subjects.

Points to consider when making your options choices:

- We strongly recommend that you choose at least one Language (I)GCSE: **Classical Greek, French, Latin, Mandarin or Spanish**.
- It is advisable to choose one of the Humanities: **Classical Civilisation, Geography, History or Philosophy, Religion & Ethics (PRE)**.
- We recommend choosing subjects from a range of disciplines to support with further education opportunities.
- Choose the subjects that you want to study.
- Make sure that you enjoy the subjects and are interested in studying each subject for another two years.
- Consider subjects that you are good at as well as the subjects that you enjoy.
- Research the different courses by using this booklet and speaking to your subject teachers.
- Make informed choices by reviewing the course content and assessment criteria.
- Remember, you should try to keep up with general reading, sport and music, as well as academic work and aim for a sensible and healthy balance between school and social life. We recommend that you consider the demands of combinations of courses.
- If you are not sure then ask. Your tutors, Head of House and the Deputy Head (Academic) are all here to listen to your queries and offer advice.

Please also note the following important information:

When applying to university, at the beginning of Year 13, admissions tutors will look at your (I)GCSE results as a clear indicator of your academic ability. It is therefore crucial that you embark upon subjects in which you feel well motivated and committed to achieving the highest grade possible. In all subjects, the importance of spelling, punctuation and grammar cannot be underestimated; failure to grasp these essentials will result in lower grades at (I)GCSE level.

Core Subjects

Core subjects at (I)GCSE level (studied by all pupils).

- **English Language**
- **English Literature**
- **Mathematics**
- **Science Option**

We offer two routes of Science study at (I)GCSE, Triple Science or Trilogy Science. Both options consist of the study and examination of Biology, Chemistry and Physics but equate to a different number of GCSEs.

Triple Science (Three GCSEs)	**OR**	**Trilogy Science (Two GCSEs)**
Biology GCSE Chemistry GCSE Physics GCSE		The study of the three scientific areas (Biology, Chemistry and Physics), with examinations in each but equating to two GCSEs

This equates to either five or six (I)GCSEs.

Both Triple Science and Trilogy Science use the same curriculum time, therefore only choose four subjects from the options below regardless of which Science course you choose.

Options Subjects

In addition to the core subjects and science option, you have a choice of four optional subjects to select.

- **Art & Design: Fine Art**
- **Classical Civilisation**
- **Classical Greek**
- **Computer Science**
- **Design & Technology**
- **Drama**
- **Engineering**
- **French**
- **Geography**
- **History**
- **Latin**
- **Mandarin**
- **Music**
- **Philosophy, Religion and Ethics** (PRE)
- **Physical Education**
- **Spanish**

- **Astronomy** (GDST Twilight GCSE, online) is also available as an additional fifth choice

Types of Assessment

Examination

Many (I)GCSE subjects are examined fully by a final examination but some courses include a coursework element worth a final percentage of the overall grade. All subjects have some form of examination at the end of the two-year course.

Preparation for the examinations takes place in many forms, for example revision lessons, completion of past-examination papers and the opportunity to experience the examination process in the mock examinations in Year 11.

Coursework / Non-Examined Assessment

Where subject specifications include a project or non-examined assessment this will account for a percentage of the final mark. A coursework element has the following key features:

- Enables a more integrated approach to teaching, learning and assessment
- Enables teachers to choose the timing of the coursework
- Enables teachers to select from a choice of tasks and contextualise them
- Is viewed as part of the work of the course, rather than a separate activity
- Usually takes place in the classroom, within the normal timetable
- Features levels of control designed to maximise reliability and authenticity

It is important pupils realise the importance of any coursework elements and that they try to be present whenever such an activity is taking place.

ENGLISH

Cambridge: IGCSE English Literature (0992)
Cambridge: IGCSE English Language (0990)

For Literature, pupils study one play, a novel, a collection of poetry and learn how to write on an unseen prose text or poem.

Pupils sit assessment 1, 3 and 4 only.

ASSESSMENT 1

Poetry and Prose
1 hour 30 minute examination (50%)

- Candidates answer two questions on two texts: one piece of poetry and one prose text.
- There is a choice of two questions on each text.

ASSESSMENT 3

Drama - Open Text
45 minute examination (25%)

- Candidates answer one question on one drama text.
- There is a choice of two questions (one passage-based and one discursive essay) on the set text.

ASSESSMENT 4

Unseen Poetry and Prose
1 hour 15 minute examination (25%)

- There is a choice of two questions. Candidates either answer a question on an unseen prose text or answer a question on an unseen poem.

For Language, pupils learn how to write in different styles, such as narrative and descriptive, as well as how to read for different purposes, such as comprehension and summary.

Pupils sit assessment 1 and 2 only.

ASSESSMENT 1

Reading and Comprehension
Two hour examination (50%)

- Three questions, made up of a series of sub-questions, are answered on three passages of 600-700 words.

ASSESSMENT 2

Directed Writing and Composition
Two hour examination (50%)

- One question will be answered from a passage or passages of 700-800 words. One composition question will be answered from a choice of four.

SKILLS DEVELOPED

- The ability to participate effectively in a variety of speaking and listening activities, matching style and language to audience and purpose.
- The ability to read, understand and respond to all types of text; recognise and appreciate themes and attitudes and the ways in which writers achieve their effects; and the development of information retrieval strategies for the purpose of study.
- The ability to construct and convey meaning in written language, matching style to audience and purpose.

MATHEMATICS

Edexcel: IGCSE Mathematics A (4MA1)

The Edexcel IGCSE Mathematics course is a linear specification. The examination consists of two papers, each worth 100 marks and lasting two hours. Calculator use is permitted in both papers, and it is vital that pupils have a good scientific calculator (Casio Classwiz FX-991) that they bring to every lesson. There is no coursework assessment.

Throughout the course we encourage the use of technology to aid both calculations and understanding of techniques. We aim to use a variety of teaching and learning styles, and to apply the knowledge and techniques to real-life situations. This helps to make the learning accessible, enjoyable and relevant to everyone. The websites, www.mymaths.co.uk and drfrostmaths.com are widely used in class and for homework, and is available as a revision aid.

Mathematics is not only a beautiful and exciting subject in its own right, but also one that underpins many branches of learning. The skills and logical thinking processes developed in Mathematics are essential for life. Higher education institutions and employers value a competent grounding in Mathematics, which can be achieved by studying the IGCSE specification, whether you continue along a mathematical, scientific or arts based path.

Mathematics at Key Stage 4 is an important stepping stone for many A-Level courses such as Biology, Chemistry, Physics, Economics, Geography, and Psychology.

COURSE CONTENT:

The course is divided into four sections.

- **Number:** covering types of number and their properties, fractions, percentages, set language and notation, ratio and proportion, degree of accuracy and standard form
- **Algebra:** covering formulae, equations, graphs, functions, sequences, rules of indices, direct and inverse proportion, inequalities, functions and calculus
- **Geometry:** covering angle properties in various shapes, bearings, constructions and scale drawing, Pythagoras' theorem, trigonometry, surface areas and volumes, similarity, symmetry, vectors and transformations
- **Statistics:** graphical representation of data using cumulative frequency diagrams and histograms. Statistical measures like mean, mode, median, range and interquartile range. Determine the probability to simple problems and when there are a combination of events

SKILLS DEVELOPED

- Using mathematics as an effective, and efficient, means of communication
- The ability to solve problems in a purely mathematical way and in real-life situations
- Problem-solving skills that contribute to the development of logical, abstract and critical thinking
- The ability to reason logically through presenting arguments and proofs, and making deductions and drawing conclusions from mathematical information

THE SCIENCE CURRICULUM
TRIPLE SCIENCE

AQA: Biology (8461), Chemistry (8462), Physics (8463)

The study of Science has great relevance. It stimulates curiosity, interest and confidence in an increasingly technological world. Whilst helping to prepare pupils for vocational courses such as medicine, pharmacy, veterinary and engineering, it also encourages deeper thinking when faced with the moral dilemmas surrounding scientific developments. Practical skills are developed as well as problem-solving and logical thinking, all of which are useful in other subject areas.

Pupils studying Science will study the AQA specification. For Triple Science, much of the content is the same as Trilogy Science (combined science), however, topics are studied in more depth and the content and mathematical demand will be greater. Following the Year 10 examinations, Pupils will be advised on the most suitable course to follow. The Trilogy Science Course is good preparation if pupils wish to pursue sciences for A-Level, although the topics studied for Triple Science will provide more challenge and may support a better foundation for the transition between GCSE and A-Level.

There is no coursework at GCSE; however, there are practical tasks throughout the course as specified by AQA. By focusing on the reasons for carrying out a particular practical, teachers will help their pupils understand the subject more and develop the skills required for further study or jobs in STEAM (Science, Technology, Engineering, the Arts, and Mathematics).

Questions in the written examinations will draw on the knowledge and understanding pupils have gained through practical activities. These questions will count for at least 15% of the overall marks for the qualification.

GCSE BIOLOGY – AQA 8461

The AQA GCSE Biology consists of seven topics:

- Cell biology
- Organisation
- Infection and response
- Bioenergetics
- Homeostasis and response
- Inheritance, variation and evolution
- Ecology

ASSESSMENT

The course will be examined over two papers consisting of closed short answer and open response questions based on mainly content, however some questions will assess the skills and knowledge acquired in the required practicals.

ASSESSMENT 1
Written examination. 1 hour 45 minutes (50%)

- Cell biology
- Organisation
- Infection and response
- Bioenergetics

ASSESSMENT 2
Written examination. 1 hour 45 minutes (50%)

- Homeostasis and response
- Inheritance, variation and evolution
- Ecology

THE SCIENCE CURRICULUM
TRIPLE SCIENCE
(continued)

GCSE CHEMISTRY – AQA 8462

The AQA GCSE Chemistry course consists of 10 topics:

- Atomic structure and the periodic table
- Bonding, structure, and the properties of matter
- Quantitative chemistry
- Chemical changes
- Energy changes
- The rate and extent of chemical change
- Organic chemistry
- Chemical analysis
- Chemistry of the atmosphere
- Using resources

ASSESSMENT

The course will be examined over two papers consisting of closed short answer and open response questions based on mainly content, however some questions will assess the skills and knowledge acquired in the required practicals.

ASSESSMENT 1
Written examination. 1 hour 45 minutes (50%)

- Atomic structure and the periodic table
- Bonding, structure, and the properties of matter
- Quantitative chemistry
- Chemical changes
- Energy changes

ASSESSMENT 2
Written examination. 1 hour 45 minutes (50%)

- The rate and extent of chemical change
- Organic chemistry
- Chemical analysis
- Chemistry of the atmosphere
- Using resources

GCSE PHYSICS– AQA 8463

The AQA GCSE Physics course consists of eight topics:

- Forces
- Energy
- Waves
- Electricity
- Magnetism and electromagnetism
- Particle model of matter
- Atomic structure
- Space physics (physics only)

ASSESSMENT

The course will be examined over two papers consisting of closed short answer and open response questions based on mainly content, however some questions will assess the skills and knowledge acquired in the required practicals.

ASSESSMENT 1
Written examination. 1 hour 45 minutes (50%)

- Forces
- Energy
- Waves
- Electricity

ASSESSMENT 2
Written examination. 1 hour 45 minutes (50%)

- Magnetism and electromagnetism
- Particle model of matter
- Atomic structure
- Space physics (physics only)

THE SCIENCE CURRICULUM
TRILOGY SCIENCE
AQA: Trilogy (8464)

Pupils will gain two GCSE qualifications based on six examinations as shown below. The topics are common with the Triple Science course but examinations will be less demanding in terms of questions and time allocated.

Each course will be examined over two papers consisting of closed short answer and open response questions based on mainly content, however some questions will assess the skills and knowledge acquired in the required practicals.

BIOLOGY

ASSESSMENT 1
Written examination. 1 hour 15 minutes (16.7%)

- Cell biology
- Organisation
- Infection and response
- Bioenergetics

ASSESSMENT 2
Written examination. 1 hour 15 minutes (16.7%)

- Homeostasis and response
- Inheritance, variation and evolution
- Ecology

CHEMISTRY

ASSESSMENT 1
Written examination. 1 hour 15 minutes (16.7%)

- Atomic structure and the periodic table
- Bonding, structure, and the properties of matter
- Quantitative chemistry
- Chemical changes
- Energy changes

ASSESSMENT 2
Written examination. 1 hour 15 minutes (16.7%)

- The rate and extent of chemical change
- Organic chemistry
- Chemical analysis
- Chemistry of the atmosphere

PHYSICS

ASSESSMENT 1
Written examination. 1 hour 15 minutes (16.7%)

- Forces
- Energy
- Waves
- Electricity

ASSESSMENT 2
Written examination. 1 hour 15 minutes (16.7%)

- Magnetism and electromagnetism
- Particle model of matter
- Atomic structure
- Space physics (physics only)

ART

AQA: Fine Art (8202)

The GCSE course in Fine Art is an exciting challenge for creative and expressive individuals who wish to explore artistic ideas further and work with a focus on both two and three dimensional art (including drawing, painting, printmaking, textiles, sculpture and mixed media). It has an adventurous and enquiring approach, whilst developing skills to express individual ideas and aims.

AQA's Fine Art Specification is followed and pupils will be encouraged to work from direct observation and personal experience as an important part of the whole course. Candidates may decide to relate the development and realisation of their projects to social, moral, ethical, spiritual and cultural issues. Understanding and making connections between their own work, art historical precedents and contemporary practice, using a specialist vocabulary, are also important elements of the course. Experimentation with a wide range of materials and techniques is also encouraged.

The final examination consists of:

- A final outcome created under examination conditions for 10 hours, using preparatory studies made during the previous term (40%)
- Two units of coursework completed during the two-year course (60%)

Assessment of work is continuous throughout the course, with personal tutorials and both written and verbal feedback provided regularly. Pupils are always welcome to request any additional support that they may need.

Throughout the course, pupils will produce a series of art diaries, which are a visual and verbal train of thought. The art diaries work alongside their practical pieces to demonstrate the development of their ideas. Both visual and written communication skills are essential elements of the examination, as pupils are expected to be both practitioners and critics. In addition, practical research and developmental work is required each week. Pupils are encouraged to work in environments both inside and outside school and to be able to use, develop and process this source material in the Studio. Pupils' ideas, experiments, imagination and innovations are important features of their coursework.

It is essential that pupils have an aptitude for the subject and the ability to work effectively from direct observation. They must be highly motivated to develop their studies with a degree of independence; a practical subject such as art takes a great deal of time, commitment and perseverance.

A lightweight A2 portfolio, A4 sketch book, art pencils and paintbrushes should be purchased in advance of starting the course. For independent work at home, pupils should also have access to other artistic materials including acrylic paint and oil pastels as the course develops.

FACILITIES AND EQUIPMENT

We are fortunate to have three studios in the department, a kiln, a printing press, four iMacs and a PC (each with Adobe Photoshop installed), seven DSLR cameras and four digital video cameras available for pupils to use.

FUTURE OPPORTUNITIES

The recommended route for those who wish to continue with their art studies is to take A-Level Art, then either use it to support other subjects or ideally apply to a Foundation Course lasting one year at an Art College and then apply to undertake a degree in a specialised field.

The research, problem-solving and assimilation skills acquired at GCSE level will help all other subjects chosen by pupils; the awareness of the world around and different aspects of visual culture give added breadth to all their interests.

There are many opportunities for future careers: fashion, architecture, set design, interior design, product design and illustration are becoming popular options, as well the many other professions, which require an individual to be creative, risk-taking and innovative.

CLASSICAL CIVILISATION

OCR: Classical (J199)

Classical Civilisation offers pupils an expansive, coherent, and rewarding study of the classical world through the literature and material culture of Greece and Rome. You will learn about the history, culture, and society of the people of Greece and Rome and compare the two civilisations. This provides you with cross-curricular skills, such as critical-thinking, analytical and evaluative skills, that will provide an excellent foundation for further study. There is no Latin language involved in this course; all sources are given in translation. Pupils can take this subject at A-Level, but it is not required to have done it at GCSE.

COURSE CONTENT:

Year 10 - Thematic study:
Women in the Ancient World

1 hour 30 minute exam (50%)

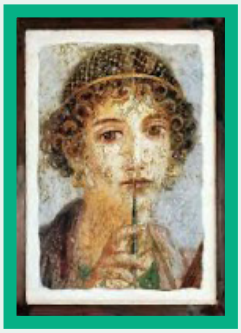
This study of women in the ancient world has been designed to enable learners to explore the lives of women in a variety of capacities, and what we can infer about women as both historical and legendary or mythological figures. Learners will develop knowledge and understanding of the roles of women primarily in the societies of Athens and Republican Rome, although wider material, such as that from Sparta, Egypt, or Pompeii, is also included.

Learners will examine the realities of life as a woman in these societies; both women who are portrayed as living a respectable, ideal life of virtue, and those who were considered scandalous! This enables discussion of how such women are represented and what this reveals about ancient ideas regarding gender. The role of women in religion will also be examined as an interesting and important area where women had possibly their greatest degree of parity with men. Conversely, their lack of voice in the state decision-making processes will be studied, as will the way in which this is portrayed and perceived.

For young adults, in a society where issues of equality and political rights are core to our democratic values, this area of study will be interesting and engaging as they inevitably draw comparisons with their own experiences. From Helen of Troy to Cleopatra, learners will enjoy learning about these figures in more depth, and exploring how the ancient world thought about, and responded to, these figures, who still occupy a position of interest and intrigue to this day.

TOPICS:

- Women of Legend
- Young Women
- Women in the Home
- 'Improper' Women
- Women and Religion
- Women and Power
- Warrior Women
- Women to be Feared



Year 11 - Literature and Culture:
The Homeric World

1 hour 30 minute exam (50%)

In this component, learners will explore what life was like for those who lived in Mycenaean Greece and its surrounding regions.

The Culture section of this component comprises a study of a variety of aspects of Mycenaean society. Examining the housing, cities, palaces, and lifestyle (including weapons, art, and language) can be an excellent way to provide pupils with the cultural understanding they need to fully appreciate the significance of the period and why it is still so influential.

The Literature component explores who Homer was, his role as a storyteller, and what epic narrative was to the ancient Greeks. We examine the plot, techniques, themes, and performative aspects of the Odyssey to develop a clear understanding of why the epic mattered then and now. Pupils will be able to analyse, discuss, and examine critically the information provided to them.

Reading more widely around the Classical World and mythology is encouraged across both years as the more links a pupil can make, the more coherent and well-reasoned their analysis will become.

TOPICS:

- Key Sites
- Life in the Mycenaean Age
- Decorative Arts
- Tombs, Graves, and Burial
- Literary Techniques and Composition
- Themes
- The Character of Odysseus
- The Portrayal of Key Characters

CLASSICAL GREEK

OCR: Classical Greek (J292)

Classical Greek provides the opportunity to explore the language, literature, and culture of the ancient Greeks, from Homeric epics to the philosophy of Plato. Through these, you will also gain an insight into ancient beliefs, values, and social systems. During the course, you will reflect upon the ways in which Greek civilisation and culture continue to shape our own society, whilst boosting analytical and linguistic skills that are highly regarded in many fields. It is of enormous benefit to pupils of both the arts and the sciences, as it encourages clear and logical thinking, analytical reasoning, an ability to handle evidence and much more. Studying Classical Greek typically also helps applications stand out as it is unusual for schools to be able to offer this subject. Pupils can continue this subject at A-Level if they are interested.

COURSE CONTENT:

In Year 10, we begin an accelerated programme of learning the language component, starting with the Greek alphabet, and developing translation and comprehension skills. The Greek to GCSE course is our foundation, covering essential grammar and syntax. By the end of the year, we complete the first book, providing a solid grasp of key language structures. We will then supplement the language with Greek Stories, which contains exciting tales of Greece's historical and mythological past. In the summer term, we also cover the content of the Literature and Culture paper, leaving us in an excellent position ahead of Year 11.

In Year 11, the course emphasises refining and expanding your linguistic skills, deepening your understanding of Greek culture, and enhancing your ability to read and analyse ancient texts. You'll engage with the set literature, exploring its themes and historical context, while also practicing the specific exam skills needed for success, such as translation, comprehension, and critical interpretation. This year builds on the foundational grammar and syntax you mastered previously, enabling a more confident, nuanced approach to both language and literature.

SCHEME OF ASSESSMENT:

ASSESSMENT 1

Greek Language:
1 hour 30 minutes (50%)

This involves the translation and comprehension of Greek passages. The stories in the paper will cover elements of Greek history as well as episodes from ancient mythology. The paper will also include a choice between grammatical comprehension and English to Greek sentences.

For this paper the grammatical requirements are clearly prescribed, and the examination board publishes a list of vocabulary. The girls will learn these over the course of Year 10 with weekly vocabulary and grammar tests and revise them throughout Year 11.

ASSESSMENT 2

Greek Literature:
Either a prose or verse set text
1 hour (25%)

This paper tests your knowledge, understanding, and appreciation of a set text. In the exam, pupils will be able to tackle a range of questions including: a short translation, comprehension and context questions, analysis of literary style features and the effect on the reader, as well as an extended written response on the set text.

The set texts change every two years. Previously, we have studied texts such as Homer's *Odyssey* Book 7, and Euripides' *Medea*. For the 2027 paper, we will study Homer's *Odyssey* Book 10.

ASSESSMENT 3

Greek Literature and Culture:
1 hour (25%)

This paper is exciting as the course content is a mix of visual sources and literature provided in translation, so it is accessible and engaging for all pupils. Pupils will be able to identify aspects of content, culture, social practices and values, as well as analysing the usefulness and biases of the primary sources. The exam will ask you to select, analyse, and evaluate evidence to draw an informed conclusion. Questions range from low-tariff marks on dates, authors, and context, to an extended written response on the overall nature of the content.

The topics change every two years. For the 2027 paper, the topics will be Athenian Society and the Olympic Games.

COMPUTER SCIENCE

Edexcel : Computer Science (9-1) - 1CP2

GCSE Computer Science explores the principles of digital technology and a way of working that is called 'computational thinking', with coding as a core of the course. You will need to be able to think logically, solve puzzles, and never give up if your coding does not work first time. However, developing your creative skills will be essential; you will be taught the tools and techniques to solve problems in a computational framework, but you will need to find your own solutions. You will get a real buzz out of getting something to work yourself, especially when programming. So if you enjoyed Python programming or the HTML web-design work from previous years then you will find computing is for you. Computer Science will stretch you and test your powers of logic and patience.

This course will allow pupils to:

- Understand the internal workings of a computer system
- Develop their understanding of current and emerging technologies and how they work
- Look at the use of algorithms in computer programs
- Become independent and discerning users of digital technology
- Acquire and apply creative and technical skills, knowledge and understanding of digital technology in a range of contexts
- Develop computer programs to solve problems
- Evaluate the effectiveness of computer programs/ solutions and the impact of computer technology in society

Pupils will learn new material, combining the 'computational theory' with lots of practical tasks and challenges. There will be practical work on the computers, skills building, learning to program, doing the projects and conducting tests and experiments for your research. In addition, there will be extra reading and exercises to develop your thinking skills.

COURSE CONTENT

The major units are:

Principles of Computer Science

- **Computational Thinking** - Understanding of what algorithms are, what they are used for and how they work; ability to follow, amend and write algorithms; ability to construct truth tables
- **Data** - Understanding of binary, data representation, data storage and compression
- **Computers** - Understanding of hardware and software components of computer systems and characteristics of programming languages
- **Networks** - Understanding of computer networks and network security
- **Issues and Impact** - Awareness of emerging trends in computing technologies, and the impact of computing on individuals, society and the environment, including ethical, legal and ownership issues

Application of Computer Science

- Understanding what algorithms are, what they are used for and how they work in relation to creating programs
- Understanding how to decompose and analyse problems
- Ability to read, write, refine and evaluate programs

ASSESSMENT

To complete the course candidates must take the following two assessments, which are linked to the units described above.

ASSESSMENT 1 - Principles of Computer Science
1 hour 30 minutes (50%)

ASSESSMENT 2 - Application of Computer Science
Two hours (50%)
Completed using a computer and writing code

FUTURE OPPORTUNITIES

A Computer Science GCSE will give pupils a good insight into careers which use computers to create solutions to problems. A Computer Science GCSE teaches pupils the concepts behind computational computing, namely the ability to identify the key aspects of problems and create solutions using logical steps and creativity. These skills will be applicable to almost any career path chosen by pupils.

To gain a deeper understanding of how computer science is influencing education, visit the Computer Science for Fun website at www.cs4fn.org. To practise coding, try www.codeacademy.com.