

A group of six students, three boys and three girls, are standing on a green sports field. They are all wearing white short-sleeved shirts and dark trousers or skirts. The boy on the far right is holding an orange book. The girl in the center is holding a red book. In the background, there is a chain-link fence and some trees. The text "WELCOME TO SIXTH FORM" is overlaid at the bottom of the image in white, bold, capital letters.

**WELCOME TO SIXTH FORM**

## Welcome to Sixth Form at BIS

Welcome to Sixth Form at the British International School and Montessori Education. We believe that every learner has the potential to succeed. Our Sixth Form Program offers learners opportunities to engage in an enriched Curriculum that inspires each learner to achieve their personal goals. Our Sixth Form provides learners with superb opportunities to flourish within an environment that brings out the best in each learner.

On completing the IGCSE program, learners can engage in the Cambridge AS /A level program. The AS/A Level program is a two years program of study. learners will take four subjects at AS level (Year 12) and then continue with three subjects to full A Level in Year 13. learners are encouraged to select subjects that are linked to their university pathway.

Our A level teachers are available to provide further advice to learners wishing to pursue a particular pathway at university. The use of Uniform platform also allows learners to explore their interests, and university requirements and make their choices. We encourage learners to focus on subjects that are of interest to them.

At BIS, our aim is to encourage our sixth form learners to be more responsible for their own learning and personal growth. Through the right support and guidance, we are confident that our learners will develop the skills they need to progress successfully into higher level education. At BIS, we are committed to ensuring that our learner are well prepared for the journey ahead.

This booklet is designed to provide BIS learners and their parents/carers with important information about choosing courses and subjects for the sixth form program of study.

Please take the time to read about each subject and discuss the options available. It is important that decisions are discussed carefully; both within the family and the school, but also with the interest of the learner at heart.

## Entry Requirements, Timetable, and Exams

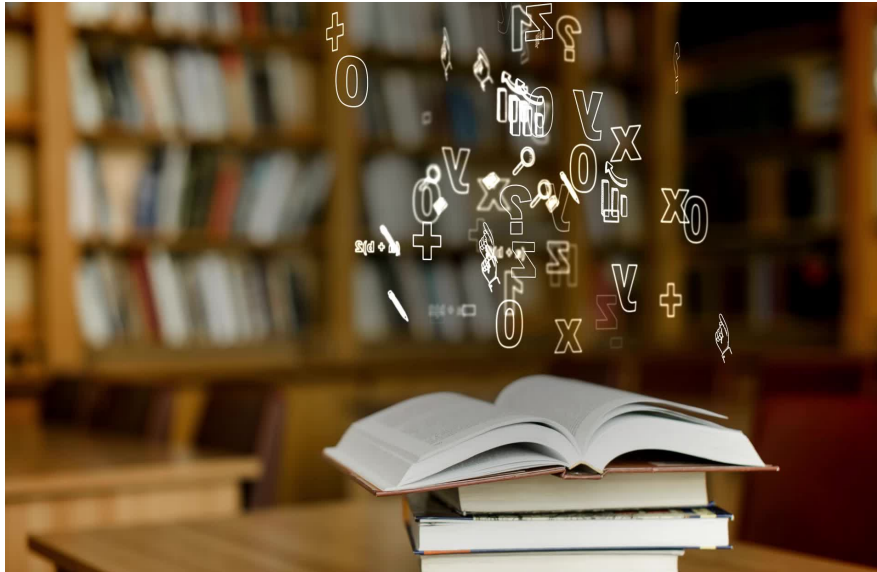
The School requires all learners entering the sixth form program to have achieved a minimum of 5B grades at IGCSE including Mathematics and English Language. This is because a sound academic basis is required for continuing any study at AS and A Level.

The A Level timetable at BIS is designed around the learners' subject choices. The timetable changes each year to accommodate learners' needs. Learners are expected to have contact periods with their subject teachers and the remaining free periods are designed to allow learners to complete assignments, projects and self-study.

It is recommended that learners achieve a B at IGCSE in subjects they wish to study at AS level, or in a related supporting subject. learners should have an A in Mathematics IGCSE if they wish to take Mathematics at AS level.

Learners are expected to sit the AS Level examinations at the end of year 12 and the A levels Examination at the end of Year 13. All subjects taken are graded from A\* to E.

# What subjects does BIS offer?



- **Biology**
- **Business**
- **Chemistry**
- **Computer Science**
- **Economics**
- **English language**
- **English Literature**
- **French**
- **Law**
- **Mathematics**
- **Further Mathematics**
- **Physics**
- **Sociology**



## Our Recommendation for Study

Our recommendation is to study 4 A Levels in the Year 12 and then narrow the subjects down to 3 in Year 13. These courses are challenging and will need significant focus, hard work and additional reading.

Learners taking Further Mathematics will need to take 4 A levels to enable them to make the most of their subject choices.

We also consider the number of subject choices of each learner on a case-by- case basis and will be supportive where this is the right choice for the learner.

## University Guidance

We know that a vital part of your education here at BIS is securing the best possible opportunity for when you leave. We work in partnership with Unifrog an online based platform that allows learners to explore their interests, university pathways and apply to the university of their choice.

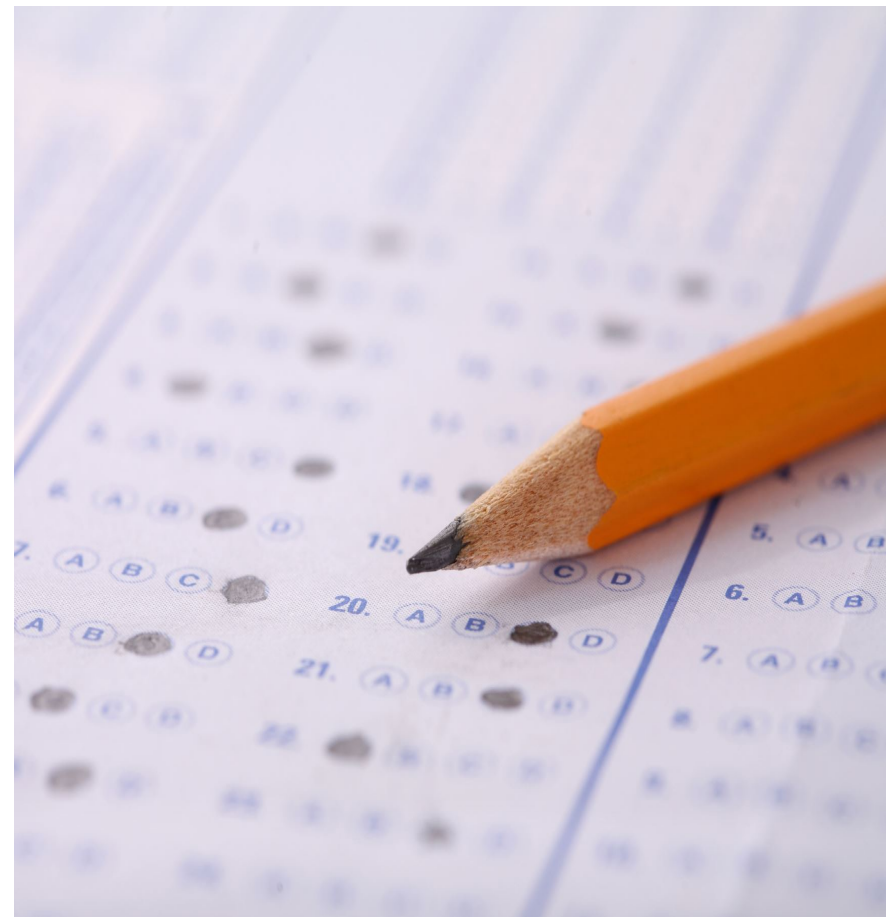
Learners aiming for Russell Group universities, or particularly competitive courses such as medicine, will benefit from bespoke guidance throughout from the Unifrog platform, where they can learn to make strong applications, write personal statements and also explore career choices. Our dedicated teachers also provide advice and support and help to prepare learners for additional exams such as LNAT, BMAT and MAT.

You can read more about Unifrog here; <https://www.unifrog.org>

**LNAT:** Law national Admissions Test

**BMAT:** Biomedical Admissions Test

**MAT:** Mathematics Admissions Test (Engineering Learners).



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## Sixth Form Study Room

Sixth form learners have access to a dedicated study room where they can work independently. Learners are taught rigorously during designated class times. During their free periods learners are expected to work independently in addition to classroom studies that have been assigned to them. Learners also use these free periods to complete research projects, read around new topics that have been introduced to them. Learners must learn to take control of their own learning in sixth form. A level subject teachers are also on hand to provide support to learners during the contact periods or outside the contact periods. Teachers provide excellent teaching, guidance and inspiration, taking learners from their classroom and leading them to a world of independent learning and international mindedness.

At BIS, we provide education for all learners regardless of their abilities taking into consideration learners choices. We encourage learners to take subjects that match their strength thereby allowing them to achieve success.

It is important that learners planning to complete their AS/A Levels at BIS, pay close attention to the advice of teachers regarding the suitability of selected subjects.



# Cambridge International AS & A Level Biology (9700)

## Syllabus Overview

The A Level Biology course follows the CAIE Specification. All living organisms have similarities in cellular structure, biochemistry and function; the first taught module of the biology A Level starts with an understanding that studying these similarities is fundamental to studying biology. The syllabus includes the main theoretical concepts which are fundamental to the subject, some current applications of biology, and a strong emphasis on advanced practical skills.

## Aims

The aims are to enable Learners to:

- acquire knowledge and understanding and develop practical skills, including efficient, accurate and safe scientific practices
- learn to apply the scientific method, while developing an awareness of the limitations of scientific theories and models
- develop skills in data analysis, evaluation and drawing conclusions, cultivating attitudes relevant to science such as objectivity, integrity, enquiry, initiative and inventiveness
- develop effective scientific communication skills, using appropriate terminology and scientific conventions
- understand their responsibility to others/society and to care for the environment
- enjoy science and develop an informed interest in the subject that may lead to further study.

## Key Concepts

The first year of A Level includes the study of:

- **Foundations in biology** – including cell structure, biological molecules, nucleotides and nucleic acids, enzymes, biological membranes and cell division, cell diversity and cellular organisation.
- **Exchange and transport** – including exchange surfaces, transport in animals, transport in plants
- **Biodiversity, evolution and disease** – including communicable diseases, disease prevention and the immune system, biodiversity, classification and evolution.

The second year goes into more depth and allows learners to study how plants and animals respond to stimuli. It also includes:

- **Communication, homeostasis and energy** – including communication and homeostasis, excretion as an example of homeostatic control, neuronal and hormonal communication, plant and animal responses, photosynthesis and respiration.
- **Genetics, evolution and ecosystems** – including cellular control, patterns of inheritance, manipulating genomes, cloning and biotechnology, ecosystems, populations and sustainability.

## A Levels Biology Practicals

A Level learners also study practical skills.



# Cambridge International AS & A Level Business (9609)

## Syllabus overview

The AS and A level Business syllabus enables learners to understand and appreciate the nature and scope of business, and the role it plays in society. It encourages learners to examine the process of decision-making in a dynamic and changing business environment and to develop critical understanding of business organisations. They learn about business and its environment, human resource management, marketing, operations management and finance and accounting. At Cambridge International A Level, learners also learn how to develop a business strategy

## Aims

The aims are to enable learners to:

- understand and appreciate the role of enterprise and the contribution of business to society – locally, nationally and internationally
- develop critical understanding of business organisations, the markets they serve and the process of adding value
- evaluate business behaviour from the perspective of a range of stakeholders and consider their relative influence on business organisations
- develop an awareness of the political, economic, social, technological, legal, environmental and ethical issues that influence or may be influenced by business activity
- apply quantitative, problem-solving, decision-making and communication skills develop skills and knowledge needed for further study or employment in business.



# Cambridge International AS & A Level Business (9609) Continued

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## Key concepts:

### 1. **Change**

Change is the only constant. New enterprises and opportunities are created in response to change in the external environment. Change can also happen within a business, leading to success when change is handled correctly.

### 2. **Context**

Context is the basis for every business decision. What might be a suitable solution in one situation may be unsuitable in another. Businesses must understand and research their context to be able to make good decisions.

### 3. **Decision-making**

Decision-making affects all levels in a business. Stakeholders in businesses use their knowledge, apply it to a scenario, analyse the data, evaluate the arguments and then come to a decision.

### 4. **Enterprise**

Enterprise is the ability to seek out and successfully develop business opportunities.

### 5. **Innovation**

Innovation enables a business to re-invent itself and stay ahead of the competition. The business world is dynamic, and companies must seek to innovate through product development, more efficient processes and finding better ways to do business.

### 6. **Strategy**

Strategy is about knowing where you are, where you want to get to and how you are going to get there. Being able to analyse a business situation, make choices given relevant data and then implement this effectively is key to running a successful business.

# Cambridge International AS & A Level Chemistry (9701)

## Syllabus overview

Cambridge International AS and A Level Chemistry builds on the skills acquired at Cambridge IGCSE (or equivalent) level. The syllabus includes the main theoretical concepts which are fundamental to the subject, some current applications of chemistry, and a strong emphasis on advanced practical skills. Practical skills are assessed in a timetabled practical examination.

The emphasis throughout is on the understanding of concepts and the application of chemistry ideas in novel contexts as well as on the acquisition of knowledge. The course encourages creative thinking and problem-solving skills which are transferable to any future career path. Cambridge International AS and A Level Chemistry is ideal for learners who want to study chemistry or a wide variety of related subjects at university or to follow a career in science

## Aims

The aims are to enable Learners to:

- acquire knowledge and understanding and develop practical skills, including efficient, accurate and safe scientific practices
- learn to apply the scientific method, while developing an awareness of the limitations of scientific theories and models
- develop skills in data analysis, evaluation and drawing conclusions, cultivating attitudes relevant to science such as objectivity, integrity, enquiry, initiative and inventiveness
- develop effective scientific communication skills, using appropriate terminology and scientific conventions
- understand their responsibility to others/society and to care for the environment
- enjoy science and develop an informed interest in the subject that may lead to further study.

## Key Concepts

The course is split into the 3 key areas of chemistry. In the first year, learners will explore:

- **Physical chemistry** – the structure of an atom, the different types of bonds and molecular structures, redox chemistry, energetics, kinetics and equilibria
- **Inorganic chemistry** – learn about trends in the Periodic Table and the chemistry of Groups 2 and 7
- **Organic chemistry** – learn about the chemistry of alkanes, alkenes, halogenoalkanes and alcohols.

In the second year, learners will go into more depth and are introduced further to new topics which will still be split between the three main areas of chemistry:

- **Physical chemistry** – Learners will develop further knowledge of energetics and learn about thermodynamics, as well as further understanding of kinetics and learning about rate equations. Learners will also learn about electrode potentials and electrochemical cells and also acids and bases.
- **inorganic chemistry** – Learners will learn Period 3 chemistry, the transition metals and how ions react in aqueous solution
- **Organic chemistry** – Learners will learn about aldehydes, ketones, carboxylic acids and their derivatives, aromatic chemistry, amines, polymers and amino acids. Learners will also learn about modern analytical techniques such as nuclear magnetic resonance spectroscopy (Carbon-13 NMR spectroscopy and Proton NMR spectroscopy), Thin-layer chromatography (TLC) and Gas/Liquid Chromatography (GLC)

## A Levels Chemistry Practicals

A Level learners also study practical skills.

# Cambridge International AS & A Level Computer Science (9618)

## Syllabus overview

Cambridge International AS & A Level Computer Science encourages learners to meet the needs of higher education courses in computer science as well as twenty-first century digital employers. It encourages learners to think creatively, through applying practical programming solutions, demonstrating that they are effective uses of technology. Learners develop computational thinking & programming skills to solve computer science problems. Cambridge International AS and A Level Computer Science will help learners develop a range of skills such as thinking creatively, analytically, logically and critically. They will also be able to appreciate the ethical issues that arise with current and emerging computing technologies.

## Aims

The aims of this course are to enable Learners to develop:

- computational thinking skills
- an understanding of the main principles of solving problems using computers
- an understanding of the component parts of computer systems and how they interrelate, including software, data, hardware, communication and people
- an understanding of the different methods of communication and the functionality of networks and the internet
- the skills necessary to apply this understanding to develop computer-based solutions to problems.

## Cambridge International AS & A level Computer Science (9618)

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### Content overview

**In year 12**, learners will explore topics such as fundamentals of programming (C#) and data structures, systematic approach to problem solving and theory of computation, data representation, processor fundamentals, systems software, security, privacy and data integrity, ethics and ownership. Additionally, privacy and data integrity, ethics and ownership, algorithms, design and problem-solving, consequences of the use of computing and communication and networking.

**In year 13**, learners will explore contents such as data representation, communication and internet technologies, hardware and virtual machines, system software, security, artificial intelligence (AI), computational thinking and problem-solving and further programming.



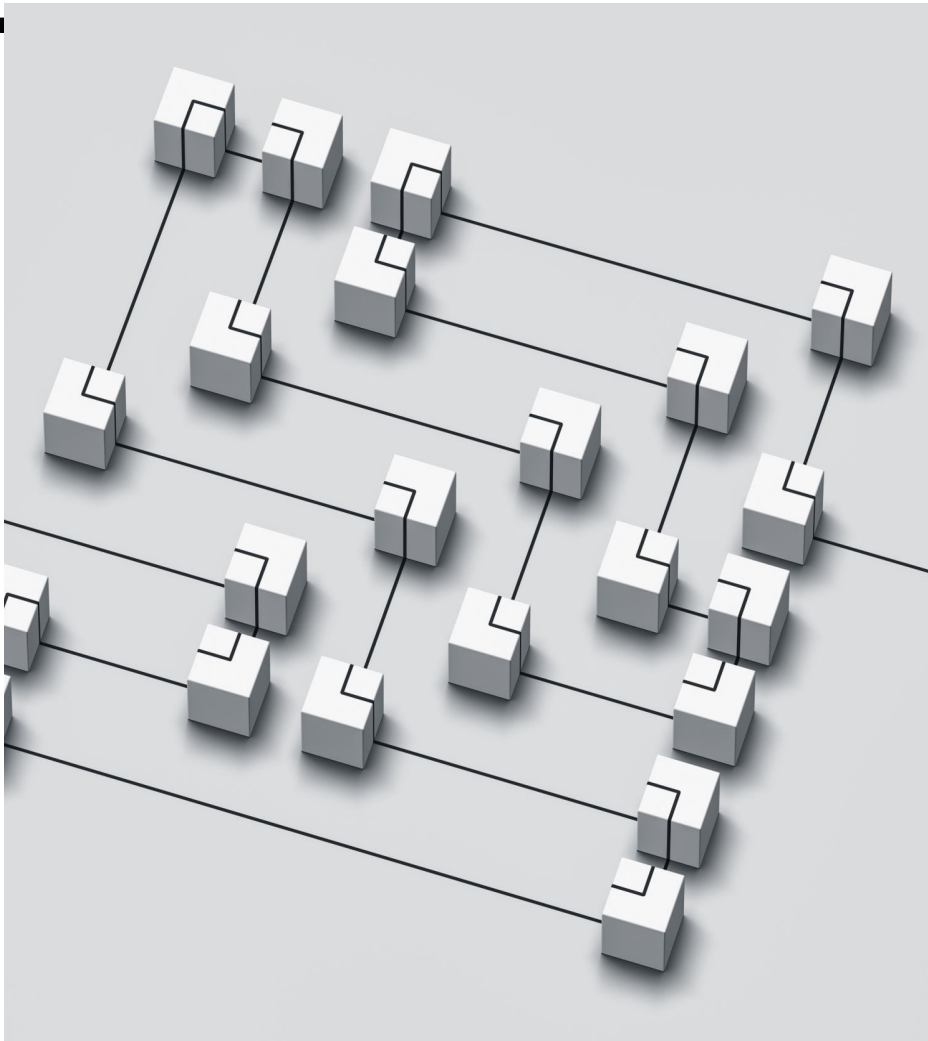
# Cambridge International AS & A level Computer Science (9618) Continued

## Key Concepts

The key concepts for Cambridge International AS & A Level Computer Science are:

- **Computational thinking**  
Computational thinking is a set of fundamental skills that help produce a solution to a problem. Skills such as abstraction, decomposition and algorithmic thinking are used to study a problem and design a solution that can be implemented. This may involve using a range of technologies and programming languages.
- **Programming paradigms**  
A programming paradigm is a way of thinking about or approaching problems. There are many different programming styles that can be used, which are suited to unique functions, tools and specific situations. An understanding of programming paradigms is essential to ensure they are used appropriately, when designing and building programs.
- **Communication**  
Communication is a core requirement of computer systems. It includes the ability to transfer data from one device or component to another and an understanding of the rules and methods that are used in this data transfer. Communication could range from the internal transfer of data within a computer system, to the transfer of a video across the internet.

## Cambridge International AS & A level Computer Science (9618) Continued



### **Computer architecture and hardware**

Computer architecture is the design of the internal operation of a computer system. It includes the rules that dictate how components and data are organised, how data are communicated between components, to allow hardware to function. There is a range of architectures, with different components and rules, that are appropriate for different scenarios.

All computers comprise of a combination of hardware components, ranging from internal components, such as the Central Processing Unit (CPU) and main memory, to peripherals. To produce effective and efficient programs to run on hardware, it is important to understand how the components work independently and together to produce a system that can be used. Hardware needs software to be able to perform a task. Software allows hardware to become functional. This enables the user to communicate with the hardware to perform tasks.

### **Data representation and structures**

Computers use binary and understanding how a binary number can be interpreted in many different ways is important. Programming requires an understanding of how data can be organised for efficient access and/or transfer.

# Cambridge International AS & A Level Economics (9708)

## Syllabus Overview

learners learn how to explain and analyse economic issues and arguments, evaluate economic information, and organise, present and communicate ideas and judgements clearly. The syllabus covers a range of fundamental economic ideas, including an introduction to price system and government intervention, international trade and exchange rates, the measurement of employment and inflation, and the causes and consequences of inflation. learners also study the theory of the firm, market failure, macroeconomic theory and policy, and economic growth and development.

## Aims

The aims describe the purposes of a course based on this syllabus. The aims are to enable learners to:

- know and understand the terminology, concepts, theories and principles of economics
- express ideas in writing and using statistics and diagrams, or other methods, where appropriate
- develop the habit of using works of reference as sources of information specific to economics
- read critically to gain information about the changes in the wider economic and social environment
- appreciate the methods of study that economists use, and the most effective ways economic information may be analysed, correlated, discussed, evaluated and presented
- develop an interest in and enthusiasm for economics that could lead to further study.

## Key concepts

Key concepts are essential ideas that help learners develop a deep understanding of their subject and make links between different aspects. Key concepts may open up new ways of thinking about, understanding or interpreting the important things to be learned.

### Scarcity and choice

The fundamental problem in economics is that resources are scarce and wants are unlimited, so there is always a choice required between competing uses for the resources and an opportunity cost in making this choice.

### The margin and decision-making

In economic theory, decision-making by consumers, firms and governments is based on choices at the margin – for example firms will produce up to the point where the revenue generated by an extra unit of output is equal to the cost of producing it. However, economic decision-making can be based on facts, theory, effectiveness, priorities/objectives and values/ethical judgements.

## AS & A Level Economics (9708) Continued

### **Equilibrium and disequilibrium**

Individual markets and the economy as a whole are always moving into and out of equilibrium, constantly altering the allocation of resources.

### **Time**

Economic conditions change in different time periods, such as the short run and the long run. Individuals, firms, markets and governments are able to respond to these changes in different ways depending on the time frame. Some economic decisions have a time frame element – trading off a cost in the present for a benefit in the future, for example.

### **Efficiency and inefficiency**

Individual markets and the economy as a whole can be both efficient and inefficient in different ways when using scarce resources.

### **The role of government and the issues of equality and equity**

There is a trade-off between, on one side, freedom for firms and individuals in unregulated markets and, on the other side, greater social equality and equity through government regulation of individuals and markets.

### **Progress and development**

Economics studies how societies can progress in measurable money terms and develop in a wider more normative sense regarding living standards, inclusivity and sustainability.



# Cambridge AS & A Levels English Language (9093)

## Syllabus Overview

Cambridge International AS & A Level English Language develops a set of transferable skills. These include critical analysis; constructing arguments; presenting knowledge and understanding; and writing English in a balanced, articulate and fluent manner. Learners can apply these skills across a wide range of subjects and real-world situations. These skills will also equip them well for progression to higher education or directly into employment.

We recommend that learners starting this course should have completed a course in English equivalent to Cambridge IGCSE™ or Cambridge O Level.

Learners can take this syllabus alongside other Cambridge International syllabuses in a single exam series. The only exceptions are:

- Cambridge International AS Level Language and Literature in English (8695)
- syllabuses with the same title at the same level.

## Aims

The aims describe the purposes of a course based on this syllabus. The aims are to enable learners to:

- enjoy the experience of studying English language
- develop a critical and informed response to texts in a range of forms, styles and contexts, produced for a variety of audiences
- communicate effectively, creatively, accurately and appropriately in their writing
- develop the interdependent skills of reading, analysis and research
- develop an appreciation of concepts and techniques in the study of English language
- build a firm foundation for further study of language and linguistics.

## Key concepts

Key concepts are essential ideas that help learners develop a deep understanding of their subject and make links between different aspects. Key concepts may open up new ways of thinking about, understanding or interpreting the important things to be learned.

The key concepts for Cambridge International AS & A Level English Language are:

### Text and context

A **text** can be defined as a single, coherent unit of language, from the briefest spoken utterance to a book published across several volumes. However, no text exists without **context**; learners of English language must always consider how a text's meaning is informed by the circumstances not only of its production, but also of its communication and reception.

### Meaning and style

The study of English language involves developing a range of strategies for exploring the complex ways in which different linguistic elements come together to create **meaning**. Whether producing their own texts or analysing texts produced by others, learners of English language must consider how choices regarding form, structure and language also interact to create a distinctive **style**.

### Audience

Learners of English language must learn to identify and analyse the strategies writers and speakers use to communicate with their intended **audience(s)**. Likewise, they must be able to predict, recognise and analyse the various responses these strategies might elicit.

### Creativity

Whether writing artfully for a specified purpose and audience, reading deeply between the lines of a challenging text, or developing strategies for acquiring the language in the first place, users of the English language must demonstrate **creativity** in a range of forms and contexts.

### Diversity

Constantly subject to a range of influences – whether personal, social, geographical or otherwise – the English language exists in a range of competing and overlapping forms at any given moment. This extraordinary **diversity** offers a rich opportunity for analysis, comparison and exploration.

### Change

The phonological, morphological, semantic, syntactic and other aspects of the English language are liable to **change** over time. Learners of English language must analyse these changes and explore in detail the factors that drive them.



# Cambridge International AS level English Language and Literature (8695)

## Syllabus overview

Cambridge International AS Language and Literature in English will provide learners with the opportunity to demonstrate their ability to produce writing to specific briefs and for given audiences. They will also gain further knowledge and understanding of international poetry, prose and drama.

In studying for the Language component of the syllabus, learners will be able to practise sustained, accurate, fluent and consistent writing. They will produce informed responses, appropriate to the specific form, style, context and audience.

learners will study two texts in preparation for the Literature component. This will further develop their skills of analysis and interpretation and encourage a personal response to the texts studied. learners will explore the conventions of genres of texts and the contexts in which works have been written, read and received.

These are highly transferable skills and can help learners in other subject areas, as well as equipping them for higher education and/or employment.

## Aims

The aims are to enable learners to:

- enjoy the experience of studying English language and reading literature
- communicate effectively, accurately and appropriately in writing
- develop the interdependent skills of reading, analysis and communication
- develop an appreciation of texts in a range of forms and styles produced for a variety of audiences and from different periods and cultures
- build a firm foundation for further study of language and literature.

## Set Texts

There are set texts for Drama, Poetry and Prose syllabus. These texts change yearly. The teacher will select the texts from the examination year and discuss with learners.

# Cambridge International AS Level French Language (8028)

## Syllabus overview

- Cambridge International AS Level French Language (8028) helps learners to develop transferrable communication skills in French to a CEFR Independent User level. The syllabus:
  - is suitable for learners working at a level equivalent to at least A2 on the CEFR
  - builds knowledge of vocabulary and grammar in the context of six topic areas covering both familiar and more general topics
  - encourages engagement with the culture and society of countries and communities where French is spoken.
- explore and engage with the culture and society of countries and communities where French is spoken
- encourage positive attitudes towards speakers of other languages and a sympathetic approach to other
  - cultures
  - provide enjoyment and intellectual stimulation
- support the development of transferable skills (e.g. communication and organisational skills, autonomy, resourcefulness and cognitive flexibility) to complement other areas of the curriculum
- continue developing the skills, language and attitudes required for further study, work and leisure.

## Aims

- The aims describe the purposes of a course based on this syllabus. The aims are to:
  - develop the language proficiency required to communicate effectively in French as a CEFR Independent User



## Key concepts

The key concepts for Cambridge International AS Level French Language are:

### Communication

Understanding written and spoken language and being able to speak and write in a way that others can understand is central to language learning. learners develop methods to help them access language in a range of formal and informal contexts. They develop strategies for expressing themselves when speaking and writing the language.

### Language use

Understanding of how language works improves communication in the language and is intellectually stimulating. Language learners explore how vocabulary can be used in different scenarios and contexts, and how a command of grammar and clear pronunciation can enhance the communication of meaning.

### Cultural awareness

Language learning improves intercultural understanding. learners gain an insight into the different cultures, customs and practices of everyday life in other countries through the study of authentic materials. They develop an awareness of how cultural differences shape the meaning of the language and the way speakers communicate.

# Cambridge International AS Level French Language [Continued]

## Content overview

The subject content is organised into six topic areas at AS Level. These provide contexts for the acquisition of vocabulary and the study of grammar and structures. The study of these topic areas enables learners to progress from the knowledge and skills developed at IGCSE. The topic areas listed below are described in more detail in section 3.

- Culture
- Health and well-being
- Education and future plans
- Community and society
- Our responsibility for the planet
- Science and technology

The AS French Language syllabus provides learners with meaningful opportunities to enhance their language skills. Through engagement with a variety of texts and application of a wide range of vocabulary and structures, learners will develop the confidence to communicate effectively with other users of French.

At AS Level, learners will read and listen to authentic texts on familiar topics regularly encountered in work, school, and leisure time, as well as some more abstract topics. Learners will demonstrate an understanding of ideas, emotions, opinions and attitudes, as well as distinguish between fact and opinion. Learners develop skills in selecting and extracting relevant details and deducing the meaning of unknown words from context.

Learners should have opportunities to develop their written and oral skills and demonstrate their ability to use a wide range of structures and vocabulary accurately to communicate effectively. They should take part in conversations and write about topics which are both familiar and more abstract. Learners should be encouraged to explain viewpoints on topical issues and give reasons and explanations for opinions and plans.

## Assessment

The assessment for this syllabus are in four parts, listening, reading, writing and speaking.

# Cambridge International AS & A level Law (9084)

## Syllabus overview

A-Level Law provides learners with a general understanding of the English legal system and a grounding in the principles of its criminal law, tort law human rights law

The study of law equips learners to think critically. The main assessed skills are the ability to explain, evaluate and question key legal ideas in essays, and the ability to apply legal rules from statute and case law to fictional scenarios.

## Aims

The aims describe the purposes of a course based on this syllabus. The aims are to enable learners to:

- understand legal concepts, principles, rules and the machinery involved in the creation, application and enforcement of law in the legal system of England and Wales and its place in an international context
- explore and understand the substantive rules of law
- assess legal rules, processes and institutions

develop skills to communicate the interpretation, reasoning and analysis of law.



## Cambridge International AS & A level Physics (9702) Continued

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### Content overview

Physics is a practical and mathematical subject and so naturally goes very well alongside A level Mathematics and Further Mathematics. Mathematics is integral to physics, as it is the language that is used to express physical principles and models. It is also a tool to analyse theoretical models, solve quantitative problems and produce predictions.

Alongside the theory we have a series of experiments designed to increase your understanding of the work, as well as developing important practical skills.

### A Levels Physics Practicals

A Level learners also study practical skills.



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## Content overview

Law needs to be learnt carefully and thoroughly, but its practice is dynamic and varied. Learners will develop oracy through discussion and debate as well as analytical writing skills. This process will equip them with valuable skills and confidence for adult life and give them an idea of some of the key qualities required in professional legal practice.

**In Year 12**, learners will learn the basic principles of the English legal system and some of the key topics of criminal and tort law.

**In Year 13**, this knowledge will be consolidated and developed giving learners the opportunity to also learn about human rights law.

# Cambridge International AS & A level Further Mathematics (9231)

## Syllabus Overview

Our A Level course follows the most recent CAIE Further Mathematics Specifications. Learners will study three core subject areas in two years.

## Content Overview

- In **Pure Mathematics** you will develop your algebraic skills (including work on Vectors) and work on areas such as Matrices, Mathematical induction, Polar coordinates, Root of Polynomials, Complex Numbers, Hyperbolic functions, Rational functions and Calculus.
- In Applied Mathematics you will study both further mechanics and further statistics.
- In **Mechanics** you will discover how to model the position and movement of objects in the real world. You will answer questions such as; Will a stationary object slide or topple when pushed by a force? Will two objects collide? How much work does it take to move an object? Will it fall? Will it return?
- In **Further Statistics** you will discover how to investigate a hypothesis, take a sample, process and interpret your findings from the data. You will use models of probability and decide whether they are applicable to real life situations.

## Cambridge International AS & A level Mathematics (9709)

Our A Level course follows the most recent CAIE Mathematics Specifications. Learners will study three core subject areas:

- In **Pure Mathematics** you will develop your algebraic skills (including work on Vectors) and work on areas such as Coordinate Geometry, Numerical Methods, Trigonometry and Calculus.

In Applied Mathematics you will study both mechanics and statistics.

- In **Mechanics** you will discover how to model the position and movement of objects in the real world. You will answer questions such as; Will a stationary object slide or topple when pushed by a force? Will two objects collide? How much work does it take to move an object? Will it fall? Will it return?
- In **Statistics** you will discover how to investigate a hypothesis, take a sample, process and interpret your findings from the data. You will use models of probability and decide whether they are applicable to real life situations. A Level statistics topics model research used in many career paths.

# Cambridge International AS & A level Physics (9702)

## Syllabus overview

Cambridge International AS and A Level Physics builds on the skills acquired at Cambridge IGCSE (or equivalent) level. The syllabus includes the main theoretical concepts which are fundamental to the subject, some current applications of physics, and a strong emphasis on advanced practical skills. Practical skills are assessed in a timetabled practical examination.

The emphasis throughout is on the understanding of concepts and the application of physics ideas in novel contexts as well as on the acquisition of knowledge. The course encourages creative thinking and problem-solving skills which are transferable to any future career path. Cambridge International AS and A Level Physics is ideal for learners who want to study physics or a wide variety of related subjects at university or to follow a career in science.

## Aims

The aims are to enable Learners to:

- acquire knowledge and understanding and develop practical skills, including efficient, accurate and safe scientific practices
- learn to apply the scientific method, while developing an awareness of the limitations of scientific theories and models
- develop skills in data analysis, evaluation and drawing conclusions, cultivating attitudes relevant to science such as objectivity, integrity, enquiry, initiative and inventiveness
- develop effective scientific communication skills, using appropriate terminology and scientific conventions
- understand their responsibility to others/society and to care for the environment
- enjoy science and develop an informed interest in the subject that may lead to further study.

# Cambridge International AS & A level Physics (9702) Continued

**Our Physics course follows the CAIE specification. The first year of the As Level course is the backbone of the A Level. You will learn:**

- Mechanics – how objects move and what causes them to move
- Electric circuits – how energy is transferred in a simple electric circuit
- Waves – how the properties of wave can be used to explain simple phenomena such as diffraction and interference. We also look at Particle Physics,
- Materials physics and Experimental Physics

**In the second year of the course, you will go into more depth and look at:**

- Motion in a Circle and Simple Harmonic Motion
- Thermal physics,
- Electric, Magnetic and Gravitational fields
- Capacitance, Electromagnetic Induction, Quantum physics
- Nuclear physics and Radioactive Decay, Medical Physics
- Astrophysics and Cosmology

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# Cambridge International AS & A level Sociology (9699)



## Syllabus overview

A-Level Sociology looks at social issues such as why inequality happens, the nature of our society and how to understand society. The course focuses on developing an understanding of the world around us, the ideas and concepts of different sociological theories and a critical understanding of the society we live in.

## Content overview

The course develops these critical analysis skills through comparison and evaluation and in reference to contemporary materials. It also looks at the ways in which sociologists test various theories through research methods.



## Cambridge International AS & A level Sociology (9699) continued

### Aims

The aims describe the purposes of a course based on this syllabus. The aims are to enable learners to develop:

- knowledge and understanding of sociological terms, theories, methods and research findings
- an awareness of the range and limitations of sociological theory and the ability to compare and contrast
- different theoretical perspectives
- an appreciation and understanding of individual, social and cultural diversity, and of continuity and change in social life
- an understanding of sociological research methods, including issues concerned with the planning, implementation and evaluation of research enquiry and the collection, analysis and interpretation of data
- improved skills of communication, interpretation, analysis and evaluation
- skills for further study.

## Key Concepts

The key concepts for Cambridge International AS & A Level Sociology are:

- **Inequality and opportunity**  
Inequality has a major influence on people's opportunities and life choices. Sociologists study the different forms of inequality (age, ethnicity, gender, class), seeking to understand why inequality exists and how it affects different sections of society.
- **Power, control and resistance**  
Power is important in understanding how order and control are achieved in society. There are many different theories about who holds power and how power is used to shape human behaviour. Sociologists are also interested in the ways people oppose and resist the exercise of power.
- **Social change and development**  
Understanding how societies have changed and developed helps sociologists to make sense of the way people live today. The change from traditional society to modern industrial society is particularly important. The terms 'modernity' and 'post-modernity' are used to reflect on this transition and on contemporary issues, such as how societies are affected by globalisation and the digital revolution in technology.
- **Socialisation, culture and identity**  
Sociologists believe that people learn how they are expected to behave through socialisation. The norms and values learned through socialisation may vary between cultures, impacting on social identity. The study of different social identities is central to contemporary sociology.
- **Structure and human agency**  
A central debate in sociology concerns the relationship between the individual and society: is behaviour shaped by wider social forces or is the social world shaped by the actions of individuals? Structural theories focus on how people's behaviour is constrained by social systems and institutions. Action theories emphasise how individuals establish meaning through social interaction and how this impacts on the behaviour of social groups and institutions.

## Year 12/13 Options Form

- Complete the form by ticking your preferred choice of subject
- Choose one subject per column.
- Choose one language.
- For Year 12 you must select 4 subjects.
- Submit this form to the school

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Subject	Choice	Subject	Choice	Subject	Choice
Mathematics		Further Mathematics		English Language	
Chemistry		Biology		Physics	
English Literature		History		Sociology	
Business Studies		Economics		Computer Science	
Law		French			