

BIOLOGY

Specification: OCR Biology A (A Level H420)

Introduction

Students will increase their knowledge and understanding of Biology, developing their enjoyment of and interest in the subject. They will become more aware of scientific methods and advances in technology and this will be set in 'how science works' contexts that students will find interesting and challenging and will stimulate enthusiasm.

Year 12

Module 1 – Development of practical skills

Module 2 – Foundations in Biology

Module 3 – Exchange and transport

Module 4 – Biodiversity, evolution and disease

Year 13

As AS Level plus:

Module 1 – Development of practical skills

Module 5 – Communications, Homeostasis and energy

Module 6 – Genetics, evolution and ecosystems

A Level Assessment

At the end of the second year, there is a non-exam assessment of 12 practical activities, either pass or fail.

Paper 1 – Biological Processes (modules 1, 2, 3 and 5)
2 hours 15 minutes, 100 marks, 37% of A Level.

Paper 2 – Biological Diversity (modules 1, 2, 4 and 6)
2 hours 15 minutes, 100 marks, 37% of A Level.

Paper 3 – Unified Biology (all modules)
1 hour 30 minutes, 70 marks, 26% of A Level.

Personal Qualities

An ability to work hard, to be able to work independently and to undertake extra reading from a wide range of sources are required.

Practical work is assessed and so the ability to plan, implement and analyse evidence, drawing conclusions and evaluating evidence and procedures, is essential.

Financial Commitment

Trips to an outdoor education centre or a few days out in Sutton Park to conduct fieldwork may be needed. These will involve expenses. It would also be beneficial to subscribe to one of the scientific magazines such as Biological Sciences Review.

Special Demands on Time

It may be that students are required to attend fieldtrips or workshops.

Recommended Links with other subjects

The subject combines well with Chemistry, Physics, Maths, Geography and Psychology. A Level Chemistry particularly supports Biology. Please note that many medical schools prefer candidates to have studied A Level Biology.

After A Levels

Biology is a rapidly expanding field. Many opportunities exist in Biomedics, Biomathematics, Biographics, Biophysics, Genetics and Microbiology as well as the more traditional careers of Medicine, Dentistry, Pharmacology, Nursing, Ecology, Zoology, Biochemistry and so on. It is also a good preparation for non-vocational careers where having an analytical mind and the ability to evaluate are required.



CHEMISTRY

Specification: AQA Chemistry

Introduction

A Level Chemistry goes into much more detail than GCSE. It attempts to answer the big question 'what is the world made of?' and it is the search for this answer that makes this subject so fascinating. From investigating how one substance can be changed drastically into another, to researching a new wonder drug to save millions of lives, the opportunities that Chemistry provides are endless.

Topics covered

A Level Chemistry is studied over two years, with exams at the end of the second year.

Year 12

Physical Chemistry

Including atomic structure, amount of substance, bonding, energetics, kinetics, equilibrium and Le Chateliers principle.

Inorganic Chemistry

Including periodicity, Group 2 the alkaline earth metals and Group 7 the halogens.

Organic Chemistry

Including introduction to organic chemistry, alkanes, halogen alkanes, alkenes, alcohols and organic analysis.

Year 13

Physical Chemistry

Including thermodynamics, rate equations, the equilibrium constant, electrode potentials and electrochemical cells.

Inorganic Chemistry Including properties of Period 3 elements and their oxides, transition metals and reactions of ions in aqueous solution.

Organic Chemistry

Including optical isomerism, aldehydes and ketones, carboxylic acids and derivatives, aromatic chemistry, amines, amino acids, proteins and DNA, organic synthesis and NMR spectroscopy.

A Level Assessment

Paper 1 - Inorganic chemistry with relevant physical chemistry. 2 hour written exam worth 105 marks (35% of A Level).

Paper 2 - Organic chemistry with relevant physical chemistry. 2 hour written exam worth 105 marks (35% A Level).

Paper 3 - All practical skills and all content can be examined. 2 hour written exam worth 90 marks (30% of A Level).

Personal Qualities

The key to success is to enjoy Chemistry and to actively participate in lessons. Students should be adaptable, capable of self study, intellectually curious, enjoy practical work and prepared to ask and answer questions.

Special Demands on Time

After each lesson, students will be required to review the work and any problems will need to be addressed. They will need to be pro-active in asking for help in study periods.

Recommended Links with Other Subjects

Physics, Mathematics, Biology.

After A Levels

Chemistry is a subject which has almost limitless applications in Science, and Chemistry A Level is valued by all universities.



COMPUTER SCIENCE

Specification: OCR Computer Science (H446)

Introduction

“At its heart lies the notion of computational thinking: a mode of thought that goes well beyond software and hardware, and that provides a framework within which to reason about systems and problems”

Computer Science is a practical subject where learners can apply the academic principles learned in the classroom to real world systems. It is an intensely creative subject that combines invention and excitement, and can look at the natural world through a digital prism. OCR A Level in Computer Science will value computational thinking, helping students to develop the skills to solve problems, design systems and understand the power and limits of human and machine intelligence.

Students will develop an ability to analyse, critically evaluate and make decisions. The project approach is a vital component of ‘post-school’ life and is of particular relevance to Further Education, Higher Education and the workplace. Each student will be able to tailor their project to fit their individual needs, choices and aspirations.

A Level Computer Science

- (01)Computing Principles
- (02)Algorithms and Problem solving
- (03)Programming Project

Assessment

- (01)Computing Principles (40%)
- (02)Algorithms and Problem solving (40%)
- (03)Programming Project (20%)

Personal Qualities

If you enjoy using computers and you want to know more about how they work and how they can be used, you should probably think about studying Computer Science.

The A Level in Computer Science is varied, interesting and challenging. You will need to have a logical mind and be good at mathematics because computing involves programming which is logical and sometimes frustrating when there is not an obvious answer.

You will need to enjoy working by yourself, be prepared to contribute to class discussions, and work with other people in designing computer solutions.

Special Demands on Time

Computer Science is an area which is constantly changing and students need to be flexible and aware of these changes. A considerable amount of independent research will be required to solve programming problems.

Recommended links with other subjects

Computer Science complements A Level Physics and A Level Mathematics.

After A Levels

There are numerous Computer Science and Information Systems Courses and most students, after university, will go on to work in a business environment.



DESIGN AND TECHNOLOGY: PRODUCT DESIGN

AQA - A-LEVEL DESIGN AND TECHNOLOGY: PRODUCT DESIGN 7552

Introduction

This creative and thought-provoking qualification gives students 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 in to practice by producing products of their choice.

Students will gain a real understanding of what it means to be a designer, alongside the knowledge and skills sought by higher education and employers.

This qualification is linear. Linear means that students will sit all their exams and submit all their non-exam assessment (the new term for coursework) at the end of the course.

The course at a glance.

Subject content

1. Core technical principles
2. Core designing and making principles
3. Additional specialist knowledge

Assessments

Paper 1

Core technical principles and core designing and making principles.

- Written exam: 2 hours
- 100 marks
- 25% of A-level

Paper 2

Specialist knowledge, technical and designing and making principles.

- Written exam: 2 hours
- 25% of A-level

Section A:

- Product Analysis.
- Up to 6 short answer questions based on visual stimulus of product(s).

Section B:

- Commercial manufacture.
- Mixture of short and extended response questions

Non-exam assessment (NEA)

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

How it is assessed

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

Evidence

Written or digital design portfolio and photographic evidence of final prototype.

Personal Qualities

Students need to be able to work independently and make their own decisions about products and how they have been designed and manufactured. They also need to be able to present and develop ideas of their own.

Special Demands on Time

Non-exam assessment (NEA) makes a significant contribution to the final grade and can make substantial demands on time if not well managed.

Recommended Links with other subjects

This course has been designed to be either a complementary subject to Mathematics, Physics, Chemistry, Biology and Art or to be a contrasting subject with English, History, Geography and Modern Foreign Languages.

After A Levels

Success could lead to Higher Education courses or other opportunities in Architecture, Product Design, Industrial Design, Interior Design, Materials Science, Mechanical Engineering, Civil Engineering, Fashion Design, Jewellery Design, Teaching and many more.



DRAMA

Specification: OCR Drama and Theatre H059-H459 (A Level)

Introduction

Students must complete four components, one from each component group, to be awarded the OCR A Level in Drama and Theatre. Students participate in two performance components as either a performer or a designer (lighting, sound, set or costume). One of these is a performance from a text, the other a devised performance based on and influenced by their research into the work of others.

A Level Drama & Theatre (2 year course)

Component group 1: Practitioners in practice (40% of the qualification) Students explore practically the work of theatre practitioners and use the skills gained to explore text and create devised theatre. They are required to practically explore two practitioners and an extract from a performance text, and perform a devised piece of drama or theatre for an audience. They can be assessed in this unit as a performer or a designer. In support of their performance they must produce a portfolio that documents their journey through the devising process.

Component 2: Exploring and performing texts (20% of the qualification) Students explore one performance text in its entirety and perform part of the text, applying the relevant skills to communicate the meaning in a performance text to an audience.

This component is assessed by a visiting examiner.

Component 3: Analysing performance (written Examination 20% of the qualification) Students explore practically two performance texts on a chosen theme, and analyse and evaluate live theatre.

- Section A: students study two different performing texts on a given theme and develop knowledge and understanding of how extracts can be rehearsed and interpreted in performance
- Section B: students analyse and evaluate a live theatre performance.

Component 4: Deconstructing texts for performance (written examination 20% of the qualification)

Students will interpret and explore practically a performance text (The Crucible) considering how to create, develop and direct a performance for an audience.

Personal Qualities

Students need to be prepared to perform in class and in front of a live audience. They must enjoy collaborating with others when creating new theatre. Students will be required to carry out independent research around key practitioners and also enjoy going to the theatre.

Special Demands on Time

Students will be expected to attend key rehearsals when preparing their practical performances. Homework and independent research will also be set weekly for students to create their portfolios and other key pieces of work.

Recommended Links with other Subjects

Any other subject

After A Levels

Drama and Theatre may be studied post-18 in a variety of ways. If students are aiming for drama school A Level Drama and Theatre is incredibly useful, and it is good preparation for Drama at university, and for creative writing courses. However, Drama is still a very useful A Level for those who wish to study other subjects at degree level.

For those who would like to consider a career in Drama possible options include performing, directing, lighting design, set Designer, costume design, theatre critic, playwright, drama therapy, TV presenter and arts administration.



ECONOMICS

Specification: Edexcel Economics B [9EB0]

Introduction

This course enables students to think like an economist by understanding the application of economic concepts and theories through critical consideration of current business and real-world economic issues.

Students will gain an insight into different contexts which will help them to understand the key issues and to think critically when analysing business situations.

Year 12

Theme 1: Markets, consumers and firms

- Scarcity, choice and potential conflicts
- Enterprise, business and the economy
- Introducing the market
- The role of credit in the economy
- Market failure and government intervention
- Revenue, costs, profits and cash

Theme 2: The wider economic environment

- Business growth and competitive advantage
- Firms, consumers and elasticities of demand
- Productive efficiency
- Life in a global economy
- The economic cycle
- Introduction to macroeconomic policy

Year 13 - Theme 1 & Theme 2 of Y12 content plus:

Theme 3: The global economy

- Globalisation
- Economic factors in business expansion
- Impact of globalisation on global companies
- Impact of globalisation on local and national economies
- Global labour markets
- Inequality and redistribution

Theme 4: Making markets work

- Competition and market power
- Market power and market failure
- Market failure across the economy
- Macroeconomic policies and impact on firms and individuals
- risk and the financial sector

Assessment

Paper 1: Markets and how they work

- Each question is set in a context across Themes 1 and 3
- 2 hour written exam
- 100 marks in total, 35% of A Level weighting

Paper 2: Competing in the global market

- Each question is set in a context from Themes 2 and 4
- 2 hour written exam
- 100 marks in total, 35% of A Level weighting

Paper 3: The economic environment and business

- Each question is set in a context, drawing on topics from across Themes 1, 2, 3 and 4
- 2 hour written exam
- 100 marks in total, 30% of A level weighting

Personal Qualities

Students must have a general interest in the national and international economic world as well as a logical mind and an independent mind-set to challenge economic concepts.

Special Demands on Time

Economics is a theoretical and analytical subject which will require students to be regular readers of the economic and business sections of quality newspapers: The Economist and the Financial Times. Intellectual television programmes such as BBC News, Panorama, Dispatches and BBC Question Time enhance understanding.

Recommended Links with other Subjects

Mathematics, Politics and Philosophy, History, Computing, Physics and Psychology are excellent subjects to study alongside Economics.

After A Levels

Economics can be studied as a single honours degree or in combination with a wide range of other subjects such as Economics and Geography, Economics and Law and Economics and Management.

A degree in economics can be used in many areas, including public policy and the world of finance by predicting the impact of investments, policy decisions, industry trends and demographics.



ENGLISH LITERATURE

Specification: AQA English Literature 7717

Introduction

Do you enjoy reading a range of literature? Are you keen to discuss your opinions on what you have read? Can you comment on the techniques different writers use?

In A Level English Literature students will study plays, modern novels and poetry, exploring how stories are told and how tragedy and crime is portrayed. You will be discussing, researching, presenting, writing and evaluating aspects of literary texts. Above all, you should choose this course if you love reading.

Paper 1 – Literary Genres

Paper 2 – Texts and Genres

A Level Assessment

Paper 1 - Literary Genres

Aspects of tragedy.

Studying three texts: Shakespeare, drama and pre-1900 poetry.

A written exam of 2 ½ hours .

40% of A Level.

Paper 2 – Texts and Genres

Elements of crime writing.

Studying three texts: one post 20th Century novel, a collection of poetry and pre-1900 literature.

A written exam of 3 hours.

40% of A Level.

Non exam assessment – Theory and Independence

A study of two texts: poetry and prose, informed by a study of the Critical Anthology.

Two essays - individual tasks chosen by each student.

20% of A Level.

Personal Qualities

To be a committed reader and to enjoy close study of texts both in discussion and written work; highly motivated; well organised – able to meet deadlines.

Financial Commitment

At least one theatre visit and/or university study day per year.

Special Demands on Time

There is an expectation for students to read set texts and other material to develop understanding and analytical skills. There is coursework to complete.

Recommended Links With Other Subjects:

English Literature has clear links with all arts and humanities subjects such as History, as well as Psychology and Sociology. It also shows your breadth of skills when paired with a science or mathematics course.

After A Levels

A level English Literature is an excellent entry subject for a wide range of degrees requiring reading, writing and communication skills. It can lead to a single honours degree in English (all universities) or linked to other subjects in combined/joint honours degrees. It is a facilitating subject which is favoured by many academic courses



FINE ART

Specification: AQA 7202/C, 7272/X

Introduction

Each student is given the opportunity to develop their skills in a variety of media and to increase their knowledge and understanding of Art History. The latter encourages students to relate theoretical knowledge to their own practical work. This is important when they are researching and carrying out their Personal Investigation (component 1).

Students will follow the Fine Art endorsement. The course will explore the use of drawing for different purposes, using a variety of methods and media on a variety of scales.

Year 12

The year is comprised of a range of workshops to develop skills and techniques. Each workshop will include preparatory studies image collection experimentation with different materials, processes and techniques, link to critical/ contextual reference, development of ideas and realise intentions through the production of a final outcome. The work will provide a basis on which to build the A level personal investigation.

Year 13

Students should produce practical and critical/contextual work in one or more areas of study, for example, drawing, painting, mixed-media, sculpture, ceramics, installation printmaking, moving image (video, film, animation) and photography.

Component 1: Personal Investigation - A personal investigation in which students develop work in response to an idea, issue, concept or theme of their choosing leading to a finished piece, supported by a written element of 1000-3000 words. This is internally set and marked and moderated by AQA.

Component 2 – An externally set assignment in which preparatory work leads to a finished piece or pieces. This is internally marked and moderated by AQA. Supervised time 15 hours.

A Level Assessment

Component 1 – 60% of A Level.

Component 2 – 40% of A Level.

Personal Qualities

Ability to work on self-imposed tasks. The student should be well motivated, able to organise herself and have a genuine and active interest in Fine Art and also the history of art. A good standard of English is needed for the personal investigation.

Financial Commitment

Some expense is likely for visits to workshops at various art institutions. It would also be advisable for students to have good quality art materials at home for homework purposes.

Special Demands on time

Time will be needed during the summer breaks between Years 11 and 12 and 12 and 13 for reading, visits to Galleries/Exhibitions and research.

Recommended Links With Other Subjects

Any other Arts or Humanities subjects, Physics, Maths.

After A Levels

The course directly supports progression to further and higher education in Art and Design and related subjects, as well as providing all students with a platform to inspire a lifelong interest in, and enjoyment of, Art and Design. Some students progress on to a one-year foundation course. This is the main route to an Arts related degree. For those wishing to enter Art courses after A Level, help will be given to prepare a portfolio of work. Career related opportunities include: Teaching, Graphic Design, Architecture, Fashion, Interior Design, Furniture Design, Ceramics, Web Design, Illustration, Gallery Curator, Art Restoration and Jewellery.



FRENCH

Specification: AQA French 7652

Introduction

Why study French? There are 51 French-speaking states and it is the only language other than English spoken on five continents. French and English are the only official working languages of many international organisations, including the European Council, Red Cross, United Nations, UNESCO and NATO. The French economy is one of the strongest in the world. They are also leaders in aerospace, medical genetics and in medical research. This is aside from the international companies which have French-speaking roots – like L'Oréal and Nestlé! Having an A Level in French therefore makes candidates highly marketable at university level and beyond, regardless of the planned career choice.

The course offered by the French Department will build on the knowledge acquired at GCSE Level. The skills of listening, speaking, reading and writing will be further developed through the study of a range of topic areas. The language used will be increasingly accurate, complex and varied.

A Level Assessment

Paper 1: Listening, Reading and Writing (50% of marks)
Paper 2: Writing (20% of marks)
Paper 3: Speaking (30% of marks)

Personal Qualities

Success in French at this level requires a commitment to consistent work throughout the course. A genuine interest in French language and culture are recommended, together with a good grasp of grammar and the ability to be motivated and work well outside of lessons.

Assessment during the course will be by weekly assignments and internal assessments. Students must prepare for these effectively and take the results as a serious indicator of their likely performance in the final examination.

Financial Commitment

The purchase of a bi-lingual dictionary and a subscription to a French magazine are recommended. Participation in a Work Experience placement in France in Year 12 is advisable. Revision guides and CDs for self-study may be purchased.

Special Demands on Time

It is expected that students will spend about five hours each week working on the subject outside of lesson time (self-study and homework).

Recommended Links with Other Subjects

Due to the range of topics studied in French, it is suitable for combination with any subject in school and subsequently.

After A Levels

A Level French is a highly regarded and marketable qualification whether proceeding on to higher education or work. Successful candidates will be well-prepared to use the language for practical communication in all levels of commerce and industry. The qualification provides a good foundation for further language studies in higher education (degree level or equivalent), either in language courses or for translating / interpreting / teaching.



FURTHER MATHEMATICS

Introduction

Students should consider doing this course if Mathematics is a subject they particularly enjoy and if they are considering studying Mathematics, or another subject with a high mathematical content such as Physics or Engineering, at degree level. Former students who have selected this option testify to the value of Further Mathematics and the advantage they felt it gave them in the early stages of their degree courses.

What will I study?

The new A-level in Further Mathematics will consist of the study of pure mathematics including further study of Algebra, Geometry and Calculus alongside more advanced applied mathematics possibly consisting of mechanics, statistics and decision.

Assessment and Examination

This consists of four examination papers each 1 ½ hours in length. There is no coursework element.

All other information is the same as for single Mathematics.



GEOGRAPHY

Specification: AQA A-level Geography (7037)

Introduction

Geography enables students to acquire and apply knowledge and understanding of physical and human processes. A Level Geography explicitly engages with the relationship of human populations to each other over space and time and their relationship with their physical environment at a variety of scales from the local to the global. Students will see how decisions are made about the use and management of resources and environments and appreciate the effects of people's values and attitudes on important issues such as natural resources, the future of cities, impacts of climate change and sustainable development.

Students will acquire and learn to apply a range of useful and transferable skills necessary for both the pursuit of geography and the world of work. A qualification in A Level Geography will enable students to keep their options open and will equally support most further education courses. Many of the topics covered relate closely with work in a range of other subjects and would complement a number of other Sixth Form courses.

Component 1: Physical Geography – 40%

Water & carbon cycles

Hazards – Tectonics, wildfires, tropical storms

Coastal systems & landscapes

Component 2: Human Geography – 40%

Global systems & governance

Changing places

Resource security

Component 3: Geography Fieldwork

Investigation – 20%

Students complete an individual investigation which must include data collected in the field. It must be based on a question or issue defined and developed by the student relating to any part of the specification content.

A Level Assessment

The full A Level is assessed through 80% examination and a 20% teacher-assessed independent investigation.

Fieldwork

A requirement to undertake fieldwork in physical and human geography.

Personal Qualities

Well organised; good time management; self-motivated; ability to work independently or in a group; a lively interest in observing and explaining the world; ability to handle information and data in a variety of forms; ability to express ideas clearly and concisely in written form or develop points in essays; a willingness to participate in discussions.

Financial Commitment

Contributions to local fieldwork and enrichment activities. There is the possibility of an optional international fieldtrip.

Special Demands on Time

Regular assignments throughout the course involving responding to past examination questions; research and following up references; group work preparing presentations and writing up fieldwork investigations; devoting time to reading.

Recommended Links with Other Subjects

Geography supports the Arts, Sciences and Social Sciences, in particular Mathematics, Biology, Business Studies, History and English Language.

After A Levels

Geography can lead to careers in: Planning; Marketing; Transportation; Meteorology; Personnel; Finance; Information Technology; Media; Teaching; Recreation; Leisure and Tourism; Research etc.



HISTORY

Specification: OCR History

Introduction

The History A Level requires students to study a combination of British, European and World History across a time span of at least two hundred years.

The aim of the seventeenth century course is to understand the concept of kingship and government by studying a period when monarchs had almost complete control over parliament and the people.

The European History course focuses on Russia. The study of late nineteenth and twentieth century Russia enables students to study the changes in the way Russia was run and how these changes helped to drive international relations.

The World History element will focus on the USA and the struggle of citizens in the US to gain equality before the law. Students will be able to study the factors which encouraged and discouraged change during this period.

Year 12

Unit 1: Y108 British History - The early Stuarts and the origins of the Civil War 1603-60.

Enquiry topic: The execution of Charles and the Interregnum 1646-1660. Source based paper worth 25%.

Unit 2: Non- British History - Y219 Russia 1894-1941
Knowledge and Understanding worth 15%.

Unit 3: Y319 Thematic - Civil Rights in the USA, 1865-1992.

Knowledge, understanding and sources worth 40%.

Year 13

During Year 13 students will continue studying the three above units but time will also be set aside for the completion of Unit 4.

Unit 4: Y100 - Independent Investigation.

Coursework 3000-4000 words. Students choose a title of their choice within a range of areas agreed by their teacher. It is worth 20%.

A Level Assessment

Students will sit examinations in Y108, Y219 and Y319 in the summer of Year 13. Unit 100 will be completed during Year 13.

Personal Qualities

A love of reading and a good command of English are essential, together with a willingness to participate in discussion.

Financial Commitment

Opportunities may arise for students to attend study days in Birmingham costing around £20 plus transport.

Recommended Links with Other Subjects

The subject combines well with all subjects but goes particularly well with English, Religious Studies, Geography, Languages, Art and Business Studies.

After A Levels

This is an interesting and enjoyable way to develop analytical and communication skills. History is a suitable background for a wide range of careers including law and journalism. Many of our students plan to study sciences at university and opt for History as they recognise the importance of being able to prepare good essays at degree level. Staff and students work hard to achieve consistently good results, and many of our students have progressed to study History at highly reputable universities.



MATHEMATICS

Specification: to be decided

Introduction

Why study Mathematics? The whole development of Western civilisation - its commerce, its technology, and more recently its social organisation - is rooted in mathematics and in the reliability and power of its methods of analysis. This dependence on mathematics has accelerated dramatically in the last 50 years. During the Second World War mathematics was indispensable in code breaking, ballistics and planning large operations. Mathematics now controls large parts of day-to-day life. For example the development of the internet and all the associated activities depend on mathematics. Digital music in the form of compact discs and MP3 files would be impossible without mathematics.

It is therefore not surprising that Mathematics A Levels are amongst the most marketable and that a Mathematics degree is amongst the most sought after and most flexible of university courses, leading to a wide choice of careers.

What will I study?

The new A-level in Mathematics will consist of the study of pure mathematics including Algebra, Geometry and Calculus alongside applied mathematics consisting of mechanics and statistics.

Assessment and Examination

Three examination papers each 2 hours in length. There is no coursework element.

Personal Qualities

Success in Mathematics at this level requires a commitment to consistent work throughout the course. Written assignments will be set each week and, due to the hierarchical nature of the subject, it is essential that these are completed and understood. If difficulties occur, the staff of the department are always willing to offer extra help and advice.

It is also necessary to be well organised and motivated to learn new techniques and methods. Most problems require the use of new knowledge, which can only be acquired by putting in appropriate time and effort. When one has acquired the knowledge and skills, many problems are relatively and sometimes surprisingly easy.

Financial Commitment

Students must provide their own calculator, details of approved calculators will be provided once the course has started. It is recommended that students consider purchasing their own copy of the textbook.

Special Demands on Time

None other than regular weekly practice and revision. It is expected that students will spend about five hours each week working on the subject outside of lesson time.

Recommended Links with Other Subjects

Mathematics is of help to studies in Physics, Chemistry, Biology, Geography and Business Studies in school and subsequently.

After A Levels

A Level Mathematics is a highly regarded and marketable qualification whether proceeding on to higher education or work. It is of value in Higher Education courses or careers in Mathematics, Statistics, Engineering, Computing, Physics, Chemistry, Biology, Economics, Finance, Business Management, Medicine, Teaching, Architecture and Psychology.



MUSIC

Specification: Edexcel 9MU0 (A Level)

Introduction

Music A Level develops the three key skills of performance, composition and listening. There is a three unit assessment structure.

A Level Music (2 year course)

Component 1: Performing Music (30% of the qualification). A recorded performance of one or more pieces, performed as a recital, lasting for a minimum of eight minutes. The expected standard of difficulty for music performed is Grade 7, with extra credit available for pieces of a higher difficulty.

Component 2 – Composing (30% of the qualification). Total of two coursework compositions, one to a brief set by Pearson and one either free composition or also to a brief.

- One composition must be from either a list of briefs related to the areas of study, or a free composition, carrying 40 marks for this component. This composition must be at least 4 minutes in duration.
- One composition must be from a list of briefs assessing compositional technique, carrying 20 marks for this component. This composition must be at least 1 minute in duration, unless the brief specifies a longer minimum duration.
- Total time across both submissions must be a minimum of 6 minutes.

Component 3 – Appraising - (40% of the qualification): This is assessed through a two hour examination.

Content overview:

- Knowledge and understanding of musical elements, contexts and language.
- Application of knowledge through the context of six areas of study, each with three set works. The areas of study are Vocal Music, Instrumental Music, Music for Film, Popular Music and Jazz, Fusions, New Directions. Also application of knowledge to unfamiliar pieces of Music.

A Level Assessment

- Component 1 – 8 minute recording at Grade 7 standard (30%)

- Component 2 – Total of two coursework compositions, one to a brief set by Pearson and one either free composition. (30%)
- Component 3 – written examination (40%)

Personal Qualities

Students need to be prepared to perform in class, in ensembles and in public concerts. Compositions and technical studies require independent work and imagination. Preparation for the Appraising component requires students to research and learn about musical styles through specific set works in a range of styles.

Special Demands on Time

Students are expected to attend their instrumental lessons on a weekly basis to prepare them for the performance examinations, and to practise regularly (ideally 20-30 minutes per day). Homework and independent research will also be set for composition and Musical Understanding examinations.

Recommended Links with Other Subjects

Any other subject.

After A Levels

Music may be studied post-18 in a variety of different ways. Courses that specialise in performance are available at music colleges; other courses with a more academic study of music are available at University. Students from previous years have gone on to study Music at Music College and University. However, Music is still a useful A Level for those who wish to study other subjects at degree level.

For those who would like to consider a career in Music possible options include performing, composing, teaching (classroom and instrumental), music therapy, music journalism, arts administration.



PHYSICS

Specification: Edexcel 9PH0

Introduction

Physics seeks to explain the entire universe, from the smallest sub-atomic particles to the largest galaxies! The course aims to stimulate students' interest in and enjoyment of Physics and how it explains the world around them.

The concepts studied will be applied to uses and applications that are engaging and reflect current areas of interest. Students will complete practical tasks which are integrated into the course, some of which will be assessed for the practical endorsement.

Year 12 Content

Students will cover key areas of Physics in Year 12 including: materials, mechanics, waves, light rays and particles, and electric circuits.

Year 13 Content

Students will extend their work by studying nuclear physics, further mechanics, gravity fields, particle physics, oscillations, electric fields, space, magnetic fields, and thermodynamics.

Assessment

At the end of the course, there are three written examinations. 9PH0/01 and 9PH0/02 are each worth 30% of the marks, and each include questions about the concepts studied in one half of the course. 9PH0/03 is worth 40% of the marks and it includes synoptic questions and questions about students' theoretical understanding of experimental methods.

A Level Maths

Although it is not required for students to study Mathematics to A level, experience shows that students who do study A level Mathematics achieve significantly better on average than students who do not.

Personal Qualities

Students should enjoy experimental work and reading about current Physics discoveries and news. They

should be able to think logically and to solve problems. We will make use of ICT skills in some lessons.

Special Demands on Time

Homework will usually involve problem-solving exercises, research and writing up experiments carried out in lessons. Students can choose to attend optional evening lectures organised by Birmingham University, and participate in schemes such as WISE (Women in Science and Engineering) which may take place during school holidays. We aim to run a major trip every two years so that all students have the opportunity to access this experience if they wish. In July 2017 this was a three day trip to CERN in Geneva. We expect to repeat this trip in July 2019. In 2016 we visited the nuclear fusion research facility at Culham, and we aim to repeat this in 2018.

Recommended Links with Other Subjects

Studying Mathematics with Physics will improve your grade. It is also an excellent combination for students interested in studying engineering, accountancy, astronomy and other physical sciences. Physics with Mathematics and Chemistry is a good combination for students wishing to study Materials Science and Atomic/Particle Physics courses. Physics and Biology is ideal for students wishing to study Sports Science.

After A Levels

Well-qualified physicists are highly sought after for their analytical skills in many jobs, including Banking, Accountancy, Management and Computing. Physics at university can now be studied as part of joint courses in Geology, Astronomy, Electronics, Chemistry, Maths and many other subjects.



PSYCHOLOGY

Specification: AQA Psychology

Introduction

This qualification offers an engaging and effective introduction to Psychology, which is the scientific study of the human mind, behaviour and the brain. It covers topics as different as intellectual development to motivating people at work. It is usual to begin study at this level without taking GCSE first.

Students will learn the fundamentals of the subject and develop skills valued by universities and employers, including critical analysis, independent thinking and research.

Teachers, universities and the British Psychological Society have worked to produce a clear, up-to-date and stimulating specification for new teaching that reflects advances and changes in the subject and provides a coherent and holistic programme of study.

Study includes:

- Approaches and methods related to the core areas of Psychology: cognitive, social, biological, developmental, individual differences and research methods.
- Explanations from different approaches, along with psychological issues and debates.

Year 12

Year 12 students will be studying the following topics

- Social influence
- Memory
- Attachment
- Psychopathology
- Approaches in Psychology
- Research methods

Year 13

Year 13 students will be studying from the following topics in Psychology

- Issues and debates in Psychology
- Biopsychology

Some topics are chosen from an Option list and the following may be included:

- Gender
- Schizophrenia
- Aggression

A Level Assessment

A Level assessment is by three exam papers carrying equal weighting. Assessments employ a variety of types of question such as multiple choice, short answer and extended writing/essays, which target the skills of knowledge and understanding, application and evaluation.

Personal Qualities

This is a new subject without a GCSE base. Students should ask themselves the following question: am I interested, enthusiastic and committed to studying a new subject? An Induction Programme in the first few lessons helps make sure students have made the right decision.

Financial Commitment

Students may need to pay local travel expenses and fees for conferences and talks but these are not compulsory. There is a magazine to subscribe to if students wish.

Special Demands on Time

In addition to independent reading and learning activities, students will need to spend time gathering data for psychological exercises.

Recommended Links with Other Subjects

This subject goes well with Biology, Business Studies, Maths, PE, English Language or Literature, Religious Studies and Sociology.

After A Levels

There are many areas for which Psychology is useful, including Bio-Sciences, Business Studies, Law, Social Studies, Engineering, Computer Games and Simulation Design, Management, Health Studies, Marketing, Educational Studies as well as those in Psychology. Past students are employed in career areas as varied as Occupational Psychology and Games Development.



RELIGIOUS STUDIES

Examination Board: AQA Religious Studies 7062

Introduction

If you are looking for an interesting, stimulating and challenging course, then Religious Studies is for you. The course requires you to investigate religious beliefs and explore the interplay between these beliefs and philosophical and ethical debates.

Throughout the course, you are encouraged to think critically and are taught how to structure logical and coherent arguments. There is an emphasis on class discussion and independent research work that helps to develop a wide range of transferable skills, such as communication, collating and interpreting information and problem solving. Religious Studies is an academic subject which is recognised by employers and universities as being of great value.

Students must study three components:

- 1) Philosophy of Religion
- 2) Ethics
- 3) Case Study into Christianity

In the course, you have the opportunity to consider the dialogue between Christian belief and Philosophical arguments.

In the Philosophy component, you will study ideas of Christian beliefs and Philosophical debates about the characteristics of God, arguments for the existence of God, evil and suffering, religious experience, religious language, miracles and death and the afterlife.

In the Ethics component, you will study religious pluralism, freewill, natural moral law, situation ethics, virtue ethics and how these concepts might be applied to contemporary moral issues including the rights of the embryo, cloning, designer babies, abortion, euthanasia, capital punishment and animal rights.

Assessment

Component 1: Philosophy of Religion and Ethics – a written examination of three hours.

Component 2: Study of Religion and Dialogues – a written examination of three hours.

Personal Qualities

Students will need:

- A deep interest in religious beliefs and in philosophical/ethical debates;
- A willingness to listen to the views of others as well as give reasons for one's own conclusions;
- Skills of logical thinking and the ability to communicate ideas accurately in speech and in written work;
- A willingness to research and engage in wider reading around topics studied in class.

Links with other subjects

Religious Studies combines well with many other subjects such as History, Geography, English, Sociology and Psychology. For those students who wish to pursue a broad based study at Advanced Level, Religious Studies can successfully combine with Mathematics and Science subjects where similar skills of logical thinking and analysis are required.

After A Levels

Religious Studies forms an excellent foundation for a great variety of careers including Law, Teaching, Medicine, Business, Journalism, Marketing and many others.



SOCIOLOGY

Specification: AQA Sociology 7191 and 7192

Introduction

Sociology is one of the Social Sciences, which studies society and human social relations. Sociology examines the ways in which social structures and institutions shape our world and attempts to explain the different forces and influences that shape how we grow up and the society in which we live.

Sociology is a subject that is studied in the Sixth Form only. The course is designed for students to start fresh, without a GCSE background. People tend to think of Sociology as a 'new' subject, but in fact, the term was first used in the 19th century, with sociological debate going on for centuries before that. Students have been able to take Sociology as an A Level subject for many years.

The assumption that Sociology is 'easy' or 'just common sense' is also misplaced. It is not just about giving your own opinion, but examining the different theories and perspectives behind the subject such as Marxism. During the A Level course we will cover these perspectives in detail and look at research studies (as well as conducting our own research) into various topic areas, for example the mass media, the education system and crime and deviance.

Sociology is a fascinating, rich subject that can teach us more about ourselves and the changing world in which we live.

Year 12

Education, Methods in context; Research methods; Families and households.

Year 13

Education with theory and methods; Families and households, Mass Media; Crime and Deviance with theory and methods.

A Level Assessment

Three A Level exams for Sociology will be taken at the end of Year 13.

Financial commitment

None in particular, but purchase of a good Sociology Dictionary and revision guide is advisable. We also offer subscription to Sociology Review magazine, which provides up to date articles and research from Sociology.

Special demands on time

Extensive background reading is recommended. There is no coursework. Keeping up to date with current issues, e.g. reading newspapers, watching the news.

Recommended links with other subjects

Sociology combines well with many study areas. English Literature and Language, Psychology, Religious Studies, History, Business Studies are traditional partners, but it also is useful for those wanting Medical or Health-Care careers.

After A Levels

Skills and knowledge are useful for many degree courses as well as those in Sociology and Social Policy.

Career sector links: Social/Market Research, Media/Journalism, Law, Prison and Probation service, Politics and Social Policy, Business, Health, Teaching (at all levels) and Education Policy.

Social Policy: social policy is the study of social services and the welfare state. You specialise in any of the following areas: Social Need, Health Policy, Housing Policy, Social Policy, Education Policy.

Many universities offer Sociology, combined with other subjects including Psychology, Criminology, Biology, Medicine and English.



SPANISH

Specification: AQA A Level Spanish 7692 (linear)

Introduction

Why learn a language?

Travel

Even a little knowledge of the language can make a difference in attitude when you meet people from other countries. Speaking another language helps to break down barriers.

Work and business

It can help you give an added advantage in your career if you work for an international firm or a company with international customers or contacts.

Music, film, arts and culture

If you like literature, films or music from other countries, learning the language will help your appreciation and understanding.

Enjoyment!

Course overview

The course offered by the Spanish Department will build on the knowledge acquired at GCSE level. The skills of listening, speaking, reading and writing will be further developed through the study of a range of topic areas. The language used will be increasingly accurate, complex and varied.

A Level Assessment

Paper 1: Listening, Reading and Writing (50% of A Level)

(2 hours 30 minutes- 100 marks)

Paper 2: Writing (20% of A Level)

(2 hours- 80 marks)

Paper 3: Speaking (30% of marks)

(21-23 minutes –including 5 minutes preparation time)

(60 marks)

Personal Qualities

Success in Spanish at this level requires a commitment to consistent work throughout the course. A genuine interest in the language and culture are recommended, together with a good grasp of grammar and the ability to be motivated and work well outside of lessons.

Assessment

Assessment during the course will be by weekly assignments and internal assessments. Students must prepare for these effectively and take the results as a serious indicator of their likely performance in the final examination.

Financial Commitment

The purchase of a bi-lingual dictionary and a subscription to a Spanish magazine are recommended. Participation in a Work Experience placement in the country of study in Year 12 is advisable. Revision guide and CDs for self-study may be purchased.

Special Demands on Time

It is expected that students will spend about five hours each week working on the subject outside of lesson time (self-study and homework).

Recommended Links with Other Subjects

Due to the range of topics studied in Spanish, they are suitable for combination with any subject in school and subsequently.

After A Levels

An A Level in Spanish is a highly regarded and marketable qualification whether proceeding on to higher education or work. Successful candidates will be well-prepared to use the language for practical communication in all levels of commerce and industry. The qualification provides a good foundation for further language studies in higher education (degree level or equivalent), either in language courses or for translating /interpreting / teaching.

