

John Kyrle High School

& Sixth Form Centre

Sixth Form Subject Summaries
for September 2017 Entry



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JKHS Sixth Form Centre AS and A Level Course Summary

Art & Design

What's it all about?

The course offers you a rich opportunity for visual study. Initially you will be given a mini project to practise and develop your visual skills to enable you to fulfil your true potential, across all assessment objectives. A vast array of materials and processes are used to allow students to work in ways which inspire and challenge them.

What topics are covered for AS and A2?

AS Level

- COMPONENT 1: Personal Investigation (50% of AS)
- COMPONENT 2: Externally set assignment with 10 hour practical exam (50% of AS)
To obtain the full A-level, the AS components above will form part of the A level Component 1: Personal Investigation.

A2 Level

- Component 1: Personal Investigation (60% of A2)
Part 1 Practical and Part 2 Personal Study
- Component 2: Externally set assignment with 15 hour practical exam (40% of A2)

Ideas, Media & Formal Elements

- You will be encouraged to form ideas from a number of starting points.
- You will be taught how to research properly and this will feed your ideas.
- You will be encouraged to experiment with a wide range of media and methods to develop your skills.
- You will need to show skilful use of the formal elements e.g. Line, Tone, Texture, Colour etc.
- We will encourage you to develop your own visual language - to be able to communicate your ideas, culminating in final outcomes.

Analysis of Work

- You will be taught skills that will allow you to analyse your own and other artists' work.
- You will be taught how to relate the work of other artists to your own.
- We will ensure you learn how to review your work by analysing it along the way.

Student Proposal / Outline

We will ask you for a proposal which outlines your main focus and intentions for each unit; this proposal needs to take into account how you will be assessed, under the four assessment objectives.

What do I need to be 'good' at this subject?

The design industry needs creative individuals who can develop new products and innovative processes – people who can turn an idea into reality! You need to be positive, dynamic, inspiring and disciplined.



**JKHS Sixth Form Centre
AS and A Level Course Summary**

3D Art and Design

What's it all about?

- Designing and making useable objects, from one-offs to possible mass production.
- Learning to use a wide range of 3D materials including ceramics, enamelling, silversmithing, plaster and mixed media.

What topics are covered for AS?

- **COMPONENT 1: Personal Investigation (50% of AS)**
Experimental work based on the theme of 'surfaces' using a wide variety of inspirations and sources.
- **COMPONENT 2: Externally set assignment with 10 hour practical exam (50% of AS)**
Topic set by the exam board.

To obtain the full A level, the AS components above will form part of the A level Component 1: Personal Investigation.

What topics are covered for A2?

- **Component 1: Personal Investigation (60% of A2)**
Part 1, Practical: A project based on an individually agreed theme using a variety of materials and processes.
Part 2, Personal Study: Critical study of a designer, architect, potter or other creative person.
- **Component 2: Externally set assignment with 15 hour practical exam (40% of A2)**
Topic set by the exam board.

How is the subject taught?

A mixture of practical and theory lessons, discussions, workshops, demonstrations and independent study.

What do I need to be 'good' at this subject?

The ability to do personal research, to think creatively and to love experimenting. You need to be prepared with ideas and materials and be willing to try a wide variety of processes to achieve your desired outcomes. A passion for making, creating and inventing is essential.

What career or degree is it useful for?

Any subject which involves a 3D element including product design, industrial design, furniture design, theatre design, set design, make-up, jewellery design or even an independent fulltime crafts person!

What do I need to get onto the course?

More than anything you need the passion to make, create and to produce something new. At least grade 4 at GCSE English Language would be an asset. While you do not need to have completed the GCSE or BTEC 3D courses, it would be beneficial if you had.

JKHS Sixth Form Centre
AS and A Level Course Summary

Advanced GCE Biology

What's it all about?

Biology is the study of all living things; how they work and how they interact with each other and their environment.

Topics covered for AS:

- Topic 1: Biological Molecules
- Topic 2: Cells, Viruses and Reproduction of Living Things
- Topic 3: Classification and Biodiversity
- Topic 4: Exchange and Transport

Topics covered for A2:

- All of the topics above
- Topic 5: Energy for Biological Processes
- Topic 6: Microbiology and Pathogens
- Topic 7: Modern Genetics
- Topic 8: Origins of Genetic Variation
- Topic 9: Control Systems
- Topic 10: Ecosystems



How will the subject be taught?

Biology is taught through a mixture of note taking, discussion, research, presentations and practical work. The residential **field course** studying marine (seashore) ecology is a critical part of the study of Advanced Level Biology.

What do I need to be 'good' at this subject?

You will need an interest in all aspects of the living world as well as a good range of study, mathematical, practical, teamwork and literacy skills.

What career or degree is it useful for?

Medicine	Nursing	Physiotherapy	Research Biochemistry
Sports Science	Food Industry	Agriculture	Veterinary Science
Dentistry	Teaching	Forensic Science	Ecology, etc.

What do I need to get onto the course?

You will need to be well organised with good attendance and study skills. You will need at least 5 good GCSE passes including Core and Additional Sciences, preferably a grade 5 Mathematics and at least 5 in English.



**JKHS Sixth Form Centre
AS and A Level Course Summary**

Business Studies

(AQA)

What’s it all about?

Business Studies looks at how firms are organised and how they operate in the marketplace. Over the two years you will study how businesses make decisions to improve their performance in all areas including human resources, operations, marketing and finance. You will learn the practical skills that are needed to set up a business as well as learning to apply textbook theory to solve case study problems. In addition, a strong emphasis is placed upon learning about the current business environment along with exploring current business performance.

What topics are covered at AS and A Level?

AS Business Studies	A Level Business Studies
<ul style="list-style-type: none"> • What is business? • Managers, leadership and decision making • Decision Making to improve marketing performance • Decision Making to improve operational performance • Decision Making to improve financial performance • Decision Making to improve human resource performance 	<p>All of the content from AS Business Studies, plus:</p> <ul style="list-style-type: none"> • Choosing strategic direction • Strategic methods: how to pursue strategies • Managing strategic change

How is the subject taught?

Note making, discussion work, presentations, mind maps, practical problem solving, number crunching exercises, tests, case study scenarios, exam practice.

What do I need to be ‘good’ at this subject?

You need to be hard working and have an interest in topical issues both political and in the business world – this really is essential. To be able to perform at the highest level at A Level requires a good understanding of real-world business examples. Confidence in using numbers is also very important.

What career or degree is it useful for?

Typical areas include Accounting, Advertising, Law, Marketing, Civil Service, self-employment, ICT, Human Resource Management and, of course, Teaching!

What do I need to get on the course?

No prior knowledge of Business Studies is necessary, although it would be an advantage if you are comfortable with Maths and if you have studied Business Studies. A grade 4 pass in Maths and English is expected.



**JKHS Sixth Form Centre
AS and A Level Course Summary**

Chemistry

What's it all about?

If you enjoyed chemistry at GCSE, you'll love this course. In two years, you'll get a real in-depth knowledge of this fascinating subject, preparing you for further education or giving you the credentials to enhance your job options straight away. Chemists have greatly improved the quality of life for the majority of people. This course is underpinned by the practical skills and you will discover how chemists are real innovators, designing solutions to the problems that affect modern life.

What topics are covered?

In the first AS year, you'll cover physical, inorganic and organic chemistry. Throughout the year you will also develop a range of practical skills which will be assessed in your end of year exams. AS Chemistry is split into 2 assessments. You must pass both these assessments to continue onto the second year of the course.

The second year follows a similar format, building on your understanding of the three disciplines of chemistry from the AS course. A level Chemistry is a further 3 assessments which cover everything you have studied in both years. Your A level grade is based on the 3 assessments in the second year of the course only.

Who takes this course?

Students with a wide range of interests enjoy the chemistry course. Whether you want a job in medicine or industry, chemistry is the solid platform upon which careers are built.

Where will success take me?

Chemistry is a great choice of subject for people who want a career in health and clinical professions, such as medicine, nursing, biochemistry, dentistry or forensic science. It will also equip you for a career in industry, for example in the petrochemical or pharmaceutical industries, or in careers such as accountancy, law and teaching.

What do I need to get onto the course?

Core and Additional Science GCSE grade C or above, but due to the rigours of the course, grade B or above is preferred. You also need to be well organised and have good study skills.



**JKHS Sixth Form Centre
AS and A Level Course Summary**

Drama and Theatre Studies

What's it all about?

Drama and Theatre Studies covers theatre from an historical, analytical and practical viewpoint. There will be opportunities to explore the use of sound; lighting; costume and make-up BUT you will be formally assessed as a performer or director.

THIS COURSE IS DELIVERED AS A TWO YEAR A-LEVEL

Course content for A-level?

Component 1	Written Paper	40%	Set Text A: 'Antigone' Set Text B: 'The Glass Menagerie' Live Production Review
Component 2	Practical Coursework	30%	Devised Performance: Practitioner Influenced Working Notebook / Portfolio of Evidence
Component 3	Practical Coursework	30%	Workshop Exploration and Performance of Three key extracts from contrasting plays

How is the subject taught?

The subject is predominantly practical with a variety of solo and small group work. You will be expected to come to rehearsals and theatre visits after school.

The set texts are taught through workshops but the exam practice will be essay based. There is always an expectation that students will read around the subject and attend theatrical events of their own volition to support their studies.

What skills do I need?

It is essential that you have the ability to work in a group. You need to be reliable, able to listen to the ideas of others and contribute ideas of your own. You will be assessed on your contribution to group work. You need to be open to new ideas and genuinely interested in Drama and the Theatrical Process.

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What career or degree is it useful for?

The two attributes most requested by employers are teamwork and good communication. No subject develops and utilises these skills more than Drama and Theatre Studies. Many Law, Veterinary and Doctoring Schools appreciate students who have undertaken studies of Drama at AS and at A Level, communication being a vital element of these careers. It also is an exceedingly good and important grounding for students wishing to pursue Performing Arts and the Entertainment Industries as a career.

What do I need to get onto the course?

GCSE Drama or the equivalent is essential. The equivalent could be BTEC but it could also be involvement in a Theatre Group or Company in your locality. It is important that if you do not have GCSE you contact Jo Lucas Head of Drama at JKHS, to discuss this with her before applying to take the course.

THERE IS AN EXPECTATION THAT STUDENTS OF DRAMA WILL BE INVOLVED IN THE SCHOOL PRODUCTION.



**JKHS Sixth Form Centre
AS and A Level Course Summary**

English Language

(Eduqas)

What's it all about?

The course explores both spoken and written language. You will learn to analyse how language works in a wide range of texts and transcripts. You will investigate many of the important language issues in society. How do children learn to speak? How do politicians influence our attitudes and values through language? Are men and women represented differently through language? How has technology influenced our language? How has language changed over time? You will also learn to become a more confident writer, adapting your style to suit different audiences and purposes. 20% of the final A Level grade will be from coursework, 80% from the final exams.

How is the subject taught?

Lots of discussion, detailed reading/analysis of texts in both the spoken and written mode, research and, at A Level, conducting (with teacher support) an investigation in Language and Identity. You will need to get to grips with a considerable amount of new linguistic terminology and must be prepared to write both creatively and analytically.

What do I need to be 'good' at this subject?

Sound English Language skills, an analytical mind, an interest in language and the world around you, self-discipline and creativity.

What career or degree is it useful for?

Any arts or social sciences degree, media or journalism courses.

What do I need to get onto the course?

4 grade at GCSE in English Language.

PLEASE CONTACT MRS RUSSELL FOR FURTHER DETAILS



**JKHS Sixth Form Centre
AS and A Level Course Summary**

English Literature

(Eduqas)

What's it all about?

On this course, you will study a variety of modern and historical prose, poetry and drama, including the work of William Shakespeare. As well as extending your knowledge and enjoyment of literature, you will be encouraged to think critically and creatively in response to a range of set and independently chosen texts. 20% of the final A Level grade will be from coursework, 80% from the final exams.

How is the subject taught?

Lots of discussion, reading, debate, essay writing, research, exam practice.

What do I need to be 'good' at this subject?

An open and enquiring mind, an interest in reading, self-discipline, a willingness to explore alternative interpretations, creativity and ability with language.

What career or degree is it useful for?

Any arts degree, law, teaching, philosophy, psychology, etc. All careers that involve language use.

What do I need to get onto the course?

4 grade at GCSE in English Literature.

PLEASE CONTACT MRS RUSSELL FOR FURTHER DETAILS



**JKHS Sixth Form Centre
AS and A Level Course Summary**

Geography

(Specification A - Edexcel)

What's it all about?

You will study the interaction of people and environments in a selected range of topics (listed below). Case studies are used throughout at a range of scales and from contrasting parts of the world.

What topics are covered?

Students will study a total of 8 topics – 4 in Y12 and 4 in Y13. All 8 topics will be examined at the end of Y13 in 3 papers of varying length and weighting. The final element of assessment will require all students to produce an individual investigation of their choice and design which will be internally marked and externally moderated. In each area of study candidates will consider the values and attitudes of decision makers, consider their own values and attitudes to the issues being studied and support their learning of ideas through the study of specific case studies. Candidates will also develop a variety of geographical skills, which will broaden and deepen existing knowledge and be employed with a greater degree of independence.

Paper 1 (30%) will cover the following topics:

- Tectonic Hazards*
- The Water Cycle & Water Insecurity
- The Carbon Cycle & Energy Security
- Coasts – landscapes & management*

Paper 2 (30%) will cover the following topics:

- Globalisation*
- Superpowers
- Regenerating Places*
- Migration, Identity & Sovereignty

Paper 3 (20%) will be based on a resource booklet and will test students synoptic understanding of all aspects of the course through the use of contemporary material and examples

Paper 4 (20%) an Individual investigation of between 3000 - 4000 words based on the students own data collection undertaken during the residential fieldtrip (cost approx. £400)

Topics indicated with * will comprise the AS exam – 2 papers with equal weighting that will be sat in the Summer of Y12. Students will be required to pass the AS exam in order to continue to A2, although the AS qualification will not contribute towards their final A2 grade.

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How is the subject taught?

The geographers quickly build into a dedicated band with a clear group identity and an affiliation to the subject; this is aided by the residential fieldwork week early in the second term of AS. Clear frameworks are provided for all work. A wide range of textbooks is provided for research tasks. You will make notes and build structured summaries as tables or concept maps. You will prepare presentations to the rest of the class. You will view videos, slides and a range of sites in the field. You will take tests and practice exam questions.

What do I need to be 'good' at this subject?

You need to be a hard worker with a first class lesson attendance record. You should be able to communicate clearly in writing and be capable of working independently within clear guidelines to meet completion deadlines. You should be interested in explaining phenomena and events in the physical and human environments that surround you. You should be capable of spotting patterns and be interested in explaining them.

What career or degree is it useful for?

The subject combines particularly effectively with any or all of geology, biology and sociology because of close learning links. Careers and degrees taken up by geographers are hugely varied and range across accountancy, agriculture, civil engineering, estate management, journalism, marketing, nature conservation, retailing, surveying and transport – anything that involves careful appraisal and problem-solving in 'live', real world situations.

What do I need to get onto the course?

A minimum of Geography grade C at GCSE, preferably a B grade or higher. However, students without GCSE Geography will be considered on an individual basis. English and Maths at grade C or above - don't underestimate the level of maths required and the challenge of producing extended written answers (essays). You must have a proven 'let's go to work' attitude, or a commitment to do so (which will be closely monitored in practice).

For further details of the specification visit:

<http://qualifications.pearson.com/en/qualifications/edexcel-a-levels/geography-2016.html#tab-0>

JKHS Sixth Form Centre AS and A Level Course Summary

Geology

What's it all about?

Geology is the study of Earth Science, the structure, evolution and formation of the planet. The subject contains strong elements of Biology, Chemistry, Physics, and Geography. If you are interested in the world we live in then Geology is definitely the right subject for you.

What topics are covered for AS only?

- Elements, minerals and rocks
- Surface and internal processes of the rock cycle (Igneous, Sedimentary and Metamorphic rocks)
- Structural geology
- Time and change – Palaeontology
- Earth structure and global tectonics
- Understanding Geological Maps and practical geology and problem solving.
- Residential fieldwork trips to the Lake District and Pembrokeshire.

What topics are required over two years for A2?

- Elements, minerals and rocks
- Surface and internal processes of the rock cycle
- Time and change
- Earth structure and global tectonics
- Rock forming processes
- Rock deformation
- Past life and past climates
- Earth materials and natural resources.



There are five themes which integrate and develop the knowledge, understanding and skills acquired in the core aspects. These are:

- Geohazards
- Geological map applications
- Quaternary geology
- Geological evolution of Britain
- Geology of the lithosphere

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How is the subject taught?

The subject is taught by Mr Smith and Mr Green. We use Interactive whiteboard work, videos, map work, practical “hands on” sessions, field trips, note making and exam practice.

Please note that there is a compulsory after-school element – Mr Green teaches from 3.30 to 5.30 one night per week (Tuesdays for Year 12 and Thursdays for Year 13.)

The WJEC Eduqas A level in Geology places problem solving at the heart of learning. Learners are encouraged to respond to geological information in both familiar and novel situations in the laboratory and in the field. Learners should be able to apply their knowledge and understanding of the contents of this specification by exploring contexts and situations that are not explicitly indicated in the specification, reflecting the skills demanded by those engaged in the study of geology, and other disciplines, beyond A level.

What do I need to be ‘good’ at this subject?

If you currently enjoy science and have an interest in the story of the planet you will like Geology. GCSE Geographers make particularly good transitions to A Level Geology. If you have a secret collection of stones and fossils in your bedroom or you only take pictures of your family for scale then this is the subject for you!

What career or degree is it useful for?

Geology develops analytical and observational skills that are recognised by a wide range of employers. There is a worldwide shortage of Geologists working in minerals and resources exploration.

Almost half of all sixth form Geology students at JKHS have gone on to University to study Geology. Universities such as Exeter (Camborne), Imperial, Leicester, Manchester, Liverpool, Plymouth, Portsmouth and Birmingham have all been popular.

Many JKHS Geology alumni now work in the fields of Geology, oil and mineral exploration, geotechnics and civil engineering all over the world.

Geology is a very rare subject to offer at A Level and gives a great advantage to any student planning on taking Geology at University.

What do I need to get onto the course?

Good GCSE results in Science, Maths and English. Geography at GCSE is an advantage, but is not a requirement.





JKHS Sixth Form Centre AS and A Level Course Summary

History (Edexcel)

- From September 2015, AS History will have been a stand-alone qualification and does not contribute towards an A level History grade.
- We will be preparing students for the A level qualification from the beginning of Year 12, but will enter them for the two AS exams at the end of the academic year so that, if they decide to discontinue their History studies, they will still have an AS qualification. If they continue into Year 13, they will sit three A level exams at the end of the year and will also have to submit one piece of coursework.
- This means that while students will be assessed on some of the same content at A level as at AS, the level of difficulty will be different. Differentiation between AS and A level is achieved through both the increasing demand of exam questions and by outcome (through mark schemes).

What topics will I study in Year 12?

Paper 1 (30% of A level/60% of AS)

- Russia, 1917-91: from Lenin to Yeltsin

Paper 2 (20% of A level/40% of AS)

- The German Democratic Republic, 1949-90

Students will sit Paper 1 and Paper 2 at the end of Year 12 to give them an AS qualification.

If they continue to study for the full A level qualification they will sit A level exams in these two papers at the end of Year 13.

What topics will I study in Year 13?

Paper 3 (30% of A level)

- Rebellion and disorder under the Tudors, 1485-1603

Coursework (20% of A level)

- Students complete an independently researched enquiry on interpretations, e.g. the origins of World War One or the origins of the Cold War.
- *Students will sit Paper 3 at the end of Year 13.*

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How is the subject taught?

You will be taught by specialist History teachers who will deliver each paper using a variety of different teaching methods, e.g. class discussion, independent reading and research, visual and written source analysis, presentations, films and documentaries, group work, debates and examination practice.

What do I need to get onto the course?

We would expect you to have at least a grade C in GCSE History and/or English.

What can I do with an A level in History?

Pretty much anything! Many students who study and enjoy A level History also pursue it at degree level, but employers like to see a History qualification on people's CVs as it shows them that the person is open-minded, disciplined, can reach substantiated conclusions and has the ability to work in both independent and collaborative situations.



JKHS Sixth Form Centre AS and A Level Course Summary

Computer Science

What is it all about?

This course is about developing your knowledge of the inner workings of computer hardware and software as well as many of the theoretical aspects of Computer Science.

What is the course?

Paper 1: 40% of overall grade 2hr30min Paper exam	Paper 2: 40% of overall grade 2hr30min Paper exam	Practical: 20% of overall grade
The first part of the A Level course is Computer Systems. The topics covered include : <ul style="list-style-type: none"> • Hardware and Software • Data types, data structures and algorithms • Elements of computational thinking • Algorithms to solve problems and standard algorithms 	This is the second paper and covers the same topics as Paper 1 but with more of a focus on Algorithms and Programming	This last assessment is a practical assessment based around problem solving and a coursework-based topic. Students will solve a given problem using appropriate computing tools.

How is the subject taught?

In a very practical way. You will be given some notes, demonstrations, practical assignments. You will be required to work significantly in your own time in order to master the skills and techniques for the course.

What do I need to be 'good' at this subject?

Determination to solve problems and to not give up... An ability to organise yourself and to not leave things to the last minute... An ability to be creative and to use your own ideas in designing solutions... Organisation and determination are the key areas. Students need to have a real desire to study this topic – it is not a course for those students looking for a change!

What do I need to get onto the course?

This course builds directly on the GCSE Computer Science and GCSE ICT courses which you may have

completed in Years 10 and 11 and we would therefore expect these students to have at least a grade C in either of these subjects. These courses are not a mandatory requirement and we welcome students without this background. However, this course has an important mathematical element and therefore an aptitude for higher maths would be advantageous in addition to preferably a grade 5 or above in Mathematics at GCSE.

Need further information?

If you have any questions regarding this course or are unsure of whether it would be suitable for you then please see Mr Bell or Mrs Lown in rRom 77/78 or if you are new to the school send me an email at: davidbell@jkhs.org.uk

Further details of the course are available at: http://web.aqa.org.uk/qual/gce/ict/computing_noticeboard.php



**JKHS Sixth Form Centre
AS and A Level Course Summary**

IT

BTEC Level 3 IT Extended Certificate (Pearson Edexcel)

What is it all about?

IT is at the heart of the majority of the commercial, industrial, and service sector and scientific organisations. It has a continual and profound effect on the daily lives of every person. IT skills are needed by everyone in their daily working lives and people with these skills are at a significant advantage when applying for jobs.

What is the course?

The Extended Certificate in IT is equivalent to one A2 qualification. In order to achieve this award you must complete the three mandatory units and the one optional unit. There is one written exam in this course, one externally assessed set task and two internally assessed units which are marked by your teacher and externally moderated by the Exam Board.

The Mandatory Units are:
Unit 1 Information Technology Systems (written exam) Unit 2 Creating Systems to Manage Information Unit 3 Social Media
Optional Units:
There are 2 different optional units to choose from, either Data Modelling or Website Development. This will be decided by the teacher and students.

How is the subject taught?

In a very practical way. You will be given some notes, demonstrations, practical assignments. You will be required to work significantly in your own time in order to master the skills and techniques for the course.

What do I need to be 'good' at this subject?

Determination to solve problems and to not give up... An ability to organise yourself and to not leave things to the last minute...An ability to be creative and to use your own ideas in designing solutions... Organisation and determination are the key areas ...

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What do I need to get onto the course?

This course builds directly on the GCSE ICT and Computing courses which you may have completed in Years 10 and 11. The course is particularly suitable for those students who have chosen GCSE ICT as an option. This shows us that you will have the determination to meet the substantial number of coursework deadlines throughout the two years of study. You will also need to have the ability to solve problems and to think on your feet. A grade C or higher in Mathematics will help you significantly in the problem solving section of the course. We welcome students who haven't completed an ICT/Computing course at GCSE but we would need to look at the individual skills students have before accepting them onto the course.

Need further information?

If you have any questions regarding this course, including the range of units available, then either contact Mr Bell in Room 77 or if you are new to the school he can be contacted at: davidbell@jkhs.org.uk

Alternatively, please take a look at the course content document at Pearson Edexcel:

<http://qualifications.pearson.com/en/qualifications/btec-nationals/information-technology-2016.html#tab->



**JKHS Sixth Form Centre
AS and A Level Course Summary**

Mathematics & Further Mathematics

What's it all about?

Mathematics is the most ancient and yet the most modern of all the disciplines. Both beautiful and fascinating; it's highly valued by employers in industry, information technology, commerce and the scientific community.

An A-level in Maths is not just interesting and challenging, it's something that leads to an enormous range of career opportunities.

Frequently considered as one of the most difficult A-levels it is rewarded with a certain status. Mathematics is often criticised as being abstract, in truth it is one of the most useful tools in developing lateral thinking and problem solving ability, which are valuable transferable skills.

Why choose an A-Level in Mathematics

It would be hard to surpass the breadth of opportunity that lies before young people with a mathematics qualification at A-level. Maths and Further Mathematics are both viewed as *facilitating subjects* by the Russell Group of Universities which means they open the doors to a very wide range of degree courses. For some Mathematics degree courses, both Mathematics and Further Mathematics are required.

Mathematics is suitable for inclusion with either Science or Arts subjects, and is particularly recommended if Physics, Chemistry or Biology are taken at A-level. Statistics is being used increasingly in other subjects, if not at A-level, then in more Advanced courses e.g. at degree level in Psychology, Economics or Geography.

Will I be able to do it?

Students are advised not to start the AS level course unless they have followed the GCSE Higher Tier course and gained grade 5 or better.

We strongly advise students considering Further Maths to have at least a grade 7 at GCSE.

Those students who gain their target grade in A-level Maths are more likely to be those that work hard and seek help than those who are able but think they can 'coast' through. A good grade at GCSE is not a guarantee of passing A-level Maths!

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What topics are covered?

All Mathematics A-level students will follow the same syllabus of Pure Maths, Statistics and Mechanics.

Further Maths students will study additional topics from the area of Pure maths as well as two topics from Further Mechanics, Decision and Further Statistics (the exact content is still subject to confirmation from exam boards).

- Pure Mathematics includes calculus and more advanced algebra and trigonometry.
- Further Pure Mathematics modules include complex numbers and more advanced calculus and algebra.
- Statistics units aim to help students select appropriate statistical techniques for handling data and includes sampling and hypothesis tests on various distributions.
- Mechanics is based initially on Newton's laws of motion and includes both statics, the study of forces on stationary bodies, and dynamics – bodies in motion.
- Decision Mathematics modules involve modelling real-life situations using algorithms, networks, linear programming and critical path analysis.

A and AS level Mathematics

Mathematics can be taken at AS level or A-level although these are stand alone qualifications and AS results no longer count towards the A-level grade.

Both AS and A-level Maths will be assessed with terminal examinations.

AS and A Level Further Mathematics

Further Mathematics can only be studied as an *additional* AS or A-level to the standard A-level Mathematics. The course would be suitable for students who have achieved a grade A or above at GCSE level. The aim is to broaden and deepen their mathematical knowledge and fluency. This qualification is particularly useful to all who intend to study degrees with a strong mathematical content, such as Engineering, Sciences, Computing and Mathematics itself.

Both AS and A-level Further Mathematics will also be assessed via terminal examinations.

Our Courses for September 2017

All students opting for Maths will sit the AS exam in the summer of 2018. We feel this will help focus students on the importance of keeping abreast of the range of topics they'll be studying. It also gives students who are not sure if they want to commit to a full A-level the opportunity to complete one year and gain a worthwhile and highly valued qualification.

JKHS Sixth Form Centre
AS and A Level Course Summary

Modern Foreign Languages:

Français / Deutsch / Español



What's it all about?

This A level is a linear qualification and will be awarded for the first time in summer 2017.

You will undertake components and sit AS exams at the end of Year 12. These exam(s) are externally marked and are used to judge your progress and success. In addition, these results will give universities a recent indicator of your success. It is important to note that the AS is NOT half of an A2. It is a stand-alone qualification. During Year 13, you will study another three components and then at the end of year 13, study for Advanced level exams in all of the topics you have studied since the start of Year 12. The Advanced Level only takes account of the marks gained in the Year 13 exams.

Why study a MFL at A level?

A Modern Foreign Language A level will enable you to develop and enhance:

- linguistic skills
- capacity for critical thinking
- spoken and written skills, including an extended range of vocabulary, for both practical and intellectual purposes
- confidence, independence
- interaction with users of the language in speech and in writing, including through online media
- language learning skills and strategies, including communication strategies to sustain communication and build fluency and confidence
- an appreciation of sophisticated and creative uses of the language and understanding them within their cultural and social context
- knowledge about matters central to the society and culture, past and present, of the countries/communities where the language is spoken
- tolerance and understanding of other cultures
- the ability to learn other languages
- transferable skills such as autonomy, resourcefulness, creativity, critical thinking, and linguistic, cultural and cognitive flexibility
- the ability to proceed to further study or to employment.

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How is A level MFL taught?

Learners will, through the use of authentic materials, develop knowledge and understanding of the countries/communities where the target language is spoken through speaking, listening, reading and writing. Learners will be expected to access authentic written and spoken material in the target language, including from online media, in the course of their language study.

The course covers two main areas of interest:

1. Social issues and trends
2. Political and/or intellectual and/or artistic culture.

AS is made up of three components:

Component 1 is a speaking assessment (30%)

Component 2 combines listening, reading and translation (50%)

Component 3 assesses the learners' response to a literary work or a film (20%)

A2 is made up of three components:

Component 1 is a speaking assessment (30%)

Component 2 combines listening, reading and translation (50%)

Component 3 assesses the learner's response to the study of two works (20%) (*either two literary works or one literary work and a feature film.)

Studying a Modern Foreign Language at A level offers learners **a rich and detailed insight into two main areas**, as well as a broad and relevant learning experience.

The themes of *Travel and exploration*, *Diversity and difference* and *Contemporary youth culture* are ones which resonate in the lives of young people today, enabling learners to empathise with issues and deepen their knowledge of how they affect the countries or communities where the target language is spoken.

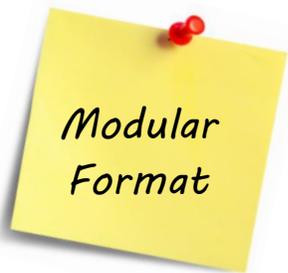
The fourth theme, introduces learners to a country specific theme focusing on a key period in the country's history, including significant events in political, intellectual and artistic culture, which have helped shape the country as it is today.

What do I need to get on the course?

GCSE MFL grade A/B is the preference and you need to be hardworking and interested in the language, culture and politics of your chosen subject. A keen interest in current affairs and global issues is also useful.



JKHS Sixth Form Centre
AS and A Level Course Summary



Modular
Format

Music Technology (Production)

(BTEC Level 3 Subsidiary Diploma)

What's it all about?

The Music Technology course looks at the cutting edge techniques used to produce modern music, and how technology is used in performance. Students have access to industry-leading hardware and software, and develop creative and technical skills through performance and recording studio work. The course also covers research topics such as human hearing and the physics behind sound and musical instruments.

What topics are covered in Year 12?

- **1st Unit – Music Technology in Performance**
A study of how technology can be used in performance, its historical context and how it enables us to perform with related art forms such as drama, film and imagery.
- **2nd Unit - Acoustics for Musicians**
The physics of sound, musical instruments, human hearing and acoustic spaces.
- **3rd Unit – Music Production Techniques**
Setting up equipment, capturing audio sources using multi-track recording techniques and mixing down recordings.

What topics are covered in Year 13?

- **4th Unit – Live Sound Techniques**
Understanding sound requirements for music venues, how to set up sound systems and create a successful live mix.
- **5th Unit – Sequencing Systems and Techniques**
Using sequencing techniques to create music in software, combined with recorded audio to realise musical ideas.
- **6th Unit – Special Subject Investigation**
A research task that challenges learners to investigate a chosen topic area within Music Technology and present their results professionally.

How is the subject taught?

This is a very practical and vocational course, with the use of ICT and advanced studio facilities featuring very prominently. Students work both individually and within groups to develop their skills. There are six coursework assignments to complete each year. These target the various units of study and give students the opportunity to maximise their achievement by linking different topics together.

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What do I need to be 'good' at this subject?

You do need to play an instrument or sing, although there is no grade requirement. Other than that, a keen interest in modern music and technology goes a long way towards enjoyment of the course!

What career or degree is it useful for?

BTEC Music Technology Production develops skills that are used in many areas of the music and media industries. Career paths that are opened can include: live sound engineering; recording studio work; live music performance; events management & organisation; working with new media & advertising, film and television; the broadcasting and communications industries. At degree level music technology is a subject in itself, but can complement a variety of other areas of study such as music, new media studies, communication systems & IT, physics and drama.

What do I need to get onto the course?

Previous study of music/music technology through BTEC or GCSE would be preferable, as well as practical musical ability.



**JKHS Sixth Form Centre
AS and A Level Course Summary**

Physical Education

What's it all about?

All different aspects of PE and Sports. This is split into 2 sections:

- Practical 30 %
- Theory 70 %

What topics are covered for A-level?

- Anatomy and physiology
- Contemporary issues in PE
- Skill acquisition
- 1 Practical activity plus observation and analysis
- Exercise physiology and Biomechanics
- Sports psychology
- History of Sport and PE
- 1 practical activity plus observation and analysis linked to theoretical work which will be the same as in Year 12.

How is the subject taught?

“Superbly!” (Mr Donoghue). But seriously – it is taught through note-making, presentations, quizzes, mind-maps, group work, practical sessions, exam-style questions and revision seminars.

What do I need to be ‘good’ at this subject?

You need to be keen and enthusiastic in all areas of PE. A willingness to relate practical skills to theoretical work is a real strength.

What career or degree is it useful for?

PE Teacher, Sports Physiotherapist / Psychologist, Sports Manager, Leisure Management, Sports Journalist.

What do I need to get onto the course?

A good all-round base of GCSEs at grade C or above. PE GCSE is preferred, but we will discuss individual cases with you if you haven't got it. A good science background as well as at least a 4 grade in English is advisable.



JKHS Sixth Form Centre AS and A Level Course Summary

Physics

What's it all about?

Physics is the study of everything – from sub-atomic particles to the entire Universe!

It asks questions about how and why things behave as they do. It includes topics such as thermodynamics, magnetism, dynamics, radioactivity, forces, electricity, time, fields, waves, particle physics and quantum phenomena.

What topics are covered for AS?

- Foundations of physics (Physical quantities and units, making measurements and analysing data)
- Forces and motion (Motion, forces in action, work energy and power, materials, momentum)
- Electrons, waves and photons (Charge and current, energy power and resistance, electrical circuits, waves, quantum physics)

What topics are covered for A2?

- Newtonian World and astrophysics (Thermal physics, circular motion, oscillations, gravitational fields, astrophysics and cosmology)
- Particles and medical physics (capacitors, electric fields, electromagnetism, nuclear and particle physics, medical imaging)

Practical Endorsement

Students are required to complete a minimum of 12 practical activities which cover a range of skills and techniques during the A level course. Successful completion of the practical part of the course will be reported on the student's A level certificate alongside the grade achieved in the written papers.

How is the subject taught?

Practical and theory sessions, data-logging investigations, problem solving, Q&A sessions, discussion, fact-finding, note-making, written exercises, group work, exam practice.

What do I need to be 'good' at this subject?

You need to be a person with an inquiring mind who likes asking questions. You should be a confident mathematician with good practical skills. You must like solving problems and be keen to face challenges. You need to be able to work as part of a group. You must be willing to work hard and complete a demanding workload!

What career or degree is it useful for?

Physicists often have jobs in the medical world, engineering, scientific civil service, communications, meteorology, geophysics, finance, computing energy, education, the environment, materials science and many branches of industry. A-level physics gives you an unrivalled breadth of skills that can be used in most careers.

What do I need to get onto the course?

You need a minimum of C grades. We prefer A* - B grades in Science and 5 in Maths. We would strongly advise you to study Maths Mechanics at AS level as this will support your Physical studies.



**JKHS Sixth Form Centre
AS and A Level Course Summary**

Psychology

What's it all about?

Psychology is defined as “the scientific study of the human mind and its functions, especially those affecting behaviour.” Psychologists are interested in all aspects of human behaviour, including eyewitness testimony, aggression and explanations of mental disorders.

What topics are covered for AS Psychology?

- **Methodology:** Planning, conducting, analysing and reporting psychological research using a range of experimental and non-experimental techniques.
- **Social Psychology:** Obedience
- **Cognitive Psychology:** Eyewitness testimony
- **Developmental Psychology:** Aggression
- **Biological Psychology:** Functions of different areas of the brain
- **Individual differences:** The work of Sigmund Freud
- **Perspectives and debates:** Behaviourist and Psychodynamic perspectives, the nature/nurture debate, and the scientific status of Psychology

What topics are covered for A level Psychology?

- **Methodology:** Planning, conducting, analysing and reporting psychological research using a range of experimental and non-experimental techniques.
- **Social Psychology:** Obedience and Bystander behaviour
- **Cognitive Psychology:** Eyewitness testimony and Attention
- **Developmental Psychology:** Aggression and Moral development
- **Biological Psychology:** Functions of different areas of the brain and Brain plasticity
- **Individual differences:** Freud and techniques for measuring differences
- **Issues in mental health:** Medical model, alternative approaches, treatment of disorders
- **Criminal Psychology:** Biological and Psychological explanations for criminal behaviour
- **Environmental Psychology:** Stress, Bodily rhythms, Personal space
- **Perspectives and debates:** Behaviourist and Psychodynamic perspectives, the nature/nurture debate, and the scientific status of Psychology

How is the subject taught?

Note-making, mind maps, presentations, group work, display work, videos, quizzes, question and discussion sessions.

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What do I need to be 'good' at this subject?

To study psychology you need to be interested in finding out why humans behave in the ways that they do. You need to be hard-working, like reading and be broad-minded with the ability to think critically and not accept everything you read!

What career or degree is it useful for?

Psychology is useful for most degrees and any career that involves people, in particular business and managerial positions, teaching (especially special needs), and work within the health service. Careers directly linked to psychology include research psychologist, educational psychologist, drama therapist, counsellor, clinical psychologist, sports psychologist, and forensic / criminal psychologist.

What do I need to get onto the course?

As the subject is essay based, you need GCSE English at grade 4 or above. There is a large mathematical element to the course and therefore a grade 5 or above in GCSE Maths is also preferred.



**JKHS Sixth Form Centre
AS and A Level Course Summary**

Design & Technology: Product Design

What's it all about?

This course is essentially concerned with identifying and solving practical problems through designing and making. Design and Technology develops students' practical and key skills, as well as their capacity for analysis, creativity, innovative thinking and independence. Students will also further their knowledge and understanding of the role, applications and the implications of using technology in our world.

What topics are covered for AS?

Students will be assessed in a written examination worth 50% of the overall mark on the following theoretical topics, Designing & Innovation, Materials & Components, Industrial & Commercial Practice and Product Analysis & Systems. In addition, students undertake a design and make task, a non-exam assessment worth the remaining 50%. This will include a design folio and practical providing a creative and innovation solution to a brief.

What topics are covered for A2?

Students will be assessed in a written examination worth 50% of the overall mark on the following theoretical topics, Designing & Innovation, Materials & Components, Processes, Industrial & Commercial Practice, Product Analysis and Systems & Human responsibility. In addition, a substantial design and make project forms the non-exam assessment worth the remaining 50%. This will include a detailed design folio and innovative practical providing a creative solution to a brief.

How is the subject taught?

At both AS and A level, candidates will be set design briefs, which will, where possible, relate to the candidate's personal interests and ambitions. A 'design and make' approach will be followed to achieve a creative and innovative solution to those briefs. Design, modelling, graphical and practical skills will be developed throughout the course.

What do I need to be 'good' at this subject?

Design and Technology is a specialised and demanding course. It is recommended that only students who are creative and have innovative ideas with a flair for design work should consider it.

What career or degree is it useful for?

Design & Technology is a valued 'A' level in its own right as it is recognised to develop attitudes and abilities relevant to modern working practice. It is accepted by universities as an entrance subject and is a stepping stone to such future design careers as: industrial, product, interior or graphic design; engineering, architecture, town planning etc.

What do I need to get onto the course?

The focus area of **Product Design** offers suitable progression for those candidates who have worked in Graphical Products, Resistant Materials or Engineering.



**JKHS Sixth Form Centre
AS and A Level Course Summary**

Religious Studies: Ethics, Philosophy and Judaism (Eduqas)

What's it all about?

R.S. examines the beliefs and assumptions that people have about the world and explores the basis of these ideas along with some of the big questions that people ask about life, the universe and everything.

What topics are covered?

Philosophy & Religion

- God/gods/ultimate reality
- Life after death
- The challenge from science
- The nature and role of religion
- Sources of wisdom and authority incl. The Torah
- Arguments for the existence of God
- Evil and suffering
- Religious experience
- Religious language
- Miracles
- Self and life after death
- The nature and function of religion

Ethics, Religion and Society

- Key moral principles
- Religious identity
- Religion and sexual identity
- Religious pluralism
- Ethical theories
- Issues of human life and death
- Issues of animal life and death
- Introduction to meta ethics
- Free will and moral responsibility
- Conscience
- Utilitarianism: Bentham and Mill

How is the subject taught?

The subject is split into 3 parts – Paper 1: Judaism; Paper2: Philosophy; Paper 3: Ethics

Note taking, mind maps, group work – e.g. presentations, attending conferences, videos, ICT (internet/powerpoint presentations), tests, examination practice, essay work, independent study packs. The department has organised successful visits to London, New York and Washington DC in recent years.

What do I need to be 'good' at this subject?

You need to enjoy thinking, be willing to work hard (this isn't an easy subject!), be able to weigh up different sides of an argument and be willing to have your own assumptions and beliefs challenged – should you follow the white rabbit or not?!

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What career or degree is it useful for?

You will develop your skills of reasoning, empathy, tolerance and debate. This subject is good preparation for any 'thinking' or 'caring' profession – law, medicine, teaching, public relations, journalism etc. R.S. students have gone on to study a very wide variety of subjects at university / college including PPE, Law, Medicine and Teaching. **This subject is highly regarded by 'Russell Group' universities and is considered as an academic option at A Level.**

What do I need to get onto the course?

We usually ask for a 'B' grade in RE or a similar subject – e.g. History, English etc. If you are unsure then come and talk to Mr Wardale or Mr Phillips.

JKHS Sixth Form Centre AS and A Level Course Summary

Sociology

What's it all about?

“Sociology is the study of individuals and groups and the way they act in society. It can provide a better understanding of the world and therefore the means for improving it.”



What topics are covered for AS?

1. **Socialisation and Culture:**

Component 1 considers the importance of social class, gender, age and ethnicity. It also looks at important institutions in society such as Family and Education.

2. **Methods of Sociological Enquiry:**

Component 2 involves an understanding of how research is conducted within the study of Sociology and human behaviour.

What topics are covered for A2?

1. **Socialisation and Culture:**

Component 1 is the same as the AS Level content and is assessed at the end of Year 13 as part of the A Level qualification.

2. **Methods of Sociological Enquiry:**

Component 2 involves students carrying out their own piece of research in preparation for the written exam at the end of Year 13.

3. **Power and Stratification:**

Component 3 includes two key topics:

- **Social inequality** -still as relevant in society today as any other period of history, why do societies have inequalities between groups? Are they inevitable?
- **Crime & Deviance** - what are the causes of crime in society? Who is most likely to be convicted? And how can we tackle the problem of crime?

How is the subject taught?

Discussion work, note-making, reviewing programmes from TV, newspaper articles, mind-maps, posters, presentations, debates, group-work, displays, exam practice.

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What do I need to be ‘good’ at this subject?

You need to be hard-working and prepared to read relevant materials from a variety of sources. (textbooks, newspapers etc.) Most importantly you need to be interested in society and able to take a fresh look at some “common sense” assumptions about the world! Asking questions about issues and discussing them with the group is also important.

What career or degree is it useful for?

Sociology and social policy, law, health, teaching, politics, journalism and media, public services, police, social work, drama, criminology, psychology.

What do I need to get onto the course?

A good range of GCSEs with at least 4 or above, including English Language.