



ISAAC NEWTON
ACADEMY

SIXTH FORM

**Course
Guide**

**For entry in
September 2017**

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Introduction

You are about to embark on a really exciting stage of your educational journey, as you make important decisions about the subjects that you would like to study post KS4.

You now have the opportunity to start to specialise, studying certain subjects in greater depth and for more hours each week. This will support you in mastering key disciplines in the scholarly way needed to prepare you for university.

However, at the same time as choosing certain subjects to focus on in more depth, you are inevitably being required to make difficult decisions about which subjects you will no longer study formally at school.

This booklet is designed to support you through the choices process: to clarify the choices you have, to inform you about the various subject courses. We know that you are curious to learn more about new subjects and how subjects may feel different at KS5 and so we hope that this booklet will give you a flavour of what is available to you.

We look forward to sharing more with you over the next year and supporting you through this exciting phase in your life!

Very best wishes,

Rachel Macfarlane

Principal

Sugra Alibhai

Head of Sixth Form

Timeline of events

October 2016

Sixth Form Open Evening, Applications Open & Sixth Form Taster Day

- Presentation from Ms Macfarlane
- Taster lessons in a range of subjects.
- Applications to join the Sixth Form open online

Friday 27th January 2017

Application deadline

Applications close at noon

February 2017- April 2017

Interviews will be held for all applicants. All offers will be made by the end of April.

July 2017

Induction programme takes place.

Pre learning will be set to support a smooth transition to the Sixth Form.

24th August 2017

GCSE Results day. Sixth form enrolment will take place immediately after GCSE results day.

Art A level

EDEXCEL

What is Art A level and why study it?

Throughout the course students will experience working in a range of media to develop appropriate practical skills through a range of disciplines including painting and drawing, printmaking, sculpture, photography and digital art. Students will explore practical investigations informed by their contextual and cultural influences by recording ideas, observations and insights relevant to intentions.

Students' investigations must lead to a finished outcome or a series of finished outcomes. The investigation should be a coherent, in-depth visual study that demonstrates the student's ability to construct and develop a sustained line of reasoning from an initial starting point to a final realisation.

This course will suit students who enjoy the opportunity to explore independently and develop their own intentions. Art and Design goes well with creative subjects, but really it's a great companion course for practically any area of study. Whether you intend to pursue a career in the arts, a technical subject or science, encouraging your own creativity is always a bonus and can also help you have great ideas in your other subjects.

Where next?

There are many careers in art, craft and design. Often students opt to take a one year foundation course before applying to a specialist art and design course at degree level. For careers in the creative industry, an Art & Design course will provide a varied portfolio of evidence. The portfolio students create during the course offers students an opportunity to prepare and develop skills that can be presented at university interview for art and design courses. Students have gone on to pursue careers in the following fields: Fine Art, Illustration, Product Design, Textile Design, Theatre and TV Set Design, Costume Design, Art Restoration, Architect, Art Therapy, Art Administration in Galleries.

What are the entrance requirements?

Grade B in GCSE Art and Design

Who do I need to see for more information?

Mr A James, Head of ADT

Biology A level

AQA

What is Biology A level and why study it?

Biologists are scientists who study the natural world and all the living things in it, from the largest mammals down to our very own microscopic DNA. They try to understand how animals and organisms work (including us humans), how we evolved and the things that can make us sick or improve our health.

Biologists use this knowledge to do things like try to stop the spread of disease, track down natural resources, improve public health, animal care and conservation and work out the true impact of things like pollution. Some of the greatest challenges we face are being tackled by biologists, from global warming, to finding a cure for dementia and discovering new antibiotics to tackle the rise in resistant pathogens. As with the other sciences, Biology helps you to build up **research, problem solving, organisation** and **analytical** skills. If you study Biology, you will likely find yourself working on group projects, which will help you build your **teamwork** and **communication** skills too

Biology is a key subject for lots of STEM careers, particularly in healthcare, medicine and jobs involving plants or animals. The list is pretty long and includes: nursing, dentistry, forensic science, psychology, physiotherapy, botany, environmental science, zoology, geology, oceanography, pharmaceuticals, energy, teaching, science writing, genetics and research.

As part of the AQA course, A-Level students will study topics including:

- Biological molecules
- Cells & exchange mechanisms
- Genetic inheritance & variation
- Homeostasis
- Bioenergetics
- Populations, ecosystems and evolution

Where next?

You'll specifically need Biology for courses in Biology, Biomedical Sciences, Dentistry, Dietetics (studies in food and nutrition), Medicine, Physiotherapy and Veterinary Science.

Biology is usually required or recommended for degrees in: Biochemistry, Chemical Engineering, Chemistry, Geology, Environmental Science, Materials Science, Nursing & Midwifery, Occupational Therapy, Optometry, Pharmacy, Sports Science, Psychology and Speech Therapy.

It is also useful for: Anthropology, Psychology, Civil Engineering, Geography and Teaching. You may need A-level in Biology to take on a higher apprenticeship in healthcare or biological sciences, e.g. researching diseases or biochemistry.

What are the entrance requirements?

Grade 5 in English language, Grade 5 in Maths, Grade B in Triple Science.

If you have studied Combined Science, Grades AB are preferred, BB are considered

Who do I need to see for more information?

Mr A Clift-Matthews, Head of Science & Dr R Mounsey, Lead Teacher of Biology

Business BTEC National

What is Business BTEC National and why study it?

We will be offering the BTEC National Diploma in Business. This is equivalent to taking 2 A levels. Students will cover units looking areas such as:

- The business environment
- Business resources
- Marketing
- Business communication
- Business accounting
- Starting a small business
- Recruitment
- Business ethics

The course is designed to involve continual assessment and is different to A levels in that there is not a large proportion of the course weighted to final exams.

Learning will be encouraged in a practical way and students will apply the underpinning theories, research and analysis to bring a depth of understanding to their work.

Where next?

BTEC courses can be taken instead of or alongside A level qualifications and attract UCAS tariff points for university in a similar way.

The grading system is different, with BTECs being graded Pass, Merit, Distinction, Distinction* rather than A*-E

	UCAS Tariff Points			
A level	A* 56 points	A 48 points	C 32 points	E 16 points
BTEC	Distinction* 56 points	Distinction 48 points	Merit 32 points	Pass 16 points

The BTEC National is recognised by universities and industry. It can lead to a degree in Business or an apprenticeship.

What are the entrance requirements?

Grade 5 in English language, Grade 5 in Maths

Who do I need to see for more information?

Ms S Alibhai, Head of Sixth Form

Chemistry A level

AQA

What is Chemistry A level and why study it?

Chemistry is a challenging, interesting subject that is a prerequisite for careers in medicine and many other science vocations. Students are able to develop their knowledge and understanding of chemistry to the necessary levels required to continue science to degree level. Chemists conduct experiments to study how elements work in different conditions, test how they mix, and work out what they are made up of right down to the tiniest particle. The results can be ground breaking, colourful, explosive, or almost impossible to see.

Chemists use their experiments and knowledge to develop medicines, foods, fabrics and other materials, from neon lights to shatterproof glass. They also use it to understand the world around us, from why leaves change colour to discovering invisible pollutants in the air.

Chemistry is sometimes known as the 'central science' because it helps to connect physical sciences, like maths and physics, with applied sciences, like biology, medicine and engineering.

Topics studied include:

- Advanced atomic structure
- Redox reactions
- Chemical Equilibria including Le-Chateliers principle
- Thermodynamics & Chemical Kinetics
- Transition metal chemistry
- Carbonyl compounds and Organic synthesis

Chemistry helps you to develop research, problem solving and analytical skills. It helps to you challenge ideas and show how you worked things out through logic and step-by-step reasoning. Chemistry often requires teamwork and communication skills too, which is great for project management.

Where next?

Chemistry is a prestigious A-level qualification and is essential for university courses such as: medicine, environmental science, engineering, toxicology, developing consumer products, metallurgy (studying how metals behave), space exploration, developing perfumes and cosmetics, pharmaceuticals, energy, teaching, science writing, software development and research.

It is often needed or recommended for: Biology, Medicine, other types of Engineering, Geography, Environmental Sciences, Materials Science, Physiotherapy, Nursing, Sports Science, Psychology, Zoology and Veterinary Science.

As a highly challenging A-level subject, Chemistry is also highly valued as an academic and rigorous intellectual qualification that supports other courses such as: Law, Accountancy, Economics, Mathematics, Engineering, and Forensic Science.

What are the entrance requirements?

Grade 5 in English language, Grade 6 in Maths, Grade B in Triple Science.

If you have studied Combined Science, Grades AB are preferred, BB are considered

Who do I need to see for more information?

Mr A Clift-Matthews, Head of Science

Computer Science A level

AQA

What is Computer Science A level and why study it?

Ever looked at a mechanical, electronic or digital device and wondered how it worked? Or have you ever had ideas that you could see working if only you had the skills to do so? Studying Computer Science at 'A' level will provide you with the skills and foundation you need if you are interested in pursuing a career in game device, or technology development.

Amongst other essential areas of Computer Science, students will learn about computational thinking and the application of appropriate algorithms; this will provide students with knowledge about a range of sorting algorithms. As part of learning computer architecture, students will have the opportunity to study the internal hardware of computers. They will also learn how to apply the fundamentals of software development which will include learning about how to store, process and manipulate data in well-constructed, modularised, reusable programs. Understanding how computers receive, fetch and execute instructions will involve understanding how data is represented by computers and will provide students with a comprehensive understanding of computing.

Where next?

Students who study Computer Science 'A' level go on to degree courses such as computing, software engineering or other associated degree leading to technology development.

Future careers include: networking, internet start-up companies, app development, web design, gaming development and robotics

What are the entrance requirements?

Grade 6 in Maths, Grade BB in Double Science or a Grade B in Physics.
If you have studied GCSE Computing a Grade B is required.

Who do I need to see for more information?

Ms M Duraku, Lead Teacher of Computing

Economics A level

What is Economics A level and why study it?

Economics is a subject that involves much discussion in lessons of current issues in the news. Theories are constructed to help our understanding of markets and economies.

The subject is divided into micro economics (the study of individual markets and the behaviour of consumers and producers) and macroeconomics (the study of the economy as a whole, including inflation, unemployment, and economic growth and international trade).

For microeconomics you will consider questions such as:

- Why have food prices risen?
- Should there be a national minimum wage?
- Should governments provide free healthcare and education?

For macroeconomics you will consider questions such as:

- Why has unemployment fallen?
- Should the Bank of England increase or decrease interest rates?
- How are imports and exports affected by the value of the Pound?

Economics is a challenging, theoretical subject which combines analytical thinking, mathematical problem solving and the opportunity to formulate arguments.

Where next?

Economics is a subject that is well respected by both employers and top universities. Many students who take A level economics. Of this around 30% of them chose to do economic at university Economics at degree level can lead on to many careers in business, finance and political policy making.

What are the entrance requirements?

Grade 6 in Maths and Grade 6 in English Language

Who do I need to see for more information?

Ms S Alibhai, Head of Sixth Form

English Language A level

EDEXCEL

What is English Language and why study it?

With over 330 million native speakers of English and 810 million who speak it as a second language, the English language remains, and will continue to remain for some time to come, an incredibly powerful resource for those who truly know how to use it.

By exploring how the English language has evolved, and how specific groups of people have come to use it, the English Language A-Level will equip you not only with the skills to identify how others are using language to manipulate you, but also how *you* can use language to manipulate others, whether that's for your own benefit, or for society's.

As a result, it's a subject that anyone who is thinking of a career in business, marketing, politics, law, journalism, or even activism may well wish to consider, as well as those wanting to work with children or local communities. It also has a scientific and psychological focus too – requiring you to carry out your own language investigation, including the collection and analysis of data – that may appeal to students interested in pursuing careers in medicine or therapy.

The course covers a broad range of topics. You'll study how children learn to speak English, and how they learn to write it. You'll discover how the English language works, and how and why this has changed both over time and from place to place. You'll explore how and why people change the way they communicate according to their context, and compare how writers explore very similar ideas in very different ways. You'll be introduced to various debates about whether English is changing for the better or for the worse, and how it can be used to oppress or liberate groups of people who are linked by race, religion, gender or even wealth. And by studying all these things you'll have numerous opportunities to grow your skills as a writer of a variety of different genres.

Along the way, you will develop various transferable skills, including the ability to:

- produce original and impactful writing (fiction/non-fiction/both)
- design and conduct independent research, including data collection and analysis
- write analytical essays (even science degrees have entirely essay-based exams)

Where next?

Although English Language may not be the best choice for those wanting to apply to one of the Russell Group universities, it's still seen as an incredibly valuable subject for anyone considering careers in politics, law, languages, journalism, activism, psychology, therapy, and teaching. It is also great preparation for anyone considering a career in PR/marketing in either the public/private sector.

What are the entrance requirements?

Grade 6 in English Language and Grade 6 in English Literature

Who do I need to see for more information?

Ms R Curley, Head of English & Ms R Rudd, KS5 Lead for English

English Literature A level

EDEXCEL

What is English Literature and why study it?

People have been telling stories for millennia. Literally. Experts believe the first story was 'put down on paper' over 4000 years ago; though evidence exists to suggest that the origins of storytelling go back even further, to almost 40,000 years ago. You could say sharing stories is what make us human. Each of these stories offers fascinating insights into the thoughts, feelings, hopes, fears, ideas and beliefs of people past and present, both within the UK and beyond it; the more of them we read, the more we come to realise not only what makes us unique, but also what unites us.

The English Literature A-Level is a demanding course, but a rewarding one, aimed at anyone who loves reading and wants to learn more about themselves, other people and the world we live in. It allows you to study a wider and more diverse range of poems, plays and prose than at GCSE, and to study them in much more depth. Some of the texts you *might* study at INA include:

- Modern novels, such as *A Thousand Splendid Suns*, *The Handmaid's Tale*, or *Beloved*
- C19th novels, such as *Wuthering Heights*, *Frankenstein*, or *Dracula*
- Contemporary plays, such as *A Streetcar Named Desire* or *Waiting for Godot*
- Plays by Shakespeare, such as *Othello*, *King Lear* or *Hamlet*
- Poetry through the ages, including a collection of C21st poems

These units will of course be supplemented by extra-curricular theatre and university trips and visits, as well as by your own wider reading. In addition, you will be encouraged to explore the contexts of the texts you study, as well as how others have interpreted them, to help you develop your own informed critical stance, which you will learn to express with greater sophistication than at GCSE.

As a result, you'll develop a wide range of transferable skills, including the ability to:

- conduct independent research and study
- develop and articulate ideas with clarity, precision and passion both verbally and in writing
- read critically, think deeply, and better understand society and the human condition

Where next?

English Literature is seen as one of nine 'facilitating subjects' by the Russell Group universities like Oxford, Cambridge, Bristol etc. As a result, it's a course you should seriously consider taking if you intend to apply for any of the courses offered by these institutions. Whether you're thinking of a degree or career in law, politics, journalism, media, marketing, advertising, PR, philosophy, history, anthropology, theatre, film, or the visual arts, you'll find the Literature A-Level extremely helpful.

What are the entrance requirements?

Grade 6 in English Language and Grade 6 in English Literature

Who do I need to see for more information?

Ms R Curley, Head of English & Ms R Rudd, KS5 Lead for English

French A level

EDEXCEL

What is French A level and why study it?

A-level French helps students develop confident, effective communication skills in French and a thorough understanding of the culture of countries and communities where French is spoken. It develops an interest in, and enthusiasm for, language learning and encourages students to consider their study of the language in a broader context.

As with French GCSE, the A-level still focusses on the four main skills; Listening, Reading, Writing and Speaking. However it also allows for a much deeper study of the culture and traditions of French Speaking countries.

There is set literature at A level (choice of text or film at AS). All are assessed through a target language essay.

The other compulsory themes which are covered orientate around social issues and trends, political and/or intellectual and/or artistic culture; all of which encourage a deeper understanding of the language as well as the society of study.

The other two main differences between the GCSE and A-level courses are the introduction of translation skills from and into French and the 'Independent Research Project' for the speaking exam, allowing students more freedom with their spoken expression whilst meeting set linguistic criteria.

As from 2016 A- level French will now be fully linear, with students sitting their exams at the end of the two-year course giving our students more time to prepare and become confident in their linguistic skills and expression.

Where next?

Workplace opportunities for languages graduates are wide-ranging, with the analytic and communications skills needed within a French degree, added to the core linguistic skills, widely prized by employers. Recent reductions in language graduate numbers, combined with corporate globalisation, have added to demand for linguists. French graduates go on to work in education (teaching both French in English-speaking countries and English abroad), and to use their linguistic skills in fields including the diplomatic service, the security service, journalism, law, accountancy, business, industry and finance.

What are the entrance requirements?

Grade B in GCSE French

Who do I need to see for more information?

Ms L Girard, Acting Head of MFL

Geography A level

EDEXCEL

What is Geography A level and why study it?

In A-Level Geography you study the interaction of processes that shape our world. This is complex and dynamic and varies from place to place depending on people's resources, technology and culture. Examples of units which are studied for Edexcel Geography A Level are in the table below. You will also conduct an extended piece of research of your choice. Every A level Geography student will need to undertake a minimum of **4 days working outside the classroom on educational visits.**

Human Systems and Geopolitics	Dynamic Places
Superpowers Global Development and Connections – either Health, Human Rights and Intervention or Migration, Identity and Sovereignty	Globalisation Shaping Places – either Regenerating Places or Diverse Places
Dynamic Landscapes	Physical Systems and Sustainability
Tectonic Processes and Hazards Landscape Systems, Processes and Change – either Glaciated Landscapes or Coastal Landscapes	Water Insecurity The Carbon Cycle and Energy Security

There is plenty of room for discussion and extended research. By the time you get to your exams, you will be able to show your understanding of a range of opinions and be able to illustrate your answers with case studies from local, national and international examples. You will learn in a wide variety of ways, such as by reading articles, developing GIS skills, data analysis, studying photos, maps, videos, as well as attending lectures and field trips. You will be encouraged to frame your own questions and show your grasp of complex issues through report and essay writing.

Where next?

Geography is highly valued by universities as an A Level choice. The Russell Group universities name Geography as one of the eight facilitating subjects. Choosing facilitating subjects can keep more options open to you at university. Geography combines well with both arts and science subjects; it is a broad-based subject that fits well for future progression.

For careers in the world of business, an understanding of global economics forms an important part of geography. If you are thinking of a career in law, human rights, international relations or welfare then geography gives you the opportunity to consider relevant issues affecting societies today. If you are working towards a future course in medicine or veterinary medicine then geography is a good choice to give your A Level options the breadth that many universities seek, as you will gain a clear understanding of how the environment affects health and survival of people and ecosystems as well as enhancing your skills of writing essays and extended reports.

If you don't have a clear idea of your future, remember that Geography as an A level gives you the chance to keep your options open as it covers both arts and science.

What are the entrance requirements?

Grade B in GCSE Geography

Who do I need to see for more information?

Ms S Balsdon, Head of Humanities

Government and Politics A level

What is Government and Politics A level and why study it?

The study of government and politics allows students to explore power, society and decision-making at different levels. The course requires students to explore different aspects of UK and US politics. Students will debate ideas, structures and the political history in both countries. Students will be required to grasp political ideas and will start to embrace and understand their own political viewpoints.

Students will need to develop their skills of critical analysis and evaluation, particularly when studying evidence, data and case studies.

The course is structured to give students a comprehensive grounding in political discourse and allows every student the chance to ignite their passion for politics through the study of current affairs, law making and participation.

Where next?

This course allows students to gain a qualification that is highly valued in many top universities. Students who study this subject can expect to gain many transferable skills, which will help them to access a wide range of different university courses. Many students can carry on their studies in complementary subjects such as International Relations, Law, History, Journalism and Politics at degree level. Students can also apply to study the highly valued course of Politics, Philosophy and Economics (PPE) at top ranking universities in the UK.

This course opens up many career opportunities in a wide range of disciplines. Many students choose to progress their career in politics, the civil service or government departments. Careers in law and legal services are also popular destinations for those who choose to study this course.

What are the entrance requirements?

Grade 6 in English Language

Grade B in a Humanities subject preferred

Who do I need to see for more information?

Ms S Alibhai, Head of Sixth Form

Graphics A level

What is Graphics A level and why study it?

Developing further the skills and learning fostered in the GCSE course, this A level is an excellent opportunity to design at a more demanding level.

You will be exposed to design briefs that support a deeper understanding of topics such as:

- Conceptual design: this incorporates a wide range of 3D products with associated graphics, for example packaging design, product/industrial design, point of sale display
- The built environment: this focuses on the humankind surroundings that provide the setting for human activity, for example architecture, interior design, exhibition design, theatre sets, garden design.

Furthermore there will be an opportunity to delve deeper into the technical analysis of products and therefore the theory underlying the design process. Topics considered will include:

- Form
- Function
- User requirements
- Performance requirements
- Material requirements
- Scale of production and costs

Where next?

This is a course that offers opportunity to develop an exciting portfolio that can lead to the possibility of a wide range of design-based careers from product design, technical illustration, architecture and advertising to civil engineering, graphic design, set design, marketing and promotion. The possibilities are exciting, influential and diverse.

What are the entrance requirements?

Grade B in GCSE Graphics

Who do I need to see for more information?

Mr A James, Head of ADT

History A level

EDEXCEL

What is History A level and why study it?

Hopefully students at Isaac Newton Academy who study History will enjoy the fascination of people, patterns and change in the past. History combines the excitement of exploration and discovery with the sense of reward born of successfully confronting and making sense of complex and challenging problems. An A-Level History course allows you to further study events you know something about to a deeper level, and learn about new events and people, building on skills developed at KS3 and GCSE.

At INA History course at A-Level will be taken from **Edexcel**. Students will study 3 topics which will be examined at the end of Year 13. The exams account for **80%** of the final grade. The exam topics are:

- Paper 1: **1G**: Germany and West Germany, 1918–89
- Paper 2: **2G.1**: The rise and fall of fascism in Italy, c1911–46
- Paper 3: **31**: Rebellion and disorder under the Tudors, 1485–1603

Students will also complete a piece of coursework in History, which contributes up to **20%** of the final grade. The coursework involves students researching and then writing a 3,500 word essay on a particular historical topic.

Why pick History A-Level?

The purpose of historical inquiry is not simply to present facts but to search for an interpretation of the past. Historians attempt to find patterns and establish meaning through the analysis and evaluation of evidence. Students of history will be required to construct a reasoned argument, listen to and assess the opinions of other people, and examine critically a wide range of primary sources.

The exams will assess your skills at:

- Recall and application of knowledge of historical events studied.
- Constructing a reasoned argument based on careful selection of evidence and explanation.
- Critical analysis and evaluation of a wide range of historical sources both primary and secondary, and events for their significance.
- Using historical inquiry skills for forming careful and complex interpretations of the past.

Studying History is fun. The best reason for taking a history course is that the past fascinates you and you enjoy studying it. The study of History has a civilising influence on our society. It is the source of our political, social and ethical ideals.

Where next?

History is a very popular choice for A-Level. Russell Group universities list History as a facilitating subject, so it is useful and can benefit your study in a broad range of degree courses at university. Students can go on to university and then specialise in a large range of subject areas, from the History of Art, Architecture, Archaeology, Journalism, Education, the Law, Politics or even to the History of War. History always complements other subjects. It provides skills and understanding that will always be valuable in any career.

What are the entrance requirements?

Grade B in GCSE History

Who do I need to see for more information?

Ms R Priestley, Lead Teacher of History

Mathematics A level & Further Mathematics A level

EDEXCEL

What is Mathematics A level and why study it?

Mathematics at A-level carries on from where your GCSE higher level course left off. You will develop your understanding of pure mathematics; investigating graphs, manipulating algebraic expressions and solving problems using trigonometry as well as learning brand new ideas such as calculus.

You will also study applied mathematics - learning how to mathematically describe the motion of objects such as a cricket ball flying through the air, or a car driving down the street. Many of the concepts you meet in the mechanics part of the course form an essential introduction for anyone hoping to study engineering, physics, robotics, bio-mechanics or sports science.

The course will also allow you to improve how you analyse and compare sets of data through the study of statistics, an essential skill in today's data-rich world. You will learn robust techniques to examine correlations, make predictions, identify distributions and calculate probabilities.

What is Further Mathematics A level and why study it?

Running alongside A level Mathematics, the Further Mathematics course is for those with a clear enthusiasm and aptitude for mathematics. It is ideal for those aiming to study mathematics or science-based subjects at university such as Engineering, Finance/Economics or Computing.

The course expands on material covered in A-level mathematics, and introduces new concepts such as complex numbers, matrices, hyperbolic functions and polar coordinates. As well as a more in-depth look at some of the more abstract ideas in mathematics, you will have the opportunity to specialise in an area of applied mathematics, be it mechanics, statistics or decision maths.

What is Mathematics AS level and why study it?

Mathematics AS level is a standalone qualification. The course expands on GCSE Higher content, developing key mathematical concepts such as graphing equations, solving complex equations and statistical analysis in order to support your study of other A-levels that demand a high level of mathematical rigour, such as Physics, Chemistry, Biology, Geography, Economics and Computing.

By selecting this course you would be on the 3 A-level + EPQ route, completing AS Mathematics rather than the EPQ.

Where next?

Mathematics is a challenging, beautiful and practical subject, which plays an essential part in our society. It has applications in virtually every field of study – whether it be the sciences, technology, business, sport or medicine, but hopefully you will also enjoy studying mathematics for its own sake. Higher education institutions and employers seek individuals who have successfully demonstrated their understanding of complex concepts, and mathematics qualifications at KS5 are very well regarded. Importantly, the skills developed during your time studying mathematics – those of reasoning, logic, problem-solving and analysis – will stand you in good stead, whatever your ultimate destination.

What are the entrance requirements?

A level Mathematics: Grade 7 preferred, Grade 6 considered in GCSE Maths

A level Further Mathematics: Grade 8 in GCSE Maths

AS level Mathematics: Grade 6 in GCSE Maths

Who do I need to see for more information?

Ms L Frankin, Head of Mathematics & Mr J Turner, KS5 Lead for Mathematics

Music A level

AQA

What is Music A level and why study it?

We will help you become an expert in whatever field of music inspires you - composer, performer, producer, singer, or instrumentalist. This is an experience that will set you up for a life-time of enjoying music as a job or in your spare time.

Opportunities: You attend a school that will have over 1000 musicians in. The A-Level music students will be looked up to by all of these musicians. It is a position of responsibility but also of great honour. We hope that the first set of A-Level music students become trailblazers for what is musically possible at INA. They will have the chance to run their own music events, invite famous musicians to come and perform at INA, run their own music enrichments, help choose and arrange the music that we will play in enrichments and lessons and judge INA music competitions. They will also get the chance to organise trips to see gigs all over London.

Explore: You will get the time to deeply explore the music you love whilst also looking into music that you have not come across before.

Practical learning: As with all subjects, there will be some time devoted to written learning and preparation for the exam but most of your marks will be achieved through practical music making - either performing or creating music.

You will still be assessed in the three areas of performing, composing and through a written exam. You will have achieved 60% of your exam through coursework (a 10 minute performance and two compositions) before you sit your exam at the end of the two years.

At A level there is more time to really invest in becoming expert musicians. The standard of complexity of the pieces you compose, perform and listen to will increase.

Where next?

Developing a lifelong love of music making! You made the first steps towards this at KS3. You are developing your skills, creativity and appreciation of music at KS4. By continuing with your music education at KS5 you will put yourself in a position to develop yourself, to teach others and to enrich the rest of your life with music, no matter what direction you go in after school.

Music A-Level leads on to a whole host of music courses from conservatoires such as the Royal Academy of Music, to the study of music at top universities like Oxford, Cambridge, Kings College London, Imperial College London, Birmingham, Durham and York.

Music A-Level will also allow you to develop the self-management, teamwork, problem solving, communication, literacy, and IT skills required to succeed across a wide range of subjects and highly desired by top universities. With unique skills and a broad range of graduate jobs on offer, music students have excellent job prospects. Many music graduates work in the creative industries, but the roles performed by graduates vary greatly. Music grads work in publishing, editing, media production, broadcasting, and marketing. A number work with professional music groups, but not all are performing as musicians – many work in management roles. Less anticipated but no less common is the employment of music graduates in finance and banking, law and consultancy.

What are the entrance requirements?

Grade B in GCSE Music and an interview where student can show appropriate levels of attainment in performance and theory for external candidates.

Who do I need to see for more information?

Mr G Coughlin, Head of Music

Physical Education A level

OCR

What is Physical Education A level and why study it?

The P.E. department intends to offer the follow-on from OCR GCSE PE in the form of A Level P.E. The course transfers well from the GCSE studied at Key Stage 4, covering the same subject areas as the GCSE but going into further detail. There is also a further shift towards the theoretical side of the subject in terms of assessment. The course is formed of the following modules and assessment percentages:

- Physiological factors affecting performance – Anatomy and Physiology, Exercise Physiology and Biomechanics – 30% - one 2 hour written paper
- Psychological Factors affecting performance – Skill Acquisition and Sports Psychology – 20% - one 1 hour written paper
- Socio-cultural issues in physical activity and sport – Sport and Society, Contemporary issues in sport and society – 20% - one 1 hour written paper
- Performance in physical education – Performance or coaching assessment, Evaluation and analysis of performance for improvement (similar elements to the analysis performance piece of coursework at GCSE) – 30%

Where next?

Taking this as an A level can gain you entry to the following courses:

- Sports Science
- Sports Studies
- Sports Therapy
- Sports Coaching
- Sports Development
- P.E. Teaching
- Sport and Outdoor Education
- Sport and personal Training
- Football Studies

What are the entrance requirements?

Grade B in PE, Grade C in GCSE science

Who do I need to see for more information?

Mr D Beattie, Head of PE

Physics A level

AQA

What is Physics A level and why study it?

Physicists look for all the hidden laws that explain why all matter (that's every physical thing) and energy in the known universe exists, where it comes from and why it behaves the way it does. Physicists use the laws they uncover to develop new materials, machinery, and technology to improve our lives and help us explore the universe further, from computers to telescopes and spacecraft. Physicists ask some big questions, but they specialise in different areas and their work can be varied. For example, nuclear physicists study the tiniest particles of matter to discover what the universe is made of, whereas astrophysicists study some of the largest things – stars, planets and celestial bodies.

Topics studied include:

- Particles & Radiation
- Waves
- Mechanics & materials
- Electricity
- Thermal & Nuclear Physics

Students will also study on of the optional units which could include:

- Astrophysics
- Medical Physics
- Engineering Physics
- Electronics

Many physicists also combine their work with the other sciences (Chemistry and Biology) to study things like meteorology (the atmosphere) and geophysics (the structure of the earth). Physics will help you to build up your problem solving, research, and analytical skills. With these skills you'll be able to test out new ideas plus question and investigate other people's theories, which is useful for any kind of job that involves research or debate.

Where next?

Physics is a useful subject for the majority of STEM careers and you'll find physicists everywhere, in industry, transport, government, universities, the armed forces, the secret service, games companies, research labs and more. Physics is especially helpful for jobs that involve building things and developing new technologies, including: engineering (flight, buildings, space, etc), astronomy, robotics, renewable energies, computer science, communications, space exploration, science writing, sports and games technology, research and nanotechnology (that's engineering on a tiny molecular scale).

Physics A-level has been named as a facilitating subject by the Russell Group of universities, which means it can be useful for getting onto a wide range of university courses. Physics is also part of the group of four subjects which includes Maths, Chemistry and Biology – that you usually need to pick at least two from at A-level to do a range of science degrees, including medicine and engineering. Physics is especially highly recommended for the physical sciences, which involves the study non-living objects. Physics A-level is usually required for degree courses in: Engineering (general, aeronautical, civil, electrical, mechanical, sometimes chemical), and Physics

What are the entrance requirements?

Grade 5 in English language, Grade 6 in Maths, Grade 7 in Maths preferred, Grade B in Triple Science.

If you have studied Combined Science, Grades AB are preferred, BB are considered.

Who do I need to see for more information?

Mr A Clift-Matthews, Head of Science & Mr D Golinski, Lead Teacher of Physics

Psychology A level

What is Psychology A level and why study it?

Psychology is the study of human and animal behaviour. You will study cognitive, developmental and social psychology as well as the study of individual differences and research methods.

You will answer questions such as

- How can we improve our memory?
- What causes mental health problems?
- Why do people follow the crowd?

The course will also involve looking at biological psychology, media psychology and social psychology. You may look at questions such as

- What do we look for in a partner?
- What makes people aggressive?
- What causes medical condition such as schizophrenia and what treatments are available?

Throughout the course you will need to read widely around the subjects covered. You are likely to have to carry out research and so an interest using your statistical knowledge from maths is key. You will also be required to write essays.

Where next?

Psychology is useful for many higher education courses and provides a useful background for nursing, personnel work marketing and advertising.

What are the entrance requirements?

Grade 6 in Maths, Grade 6 in English language

Who do I need to see for more information?

Ms S Alibhai, Head of Sixth Form

Religious Studies A level

EDUQAS

What is Religious Studies A level and why study it?

The study of Religious studies allows students to explore big questions about life, people and society. Students are required to think deeply in order to understand theories on many different aspects of life. Students will be required to explore varied opinions on controversial issues such as medical ethics, the meaning of life, death and creation. Students will debate religious and non-religious ideas on human behaviour, morals and decisions. This course will help students to embrace and understand their own philosophical and ethical viewpoints.

The following components will be studied through the Eduqas examination board:

Component 1: A Study of Religion - Written examination: 2 hours - 33⅓% of qualification

This component offers the choice of the study of **one** religion from a choice of **six**:

Option A: Christianity, Option B: Islam, Option C: Judaism, Option D: Buddhism, Option E: Hinduism or Option F: Sikhism.

There will be four themes within each option: religious figures and sacred texts; religious concepts and religious life; significant social and historical developments in religious thought; religious practices and religious identity.

Component 2: Philosophy of Religion - Written examination: 2 hours - 33⅓% of qualification

There will be four themes within this component: Arguments for the existence of God, Challenges to religious belief, Religious experience and Religious language.

Component 3: Religion and Ethics -Written examination: 2 hours - 33⅓% of qualification

There will be four themes within this component: ethical thought, deontological Ethics, teleological ethics and determinism and free will.

The course is structured to give students a comprehensive grounding in philosophical and religious discourse and allows every student the chance to ignite their passion for theology, reason and debate through the study of scriptures, viewpoints and traditions. Students study the theories of leading philosophers and analyse a variety of scriptures and sources of wisdom in a bid to lead on religious and non-religious discourse within the subject.

Where next?

This course allows students to gain a qualification that is highly valued in many top universities. Students who study this subject can expect to gain many transferable skills, which will help them to access a wide range of different university courses. Many students can carry on their studies in complementary subjects such as Religious Studies, Sociology, Law, Philosophy or Theology at degree level.

This course opens up many career opportunities in a wide range of disciplines. Many students go on to careers in law or legal services, journalism, education, religious organisations and politics.

What are the entrance requirements?

Grade B in Religious Studies.

Who do I need to see for more information?

Ms S Balsdon, Head of Humanities & Mr B Woracker, Lead Teacher of RE

Spanish A level

EDEXCEL

What is Spanish A level and why study it?

A-level Spanish helps students develop confident, effective communication skills in Spanish and a thorough understanding of the culture of countries and communities where Spanish is spoken. It develops an interest in, and enthusiasm for, language learning and encourages students to consider their study of the language in a broader context.

As with Spanish GCSE, the A-level still focusses on the four main skills; Listening, Reading, Writing and Speaking. However it also allows for a much deeper study of the culture and traditions of Spanish Speaking countries.

There is set literature at A level (choice of text or film at AS). All are assessed through a target language essay.

The other two main differences between the GCSE and A-level courses are the introduction of translation skills from and into Spanish and the 'Independent Research Project' for the Speaking Exam, allowing students more freedom with their spoken expression whilst meeting set linguistic criteria.

As from 2016, A- level Spanish will now be fully linear, with students sitting their exams at the end of the two-year course giving our students more time to prepare and become confident in their linguistic skills and expression.

Where next?

Spanish is the second most widely-spoken language in the world after English, so the subject offers huge geographical, cultural and historical scope alongside the ability to become linguistically proficient.

A Spanish or Hispanic Studies degree will open doors around the world for graduates, given the influence of the Spanish language in particular, while linguists in general enjoy good career prospects because of employers' perceptions of their adaptability and general communication skills.

Graduates in these subjects go on to specialise as translators and interpreters, as well as working as language and English as a Second Language teachers, working in travel and tourism and in the wider fields of international business, law, journalism, finance and the civil service.

What are the entrance requirements?

Grade B in GCSE Spanish.

Who do I need to see for more information?

Ms L Girard, Acting Head of MFL

Theatre Studies A level

EDUQAS

What is Theatre Studies A level and why study it?

Drama and Theatre Studies is an exciting and varied course which offers you the opportunity to pursue something that you really love! This subject will allow you to develop your interest in exploring the human experience, social history, and the artistic and cultural function that theatre has played through the ages. Studying Drama and Theatre develops sociability and emotional intelligence, allowing us to understand ourselves through intellectual, social and artistic explorations, and through challenging and questioning the world around us.

There will be opportunities to:

- devise original pieces of drama as performer, director and designer
- practically explore a range of important theatre practitioners
- explore the social, cultural, historical and political context of both practitioners and playwrights
- study a variety of culturally and historically diverse play texts that range from theatrical classics to modern contemporary pieces

You will be assessed through:

1. Practical performance examinations – both internally and externally assessed
 - Devised drama (with accompanying portfolio)
 - Scripted drama
2. Final Written Exam

Where next?

Drama and Theatre Studies complements a wide range of other subjects such as English, Sociology, Music, History, Psychology, Art, or any other subject which requires you to think, write and work creatively, use analysis and work practically.

Universities and employers will see you as a confident, creative and resourceful candidate. Drama and Theatre Studies A Level demonstrates your ability to manage your time, work practically and collaboratively, be creative and perform under pressure.

What are the entrance requirements?

Grade 6 in English Language or Literature.

Grade B in GCSE Drama if taken.

Interview required if GCSE Drama not taken.

Who do I need to see for more information?

Ms K Field, Head of Drama