



WINCHESTER
COLLEGE



SIXTH FORM
DAY & BOARDING

ENTRY REQUIREMENTS
AND COURSES

WELCOME

We are delighted that you are thinking about applying to Winchester for Sixth Form.

Sixth Form can be the most interesting, enriching and academically demanding years of your school life and there is no better place to spend them than in the beautiful surroundings here.



WHAT SHOULD YOU EXPECT?

Life at Winchester is busy, challenging and fulfilling: you will learn well beyond the exam syllabus; have access to incredible facilities, opportunities and teaching; and explore who you are and what you are interested in.

Many of our teachers have professional expertise in their fields, as well as academic, and will work closely with you to develop your learning and encourage enquiry.

This booklet will tell you a little more about the application process, the subjects we offer at A-level, about 'Div' which all pupils take and about the EPQ, which you will take in Year 12.

You should think carefully about your options and combinations: choose subjects which complement and enrich each other, which fit with the requirements of what you might like to study at university, and above all in which you have a genuine interest.

WHAT DO WE LOOK FOR?

You should be expecting to gain an 8, 9 or A* at GCSE in any subjects you might take at A-level. We are also looking for pupils who are curious about the world around them, who ask questions and demand answers, and who have the drive and desire to learn beyond any exam.

You will find that Winchester is a special place: a place that has a rich academic history but that looks firmly forward, and a place where you can find, develop and express your interests, whatever they look like.

DR TOM THOMAS, DIRECTOR OF STUDIES, MARCH 2024

HOW DO I APPLY?

- Visit the Sixth Form admissions timeline on our website.
- Complete and submit the application form.
- Take an online aptitude test, which will look at vocabulary, Maths, and non-verbal reasoning.

If you are shortlisted, you will have an interview in the three subjects selected for A-level, which will include an element of problem-solving. Applicants wishing to study Maths or Further Maths must have a Maths interview.

WHAT SHOULD I EXPECT AT INTERVIEW?

At interview, you will be asked about why you would like to study your subject choices at A-level. You will be asked to solve problems and respond to unseen material as well as material you will know from your GCSE studies.

Please be reassured that we know that different candidates will have different experiences at GCSE (and indeed, may have been involved in alternative courses of study, such as IB MYP); we are interested in seeing how you think rather than what you already know.

If you are applying to study English, Geography, or History at A-level, you will need to bring an example of extended written work to discuss at interview. Applicants wishing to study Art or DT will need to bring a portfolio to discuss at interview.

ASSESSMENTS FOR MUSIC AND SPORT

A-level Musicians

Will have an interview and assessment in line with all other academic subjects.

Music Scholarships and Exhibitions

Full details can be found [here](#), but candidates will be required to audition. The Director of Music, Ms Sarah Baldock (srb@wincoll.ac.uk), would be happy to discuss a candidate's potential application.

Sports Scholarships and Exhibitions

The assessment process for candidates applying for a Sports Scholarship will focus on your major sport and will be primarily based on achievements and successes so far. This should be consolidated by references and may involve a formal assessment in your major sport on your interview day. There will also be an interview with the Director of Sport. Full details can be found [here](#).

THE SIXTH FORM CURRICULUM

Sixth Form pupils ordinarily study three subjects.

Those pupils who are planning on taking Mathematics A-level and Further Mathematics A-level will need to study two additional subjects to make four A-level classes in total. Those who choose Latin and Greek may take two additional subjects to make four A-level classes in total.

Other combinations of four subjects require a discussion with the Director of Studies.

Academic life here is challenging – courses move beyond the examined curriculum and we prize scholarship and subject knowledge.

In addition to your A-levels, you will undertake an Extended Project Qualification ('EPQ'), designed to allow you to deepen your knowledge of and interest in a topic of your choice. All pupils also study 'Div', and these non-examined lessons are at the heart of a Winchester education: they are designed to spark debate, to allow you to reflect on global histories and cultures, and to think critically about the world around you.

DIV AND THE EPQ

Division ('Div') is a compulsory element in the Winchester College curriculum, taken in addition to specialist subjects. Div is at the heart of the education we offer at Winchester.

In the first year of Sixth Form, four lessons a week will be dedicated to 'traditional' Div. These lessons will provide an opportunity to:

- explore subjects not covered by A-level syllabuses, for example: scientific ideas, philosophy, politics, European and non-European civilisations, literature, art and music;
- examine the inter-relationship between different branches of knowledge; and between current affairs and the past;
- develop essential skills of critical thinking and communication through essays, discussions, debates, role-playing and creative writing;
- explore intellectual ideas and develop acceptance of others' opinions.

The remaining two Div lessons a week will be dedicated time for pupils to complete an Extended Project Qualification (EPQ). The EPQ harnesses a number of the skills which are nurtured in Div: an ability to complete independent research and detailed analysis over a prolonged period of time, coupled with well-structured and logical writing.

The EPQ is highly valued by universities and pupils will have free rein to choose their project topic and supervisor. It should be intellectually stimulating and, if properly grasped, will ensure that pupils become expert in their area of interest. A written task, related either to 'traditional' Div or the EPQ, will be set weekly.

ART

(EDEXCEL 9FA0)

‘Art at Winchester is about creativity, visual literacy, and intellectual and imaginative skills.’

The programme of study we follow is the Edexcel A-level certificate in Art and Design (Fine Art 9FA0). The course is followed in timetabled lessons and involves studio time on Wednesday evenings. Art School offers a wide range of disciplines including drawing, painting, multi-media, photography, printmaking, ceramics and sculpture. Initially, pupils are encouraged to experiment with a range of different media and skills, focusing on an appropriate specialism as the course develops. The course encourages an independent and personal approach and is comprised of two components: one of personal study, taking four terms, and one externally set and developed in the final two terms.

The A-level is relevant to those pupils who intend to enter higher education courses in Art, Design and Architecture. It is also suitable for those who are planning careers for which a background in art and design would be useful, or for those who simply wish to pursue their interest in art and culture. Teaching develops visual literacy, creativity and problem-solving skills, offering a rounded and balanced educational experience. There are opportunities to work with an artist in residence, for gallery visits, artists’ workshops, student-led shows and trips abroad. Students develop intellectual, imaginative, critical and intuitive skills, learning to contextualise their studio practice alongside the work of other creatives, artists and designers.



ART HISTORY

(EDEXCEL 9HT0)

‘The study of Art History teaches us first to look and then to understand.’

Art History is an academically rigorous essay-based discipline that demands we first look at works of art and architecture, then try to understand them. We study social, political and religious context: we examine the history behind works of art, as well as learning the technical language to describe them. Lessons are visual and academically testing. We are often out of the classroom using the resources of Treasury, the Fellows’ Library and the buildings of Winchester College. There are study visits to museums and galleries in the UK each term. Every year there is a trip abroad. Recent destinations have included Florence, Rome, Venice, Barcelona, Paris, Amsterdam and New York. The Kenneth Clark Society organises a variety of events such as lectures and visits to exhibitions.

The Edexcel A-level course ranges across art that is ancient and modern, figurative and non-figurative, Western and non-Western. The list of artists you will study is a wide one, amongst them Jackson Pollock, Michelangelo, da Vinci, Monet, Renoir and van Gogh. You will take two papers: the first tests your ability to analyse painting, sculpture and architecture from 500 BCE to 2,000 ACE. The two themes we study for the second half of Paper 1 are War and Identity, allowing you to examine a wide range of works, from the buildings



of Christopher Wren to the anti-war paintings of Paul Nash. Paper 2 test historical topics, including the Renaissance 1420-1520; and Britain and France, 1848-1898.

The subject is inherently interdisciplinary. It complements other humanities, languages and sciences. It is particularly appropriate for those wishing to read Architecture. Former pupils have studied the subject at Cambridge, UCL, the Courtauld Institute, Edinburgh and many other leading universities. Their subsequent careers range from journalism and the law, to interior design and film-making.

CLASSICS

LATIN (OCR H443) AND GREEK (OCR H444)

‘Classics is the ultimate humanities subject, with variety at its core: the Latin, Greek and Ancient History A-levels let pupils study language, literature, history in a coherent and satisfying way.’

The A-levels of Latin and Greek are each of them several subjects in one: they offer the chance to study the language, literature and history of the ancient Romans and Greeks in a coherent and satisfying way. The A-level examinations in Latin and Greek are identical in structure, so our courses are very similar.

In both years of VI Book each set is taught by two dons, one for language and one for literature. We start by reading some of the greatest hits of ancient literature not on the syllabus (such as Catullus, Cicero and Horace for Latin, or Lysias, Homer and Aristophanes for Greek), in order to give the richest possible classical education and the surest foundation for studying the set texts. Through this reading pupils develop their skills in literary analysis, understand the cultural and historical contexts in which the authors were writing, and appreciate the influence of the classical world on later European culture. They develop the linguistic facility and clarity of thought required for this through continuous work on language, based on translation both from and into Latin and Greek.

In March of Common Time of VI: 2 work starts on the set texts, half prose and half verse, prescribed for the final examination; these will include Virgil and Tacitus for Latin, and Euripides and Herodotus for Greek. For each subject there are four papers, two on the set texts and two on language. There is no coursework.

Latin and Greek may be studied together, something recommended if a pupil is considering studying Classics at university and wants to make the strongest possible application, or singly in combination with other subjects. They are regarded by universities as rigorous academic subjects, and support applications for both humanities and science courses. Several pupils each year go on to read Classics (on its own, or in combination with other subjects), many at Oxford and Cambridge.

GREEK AS

(OCR H044) (AB INITIO)

Those who have never studied Greek, or who did not take the GCSE, can pick up the language in VI Book and work towards an AS-Level over two years. Lessons (normally 3 Winchester hours per week) take place off timetable. The AS has two papers: one language, one literature.

This opportunity may appeal to those contemplating a university application for Classics (though Greek is not strictly necessary for this), or to those with an interest in languages or the ancient world.

Interested pupils should make themselves known to the Head of Classics, Mr Lewis.

ANCIENT HISTORY

(OCR H407)

The Ancient History A-level allows pupils to study (in translation) the ancient world from a wide variety of angles: while the main emphasis is on political, diplomatic and military history, social, cultural, intellectual and art history also feature. A distinctive feature of the course is the priority of source work: pupils learn how to handle a wide range of sources and to argue a case from the bottom up. The course is taught by Classics dons; pupils will have one on the Greek side and one on the Roman side each year.

In VI: 2, pupils embark on two 'Period Studies':

- 'Relations between Greek states and between Greek and non-Greek states, 492–404 BC' (i.e. Greek history from the Persian to the Peloponnesian Wars)
- The Julio-Claudian emperors, 31 BC–AD 68' (i.e. Roman history from Augustus to Nero)

In VI: 1, pupils proceed to two 'Depth Studies':

- 'The Politics and Culture of Athens, c.460–399 BC'
- 'The Breakdown of the Late Republic, 88–31 BC'

The final exam consists of two papers, one Greek and one Roman, each requiring response to a mixture of essay and source analysis questions.

Ancient History can be taken by itself or in combination with Latin and/or Greek. The subject can be studied very profitably in combination with (Modern) History, as each A-level has a distinct feel.

Considerable use is made of the ancient coins, vases, casts and other items in the school's classical collections – the inheritance of Winchester's superlative classical tradition. Each year VI Book Classics pupils have the opportunity to take part in a trip to Italy, Greece or another area of classical interest.

COMPUTER SCIENCE

‘Computer Scientists should bring a problem-solving mindset and curiosity to explore the nature of information processing.’

Computational thinking is a mode of thought that goes well beyond software and hardware, and provides a framework within which to reason about systems and problems. Computer Science combines disciplines: as well as being highly creative, it demands the student develop an ability to analyse, critically evaluate and make decisions.

It develops a student’s ability to apply the fundamental principles and concepts of computer science, including abstraction, decomposition, logic, algorithms, and data representation, to analyse problems in computational terms.

The Course is assessed through two written papers at the end of the second year (80%), along with a significant project of the student’s choice, that applies an iterative development approach to solving a problem in code. There are numerous opportunities to strengthen your UCAS personal statement through societies and competitions.

Computer Science is particularly appropriate for those wishing to read variant degrees in Computer Science as well as intricately linked areas such as software engineering, automation, artificial intelligence, and health informatics.



Computer Science at A-level is an academically demanding subject that is often, but not exclusively, selected alongside Mathematics, Physics, and other scientific subjects. For example, to study Computer Science at Oxford A*AA is needed with an A* in either Computer Science, Mathematics, or Further Mathematics.

ECONOMICS

(EDEXCEL A 9EC0)

‘Economics appeals to pupils who are keen to learn more about how the world works: a contemporary, fresh course that encourages pupils to have an economic perspective on their place in the world.’

In the Economics course, we study both microeconomics – the study of markets and government interventions to correct market failure – and macroeconomics – looking at whole economy issues, such as growth, unemployment and inflation and considering the policy options available to governments to improve the standard of living. There is an international slant to the course, looking at how the economy trades and engages with the rest of the world and the economic development of low-income countries. Pupils learn to apply economic theory to the UK economy and to global economic problems, including climate change; there is a strong emphasis on relating economics to the real world. The course is contemporary, fresh and encourages pupils to have an economic perspective on their place in the world.

Economics appeals to pupils who are keen to learn more about how the world works. Those who are strong in History, Science or Mathematics usually do well in the subject. The course requires the ability to write concisely and with insight: a good grade in IGCSE English is a good indicator of suitability for the subject. Equally, a poor pass in GCSE Mathematics may be an indication that a pupil will find the theoretical side of the subject difficult. Economics, while making an important contribution to general education, is also relevant for a wide range of university courses such as Law, Business Studies, History, Politics, Geography, Engineering and International Affairs.

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DESIGN & TECHNOLOGY

Design & Technology neatly complements both science and arts subjects and enables pupils to develop transferable skills relevant to careers involving technology, creativity and entrepreneurship. Pupils enjoy tremendous freedom to experiment with, and utilise, a range of cutting-edge design tools, materials, manufacturing processes and technologies, not limited to their project work. The course enables pupils to pursue topics of personal interest, and encourages them to tackle important real-world issues involving technical, human and social parameters, working closely with clients and/or relevant stakeholders.

The Design & Technology: Product Design (Edexcel) A-level consists of a written examination covering contemporary industrial and commercial processes, knowledge of materials, an understanding of systems and control (involving applied maths and physics) and the application of technical problem-solving techniques (50%). The remainder of the assessment takes the form of an independent Design and Make Project (50%). The project requires pupils to identify a design need, before undertaking investigative research,

‘Pupils enjoy tremendous freedom to experiment with, and utilise, a range of cutting-edge design tools, materials, manufacturing processes and technologies.’

experimentation, problem-solving, prototyping and design communication, in order to bring their concept to fruition, building a portfolio as they do.

The majority of pupils taking Design & Technology at A-level go on to study Engineering, Industrial Design, Architecture, or another design-related subject at university.



ENGLISH

(OCR H472)



‘From the Renaissance play to the contemporary novel, English at Sixth Form is a rich, challenging course taught by teachers who go far beyond the bounds of the exam.’

English in the Sixth Form introduces pupils to a wide range of writing from the Renaissance to the contemporary and classes will be taught throughout by paired teachers. English is taught across two years to the OCR English Literature A-level specification. Each week pupils will spend time in our historic Fellows’ Library, giving unprecedented access to some of the rarest and most valuable books in the school’s collection. In these sessions, pupils will encounter English literature as something rich and strange, as they read and hold copies of medieval dream poems, Shakespeare’s first folio and Jane Austen manuscripts, amongst many other treasures.

Through the course, pupils will study Shakespeare’s *Measure for Measure*, produce coursework responses on contemporary drama, poetry and novels, write independent essays as part of our Gillespie Prize, and study ‘Women in Literature’, reading either Jane Austen’s *Sense and Sensibility* or Virginia Woolf’s *Mrs. Dalloway* alongside another novel by a woman writer. The A-level course is rich and varied, and pupils will have the chance to attend frequent symposia, theatre trips and reading groups.

The range and extension of English teaching is further supplemented throughout the course by the Empson Society, which provides talks by guest speakers such as academics and poets, and Spirit Lamp, which caters for creativity and collaboration.

GEOGRAPHY

(OCR H481)

‘Geography grapples with the key global issues faced today. The varied course helps you develop an understanding of physical and human geography whilst unpicking the debates surrounding contemporary challenges facing the world.’

Geography A-level is varied. Bridging the divide between the sciences and the arts, and combining essay writing and data skills, it works well alongside a variety of subjects and is an excellent preparation for a career in 21st century business where social and environmental considerations are increasingly important. Around a third of Geographers continue to study the subject at university, and there are also a large range of related subjects (HSPS, Human Sciences, Marine Biology, Earth Sciences, Geophysics etc.) that have been pursued by former pupils.

The course itself is split into three papers and an independent investigation, covering the life support systems of the Earth; global migration, power and borders; climate change and disease dilemmas. It considers the complexity of people-environment interactions at all geographical scales and considers their links to societal and environmental issues.

You will improve your understanding of the ways in which values, attitudes and circumstances have an impact on the relationships between people, place and environment. You will develop the knowledge and ability to engage as citizens with the questions and issues arising.

The independent investigation can be a great opportunity to develop data management and analytical skills, but it can also be approached in a more qualitative or philosophical manner depending on your interests. There is significant flexibility and an opportunity for you to follow your own academic strengths. There is a focus on you reading and writing throughout the course, and a variety of other skills are integrated with IT and fieldwork prioritised via two short compulsory residential field courses. Optional field courses in either the Alps or Scotland supplement our curricular offering and will help you extend your geographical experience and benefit further from departmental specialisms.

HISTORY

(OCR A H505)

Sixth form historians follow the OCR A-level syllabus, taking papers in British and non-British history, a thematic study over a period of more than 100 years, and completing an independent coursework essay of 4,000 words, studying a combination of medieval or early modern, and modern history. Throughout the course you will learn how to argue, approach sources critically, and analyse and evaluate historical interpretations. Many A-level historians go on to study the subject at university, but it also provides the analytical and essay-writing skills required for many other courses such as Economics, PPE and Law.

British papers include the English Civil War and Protectorate and British political history in the nineteenth and twentieth centuries. Non-British papers include the creation of the Mongol Empire under Genghis Khan, the causes and impact of European exploration in the Americas, Africa and Asia in the 15th and 16th centuries, and international relations from 1890-1941, including the origins and course of the First World War. The thematic papers are wide-ranging: you might look at the role of heresy and the Inquisition in the medieval life of Europe from 1100 to 1400, the Witchcraze in Europe and colonial North America, or developments in the Middle East from 1908-2011, including the origins of the Arab-Israeli conflict and its development up to the present day.

Outside the classroom we offer lectures, extension classes, a reading group, and the opportunity to contribute to our in-house history magazine. We organize annual trips abroad, with recent visits to Florence and Sicily, and future trips planned to Germany and Israel.

‘Anyone who enjoys reading, writing, discussion and debate, and has an interest in people and the past – whether Aethelred the Unready or the Arab-Israeli Conflict - is a potential student of History at A-level.’



MATHEMATICS

(OCR A H240)

‘Maths is essential for many careers, from Engineering and Economics to the Sciences – but the discipline is above all aesthetic.’

Mathematics is an essential qualification for university courses in Engineering, Economics, Architecture, the Sciences and, of course, Mathematics itself; and for others (e.g. Law, Linguistics, Medicine) it is strongly valued. Prestigious universities may additionally require Further Mathematics for some courses. Beyond university it is a qualification highly respected by many employers. Although mathematical techniques constitute a central component in the applied sciences, the discipline is above all else aesthetic; pupils who successfully negotiate Mathematics at Sixth Form are those who are broadly sympathetic with this view.

We follow the OCR A (H240) Mathematics and OCR A (H245) Further Mathematics A-level courses in Sixth Form. All Mathematicians in Sixth Form take A-level Mathematics, and Further Mathematics can be taken as an AS level or as a fourth (or fifth) A-level choice.



As part of the application process, you will sit an online Maths assessment. This aims to assess mathematical potential, and the work for any higher-tier GCSE course is sufficient preparation for it. Candidates who wish to be considered for any of the possible Mathematics routes at A-level will be assessed in this manner and through the in-house problem-solving interviews that take place during their subsequent visit to Winchester.

MODERN LANGUAGES:

FRENCH ([AQA 7652](#)), GERMAN ([AQA 7662](#)), [SPANISH \(AQA 7692\)](#) AND [RUSSIAN \(EDEXCEL 9RU0\)](#)

‘The study of Modern Languages is demanding and rewarding. Those who choose to study a language in depth will be introduced to the literature, culture and ideas of a foreign country, and above all learn to communicate – to speak to others in their mother tongue.’

French, Spanish and German follow the AQA A-level course, which consists of three papers. Reading, listening and writing are worth 50%. The remaining 50% are made up of a literature and speaking exam, which comprises an individual research project and a syllabus-specific conversation. Russian follows the Edexcel A-level course which consists of three components: listening, reading and translation (40% of marks), written response to works and translation (30%) and speaking (30%).

Pupils are encouraged to use the library and online resources to improve their knowledge of literature and contemporary culture and must attend conversation classes weekly to practise speaking. The Head of French runs an annual exchange for pupils with a school in Bordeaux; the German Department organises a study trip to Germany to hone pupils’ oral proficiency before their oral exams; the Spanish Department has links with language schools in Seville and Valladolid and runs an annual exchange.

There are also recitation competitions and prize exams.

n.b. Chinese is not offered for study in Sixth Form.



MUSIC

(AQA 7272)

‘From JS Bach to jazz, whether appraising, performing or composing, Music is a subject for those with a passionate curiosity.’

Music can fit with almost any combination of subjects, and because many music graduates opt for employment outside the subject, is not seen as an entirely specialised vocational study.

The AQA A-level course in Music is assessed through three components: appraising, performing, and composing. Appraising involves the study of a wide range of music from the Western Classical music from 1650 to the present, including Baroque concertos, the operas of Mozart, Romantic Piano Music, and Jazz. The paper includes listening to both familiar and unfamiliar works, analysing them and putting them into context. For the performing element, pupils will give a short recital on their chosen instrument, which must be at a minimum of Grade 7 standard. Composing involves stylistic exercises based on the chorales of J.S. Bach, and a commissioned composition in a style of the candidate’s choice. In addition to studying for an A-level in Music, candidates will have the opportunity to be entered for the Grade 8 Theory examination, which is highly regarded and sought-after by universities, and to take a diploma on their chosen instrument(s).

Candidates who wish to obtain a high grade for A-level Music do not need to have studied Music at GCSE but must be advanced performers on at least one instrument (Grade 7 minimum) and possess sophisticated listening and writing skills which they can apply across a wide range of Western Classical music. The most successful candidates are those who learn several instruments and are immersed in a wide range of practical music (through participating in ensembles, orchestras, and choirs), and who demonstrate a passionate curiosity about the subject, attending concerts and listening to a variety of repertoire.



PHILOSOPHY

(AQA 7172)

‘Philosophers should bring an insatiable curiosity to their studies. They should enjoy asking questions, which advance their understanding and, crucially, should enjoy having their own questions and responses cross-examined in turn.’

In AQA A-level Philosophy you will learn the critical thinking skills which will be essential to any profession you choose to enter after university. These skills are now part of many critical thinking tests for admission to a wide range of undergraduate degree courses.

Philosophy is an excellent complement to a wide range of other subjects. In recent years pupils have gone to university to study Physics and Philosophy, Modern Languages and Philosophy, Theology and Philosophy, Psychology and Philosophy and PPE.

Others have found the study of Philosophy useful in progressing to Law, Linguistics, Mathematics, Natural Sciences, Economics and Medicine. In Philosophy you will learn how to argue and how to identify flaws in an argument; how to construct and assess both short and essay-length answers, and about core areas of the Western philosophical tradition and looks at the work of key historical and contemporary contributors to these debates. The exams are two three-hour papers and in preparation for these you will consider epistemology (How do we acquire knowledge about ourselves and the world? Are we born hardwired with some knowledge already or is everything acquired via our sense experience? What counts as ‘knowledge?’); moral philosophy

(What makes an action right or wrong? What do we mean by living a ‘good life’? Are we free?); the question of God: Does the problem of evil decisively rule out God’s existence? Are faith and reason compatible or are they always in opposition?); and Philosophy of Mind (Are Mind and Brain identical, distinct or separate? What is consciousness? Can computers think? Can chimpanzees?).



THE SCIENCES

‘The three sciences are very popular at Winchester and the atmosphere in the Science School is dynamic. Pupils find the courses stimulating and are supported in reaching their potential by enthusiastic and varied teaching.’

All three sciences pursue national A-level courses. It is difficult to study science at this level without mathematics and, at university, pure science (but not always medicine) will require it. We encourage able Sixth Form scientists to participate in a number of competitions, particularly in the international Olympiads, which have proved very challenging and rewarding for many years. Pupils are also encouraged to gain experience of work in science and engineering in vacations.

Studying the sciences need not lead to subject specialisation at university. Many university science and engineering degree courses are now very broad and contain a wide variety of options studied in combination with the main subject. Science and engineering degrees are more vocational than arts subjects but science graduates are not locked into research or industrial careers: many end up transferring to law or entering the financial world. Most universities adopt a flexible entry policy for science courses, many of which are undersubscribed. Certain combinations are required for some subjects, for instance Chemistry and, often, Biology for Medicine; and Physics and Mathematics for engineering.

Pupils who are thinking of studying Engineering at university are strongly encouraged to take A-level Design & Technology as one of their course options. Pupils interested in Medicine must bear in mind that more than 3 A-levels may be demanded, and so they will need to check carefully the course requirements. Many university courses cross the traditional school subject divides: Materials Science (Physics and Chemistry), Biophysics, and Biochemistry.



BIOLOGY

BIOLOGY (EDEXCEL 9BIO)

‘Biology is unquestionably a subject that affects us all: whether socially, ethically or economically. The unlocking of DNA’s structure by Watson and Crick was the catalyst for an explosion of biological exploration that has fundamentally altered the scientific landscape.’



The Edexcel (Pearson) Biology B A-level course extends the interesting components of the GCSE syllabus to satisfy more fully the intellectual curiosity of those who study it. For those looking to supplement their humanities education with a challenging alternative, Biology is highly regarded when offered in support of university applications to non-science courses.

The syllabus contains sufficient diversity to interest all. The core components of molecular biology, biochemistry, genetics and biotechnology will appeal to the technically minded pupil, whilst at the same time supplementing the interest of a natural historian. There is lots of practical application with the requirement to complete 12-16 core practicals throughout the course.

The A-level course is well supported outside the classroom, with a wide range of activities available, including: Biological Society which encompasses Journal Club, Dissection Club, Medic Society, the British Biology Olympiad and field studies trips.

CHEMISTRY

(OCR A H432)

‘Chemistry is one of the most flexible disciplines, highly valued in all sorts of fields as well as developing the practical skills that a chemist needs.’

Sixth Form chemists will pursue the OCR A course for A-level. The course contains some high-level material and so pupil selecting to pursue Chemistry will need to have a good grounding in the subject. It is preferable that Sixth Form chemists take Mathematics at A-level.

One of the most flexible disciplines, Chemistry is a useful partner to Mathematics, Physics, Biology, Economics or History and is a requirement for Medicine and useful for Engineering. Chemistry is also highly valued in research, insurance, consultancy, law and many other careers because of its training of analytical and problem-solving skills. About a quarter of the course is dedicated to laboratory work, developing the practical skills that a chemist needs. There is a series of assessed practical tasks over the two-year course, in which certain skills must be demonstrated by pupils and recorded.

There will be many opportunities for extension work beyond the syllabus, and good results in the Cambridge Chemistry Challenge for Lower Sixth or the UK Chemistry Olympiad are useful indicators for university admissions tutors.



PHYSICS

PHYSICS (OCR H5556)

‘Physics is involved in understanding the universe at every scale, from the nature of sub-atomic particles to the gravitational force between galaxies.’

The Physics OCR-A A-level course will continue to develop your understanding of the classical physics of forces, electricity, waves and fields, but also introduce ideas like the development of quantum theory, particle physics and the history of the universe. The careful and precise thought, mathematical competence and problem solving developed through study of the subject make it a highly respected qualification for any university course; while it is essential for the study of Physics and Engineering, it is also very useful when applying for any course involving Maths or Science.

Practical work is a cornerstone of the course; it is used to develop new ideas and investigate the limits of theory. The practical element of the qualification involves continuous assessment of laboratory work over the two-year course, but the amount of experimental work we do is well in excess of the minimum requirements of the exam board. All lessons are taught in specialist, well-stocked laboratories where you will use modern, complex equipment.

Physics is a well-respected degree course. Graduates pursue a wide variety of careers; scientific research such as cancer treatment or climate change, the space industry, robotics and artificial intelligence, but also in finance and law where the skills developed are highly valued.

The course retains mathematical rigour: we would expect those taking Physics to be studying Maths A-level and to have at least an 8 in Physics IGCSE.

Please note that the above detail outlines the courses offered for 2024-2026. These are unlikely to change greatly but the school reserves the right to alter its curriculum at any time and without notice. Some combinations of subjects may not be possible and some subjects will only be offered if there is sufficient demand.



WINCHESTER
COLLEGE

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