

Tonbridge School

GCSE COURSES

A booklet for Novi boys and parents providing information about the available subjects for study in the second and third years, good combinations, and implications for A level study and careers.

For courses commencing in September 2019

Timetable for GCSE Subject Choices

- November:** **Progress tests in most subjects**
These are designed to assess progress so far and to indicate GCSE potential in the optional subjects.
As a result of these exams some boys will change sets at the start of the Lent Term in French, Spanish, maths and classics.
- 9 January:** **First Year GCSE Subject Choices Briefing for the boys**
by the Director of Studies and the Head of Careers
An introduction and explanation of the system.
- 18 January:** **Special Interim Report**
designed to inform boys, housemasters, tutors and parents about GCSE prospects especially in the optional subjects.
- 24 January:** **First Year Parents' Evening for the Optional Subjects**
at which the choices system is described.
- 28 January:** **Preliminary Choice Forms filled in via the Portal**
- February:** **Subject timetable blocking system established**
This is done by the Director of Studies who devises an option scheme to allow as many as possible of the preliminary choices combinations to be scheduled. Any subsequent changes have to fit the devised option scheme.
- Early April:** **Parents receive end of term report**
This will include a copy of the devised option scheme and a letter of explanation.
- 7 May:** **Final Choice Forms filled in via the Portal**

Throughout this process the Director of Studies and Housemasters are available for advice and discussion.

GCSE & IGCSE

This booklet sets out various general points common to all subjects, and then gives short descriptions of the courses followed in each subject at Tonbridge. It is intended to help first-year boys who will soon be asked to state preferences for the GCSE courses which they will start in September and take for the next two academic years.

GCSE (the General Certificate of Secondary Education) is designed primarily for those around the age of 16, who have completed a five-year course of secondary education, known as Key Stages (KS) 3 & 4 of the National Curriculum (NC), though the examination may be taken earlier. GCSE is primarily a summer examination running from mid-May to the end of June.

Examination certificates are awarded by five unitary awarding bodies; **AQA, CIE, OCR, EDUQAS** and **EDEXCEL/PEARSON**. Schools are at liberty to choose GCSE examinations subject by subject from whichever Board they like.

GCSE examinations provide the formal testing for the National Curriculum at this stage. The exams are concerned with the understanding and application of knowledge, and fewer marks are allocated for straight recall of factual knowledge than used to be the case. In varying degrees in the different subjects there is greater emphasis on oral work, continuous assessment, coursework, and practical skills. Overall, the general purpose of the examination is to assess what a candidate knows, understands, and can do, rather than what he does not or cannot.

Because GCSE is designed for such a wide ability spread of candidates, ways have had to be devised of producing questions and papers which stretch the most able candidates, and yet are accessible to the less able. This process, called differentiation, means that in certain subjects a particular combination of papers (Higher Tier) must be attempted by those seeking the highest grades. Conversely, pupils taking certain other papers (Foundation Tier) may have a ceiling of, say, grade C. The notes on individual subjects in the following sections of this booklet describe how differentiation applies in those subjects where it occurs.

The International GCSE, **IGCSE**, has syllabuses which will be used for English Language, English Literature, History, Geography, Mathematics, Modern Languages, Religious Studies, Music and the Sciences. These syllabuses are more rigorous and appropriate for Tonbridgians. The style of the examination, which does not include coursework except in English and history, is also more appropriate. These exams are being taken by many independent school pupils and the grades are exactly equivalent to normal GCSEs.

The normal minimum requirement for entry to the Sixth Form is **six GCSE/IGCSE passes at grade 6 or above**, to include English and Mathematics. In addition, Heads of Departments may recommend minimum requirements specific to their subjects; these will be stated in the subject descriptions in the AS and A level brochure issued during a boy's Third Year. The importance of securing the highest possible GCSE grades cannot be emphasised too much as the GCSE requirements of universities, particularly for the more selective institutions and courses, rise ever higher.

The new grading scheme

The grades awarded to boys taking their GCSEs or IGCSEs in 2020 onwards will all use the new 9 to 1 grading scheme. In this scheme 9 is the highest available grade and corresponds to the top half of the current A* grade. A grade 4 will be a “pass grade” and a grade 5 will be regarded as a “good pass”. We would expect the majority of grades awarded to Tonbridge boys to be between 8 and 6 with some 9s.

The Curriculum in the Second & Third Years

All boys are required to study English, mathematics, and the sciences, plus four options, at least one of which must be a modern foreign language, from the list below:

A maximum of two from French, German, Spanish or Mandarin (both continued from First Year study: *not* a new start)

Art

Computer Science

Design & Technology

Drama

Geography

History

Latin & Greek *or* Latin (Latin & Greek continued from First Year study: *not* a new start)

Music

Religious Studies

The **English** course will lead to two separately graded subjects called English and English Literature, both of which are taken at the end of the Third Year.

The **mathematics** course will lead to IGCSE at the end of the Third Year for all boys. Boys in the top few sets will, in addition, cover some topics beyond the IGCSE course in preparation for A level work.

All boys will study the **sciences** with three specialist teachers in physics, chemistry and biology. About a quarter or fewer of the boys will be entered for Double Award Science leading to two identical IGCSE grades. The remaining boys will be entered for three separately assessed and graded IGCSEs in the three sciences. For a further explanation of this please see the entry on Science in the subject details which follow.

At least one **modern foreign language** is compulsory. This can be French, German, Spanish or Mandarin. Although French is no longer the compulsory language, it is thought that most boys will wish to continue French to GCSE, a language in which they are likely to have already invested at least 3 years of study. None of these languages is offered 'from scratch' in the Second Year; they all continue from the First Year course. There will be two parallel top sets in the second and third year. One of these will do an intensive two years of French to IGCSE and Italian to GCSE (currently Edexcel 2IN01) in tandem whilst the other top set will do simply French to IGCSE with the opportunity for the set to do much more cultural and grammatical work than is needed for the IGCSE.

Three further **options** from the list above complete the portfolio of subjects. Although there is a completely free choice, in order to maintain a balanced curriculum, boys might consider selecting at least one humanity (geography, history, religious studies) and at least one creative/technological subject (art, design & technology, drama, or music,). Many boys will have studied Latin, perhaps with Greek, for several years. They may wish to continue their study to GCSE.

It is expected that **music, art, drama & technology scholars** will choose to study their scholarship subject to (I)GCSE. In exceptional circumstances to be discussed with the Director of Music, the alternative for musicians is to select one less optional GCSE and to choose Music Practice instead.

Implications for A level

We are often asked whether selecting certain subjects closes off possible options at AS/A level. The Sixth Form courses introduced in 2016 make it important that GCSE has been studied in each subject to be considered for A level with the exception of Religious Studies, now called Philosophy and Theology, for which GCSE is not required.

The number of GCSEs studied

Some boys will achieve nine GCSEs: English, English Literature, Mathematics, Science (Double Award), a Modern Language, and three option subjects.

More boys will achieve a tenth GCSE either by taking Triple Science instead of Double Award Science or by taking Latin and Greek (in the time allocated to one GCSE).

A small number of the most able boys could achieve eleven GCSEs by doing Triple Science, Latin and Greek. A tiny number could end up with 12 including Triple Science, Latin and Greek plus Italian.

Some music scholars, not taking music GCSE, may have substituted music practice for one of their options and therefore achieve one less GCSE.

The key thing to bear in mind is that the quality of the grades achieved is much more important than the number of subjects studied.

The non-examined curriculum in the Second and Third Year

In the Second Year, all boys will have timetabled lessons for Divinity; Personal, Social Health and Economic Education (PSHEE), and Physical Education, which will occupy approximately 7% of the available time.

In the Third Year the non-examined curriculum replaces the some of the subjects above with a Seminar programme of talks and activities. This will occupy 3 periods per 72 period cycle or 5% of the available time.

The option-choices process at Tonbridge School

During the first half of the Lent term in the First Year boys are given a briefing by the Director of Studies, John Pearson. Armed with this booklet, the end of Michaelmas term report, the Lent term special interim report and Novi examination results, boys and parents discuss possible option choices over the January exeat holiday. Soon after this, boys and parents fill in their Provisional Choice Form to the Director of Studies on the Portal. From this information, the Director of Studies devises the final option block scheme to allow as many as possible of the requested combinations to be timetabled. After a second end of term report early May, boys and parents fill in their final choice forms on the Portal. Boys may amend their choices at this point, but any changes must fit the option block scheme devised from the preliminary choices.

If a particular subject is over-subscribed when firm choices are made, then priority is given to those boys who listed it on their provisional choice form. *In extremis*, an assessment of aptitude may have be used to decide which boys can be accommodated in over-subscribed subjects.

*John Pearson
Director of Studies*

Subject Details

The pages which follow give details of the course in each subject. The examination boards and specifications used are mentioned. If further information is required please contact the relevant Head of Department, whose name is given. Subject specifications can also be viewed via the examination boards' websites, the addresses for which are:

AQA: www.aqa.org.uk

CIE: www.cie.org.uk

Edexcel: www.edexcel.org.uk

Eduqas: <http://eduqas.co.uk/>

OCR: www.ocr.org.uk

The details of the compulsory core subjects are given first, followed by the languages, modern and classical. The remaining optional subject details are given in alphabetical order.

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ENGLISH

All pupils follow a course of study preparing them for the English IGCSE (Edexcel 4EA1) and, in the majority of cases, for the English Literature IGCSE (Edexcel 4ET1). The course encourages boys to read, understand and respond to a wide variety of both literary and non-literary texts, and to develop the ability to construct and convey meaning in writing and speech.

Boys are encouraged, above all, to read, respond, think and write for themselves and to make links between literature, their own experience, and other subjects. The ability to use language clearly, fluently and appropriately is stressed throughout. We would also hope that the variety of trips to the theatre, poetry readings or films organised by the department helps to broaden and stimulate interest. In addition, the Creative Writing Group encourages those who want to spend more time and energy on their own work, and the Debating Society offers students the opportunity to develop their speaking skills and use of rhetoric.

ENGLISH

The examination (60%) is 2 hours 15 minutes long and has two parts: section A requires students to analyse both studied and unseen non-fiction texts, demanding skills of interpretation and analysis, and section B is a directed transactional writing piece.

The coursework (40%) involves two assignments: a creative/descriptive piece and a formal essay on either poetry or prose. The course maintains a clear and effective focus on distinctly valuable linguistic skills.

ENGLISH LITERATURE

The examination (60%) is 2 hours long and has three sections: an analysis of unseen poetry, a comparison of two poems from a studied anthology, and an essay question on a modern prose text.

The coursework aspect of the course (40%) is made up of two essays, one which explores a modern drama and a second essay analysing a text from the 'Literary Heritage'. The process of re-drafting their coursework is vital to the development of strong argument and expression.

Sarah Pinto del Rio

MATHEMATICS

In Mathematics we use the Edexcel Examinations IGCSE Mathematics (4MA1) specification. All boys sit two two-hour papers. Calculators are allowed on both papers; there is no coursework component.

All boys take the Higher Tier IGCSE, at the end of the third year, with available grades 9-4. Boys in the top few sets will, in addition, cover some topics beyond the IGCSE course in preparation for A level work.

Ian Jackson

THE SCIENCES

All Tonbridge boys follow the same science syllabus for the first two years, namely Edexcel IGCSE Biology, Chemistry and Physics for six periods each per fortnight.

In the Novi, boys are taught in forms and not by ability in science. Before the start of the Second Year they will be setted, based on proven performance in the Novi Michaelmas and Summer exams and the views of their three science teachers. Sets 1-3 will be parallel top sets, 4-5 will be mid-range sets and 6&7 will be made up of boys who may benefit from being in a slightly smaller group with more individual attention. At the end of the Second Year a choice will need to be made as to the preferred course of study in the Third Year. Following revision of both domestic GCSE and IGCSE Science syllabi, for first examination in 2018, our advice on this is changing.

The majority of boys will go on to take separate IGCSEs in Biology, Chemistry and Physics (so called "Triple Science") which gives the greatest number of IGCSE passes and is the best preparation for A level sciences. They will have 7 lessons per fortnight in each subject and sit two exam papers per subject during the exam season.

A minority of boys, who find sciences challenging and/or who do not think they will be taking science A levels, will opt instead to take IGCSE Double Award Science. They will continue to study all three sciences, taught by a subject specialist, in the same time allocation but with total content equivalent to two separate sciences. At the end of the course the boys sit a single exam paper in each subject and the scores are combined, leading to the award of two overall IGCSE grades, so that the results certificate might read "8/7 in Science (Dual Award)". Historically this had enabled boys to focus their effort on a smaller volume of material and achieve higher grades without prejudice to their A level prospects. Following the rebalancing of content between Dual and Triple courses in the revised specifications, it is now possible that boys taking Dual Science may be less well prepared for A level than those taking Triple. We still think it will be the right choice for some boys to take Dual Science and will make that view clear after the Second Year exams. Boys who are advised to take Dual should consider this carefully, the staff making such recommendations do so on the basis of many years of experience and with the best interests of the individual uppermost, however they will be free to continue with Triple if they wish. They should also consider whether they are likely to find A level challenging given their performance to date.

There is no coursework in any of the science options, practical skills are examined through questions about experimental work which are embedded in the exams. We find this works admirably for Tonbridgians, who carry out a great deal of experimental practical work during their courses in the normal course of events.

We are occasionally asked if boys can drop a science entirely and take, for example, an additional modern foreign language. The overlap between areas of the three science specifications means it is possible to complete the triple science courses in a reduced timetable

allocation compared to non-science subjects (Double Award is essentially taught at “the right speed” in the third year by comparison). There is therefore not enough time saved to take on an additional non-science subject and we cannot offer this as an option. The Science department firmly believes that, in any case and for reasons of citizenship, a thorough grounding in all three sciences is an indispensable part of any rounded education – a view shared by Government and the maintained sector.

Any questions about the two courses may be addressed to Dr. Bill Burnett, Head of Science (wjb@tonbridge-school.org).

Brief details for each science subject follow.

BIOLOGY (Edexcel IGCSE 4BI1 or Double Award Science 4SD0)

The study of living processes concentrates on the workings of the human body, although plants are not forgotten. Topics range from cell structure, to the workings of major body systems, ecology and the impact of disease. The study of variation and genetics extends into modern applications of biology in genetic engineering and biotechnology. Practical work supplements the teaching of many of these topics.

Hugh Grant

CHEMISTRY (Edexcel IGCSE 4CH1 or Double Award Science 4SD0)

Candidates will study the role of Chemistry in the environment and in industry. They will see how simple ideas developed in the laboratory can be applied to the world outside. In particular the syllabus will concentrate on the structure and properties of materials, on understanding why and how chemical reactions occur, on patterns and trends within the Periodic Table and on the special nature of organic Chemistry. Practical work has a high profile in this subject.

Ishmael Roslan

PHYSICS (Edexcel IGCSE 4PH1 or Double Award Science 4SD0)

The course continues to develop pupils' ideas of how and why physical processes occur, their relationships to the fundamental laws of nature, and their applications in the everyday world. Throughout the course their learning will be reinforced through practical work. They will study the well-established theories in topics such as radioactivity, waves, motion, electricity and magnetism, and their application to technologies such as nuclear power. Pupils will be able to evaluate scientific ideas and explore the Physics used in everyday life from mobile phones to high speed jets.

Phil Deakin

MODERN LANGUAGES

FRENCH, GERMAN, SPANISH & MANDARIN

Boys must opt for at least one of French, German, Spanish or Mandarin, and those with a linguistic interest should strongly consider opting for two languages at GCSE. If you have any concerns about your son's language options, please contact the Head of Modern Languages, Mr Luis Fuentes (lf@tonbridge-school.org).

The new specifications for the GCSE in Modern Languages (Edexcel GCSE French 1FR0, Spanish 1SP0, German 1GN0, Mandarin 2CN01) lay great emphasis on both practical communication and grammatical precision. They aim to equip the student to elicit and convey information, through both the spoken and written word, over a wide range of clearly defined topic areas. They should enable the student to deal effectively with the many and varied demands likely to be made on him at all stages of, for example, a trip to France, Germany, Spain or China.

For French, German and Spanish IGCSE, the examination is divided into four sections - listening, speaking, reading and writing - each of which is worth a quarter of the final mark: much of the testing takes place in the foreign language. There are three examined units at the end of the course; unit one is the listening paper, unit two reading and writing and unit three is the oral exam.

Looking more closely at the skill areas, by the end of the course, boys should be capable of:

1. Listening: understanding and responding to a variety of sources ranging from announcements and telephone messages to radio broadcasts and interviews.
2. Speaking: giving short presentations about prepared topics and accurately recounting experiences in the past, present and future tenses
3. Reading: reading and responding to authentic texts such as signs, letters, leaflets and newspaper or magazine extracts.
4. Writing: communicating accurately through short letters and more extended descriptions of incidents or personal experiences and global issues in a variety of tenses

In order to improve the first two skill areas in particular, all boys have conversation classes during the course with a native speaker. Trips are currently offered in all four languages in the second and/or third years.

We are usually able to arrange private tuition for those who have an interest in a language not catered for in the main curriculum. We currently have Italian, Japanese, Dutch and Russian tutors who come regularly to the school to give private lessons at all levels. Lessons in other languages may also be possible. These lessons take place on a private basis outside the main curriculum. If you are interested in arranging such lessons for your son, please do not hesitate to contact the Head of Modern Languages, Mr Luis Fuentes (lf@tonbridge-school.org).

Luis Fuentes

LATIN and GREEK

In both Latin (OCR J282) and Greek (OCR J292) the GCSE specification provides a combination of elements: close analysis of a language which underlies those of modern Europe and provides an excellent training in clear and logical thought; and critical study of original literary texts in that language, of great interest and value in their own right. The examination in each subject consists of three papers. One 90-minute paper tests understanding of the language by passages for unseen translation and comprehension; this paper is worth 50% of the total GCSE marks. (A short section of that paper, worth 5% of the total GCSE marks, asks candidates either to translate three sentences from English into Latin/Greek or to answer some questions on the grammar of a passage in Latin/Greek.) There are in addition two 60-minute papers which focus on extracts from literary texts that have been studied intensively by candidates in advance; the questions on these papers test knowledge of content, historical context and literary style. One of these two papers looks at prose literature, the other at verse literature. Each of the literature papers is worth 25% of the total GCSE marks.

There is no controlled assessment or coursework. Boys taking Latin and Greek will take their Latin GCSE at the end of the Second Year, and the Greek GCSE at the end of the Third Year. All other boys taking Latin will take the GCSE at the end of the Third Year.

James Burbidge

ART

At GCSE we offer 2 different possible endorsements (the exam board word for course).

OCR GCSE Art and Design: Fine Art J171

OCR GCSE Art and Design: Photography J173

For both courses the structure is the same.

Coursework Unit

Stage 1: The first stage is taught over the Michaelmas term and Lent term of Year 10 (2nd Year) and, within this time, the Boys are introduced to the Assessment Objectives and shown how to structure a Unit of Work. The focus for this period is the development of the Boys' observational skills. This is done in a variety of ways, and differs according to endorsement chosen.

- **Fine Art:** The Boys will focus on developing their drawing skills, in a range of different media. They will produce a body of first-hand observations, from which they will develop their individual work. They will explore a wide range of media and processes associated with painting, sculpture and printmaking. This will also include photographic media.
- **Photography - Lens and Light Based Media:** The Boys will be introduced to both the digital and traditional film camera as a device for the capturing of first-hand information. They will explore imaging techniques such as composition, framing, and depth of field, film speed, lighting, exposure and viewpoint. This may include moving image, depending on the Boys' individual experiences. The Boys will also be encouraged to develop their drawing in ways that support their lens-based studies.
- For both endorsements, the Boys will be introduced to a variety of techniques for the successful analysis of their work and that of the artists which will inform their investigations, all of which will serve to enhance their expressive vocabulary. Through this, they will develop an in depth knowledge of the **Formal Elements (Line, Tone, Texture, Form and Colour)**.

At the same time, Boys will be introduced to work by other practitioners, in a huge range of media, and will be taught how to read images in a way that sheds light on the connections between their work and the work of others. The Boys will develop and present their work on Display Boards.

Stage 2: After Easter in Year 10 (2nd year), Boys taking both endorsements will embark on an individual path of investigation, taking the images generated in the previous two terms and developing them, through techniques and processes, to make an individual portfolio of work which they will present as their Coursework Portfolio. The outcomes will differ according to the Endorsement taken and Boys will be encouraged to be ambitious in the diversity and scale of these outcomes.

- **Fine Art:** Outcomes can be in a wide variety of media, including painting, printmaking, sculpture, ceramics, mixed-media collage, Fine Art photography or film or video and/or a creative mix of any combination of the above.
- **Photography:** Outcomes for this endorsement should be photographic in nature, employing either digital or traditional methods, or a mix of these and more alternative methods, including moving images.

For both endorsements, boys will learn specific techniques and skills which will contribute towards their creative knowledge, including:

- Observational skills, employing traditional drawing methods and lens-based technology.
- An ability to analyse and understand a rich variety of images and artefacts and use a variety of research skills relating to their own practical work.
- An understanding of the **Formal Elements (Line, Tone, Texture, Form and Colour)** through analysis and making.
- A foundation in the manipulation and creation of individual works of Art and Design.

Exam Unit

The exam paper is given to the Boys immediately after Christmas and runs over the course of the Lent term. This takes the form of a choice of given starting points. Boys select one starting point and develop a unit of work which culminates in the completion of an outcome, under timed exam conditions, over 3 sessions (10 hours in total). These timed sessions will take place in or very close to the first two weeks of the Summer Term. **There is no written exam for GCSE Art and Design.**

Coursework is worth 60% of the mark and the Set Task (Exam) unit is worth 40%.

Fian Andrews

COMPUTER SCIENCE

Cambridge IGCSE Computer Science (Syllabus code CIE: 0984) is the study of the foundational principles and practices of computation and computational thinking and their application in the design and development of computer systems. Learning computational thinking involves learning to program, that is to write computer code, because this is the means by which computational thinking is expressed.

Cambridge IGCSE Computer Science enables boys to develop an interest in computing and to gain confidence in computational thinking and programming. They develop their understanding of the main principles of problem-solving using computers.

Boys will apply their understanding to develop computer-based solutions to problems using algorithms and a high-level programming language. They will also develop a range of technical skills, as well as the ability to test effectively and to evaluate computing solutions.

This qualification will help boys to appreciate current and emerging computing technologies and the benefits of their use. They will learn to recognise the ethical issues and potential risks when using computers.

Cambridge IGCSE Computer Science is an ideal foundation for further study in Computer Science. Understanding the principles of Computer Science provides boys with the underpinning knowledge required for many other subjects in science and engineering, and the skills learnt can also be used in everyday life.

Further details may be found on Firefly: <http://firefly.tonbridge-school.org/digital-creativity/computer-science-gcse-201617>

Paul Huxley

DRAMA

The new Eduqas GCSE course will suit boys with a genuine love of theatre and/or performing, and who see drama as a valuable way of coming to a better understanding of how human beings behave, develop relationships and cope with the expression of feelings and ideas. It offers a unique challenge to students who enjoy expressing themselves in a variety of creative ways, either as actors or designers, and like to be actively involved in all lessons.

Component 1, **Devising Theatre** (40%) requires students to create an original piece of drama in groups of between 2 and 5 in the style of a practitioner or genre, based on one of four set themes or stimuli. The assessment is divided into three tasks; **Devising** (20%) which is assessed through a 900 word written Portfolio of Supporting Evidence or a video blog; **Realising** a practical performance (10%) which must be between 5 and 16 minutes in length and **Evaluating** (10%) the devising process, assessed through a 1 ½ hour written analysis. As part of this unit students will study a theatre practitioner or genre such as Stanislavski or Brecht and a theatre company such as Kneehigh or Frantic Assembly. They will comment on how their devised piece was influenced by this work and the theatre they have seen as part of the course.

Component 2, **Performing from a Text** (20%) requires the students to perform an extract from a published play script in groups of 2 to 4. This is assessed by a visiting examiner who will mark the students on their individual performance in front of a live audience. This performance is often the highlight of the course.

Component 3, **Interpreting Theatre** is a 1½ hour Written Exam (40%) split into two sections. In section A students have to answer four questions on a scene from a chosen **Set Text** that they will have studied in class. The questions will ask them to make directorial and design choices about characters, costume, acting style and staging. In section B they will answer a question based on a piece of **Live Theatre** seen as part of the course.

Gavin Bruce

DESIGN & TECHNOLOGY

Cambridge IGCSE Design and Technology (Syllabus code 0979) introduces boys to a wide range of technological approaches and processes, and provides the opportunity for them to develop their creativity and originality in the design and manufacture of products.

The specification also examines the wider considerations and implications of technological activity on society. Boys are taught to analyse products and processes and how design and technology affects the manufacturer, user and environment.

In order to develop an understanding of the broad perspectives of the designed world, design methodology, product development, packaging and product marketing are taught. Human factors and an appreciation for ethical and sustainable issues are also covered. Other areas taught include product manufacture, methods of production, manufacturing systems and the use of ICT in the context of industrial manufacture.

Boys are encouraged to cultivate critical and aesthetic abilities, enabling them to evaluate their design and technology activities. The use of computers for generating and presenting design ideas is an important aspect of this course, with computer aided design and manufacture playing a substantial role.

Two separate courses are offered within the IGCSE Design and Technology option - Resistant Materials Technology and Systems & Control, and boys must opt at the outset for one of these.

Resistant Materials Technology

This area of study aims to develop the skills which designers use within the context of materials and their processing. It takes an extensive look at the applications and the physical and working properties of a wide range of materials, including plastics, woods, man-made boards, metals, paper, card, textiles and smart materials, all of which are available for use in the project work. Preparation, shaping, a wide range of joining and assembly techniques, and special treatments are covered in depth.

Systems & Control

This area of study aims to develop the skills and knowledge used by designers within the context of structures, mechanisms and electronics. It looks in depth at different types of structure, their behaviour, their uses and their load bearing abilities; the transmission of motion and energy using mechanisms; and the concepts and techniques used in electronics and control systems, including the theory of operation and uses of the most common electronic components. A wide range of materials and of mechanical and electronic components are available for use in project work.

The assessment scheme consists of three components; a compulsory design paper worth 25% of the marks (common to both course options), a written paper worth 25% (based on the option chosen) and a coursework project, selected by the student, which accounts for 50% of the total marks. The coursework project represents about 45 hours of work, preparation for which starts in the summer term of the first year of the course, with the manufacturing being done during the Michaelmas and Lent term of the second year.

Richard Day

GEOGRAPHY

Geography is concerned with the analysis of patterns and processes in both physical and human landscapes. At IGCSE this involves tackling a wide variety of topics, ranging from plate tectonics and fluvial landscapes, to the issues associated with urbanisation and economic development. In addition, the syllabus ensures that practical skills like map, air photograph and satellite image interpretation, hypothesis construction and the collection, presentation and evaluation of data are developed.

The candidates will study 5 topics, two from human geography, two from physical geography and one on 'Global Issues' which combines the two. All boys will be entered for the Higher Tier paper of the Edexcel IGCSE (4GEO) specification. From this year onwards, this exam has been split into two separate papers, of 1hr 15 and 1hr 45, instead of the previous 3 hour long paper in a single sitting. There is no written coursework, but the examination paper has a section which tests coursework skills so two half day field trips are included in the course.

Further details about geography at Tonbridge can be found on the department's web pages in the school's main website.

Chris Battarbee

HISTORY

The CIE IGCSE course explores how the modern world emerged from the First World War to the end of the Cold War.

The syllabus has two main elements which are assessed through a coursework essay written in the third year (making 27% of the final overall mark) and two exams at the end of the course.

In the first year of the course the boys study a broad overview of world history in the Twentieth Century, covering the period 1918-1989. Topics include the origins of the Second World War, the Cuban Missile Crisis and the Vietnam War. All boys will also spend time in the Lent term doing a study into an aspect of the Second World War of their choice. This is a non-examined part of the course allowing them to develop their own interests in History and give them an experience of independent research.

In the second year of the course the boys complete a focused study on Germany 1919-45, looking at the problems Germany faced after the First World War, the rise to power of Hitler and the nature of Nazi Society both before and during the Second World War. One of the pieces of written work undertaken as part of the third year course is the coursework element of the IGCSE. It consists of one essay on Hitler's rise to power (maximum 2000 words).

With its emphasis on argument and analysis of ideas and documents, History is a challenging and useful subject in terms of the skills it teaches, while the content of the course gives valuable understanding of the historical context of events in the world today, such as the credit crunch and international relations. More broadly, it can lead to an appreciation of both the possibility and difficulty of change in the world of the present.

Melanie Robinson

MUSIC

The CIE IGCSE Music Specification (0410) focuses on three core skills essential to an all-round musical education: **Performing**, **Composing** and **Listening**. Though naturally all of these are inter-related and support each other, the course also is designed more specifically to help the pupil to become:

- (i) a more **informed** performer, through the study of an instrument and pieces written for it;
- (ii) a more **skilled** composer, through study of compositional techniques and styles;
- (iii) a more **understanding** listener, through studying a range of different types of music and the backgrounds to them.

The two-year course consists of 60% coursework and 40% listening examination:

The coursework combines together elements of performance and composition in ways which aim to encourage and develop boys' musical creativity and imagination. **Performing** will be in both solo and ensemble contexts, and can be via any instrument or singing – offering the maximum opportunity to follow a boy's own particular enthusiasms and demonstrate his abilities. Emphasis will be upon musical purpose, understanding and communication, *not* necessarily on the standard of his technical achievement. **Composition** will be aimed at giving an understanding of the elements of music, and how to use them successfully. This will eventually enable boys to produce finished pieces in a variety of styles, making effective use of musical resources, and presenting their ideas clearly on paper.

In the **Listening** module boys will be developing their aural awareness and ability to make informed judgements about music. There are four sub-sections to the course: study of general music history (Baroque, Classical, Romantic etc.); a World Music set topic; aural dictation (for example writing down melodies from a recording in a skeleton score); and study of an Orchestral Set Work.

NB. You do not need to play two instruments or to have studied music theory to pursue this course successfully, although the latter is clearly advantageous if you have.

Julian Thomas & Mark Forkgen

RELIGIOUS STUDIES

IGCSE Edexcel (4RS1)

Religious Studies aims to introduce theological, ethical and philosophical ideas in a clear, challenging and critical manner. Boys will wrestle with questions ranging from whether humans have such a thing as free will to the ethical issues raised by abortion and euthanasia. We look at issues through the lens of Christianity, but not uncritically, and equal weight is given to non-religious points of view; this allows us to branch off into philosophy (e.g. Hobbes and the nature of humans and Sartre on freedom) and a discussion of the hard-atheism of the likes of Richard Dawkins.

There are four main topics:

- The Universe, Creation and Place of Humans (origins of universe, the nature of humans, science and religion, problem of evil and issues of free will and determinism)
- Life and Death (the afterlife, meaning of life, marriage, sex , relationships, abortion and euthanasia)
- Peace and Conflict (war, just war, crime and punishment)
- Rights and Equality (human rights, racism, sexism, social justice).

This is supported by a subsidiary section on the nature of Christian ethical thinking which looks at key aspects of belief which mould a Christian's world view, such as approaches to texts, rules for living and key teachers.

Typically boys will look at an issue from a range of religious views and balance this with a non-religious response. Where ever possible examples and case studies (perhaps from the news, literature or history) are used as a stimulus for discussion. There is seldom a 'right answer' and boys are encouraged to argue and debate to forge their own perspectives.

The IGCSE is examined by one 1 hour and 45 minute exam on the Philosophy and Ethics sections and by one 1 hour and 30 minute exam on the religious community topics.

Religious Studies should appeal to those who enjoy arguing and challenging their own and society's preconceptions. It will develop students' critical thinking, analytical and debating skills, as well as touching on material that is supremely relevant to life in the twenty-first century.

Julian Dobson

DIVINITY – The non-examined compulsory course (not a GCSE)

The Second Year Divinity course, which all boys do, is designed to extend, complement and enrich the 2nd year curriculum in a non-examined context. It has been carefully constructed to have no overlap with the GCSE Religious Studies course. Lessons are largely discussion based and there are four main areas of study over the year:

- Holocaust Theology - this introduces Judaism and some of the theological and philosophical questions associated with the Holocaust such as moral responsibility and the origins of anti-Semitism.
- Mindfulness - this is a practical eight week course which teaches boys the principles of secular mindfulness or meditation.
- Critical thinking - in this module boys explore thinking skills, logic problems and looks at how arguments are constructed.
- Religion and Ethics in art, culture and current affairs.

Julian Dobson

ART, DRAMA, MUSIC or TECHNOLOGY AWARD HOLDERS

Please note that we would normally require holders of one of these awards to take that subject for GCSE, although not necessarily in the Sixth Form.

If this is a problem, please contact the Director of Studies.