

SIXTH FORM CURRICULUM BOOKLET  
ACADEMIC YEAR 2012/13  
**PART III: IB CURRICULUM**

This is part III of our three part Sixth Form Curriculum booklet. In this section, we look in detail at the IB curriculum offered at Rydal Penrhos School.

Part I. The Sixth Form

Part II. The A-level curriculum (including Nationals)

Part III. The International Baccalaureate Diploma curriculum

All three parts are published only in electronic form on our website at :

[http://rydalpenrhos.com/academic/senior\\_school\\_curriculum/](http://rydalpenrhos.com/academic/senior_school_curriculum/)

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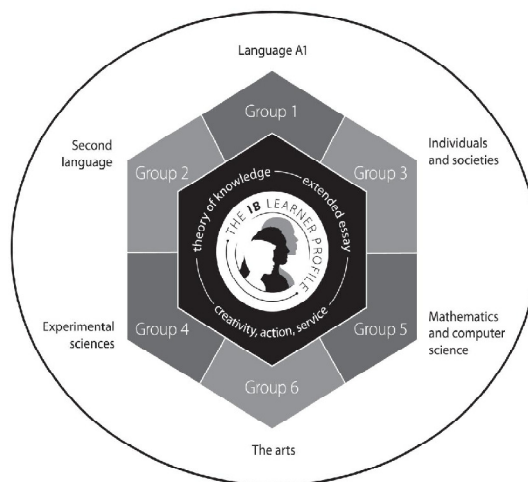


# The IB Curriculum

Thank you for taking an interest in the International Baccalaureate Diploma (IB) curriculum for the Sixth Form at Rydal Penrhos. For those who are not entirely familiar, I shall begin by outlining the background, ethos, and structure of IB.

The International Baccalaureate Organisation was established in 1968. The IB Diploma is a challenging experience and has been designed for students of a wide range of abilities it is certainly not just intended for the academic “elite”. However, the breadth of the grading system does allow for the recognition of excellence. The IB Diploma requires individuals to study a broader range of areas than A-levels, promoting the acquisition of a wider range of skills. Not only does this help prepare a student for all sorts of challenges in future life, it also keeps their options open regarding the choice of future educational courses and employment. The IB Diploma is firmly established at Rydal Penrhos; our teachers are experienced in its delivery and have attended extensive IB training courses.

The Diploma can be represented by the hexagon below, with the subject groups on the outside and the core elements inside. Students must take one subject from each of the first five groups. The sixth subject can be from Group 6 or a second subject from groups 2, 3 or 4.



The IB Diploma requires students taking six subjects. Three subjects are taken at the “Higher level” (HL) and three at “Standard level” (SL); more lesson time is spent on the higher level subjects. In addition to the differences between HL and SL some subjects are further divided into different levels e.g. a second language can be studied at levels ranging from native to beginner level. There are two Mathematics SL options to allow for a range of abilities in that subject. The compulsory core guarantees continued study of vital subjects and thus builds confidence in them. It guards against academic rigidity or unwisely premature rejection of key areas of knowledge.

Students are also involved in the core elements of the Diploma: TOK (Theory of Knowledge) - this is less formal than the subject areas and considers what we know and how we know it; CAS (Creativity, Action, Service) - records and gives recognition to the kind of activities that are offered to students at this kind of school; and The Extended Essay is a piece of personal research based in a subject chosen by the student. It is carried out over a period of a few months, promoting research skills required by universities.

IB subjects use criterion based assessment, with each of the six subjects having a highest possible grade of 7. Additional points are given to positive performances in the Theory of Knowledge and the Extended Essay. The minimum passing points score is a 24 up to a possible 45.

In the remainder of this part of the booklet, you will find details of IB courses offered. If any further explanation is needed, or advice wanted, please do not hesitate to contact me or the relevant Head of Department, whose contact details are included.

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# ENGLISH A

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English is an essential component of IB at Rydal Penrhos whether it is your first or second language. If you are a first language English speaker, you will need to choose English A. There are two alternative 'A' courses available: 'Literature'; or 'Literature and Language'. 'Literature' is offered at higher and standard levels; 'Literature and Language' is offered at standard level only.

## ENGLISH A LITERATURE

English A Literature assesses students' ability to respond to a range of literature written in (or translated into) English in a range of literary genres and written during different historical periods.

The skills required will be: Essay writing; Reading ability; Independent research; and Speaking ability

As important as these perhaps is an interest in literature and its contexts, and the issues which literature raises; a willingness to get involved in class discussion; and a commitment to all the assignments, whether research, reading or writing.

### Course Outline

Part 1: Works in translation [SL 2 works; HL 3 works]

All works are chosen from the titles in the prescribed literature in translation (PLT) list. Examined by coursework (Written Assignment).

Part 2: Detailed study [SL 2 works; HL 3 works]

All works are chosen from the prescribed list of authors (PLA), each from a different genre. Examined by the Oral Commentary on a randomly selected passage from one of the texts.

Part 3: Literary genres [SL 3 works; HL 4 works]

All works are chosen from the prescribed list of authors (PLA). Examined in Paper 2.

Part 4: Options [SL 3 works; HL 3 works]

Works are freely chosen in any combination. Examined by an individual presentation.

Higher Level	Topic	Length	%
<b>Paper 1: Guided literary analysis</b>	The paper consists of two passages: one prose and one poetry. Students choose one and write a literary commentary.	2 hours	20%
<b>Paper 2: Essay</b>	The paper consists of three questions for each literary genre. In response to one question students write an essay based on at least two works studied in part 3.	2 hours	25%
<b>Written assignment</b>	Students submit a reflective statement (300–400 words) and literary essay (1200–1500) words on one work studied in part 1.		25%
<b>Oral Work</b>	Individual presentations/reports and formal commentary.		30%
Standard Level	Topic	Length	%
<b>Paper 1: Guided literary analysis</b>	The paper consists of two passages: one prose and one poetry. Students choose one and write a guided literary analysis in response to two questions.	1h 30min	20%
<b>Paper 2: Essay</b>	The paper consists of three questions for each literary genre. In response to one question students write an essay based on at least two works studied in part 3.	1h 30min	25%
<b>Written assignment</b>	Students submit a reflective statement (300–400 words) and literary essay (1200–1500) words on one work studied in part 1.		25%
<b>Oral Work</b>	Individual presentations/reports and formal commentary.		30%



## ENGLISH A LANGUAGE AND LITERATURE

The English A Language and Literature course is offered to Standard Level only and assesses students' ability to understand the constructed nature of meanings generated by language and the function of context in this process. This is achieved through the study of language in cultural context and its use in mass communication, as well as through response to a range of literature written in (or translated into) English in a range of literary genres and written during different historical periods.

The skills required will be: Essay writing; Reading ability; Independent research; and Speaking ability

Students on this course will need to have an interest in exploring the way in which language works, including how meaning is both constructed and deconstructed and how an understanding of what we read is formed. They should also have an interest in literature and its contexts, and the issues which literature raises. The course is demanding; students will need to be willing to be involved in class discussion and show a commitment to all the assignments, whether research, reading or writing.

### Course Outline

#### Part 1: Language in Cultural Context

A study of how language and meaning are shaped by culture and context, the impact of language changes and how audience/purpose affect the structure and content of texts. Examined by coursework (Further Oral Activity and Written Task) and Paper 1.

#### Part 2: Language and Mass Communication

Examining the way mass media use language and image to inform, persuade or entertain, including the potential for educational, political and/or ideological influence. Examined by coursework (Further Oral Activity and Written Task) and Paper 1.

#### Part 3: Literature – Texts and Contexts (Two works)

One work is chosen from the Prescribed Literature in translation (PLT) list. The other is freely selected by the teacher. Examined in Paper 2.

#### Part 4: Literature – Critical Study (Two works)

Both works are selected from the Prescribed List of Authors (PLA). Examined by the Individual Oral Commentary.

	Topic	Length	%
<b>Paper 1: Textual analysis</b>	The paper consists of two unseen texts. Students write an analysis on <i>one</i> of these texts.	1h 30min	25%
<b>Paper 2: Essay</b>	In response to one of the six questions, students write an essay based on both literary texts studied in Part 3.	1h 30min	25%
<b>Written task</b>	Students produce at least three written tasks based on material studied in the course. Students submit one written task for external assessment. This task must be 800-1000 words in length plus a rationale of 200-300 words.		20%
<b>Oral Commentary</b>	Students comment on an extract from a literary text studied in Part Four of the course. Students are given two guiding questions.		15%
<b>Further Oral Work</b>	Students complete at least two further oral activities, one based on Part 1 and one based on Part 2 of the course. The mark of one Further Oral Activity is submitted for final assessment.		15%

# ENGLISH B

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If English is your second language you may choose to do English B; a course which focuses on developing English Language use, as opposed to the study of Literature.

## Topics

The course comprises five topics: three from the core and two chosen from the five options. At least two aspects must be covered in each of the five topics that make up the course. Additionally, at HL students must read two works of literature:

Core Topics	Aspects Covered
Communication and media	<ul style="list-style-type: none"><li>• Advertising</li><li>• Censorship</li></ul>
Global issues	<ul style="list-style-type: none"><li>• Global warming, climate change, natural disasters</li><li>• Drugs</li></ul>
Social relationships	<ul style="list-style-type: none"><li>• Relationships (friendship, work, family)</li><li>• Social behaviours and stances</li><li>• Taboo versus what is socially acceptable</li></ul>

Options Topics	Aspects Covered
Health	<ul style="list-style-type: none"><li>• Diet and nutrition</li><li>• Drug abuse</li><li>• Mental Health</li></ul>
Leisure	<ul style="list-style-type: none"><li>• Entertainment, recreation</li><li>• Games, hobbies, sports</li></ul>

The core and the options at both levels, as well as literature at HL, must be studied within the context of the culture(s) of the target language.



# GERMAN A

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This is a demanding course based entirely on the study of literature and is designed for native speakers of the language. It is offered at both higher and standard levels. At higher level students have to study 13 works, while students at standard level are required to study 10 works. Most of the works are chosen from German Literature, but some are drawn from literatures of other countries. Students will have the opportunity to experience drama, prose and poetry, but will also be able to analyse non-fiction texts, such as autobiographies and essays and engage with the changing nature of language by critically exploring media texts, electronic texts and oral texts. The works will be studied either as individual works of literature or as part of a small group of interrelated texts. The aim is for students to develop an appreciation of literature and language in a way that is both vigorous and enjoyable. Candidates are tested by means of written examination, written assignments and oral work.

The list of literature works to be studied is being revised.

## Assessment

Higher Level	Topic	Length	%	Paper
<b>Paper 1: Commentary</b>	Written commentary based on poetry or another text	2 hours	20%	HL
<b>Paper 2: Essay</b>	<b>Two</b> essay questions on genre and <b>four</b> questions of a general nature – <b>One</b> question only to be answered.	2 hours	25%	HL
<b>World Literature Assignment</b>	Written Assignment on one of the works studied (1200 - 1500 words)		25%	HL
<b>Oral Work</b>	Individual presentations and formal commentary.		30%	HL
Standard Level	Topic	Length	%	Paper
<b>Paper 1: Commentary</b>	Written commentary based on poetry or another text	2 hours	20%	SL
<b>Paper 2: Essay</b>	<b>Two</b> essay questions on genre and <b>four</b> questions of a general nature – <b>One</b> question only to be answered.	2 hours	25%	SL
<b>World Literature Assignment</b>	Written Assignment on one of the works studied (1200 - 1500 words)		25%	SL
<b>Oral Work</b>	Individual presentations and formal commentary.		30%	SL

## OWN LANGUAGE A

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This is a course based entirely on the study of literature in one's own language. It is very similar in content to the German A course, but is offered only at standard level.

If you wish to consider this option, please contact the IB Coordinator for confirmation since supervision of this requires the provision of tutors with appropriate language skill.



# FRENCH AND GERMAN B

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'B' designated languages are for non-native speakers of the language. Students who have already attained a certain proficiency in a foreign language, eg they have passed GCSE or equivalent in that language, can choose the Language B option (at either higher or standard level, depending on their ability, interest or their other IB options). Of course, students might like to consider the *ab initio* language (see below) as an alternative, or even in addition, to choosing the Language B option.

French B and German B are offered at standard level only.

The courses for French B and German B are designed to build on the students' previous language level and enable them to become more proficient. The courses will focus on the key skills of listening, reading, speaking and writing. These skills will be underpinned by the further development of the students' grammatical awareness and accuracy. It is integral to the courses that the students develop these language skills in order to cope with language being used in a variety of areas from the purely practical and social to the expressive and intellectual. At the end of each course the students should be proficient enough to embark on further study, employment or leisure. In particular, they should have a greater awareness of cultural difference and diversity in the world and the role language plays within it.

## The Aims of the Subjects

The key aims of the courses are to enable the students to understand and handle language in a critical, analytical and accurate manner, being able to select appropriately for the cultural context and being in a position to communicate ideas in the most effective way. Coherent and effective communication is vital and considerable importance is attached to this in oral and written tasks. The ability to demonstrate one's familiarity with different linguistic registers and styles is crucial.

In each subject the students follow a course of topics and themes which should allow them to develop their skills and explore a range of language and cultural contexts, using such diverse sources as literature, the press, film, television and radio.

Teaching will normally be in the classroom with the relevant teacher, but there is also scheduled time with a native foreign language assistant, and the school's resource centre allows the students to access reference material (books and magazines), and listen to tapes, watch videos etc. In addition, students are able to take part in events organized by the Modern Languages Department. Implicit in the decision to study a foreign language is the desire to spend some time in the country of that target language and it is hoped that students will spend at least two weeks abroad.

This course is very skills-based and by the end of the course students will not only have acquired a sound vocabulary and grammatical awareness, but have developed oral and writing skills that will help them in a variety of situations.

Students at the **standard level** are expected to cover the same areas of study as the higher level students, but since they do not receive the same amount of teaching time, they explore the subject in rather less depth. The assessments are basically the same, but they take into account the different objectives at the Standard Level and are not quite as demanding.

## Assessment

The IB assessments are taken in the second year of the course.

Standard Level	Topic	Length	%	Paper
<b>Paper 1: Receptive Skills</b>	Reading Tasks	1h 30	25%	SL
<b>Paper 2: Written Productive Skills</b>	Written Tasks	1h 30	25%	SL
<b>Individual Oral</b>	Presentation & Discussion	10 min	20%	SL
<b>Interactive Oral</b>	Best of at least 3 activities	15–20 min	10%	SL
<b>Written Assignment</b>	Written task based on intertextual reading		20%	SL



# SPANISH ab initio

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As the title implies, this standard level course is for beginners. It is designed for the student with no experience of the language. It aims to develop the student's linguistic skills to a competent level with a reasonable range of vocabulary and also to give him/her a basic awareness of the culture of Spanish-speaking countries. The key skills of Listening, Reading, Speaking and Writing are all included in the course, by the end of which the students should be able to communicate effectively in both everyday situations and general conversation. The standard required of a student after the two year course is much the same as that required of a very good GCSE candidate. It is also hoped that students will wish to pursue an interest in Spanish further.

The course focuses on everyday situations across 3 themes (The Individual and Society, Leisure and Work, The Urban and Rural Environment) in a series of topics (daily routines, education, food & drink, personal details, physical health, relationships, shopping, employment, entertainment, holidays, media, sport, technology, transport, environmental concerns, global issues, neighbourhood, physical geography, town and services, weather). Students are expected to submit homework on a regular basis, but equally great emphasis is placed on independent learning. There will be regular assessment across all the skills and students will be made aware of the IB assessment criteria so that they can take more responsibility for their own progress and performance. The IB assessments are all taken in the second year of the course.

Opportunity will also be given to establish links with other areas of the IB Programme. Teaching will normally take place in the classroom, but there is also access to resources held in the school's resource centre. Students are able to take part in events organized by the Modern Languages Department. It is hoped that students will want to spend at least two weeks in a Spanish-speaking country during the two years of the course.

## Assessment

Standard Level	Topic	Length	%	Paper
<b>Paper 1: Text Handling</b>	Reading Tasks & Written Response	1h 30	30%	SL
<b>Paper 2: Written Production</b>	Writing Task (one 50 word task from choice of two; one 100 word task from choice of three)	1h	25%	SL
<b>Written Assignment</b>	200-300 words under supervision with access to reference material	2 hrs	20%	SL
<b>Individual Oral</b>	Presentation & Discussion	10 min	25%	SL

# ECONOMICS

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IB Economics engages students in the study of how consumers, companies and governments make decisions on how limited resources can be used to best effect. Economics is not purely a theoretical subject, it is a dynamic social science and students will be actively involved in applying theories and concepts to real world examples. Neither is Economics a discrete subject, since it incorporates elements of History, Geography, Psychology, Sociology, Politics and many other related fields.

The skills learned and concepts studied by economists will prove of considerable importance in their future development as employees and citizens of a society which will continue to broaden its horizons into the global economy of this new millennium in terms of social, technological, political and economic thought.

Although there are many careers in the financial/commercial world for which Economics is essential eg banking, insurance, accountancy, general management, one of the most striking features of this subject is that it can be studied alongside a wide variety of other subjects as it forms a strong bridge between all Arts and Sciences. This allows Economists to keep their choices open as far as careers are concerned, something which is vital to young adults.

We are constantly reminded in our everyday lives that the world in which we live is constantly changing and the study of Economics is a genuine attempt to apply understanding of basic principles to this world. If you are interested in a subject, which incorporates academic challenge and an appreciation of the real world, then this subject should be given serious consideration.

## **Course Content**

The following represents a snapshot of topics studied . . .

### Microeconomics

Operation of markets eg sport and leisure industry, cars, fashion, media, banking, supermarkets etc.  
Competition eg decision making of firms in different market structures . . . monopoly and oligopoly.  
Market failure via the economics of transport, health care, education and the environment.

### Macroeconomics

National Income; Unemployment; Inflation; Economic growth; Taxation; Government spending; Politics; Social and ethical issues...

### International Economics

International trade; European Union; Free trade and protectionism; Balance of payments; Exchange rates;

### Development Economics

Living standards; Third-world development; Growth & development strategies; Industrial development; International financial institutions, eg IMF, World Bank etc.

A variety of resources will be used to facilitate the learning process including textbooks, newspapers, journals such as the Economist, News programmes and TV documentaries and other audio-visual materials. Also, every attempt will be made to foster realism and understanding of the business and political world with a variety of visits to firms and lectures to hear the views of leading politicians, economists, managers and workers.

## **Assessment**

The emphasis is on both, literary, and numerical skills and these are tested externally using essay, case study, and data-response questions, and also internally by means of portfolio assessments of approximately 650-750 words in length, which are based on real-world economic issues. The students themselves decide upon their own portfolio work, which gives them the opportunity to develop ideas in aspects of study for which they have a particular enthusiasm and interest. Both guidance and class time are given to support students.

All external assessments are in the form of examinations taken at the end of the course.



HIGHER LEVEL

Paper	Nature of examination	Time	% Marks
1	Essay paper – 1 essay from 2 Microeconomic questions plus 1 essay from 2 Macroeconomic questions	1h30m	30%
2	Data-response paper – I from 2 International questions plus I from 2 Development questions	1h30m	30%
3	Combined numerical and literary questions – 2 from 3	1h	20%
3 Internally assessed portfolio pieces, 750 words			20%

STANDARD LEVEL

Paper	Nature of examination	Time	% Marks
1	Essay paper – 1 essay from 2 Microeconomic questions plus 1 essay from 2 Macroeconomic questions	1h30m	40%
2	Data-response paper – I from 2 International questions plus I from 2 Development questions	1h30m	40%
3 Internally assessed portfolio pieces, 750 words			20%

# GEOGRAPHY

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Geography is an ideal subject for those wishing to try to understand the world in which we live. It explains both the physical and human aspects as well as linking the two by looking at man/ environment relationships. Being a social science, it fits well with many other subjects and it has elements of science as well as mathematics and the arts within its structure.

## Fieldwork

The Geography Department firmly believes that fieldwork is an essential ingredient in any curriculum and the IB students may have the opportunity to carry out fieldwork abroad as well as in Snowdonia. Fieldwork and its eventual write-up may also provide opportunities for completing the 'extended essay'.

## Who is eligible?

The course is designed to accommodate both students who have studied Geography at GCSE and those who have little previous knowledge of the subject.

## Syllabus outline

The syllabus at higher level is divided into three papers, the standard level has two. There is also an Internal Assessment which will involve fieldwork and an individual study.

## GEOGRAPHICAL SKILLS

A wide range of research methods are used and students develop a very broad portfolio of transferable skills.

## PAPER ONE

This has a core theme of patterns and change, there are four compulsory topics; Population in Transition, Disparities in Wealth and Development, Environmental Quality and Sustainability and Resource Consumption.

## PAPER TWO

Options from:

- Freshwater - Issues and Conflicts
- Oceans and their Coastal Margins
- Extreme Environments
- Hazards and Disasters
- Leisure, Sport and Tourism
- The Geography of Food and Health
- Urban Environments

## PAPER THREE

This is a higher level extension called Global Interaction. It includes 7 compulsory topics;

- Measuring global interactions
- Changing space
- Economic interactions and flows
- Environmental change
- Sociocultural exchanges
- Political outcomes
- Global interactions at the local level

There is also an **Internal Assessment** which will consist of a 2500 word report.



# HISTORY

Mr Stephen Wales

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The study of History from an international perspective is increasingly important today. In the contemporary context of globalisation and technological development, different cultures are increasingly in contact and inter-dependent. Now, more than ever, there is a need for an understanding of the present as well as the past. The course approaches History from a variety of perspectives, political, social, economic, religious, technological and cultural. Candidates will be expected to learn the process of historical enquiry, explanation and interpretation using a variety of sources and data and seek to explain and analyse the past and to test hypotheses. Students will be asked to explain the cause and effect of historical change and continuity and place events in their historical context.

IB History is available at both standard level and higher level. A GCSE in History is not a requirement but much of the time and emphasis is placed on individual study and reading in preparation for seminars, discussion, source based work and essay writing . . . so reasonable basic literacy is necessary.

As part of the course an optional cultural visit is organised as well as two conferences each year in Manchester and the Imperial War Museum in London. This is an exciting, modern, flexible and varied course, which we believe, caters for all historical tastes and abilities.

## Course Content

### STANDARD LEVEL

At standard level much of the material is based around two twentieth-century world history topics . . .

*The origins and development of authoritarian and single party states.* We have chosen Lenin, Stalin, Mussolini, Hitler and Mao Zedong and we will study the origins, ideology, form of government, nature and impact of these.

*The Cold War 1945-90.* Major themes include superpower rivalry, ideological differences between the superpowers, spheres of influence and interest, political and economic responses to the Cold War as well as Cold War developments worldwide and the social and cultural consequences of the Cold War.

Candidates will also undertake an historical investigation on a topic of their choice.

Two written examinations will be taken at the end of the second year.

Paper 1	Peacekeeping, Peacemaking and International Relations 1918-1936	1 hour	30%
Paper 2	Single Party States and the Cold War.	1½ hours	45%

### HIGHER LEVEL

At higher level the programme of study is the same as for standard level, except that higher level students will take an extra paper in European History where extra topics will include: Tsarist Russia to Communist USSR; The Inter-War Years, 1919-1939; and Totalitarian Europe.

Three written examinations will be taken at the end of the second year.

Paper 1	Peacekeeping, Peacemaking and International Relations 1918-1936	1 hour	20%
Paper 2	Single Party States and the Cold War.	1½ hours	25%
Paper 3	Tsarist Russia, Soviet Russia and the interwar years in Europe.	2½ hours	35%

### INTERNAL ASSESSMENT AT STANDARD AND HIGHER LEVELS

This takes the form of an 'Historical Investigation'. All candidates are required to write a 2000 word essay on a document-based investigation of their own choice. This is a problem solving activity which enables candidates to demonstrate the application of their skills and knowledge to an area which interest them, and which need not be syllabus related.



# BIOLOGY

Ms Anne Margerison

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Biology is a rapidly developing subject whose application will underpin the development of both society and individuals in the next few decades. Issues such as the human genome project, cloning, environmental pollution, population growth, ageing etc will require a sound knowledge of Biology to enable the individual to make sensible judgements based on a good knowledge of facts.

The course combines rigorous academic study with significant emphasis on the development and appreciation of practical and investigative skills and techniques. Approximately 25% of teaching time is devoted to practical work and includes simple lab-based work as well as longer projects and field trips. There is also an interdisciplinary project conducted in conjunction with all the experimental science courses.

The course is intended to encourage the student to develop a secure knowledge of a limited body of facts and at the same time a broad general understanding of the subject and a deep interest in it.

## Course Structure

There are four basic biological concepts which run throughout the course and they serve as themes to unify the topics, whilst allowing the student to study at different levels of complexity. These concepts are: Structure and function; Equilibrium within systems; Universality versus diversity; and Evolution.

All students follow a common core which is then supplemented with additional topics for higher level students. At both levels students are also required to study two option topics. All students participate in a three day field trip.

### Core topics

Statistical analysis (HL + SL)  
Cells (HL + SL)  
The chemistry of life (HL + SL)  
Genetics (HL + SL)  
Human health and physiology (HL + SL)  
Ecology and evolution (HL + SL)  
Human health and physiology (HL + SL)  
Nucleic acids & proteins (HL)  
Cell respiration and photosynthesis (HL)  
Plant science (HL)

### Option topics

Human Nutrition and health (SL)  
Physiology of exercise (SL)  
Cells and energy (SL)  
Microbes and biotechnology (HL + SL)  
Neurobiology and behaviour (HL + SL)  
Evolution (HL + SL)  
Ecology and conservation (HL + SL)  
Further human physiology (HL)

## Assessment

Three written examinations, which account for 76% of the total marks available, will be taken at the end of the second year. Practical work is assessed internally over the duration of the course and accounts for the remaining 24% of the total marks.

### HIGHER LEVEL

Paper 1	Multiple-choice questions	1	20%
Paper 2	<u>Section A</u> data-based and short-answer questions on the core and additional HL topics <u>Section B</u> two from four extended response questions on the core and HL topics.	2¼ h	36%
Paper 3	Several compulsory questions on each of the two options studied.	1¼ h	20%
Practicals and investigations		60 h	24%

### STANDARD LEVEL

Paper 1	Multiple-choice questions	¾ h	20%
Paper 2	<u>Section A</u> data-based and short-answer questions on the core <u>Section B</u> one from three extended response questions on the core topics.	1¼ h	32%
Paper 3	Several compulsory questions on each of the two options studied.	1¼ h	24%
Practicals and investigations		40 h	24%



# CHEMISTRY

Mr Anwar Akram

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Chemistry is available at both higher and standard levels. Both courses combine rigorous academic study with significant emphasis on the development and appreciation of practical and investigative skills and techniques. Chemistry is often referred to as the central science because chemical principles underpin both the physical environment in which we live and all biological systems. Apart from being a subject worthy of study in its own right, Chemistry at Sixth Form level is a prerequisite for many higher education courses, including Medicine, Veterinary Science, Pharmacy, Biochemistry etc. The Chemistry course is a good preparation for further study in science as well as being an excellent way of stimulating logical thinking useful in many arts courses.

## Academic requirements

Prospective students should have at least grade B in GCSE Dual Award Science or Chemistry and a reasonable level of mathematical competence is required. However, more important is the fact that students must be willing and able to support the lesson-time activity with a significant amount of independent initiative and work.

## Course structure

Students for both HL and SL will cover the following core topics, with HL students studying many of these in greater depth than that required for SL:

- Quantitative Chemistry
- Atomic Structure
- Periodicity
- Bonding
- Energetics
- Kinetics
- Equilibrium
- Acids & Bases
- Oxidation & Reduction
- Organic Chemistry
- Measurement and Data Processing

In addition to the core, all students will study two option topics, chosen from the following list:

- Modern Analytical Chemistry
- Human Biochemistry
- Chemistry in Industry and Technology
- Medicines & Drugs
- Environmental Chemistry
- Food Chemistry
- Further Organic Chemistry

The weekly practical sessions are designed to illustrate and support the theory and/or develop and assess the student's own practical skills. At least 25% of the time available for the course will be devoted to practical work. Within this students will also be expected to plan and carry out their own investigations. In addition to the weekly practical sessions, all students will participate in the 'Group 4 Project' in which students will work collaboratively on a project which will have cross-curricular links with the other sciences. This project will take place in Year 12 and should involve 10-15 hours work.

## Assessment

At the end of Year 13 there will be three written examination papers which will account for 76% of the total assessment marks. Practical work, which accounts for the remaining 24% of the assessment marks, will be assessed throughout the course.

### HIGHER LEVEL

Paper 1	Multiple-choice questions	1	20%
Paper 2	<u>Section A</u> data-based and short-answer questions on the core and additional HL topics <u>Section B</u> two from four extended response questions on the core and HL topics.	2¼ h	36%
Paper 3	Several compulsory questions on each of the two options studied.	1¼ h	20%
Practicals and investigations		60 h	24%

### STANDARD LEVEL

Paper 1	Multiple-choice questions	¾ h	20%
Paper 2	<u>Section A</u> data-based and short-answer questions on the core <u>Section B</u> one from three extended response questions on the core topics.	1¼ h	32%
Paper 3	Several compulsory questions on each of the two options studied.	1¼ h	24%
Practicals and investigations		40 h	24%



# PHYSICS

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To be a successful physicist you will need imagination . . . to be able to put yourself inside an atomic nucleus or to imagine what a galaxy might look like. Physics is the study of ‘systems’ . . . which might be very small, like the components of atoms, or very large, like the universe itself and in order to undertake this study, it is often necessary to replace a real situation with a ‘model’ which might be mechanical or computational or mathematical. The solution to a problem is often found by stripping away all the unnecessary detail and concentrating on the bare essentials and then investigating these in a logical manner. A Physics qualification provides a route into many careers, where the prospects are not only confined to research; they extend into a wide range of industries . . . food, medicine, finance, marketing, business, law, management etc.

A decisive factor in choosing Physics at IB Level should be whether the GCSE or previous physics course has been interesting and enjoyable. The major change in emphasis from largely factual knowledge at GCSE, to a requirement for much greater understanding and problem-solving ability in this IB is envisaged. In order to succeed in the study of Physics, the student must be good at Mathematics and also possess practical skills. Some of the processes in which(s)he will be involved are the design of experiments to test hypotheses and the carrying out of investigations . . . and the student will be encouraged to be critical of his/her own work and to discuss its reliability.

## Entry requirements

Candidates should have gained at least grade B in GCSE Physics, or BB in GCSE Double Award Science, and at least a grade B in GCSE Mathematics. (Qualifications of equivalent standard in a different educational system will, of course, be perfectly acceptable.)

## Syllabus Outline

Students at both standard and higher levels will study the following ‘core’ topics, with higher level students developing all of these areas to a greater depth.

- Physics & Physical Measurement
- Mechanics
- Thermal Physics
- Oscillations & Waves
- Electric Currents
- Atomic & Nuclear Physics
- Fields & Forces
- Energy, Power and Climate Change

The Options to be studied at Higher Level are Astrophysics and Medical Physics

## Assessment

Assessment consists of a combination of external examinations conducted at the end of the course, and internal assessment carried out by the teachers. The external and internal assessments are weighted 76% and 24% respectively. The external examinations consist of three papers, covering a total duration of three hours at Standard Level and 4.5 hours at Higher Level. One of the papers is a multiple-choice paper.

The internal assessment is carried out over the two-year course through a variety of investigations based on topics taught, practical work and data analysis. In addition, candidates are required to between 10-15 hours on the Group 4 investigation project, which involves the three Science and the Technology departments.

### HIGHER LEVEL

Paper 1	Multiple-choice questions	1	20%
Paper 2	<u>Section A</u> data-based and short-answer questions on the core and additional HL topics <u>Section B</u> two from four extended response questions on the core and HL topics.	2¼ h	36%
Paper 3	Several compulsory questions on each of the two options studied.	1¼ h	20%
Practicals and investigations			24%

### STANDARD LEVEL

Paper 1	Multiple-choice questions	¾ h	20%
Paper 2	<u>Section A</u> data-based and short-answer questions on the core <u>Section B</u> one from three extended response questions on the core topics.	1¼ h	32%
Paper 3	Several compulsory questions on each of the two options studied.	1¼ h	24%
Practicals and investigations			24%



# MATHEMATICS

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A course in mathematics is an integral part of the IB diploma and the three different mathematics courses we offer, one at higher level and two at standard level, will cater for the mathematical abilities, inclinations and needs of all students:

Mathematical Studies SL;

Mathematics SL;

And Mathematics HL.

## The Aims of the Courses

The aims of the mathematics programmes are to enable candidates to . . .

- enjoy engaging in mathematical pursuits and appreciate the power and usefulness of mathematics;
- develop logical, critical and creative thinking;
- develop mathematical knowledge, concepts and principles;
- use and refine powers of abstraction and generalisation;
- develop problem solving skills
- appreciate and use technological developments in the field of mathematics;
- communicate mathematically in a variety of contexts;
- appreciate the internationalism of mathematics and its cultural and historical perspectives.

## The Nature of Mathematics

There is no doubt that the possession of some mathematical knowledge provides an important key to understanding the world in which we live as it occurs in one form or another in so many different aspects of our lives. Simple things like doing the weekly shopping, checking our pay-slips at the end of the month, consulting a rail or bus timetable, timing a procedure or even reading a newspaper . . . they can all involve an element of mathematical knowledge.

Many people also appreciate the fact that mathematics also extends into their profession . . . the scientist uses mathematics as a language which is essential to our understanding of things which occur in the natural world; the engineer must ensure that the proposed bridge or building will withstand the various stresses which will be applied to it and the economist must be in a position to recognise trends in financial dealings. These applications are obvious . . . but remember also that, for example, the musician will need to appreciate the mathematical relationships within and between rhythms and the artist needs to understand perspective.

Other people enjoy mathematics for its own sake . . . maybe they are challenged by the logic and reason of the subject or see the studying of Mathematics as an aesthetic or even philosophical experience.

The fact the mathematics features so prominently in people's lives provides the rationale for making the study of this subject a compulsory element of the IB Diploma Programme.

## Which course?

In selecting a mathematics course, candidates should take account of . . .

- i. their own abilities in mathematics;
- ii. their own interest in mathematics;
- iii. their other choices of subjects within the IB diploma programme;
- iv. their future academic plans;
- v. their proposed choice(s) of career.

## MATHEMATICAL STUDIES (Standard Level)

This is the most accessible Mathematics course and is designed for students with varied mathematical backgrounds and abilities. It aims to build mathematical competence and encourage an appreciation of mathematics in students who do not anticipate a need for mathematics in their future studies. The mathematical studies course focuses on areas of mathematics which relate either to other subjects, to common general world occurrences or to home, work or leisure situations.

The student will also be required to undertake a written project based on personal research . . . for this (s)he will receive the guidance and supervision of the teacher. This piece of work provides the student with the opportunity to involve him/herself in a mathematical investigation which might be related to another subject or to an area of interest to the student.

### Course outline

The course consists of compulsory core topics, and a project.

THE CORE TOPICS . . . all eight of the following will be studied.

- Introduction to graphic display calculator
- Number and algebra
- Sets, logic and probability
- Geometry and trigonometry
- Statistics
- Functions
- Financial mathematics
- Introductory differential calculus

THE PROJECT. An individual piece of work involving the collection/generation, analysis and evaluation of data.

### Entry requirements

Students who possess GCSE Mathematics at grade B or C (or an equivalent qualification) should be able to follow this course.

### Assessment

Paper 1	Fifteen compulsory short-response questions	1 ½ hours	40%
Paper 2	Five compulsory extended-response questions	1 ½ hours	40%
Project	Projects: mathematical modelling, investigations, applications, statistical surveys &c.		20%

NOTE: German students who wish to attend a German university must take either Mathematics Standard or Higher Level. Mathematical Studies is not recognised by the German Ministry of Education.

## MATHEMATICS Standard Level

This is a more demanding course, designed for candidates with a good mathematical background and ability (A or A\* candidates at GCSE). It is designed to develop mathematical concepts and understanding, catering for candidates who anticipate a need for a sound mathematical background in preparation for their future studies eg students who may go on to major in Chemistry, Geography, Economics, &c.

The Mathematics standard level course concentrates on introducing the student to important mathematical concepts through the development of mathematical techniques. Most of the concepts included in the syllabus are there because they support important mathematical processes . . . others are there because they are essential to further mathematical study.

Candidates for mathematics standard level are required to have a graphic calculator. A Texas TI-83+ or a TI84 is recommended.

### Entry requirements

Only students who possess GCSE Mathematics at grade A\* or A (or an equivalent qualification) should choose this course.

### Course outline

The course consists of seven compulsory core topics, and a portfolio.

THE CORE TOPICS . . . all seven of the following will be studied

- Algebra
- Vectors
- Circular functions and trigonometry
- Statistics and probability
- Functions and equations
- Calculus
- Matrices

THE PORTFOLIO. Two assignments based on different areas of the syllabus representing the following activities:

- mathematical investigation
- mathematical modelling

### Assessment

Paper 1	<b>Non-calculator paper</b> Section A—Compulsory short response questions. Section B—Compulsory extended response questions	½ hour	40%
Paper 2	<b>Calculator paper</b> Section A— Compulsory short response questions. Section B—Compulsory extended response questions	1½ hours	40%
Portfolio	A collection of two pieces of work completed during the course.		20%

NOTE: *German students who wish to attend a German university must take either Mathematics Standard level or Mathematics HL Mathematical Studies is not recognised by the German Ministry of Education.*

## MATHEMATICS Higher Level

This is a demanding and rigorous course designed for the student with a high level of mathematical competence and a good background in mathematics.

This programme is aimed at the student who expects mathematics to be an integral part of his/her further studies in this subject or in related subjects such as physics, engineering or technology or for the student with a very strong interest in mathematics who enjoys meeting its challenges.

The course aims to enable the student to develop a sound basis of mathematical knowledge and skills so that further study in the subject can be pursued if desired. The student will be expected to demonstrate mathematical skills and understanding of ideas and concepts and to apply mathematical methods of clear reasoning and thought to problems in many different areas of the subject.

Candidates for Mathematics HL are required to have a graphic calculator. A Texas TI-83+ or a TI84 is recommended.

### Entry requirements

Only students who possess GCSE Mathematics at grade A\* or A (or an equivalent qualification) should choose this course.

### Course outline

The course consists of seven compulsory core topics, one selected option and a portfolio.

#### THE CORE TOPICS

- Algebra
- Functions and equations
- Vectors
- Circular functions and trigonometry
- Matrices
- Statistics and probability
- Calculus

THE OPTIONS . . . one of the following will be chosen

- Statistics and probability
- Sets, relations and groups
- Discrete mathematics
- Series and differential equations

#### THE PORTFOLIO

Two assignments based on different areas of the syllabus representing the following activities:

- mathematical investigation
- mathematical modelling

### Assessment

Paper 1	Non– calculator Section A— Compulsory short response questions. Section B— Compulsory extended response questions	2 hours	30%
Paper 2	Calculator Section A— Compulsory short response questions. Section B— Compulsory extended response questions	2 hours	30%
Paper 3	Calculator A small number of extended-response questions based on the selected option topic (usually statistics)	1 hour	20%
Portfolio	A collection of two pieces of completed during the course.		20%

# VISUAL ARTS

Mrs Karen Teal

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## Need to add something about charging for materials?

The impulse to make art is common to all people. From earliest times, human beings have displayed a fundamental need to create and communicate personal and cultural meaning through art. The study of Visual Arts and the journey within it encourages respect for cultural and aesthetic differences and promotes creative thinking and problem solving. Visual Arts continually creates new possibilities and can challenge traditional boundaries. New ways of expressing ideas to help to make visual arts one of the most interesting and challenging areas of learning and experience. The processes of designing and making art require a high level of cognitive activity that is both intellectual and effective.

## The Aims

The aim of the course is to promote visual and contextual knowledge of Art from various cultures with the pursuit of quality through the use of experimentation and purposeful creative work in various expressive media. You will need to show a high level of commitments to your artistic development. The course gives you the opportunity to respond to and make statements about, a variety of issues, concerns, and influences.

Choosing Art is not an easy option. Artistic learning requires a high level of cognitive activity. You must locate yourself within a cultural context, or contexts, from which to discover and develop appropriate techniques. You must demonstrate a sense of identity and develop a critical and personal view of yourself in relation to the world.

Initially the students will begin with a structured programme gaining new skills and an understanding of art history, crafts and various social and cultural functions of visual arts. This will lead to students developing their own personal visual language which will, in turn, enable them to direct their own enquiries behaving like individual artists and designers. All students will be invited to choose their own project titles and will be encouraged and supported by all members of staff. For those students who have problems in choosing a topic they will be given a list of starting points.

## Assessment

<b>Part A:</b> Studio Work	Candidates will prepare an exhibition of their studio work produced during the two year course and will discuss this work with an IB examiner who will visit the school	60%
<b>Part B:</b> Investigation Workbooks	The book is internally assessed by the teacher and then externally moderated by an IB examiner who will review it in relation to the studio work during the visit to the school.	40%

The course content for HL and SL may be the same. However, due to the different amount of time available for each, students at HL have the opportunity to develop ideas and skills to produce a larger body of work and work of a **greater depth. In order to reflect this, the assessment criteria are differentiated according to option and level.**

Having followed the visual arts course at HL or SL, students will be expected to:

1. Respond to and analyse critically and contextually the function, meaning and artistic qualities of past, present and emerging art, using the specialist vocabulary of visual arts.
2. Develop and present independent ideas and practice, and explain the connections between these and the work of others.
3. Explore and develop ideas and techniques for studio work through integrated contextual study and first hand observations.
4. Develop and maintain a close relationship between investigation and a purposeful, creative process in studio work.
5. Produce personally relevant works of art that reveal evidence of exploration of ideas that reflect cultural and historical awareness.
6. Develop and demonstrate technical competence and artistic qualities that challenge and extend personal boundaries (option A) and technical competence and self-direction (option B).



# THE IB IN DETAIL

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## ASSESSMENT

Responsibility for all academic judgements about the quality of students' work rests with in excess of 2000 **examiners worldwide**, led by chief examiners of international authority.

**There are a variety of assessment methods** to evaluate both the **content and the process of academic achievement** and to take into account **different learning styles** and cultural patterns.

In most subjects, the internal assessment (coursework) is carried out by the students' own teachers marking pieces of work produced as part of the course. These internally assessed components are then checked externally by moderators who ensure that a common standard is applied to all schools.

The kind of work which is assessed internally includes oral exercises in languages, projects, portfolios, class presentations, practical laboratory work in the sciences, mathematical investigations and artistic performances. This internal assessment evaluates the student's performance against those objectives which do not lend themselves to external written examinations . . . it also gives the student's own teachers a substantial input into the overall assessment process.

In visual arts, visiting examiners are invited to view a studio exhibition of the students' artwork and to interview each student individually.

External examinations, however, form the largest component of the overall assessment structure and the use of identical examination papers across the world for each subject ensures a strong element of parity of assessment for the Diploma Programme.

Examinations take place in May, at the end of the second year of study and the style of question varies from paper to paper and subject to subject. Multiple-choice, long and short response, structured, essay, data based, text analysis and case study questions are all used where appropriate. This variety reduces bias towards those students from a particular culture who might have greater experience in responding to one particular type of testing (e.g. tests composed entirely of essay questions or of multiple-choice questions).

With classroom teachers and international examiners working in partnership, the emphasis is on ensuring that students have ample opportunity to demonstrate what they know and are able to communicate.

Results are published in early July; students are given individual passwords to allow them to access the results. This gives students the opportunity to sort out their university places and accommodation before A level results are released in late August.

### The IB Grading System

The grading system used by the IBO is criterion-referenced, ie each student's performance is measured against well-defined levels of achievement which are consistent from one examination session to the next. Top grades are not simply awarded to a certain percentage of candidates at each session but rather reflect the attainment of knowledge and skills relative to set standards which are applied equally to all schools. This ensures the validity, reliability and fairness of the qualification.

It is important to remember that each of the six subjects studied, irrespective of whether it is taken at higher level or standard level, is marked on a scale of 1 point (lowest) to 7 points (highest). The maximum points score possible from the six subjects is 42. This total can be increased to 45 with the three bonus points available for the candidate's combined performance in Theory of Knowledge and the Extended Essay. These points are awarded in accordance with the tables:



		Theory of Knowledge				
		A	B	C	D	E
Extended Essay	A	+3	+3	+2	+2	+1 F*
	B	+3	+2	+1	+1	F*
	C	+2	+1	+1	0	F*
	D	+2	+1	0	0	F*
	E	+1 F*	F*	F*	F*	F

F\* From 2010 onwards 28 points overall will be required to be eligible for the diploma if a student attains an 'E' grade in either the extended essay or theory of knowledge.

As previously, a grade 'A' in one of the requirements earns an extra point even if the other is a grade 'E'.

*A student who writes an 'Excellent' Extended Essay and whose performance in Theory of Knowledge is judged to be 'Satisfactory' will be awarded 2 bonus points; someone who writes a 'Satisfactory' Extended Essay but produces a 'Mediocre' performance in Theory of Knowledge will be not be awarded any bonus points, etc.*

*A candidate who fails to submit any work for Theory of Knowledge will be allocated N for that component, will be awarded no bonus points and will not be awarded a Diploma;*

*Extended Essay and Theory of Knowledge performances of an 'Elementary' standard will constitute a failing condition for the award of the Diploma.*

The maximum possible score is 45 points and, provided that certain conditions have been met, the minimum score needed for the award of the diploma is 24 points. (Refer also the section entitled 'Award of the IB Diploma' towards the end of this guide).

## THE IB LEARNER PROFILE

The IB learner profile is the IB mission statement translated into a set of learning outcomes for the 21<sup>st</sup> century. The learner profile provides a long-term vision of education. It is a set of ideals that can inspire, motivate and focus the work of schools and teachers, uniting them in a common purpose.

The aim of all IB programmes is to develop internationally minded people who, recognizing their common humanity and shared guardianship of the planet, help to create a better and more peaceful world.

### IB learners strive to be:

**Inquirers.** They develop their natural curiosity. They acquire the skills necessary to conduct inquiry and research and show independence in learning. They actively enjoy learning and this love of learning will be sustained throughout their lives.

**Knowledgeable.** They explore concepts, ideas and issues that have local and global significance. In doing so, they acquire in-depth knowledge and develop understanding across a broad and balanced range of disciplines.

**Thinkers.** They exercise initiative in applying thinking skills critically and creatively to recognize and approach complex problems, and make reasoned, ethical decisions.

**Communicators.** They understand and express ideas and information confidently and creatively in more than one language and in a variety of modes of communication. They work effectively and willingly in collaboration with others.

**Principled.** They act with integrity and honesty, with a strong sense of fairness, justice and respect for the dignity of the individual, groups and communities. They take responsibility for their own actions and the consequences that accompany them.

**Open-minded.** They understand and appreciate their own cultures and personal histories and are open to the perspectives, values and traditions of other individuals and communities. They are accustomed to seeking and evaluating a range of points of view, and are willing to grow from the experience.

**Caring.** They show empathy, compassion and respect towards the needs and feelings of others. They have a personal commitment to service, and act to make a positive difference to the lives of others and to the environment.

**Risk-takers.** They approach unfamiliar situations and uncertainty with courage and forethought, and have the independence of spirit to explore new roles, ideas and strategies. They are brave and articulate in defending their beliefs.

**Balanced.** They understand the importance of intellectual, physical and emotional balance to achieve personal well-being for themselves and others.

**Reflective.** They give thoughtful consideration to their own learning and experience. They are able to assess and understand their strengths and limitations in order to support their learning and personal development.

## THEORY OF KNOWLEDGE

This compulsory interdisciplinary element in the Diploma Programme is central to the educational philosophy of the International Baccalaureate. The purpose of the course is to stimulate critical reflection on the knowledge and experience which students acquire both inside and outside the classroom. TOK encourages students to become critically aware of what they and others know and this is done by analysing ideas and lines of reasoning and also the basis of value judgements which everybody has to make.

As a thoughtful and purposeful investigation into different ways of knowing, and into different kinds of knowing, the TOK course is composed almost entirely of questions. The most central of these questions is "How do I know that a certain claim is true or that a particular judgement is well grounded?" During the course, this question will be applied in many different subject areas and students will be encouraged towards an appreciation and understanding of cultures and attitudes other than their own. In coming to recognize the strengths and limitations of their own and others' cultural perspectives, students are better able to evaluate their own views and their own level of intercultural understanding.

TOK is all about questions: some which have challenged great thinkers down the centuries; others which arise from more contemporary life and which sometimes challenge accepted belief.

Discussions will deal with questions like . . .

- How is knowledge gained and from which sources?
- Can we think without languages? Does language extend, direct or even limit thinking?
- Can there be a 'correct' or 'appropriate' emotional response?
- Is knowledge in mathematics (or other areas of knowledge) dependent on culture to the same degree and in the same ways?
- Does living a moral life matter?
- How is 'good art' recognised and decided on?
- What are the differences between 'I am certain' and 'it is certain' and is passionate conviction ever sufficient to justify knowledge?
- The course is allocated approximately one-and-a-half hours a week and students are assessed by one essay of 1200-1600 words, which is written as coursework and assessed externally, and also one short internally-assessed presentation to the rest of the group.



## THE EXTENDED ESSAY

Every diploma candidate is required to undertake a piece of independent research, on a topic chosen by the student, which is then written up in the form of a paper of 4000 words. The process culminating in this 'extended essay' is intended to offer the student valuable practical preparation for the kind of research which is required in many higher education courses.

The topic chosen must be linked to one of the subject areas on the official IB list but need not be one of the student's six main subjects. Students are advised to limit the scope of the chosen topic in order to allow in-depth investigation. The choice of topic should give the student the opportunity to collect or generate information, data etc for further analysis and evaluation and the whole 'project', which may be experimental or library based, should take about 40 hours (over eighteen months) to complete.

Each student is assigned a supervisor, usually a teacher of the subject being researched, who is available to give guidance and advice.

Candidates are not expected to contribute to knowledge within a subject but are advised to identify a research question that can be explored within the constraints of time, essay length and other available resources.

Emphasis is placed on choosing an appropriate research question, on the process of research, on the student's personal engagement in exploring the subject and on the logical and coherent presentation of information and ideas.

Here are some examples of Extended Essay titles (*and the subject areas to which they are linked*) that have been used by students from different parts of the world:

- The relevance of 'The Crucible' by Arthur Miller to modern times. (*English*)
- The effect of banana peel on seed germination. (*Biology*)
- The effects of sugar-free chewing gum on the pH in the mouth after a meal. (*Chemistry*)
- A study comparing the performance characteristics of different personal stereos. (*DT*)
- What are the effects of floating exchange rates on the shoe industry in Brazil. (*Economics*)
- The influence of distance on agricultural patterns in New South Wales, Australia. (*Geography*)
- What does 'Mein Kampf' tell us about Hitler? (*History*)
- Prime numbers in cryptography. (*Mathematics*)
- An investigation and analysis of the modes of vibration of a guitar string. (*Physics*)
- The kimono: art form or tradition? (*Visual Art*)

## CREATIVITY, ACTION, SERVICE

One of the stated aims of the IB Diploma Programme is "to educate the whole person, emphasizing intellectual, personal, emotional and social growth". i.e. to help students to become responsible, caring and compassionate citizens. The CAS element considers that life outside the world of scholarship is important and seeks to address the fact that students often become so absorbed in their academic work that involvement in other worthwhile activities is neglected. This requirement is interpreted widely but students are encouraged to share their energy and talents with others and to develop an ability to cooperate with others . . . and, in so doing, begin to understand the meaning of 'citizenship'.

CAS activities should challenge and extend students and may include many of the things they already do; eg music, sport, art, drama or the service element in the Duke of Edinburgh's Award Scheme.

What kind of activities are permitted in a CAS programme? The following list is by no means exhaustive but it serves to give an indication of what can be offered.

**Creativity** . . . being a member of the choir, orchestra or other musical group; taking an active role in dramatic productions, either on stage or back-stage; school magazine creation and editorial; art; debating and public speaking.

**Action** . . . all sport, including rugby, hockey, netball, cricket, cross-country running, tennis, athletics, squash, Salsa, badminton, basketball, fitness training; Duke of Edinburgh and other expeditions and camping activities.

**Service** . . . this may take place in the school or at a local, national or international community and could include such things as running a school activity; being involved in organising charity events or offering service to a charity shop; assisting in a local school, perhaps helping young children with their reading or assisting with the coaching of junior games; a youth club; establishing a link with a home for elderly persons and attending on a regular basis to assist in some way; being involved in an overseas project or conservation work. It means doing something **for** others and **with** others.

Each student will be required to maintain a personal record of his/her CAS involvement via a web based monitoring system called *managebac.com*. Throughout the two years there is a system of approving CAS proposals, self-evaluation and the school also evaluates the student's commitment to all of his / her CAS activities. The fulfilment of the CAS requirements is just as much a condition for the award of the diploma as the gaining of sufficient points in academic subjects.

