



Varndean
College Brighton & Hove

Prospectus
2024



INTERNATIONAL BACCALAUREATE DIPLOMA

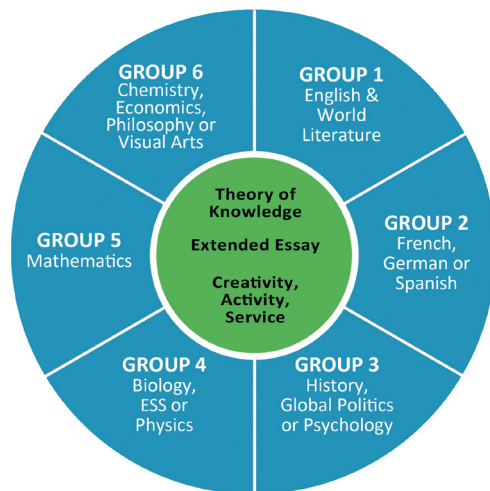
WHAT IS THE INTERNATIONAL BACCALAUREATE DIPLOMA (IBD)?

Varndean College has been an IB World School since 2008. We chose the IB because we think it offers something exciting and different: a broad, academically rigorous education for the whole person.

The IBD is taught world-wide and is internationally recognised and understood by universities and employers as excellent preparation for further study or employment. It is administered by the International Baccalaureate Organisation, a body which is independent of any government and which has an international perspective.

Here at Varndean, we like the IB Diploma because it challenges, encourages and inspires internationally-minded students to become caring, critical thinkers, ready for university study and a globally focused career.

IB students work hard, but get an education which is neither driven by assessment requirements nor subject to any Government policy. The course encourages them to be open-minded, intellectually curious and keen to learn. They seem to have a lot of fun too!



THE MISSION OF THE IB DIPLOMA

To develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect.

WHAT DOES THE IB PROGRAMME INVOLVE?

The IB Diploma differs to A Levels in its breadth as well as its integration as a complete programme of study. Essentially this means students leave with one diploma score out of 45, rather than three separate grades. All students are required to study English Literature, a MFL, Humanities subject, Natural Science and Maths. However students have lots of options and opportunities to customise their Diploma to suit their needs, interests and career aspirations.

Students choose one course from each of the six subject areas, three at Higher Level and three at Standard Level. The content of Standard Level courses is smaller than that of Higher Level and they are usually a little less demanding academically meaning they are also taught over fewer hours. **It's important to point out that if you take the IB, you are not studying towards 6 A Levels** but you will have a few more lessons during the week than your peers studying A Levels! Assessment objectives overlap between subject areas and the Core components of the Diploma draw those six separate subjects together into one complete and coherent programme of study.

At present we are the only state funded provider of the IB Diploma in the county of Sussex and achieve world beating results in the process.

SOME VERY GOOD REASONS WHY THE IB MIGHT BE THE RIGHT CHOICE FOR YOU:

- You keep all your options open for another two years.
- No future career path will be closed down for you at the age of 16.
- You have free choice about which subjects you take at Higher Level.
- You are an all rounder who doesn't want to drop subjects at 16.
- All degree courses and employment opportunities remain open to you.
- You gain an internationally recognised qualification understood by universities and employers worldwide.
- Universities are enthusiastic about the rounded education which the IB Diploma provides. Students have a wide knowledge, a capacity to think for themselves and a proven ability to carry out independent research.
- Taking a subject at Higher Level prepares you just as well for degree level study as an A Level in that subject would, if not better.

WHAT HAVE OFSTED SAID ABOUT OUR IB DIPLOMA PROGRAMME?

Students on the IB course make outstanding progress. Their achievement is exceptionally high and well above the international average.” **OFSTED Report 2018**

The college has a large and highly successful International Baccalaureate programme. Scores for the cohort of IB students are exceptionally high. Student progress is outstanding.” **OFSTED Report 2016**

WHAT IS THE LEARNER PROFILE?

The IB educates the whole person, intellectually, morally and emotionally and the IB learner profile plays an important part in this, featuring all of the skills and qualities the Diploma aims to teach and develop in its learners during the two years.

These qualities are nurtured explicitly via specifications, subject content and assessment, or sometimes more implicitly via the teaching and learning methods our trained and experienced IB teachers employ in the classroom. The Core and Tutorial programme also play an important role in developing these skills.

Students are helped to take charge of their own learning, to be well-organised and self-motivated and they have freedom to pursue their own interests through choices of level, coursework topics and Extended Essay titles – some subjects even involve students choosing exam options.



WHAT SUBJECTS ARE ON OFFER IN THE IB DIPLOMA AT VARNDEAN COLLEGE?

GROUP	SUBJECT	STANDARD LEVEL	HIGHER LEVEL
1. English & World Literature	English & World Literature	✓	✓
2. Second Language	French	✓	✓
	German	✓	✓
	Spanish	✓	✓
	French for beginners (Ab Initio)	✓	X
3. Individuals and Societies	History	✓	✓
	Global Politics	✓	✓
	Psychology	✓	✓
4. Experimental Sciences	Biology	X	✓
	Environmental Systems & Societies (ESS)	✓	X
	Physics	✓	✓
5. Mathematics	Mathematics: Analysis and Approaches	✓	✓
	Mathematics: Applications and Interpretations	✓	X
6. Additional Subjects	Chemistry	X	✓
	Economics	✓	✓
	Philosophy	✓	✓
	Visual Arts	✓	✓

Students who want to study Maths, Physics, Engineering or Economics at university are advised to take Mathematics: Analysis and Approaches.

CORE PROGRAMME

All students also follow the Core Programme. This is made up of:

THEORY OF KNOWLEDGE (TOK)

You study the foundations of knowledge in particular areas. Your essay is externally assessed whilst your presentation is assessed by your tutor. Both count towards your final mark (see page 28).

THE EXTENDED ESSAY (EE)

You will write an extended essay of 4,000 words which researches a topic of particular interest to you in any subject. A teacher will work with you individually to help you prepare, write and present your project. The essay is externally assessed and counts towards your final mark (see page 29).

CREATIVITY, ACTIVITY, SERVICE (CAS)

A central, worthwhile and exciting part of the IB programme. You will take part in a variety of extra-curricular activities, comprising some artistic or creative work, fitness and volunteering in the community (see page 30).



WHAT ARE THE ENTRY REQUIREMENTS TO STUDY THE IB DIPLOMA?

We require a minimum of at least **7 GCSEs at Grades 9-6**, including English, Maths and Science.

Certain subjects (at both Standard and Higher Level) have particular subject requirements. For these, see the specific subject sections in this booklet.

HOW WILL I BE ASSESSED?

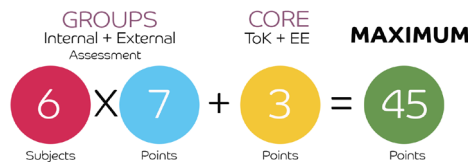
All subjects have some form of coursework or internal assessment component and most have final examinations.

The weightings of the coursework vary between subject and level so please refer to the subject guides in this booklet for specifics, however students have a significant amount of freedom over topics, questions and research. Some of the coursework is assessed via 121 oral or presentation work.

All final external written exams take place in May of year two and the results are published in July (6 weeks before the A-level results!). We also hold internal exams in May of year one and January of year two.

HOW WILL I BE GRADED?

All six subjects are scored out of 7 points, meaning whether you study something at HL or SL it counts equally towards your final score. The maximum possible score is 45: seven points for each subject, plus a maximum of three for the Core.



In order to pass the Diploma, you need to achieve a minimum of 24 points.



According to university admissions officers, how well do A Levels and DP develop the following qualities in UK students? ¹

● The DP ● A Levels

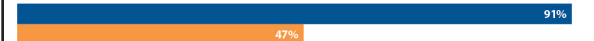
Encouraging independent inquiry



Nurturing an open mind



Developing self-management skills



Encouraging a global outlook



WHAT MIGHT MY TIMETABLE LOOK LIKE?

Here are some examples of what your timetable may look like. Each student has their own unique timetable depending on which pathway they have chosen

Typical Year 1 timetable for a Humanities pathway student

TIME	MON	TUES	WED	THURS	FRI
08.40 - 9.25	ESS SL	Global Politics HL		English HL	
09.25 - 10.10	ESS SL	Global Politics HL		English HL	
B R E A K					
10.30 - 11.15	Spanish SL	English HL	Maths SL	Philosophy HL	Global Politics HL
11.15 - 12.00	Spanish SL	English HL	Tutorial	Philosophy HL	Global Politics HL
12.05 - 12.50	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
12.50 - 13.35	Maths SL	Philosophy HL	Global Politics HL		English HL
13.35 - 14.20	Maths SL	Philosophy HL			
B R E A K					
14.40 - 15.25	ToK	ESS SL		Spanish SL	
15.25 - 16.10	ToK	ESS SL			
B R E A K					
16.20 - 17.05					

Typical Year 1 timetable for a STEM pathway student

TIME	MON	TUES	WED	THURS	FRI
08.40 - 9.25	Biology HL	Psychology HL		French SL	
09.25 - 10.10	Biology HL	Psychology HL		French SL	
B R E A K					
10.30 - 11.15	English SL	French SL	Maths SL	Chemistry HL	Psychology HL
11.15 - 12.00	English SL	French SL	Tutorial	Chemistry HL	Psychology HL
12.05 - 12.50	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
12.50 - 13.35	Maths SL	Chemistry HL		Biology HL	
13.35 - 14.20	Maths SL	Chemistry HL		Biology HL	
B R E A K					
14.40 - 15.25		Biology HL	ToK	English SL	Chemistry HL
15.25 - 16.10		Biology HL	ToK		Chemistry HL
B R E A K					
16.20 - 17.05					

AFTER THE DIPLOMA

The most recent data from the IB indicates that:

- There are nearly 3000 IB Diploma schools across 150 countries totaling more than 110,000 candidates globally each year
- 90+ UK schools offer the IB Diploma, approximately 20 of which are state schools and around 5,250 UK candidates
- The Diploma is recognised by more than 170 UK Universities

Source: <http://www.ibo.org/about-the-ib/the-ib-by-country/u/united-kingdom/>

On average around 80% of our IB students go straight on to university study each year, the vast majority of which secure places at Russell Group Universities here in the UK via the UCAS system, however a small number also make applications to overseas.

For more information exploring why UK Universities like the IB so much and why they seek to attract Diploma graduates, visit our website at www.varndean.ac.uk/ib

Some of our learners also embark on Art Foundation programmes, or take gap years. Nearly all of these students then go on to University and receive University application support from the college.

For our most up to date post Diploma destinations and information from our IB Alumni please visit our dedicated IB webpage.

Students wishing to study at university abroad should check country-specific requirements and the entry requirements of individual universities on the IBO website at

www.ibo.org/university-admission/find-countries-and-universities-that-recognize-the-ib/



10 Reasons

why the IB Diploma Programme (DP) is ideal preparation for university



1



It increases academic opportunity

Research* shows that DP graduates are much more likely to be enrolled at top higher education institutions than entrants holding other qualifications.

2



IB students care about more than just results

Through creativity, action, service (CAS) you learn outside the classroom and develop emotionally and ethically as well as intellectually.

3



It encourages you to become a confident and independent learner

For example, the extended essay requires independent research through an in-depth study.

6



The IB encourages critical thinking

Learn how to analyse and evaluate issues, generate ideas and consider new perspectives.

5



Graduates are globally minded

Language classes encourage an international mindset, key for increasingly globalized societies.

4



It's an international qualification

The DP is recognized globally by universities and employers.

7



DP students have proven time management skills

Take good study habits and strong time management to further education and the working world.

9



Subjects are not taught in isolation

Theory of knowledge (TOK) classes encourage you to make connections between subjects.

10



It encourages breadth and depth of learning

You are able to choose courses from six subject groups and study subjects at different levels.

8



It assesses more than examination techniques

Learn to understand, not just memorize facts or topics and prepare for exams.

*Based on IB research - www.ibo.org/research

GROUP ONE: ENGLISH AND WORLD LITERATURE (Language A) (available at HL and SL)

This is an exciting course covering a wide variety of diverse texts from both English and World Literature. Exploring the range of literary forms, from Sophocles' *Antigone* to Butterworth's *Jerusalem*; from Flaubert's *Madame Bovary* to Angela Carter's *Bloody Chamber* and Bulgakov's *The Heart of a Dog* and from John Donne's *Songs and Sonnets* to Alice Oswald's *Dart*, the English and World Literature course is a complete change from GCSE. We move quickly through the selected texts, approaching them from different critical perspectives and encouraging students to develop their own responses and ideas driven by discussion-based, seminar-style learning.

Reading each text in light of its specific historical and political context, you will investigate links between texts and analyse the ways in which global issues such as identity, power and creativity are represented. Thirteen texts are studied for Higher Level and ten for Standard Level; some are studied in depth and closely, some more rapidly but we are always looking at what kind of knowledge of the world and of ourselves we can gain through literature.

Assessment in the first year is oral, by means of an analysis of two extracts and the ways that each represents the global issue of your choice. In the second year, HL will write an essay which is externally assessed.

For oral examinations and Higher Level essays, students are encouraged to focus on ideas and concepts that interest them personally.



Examples of Individual Orals from Year One

- 'How each text represents the consequences of a concept of freedom.'
- 'How each text represents the significance of myth and folklore in rural communities'
- 'How each text represents the effects of migration'
- 'How each text represents the interconnection of man and the natural world'

Examples of Higher Level Essays from Year Two

- 'How, and to what effect, does Toni Morrison represent notions of beauty through her characterization of Pecola?'
- How far does Sophocles present Antigone as conforming to Classical Greek notions of gender roles?
- How does Bulgakov present attitudes towards socio-political processes in Soviet Russia through the poetic devices he uses in *The Heart of a Dog*?

The English and World Literature element of the IB Diploma offer students the breadth of knowledge and the confidence to follow a number of future pathways including towards careers in journalism, publishing and public relations. Many of our students go on to study literature at Russell Group universities, including Oxford and Cambridge with a view to an academic career.

Course Essentials		
Levels Available	HL	SL
Entry Requirements	GCSE English 6+	GCSE English 6+
IA weighting	20% oral 20% essay	30% oral
Yr Y2 teaching split	50/50	50/50
University courses and careers	English Literature, Journalism, Publishing, Public Relations, Marketing	

GROUP TWO: SECOND LANGUAGE (Language B)

The language B courses are language acquisition courses for students with some previous experience of the target language.

French, German, Spanish (available at HL and SL)

Aiming to create a better and more peaceful world through intercultural understanding and respect? If so, you may want to consider how to become an "Intercultural Speaker". Language B courses offer an exciting programme that allow you to benefit from both the academic and professional advantages of being bilingual.

These courses will quickly develop your language skills as well as your knowledge and understanding of French, German and Hispanic culture and society. The syllabus for all language B's is organised into five prescribed themes: identities, experiences, human ingenuity, social organisation and sharing the planet.

Knowledge of vocabulary and grammar (the what of language) is reinforced and extended by understanding audience, context, purpose, meaning and variation (the why and how of language). Students will be exposed to a variety of authentic text types in relation to the prescribed themes and related course content.

Topics will develop from the context of the individual in society, to the consideration of more complex global, political, cultural, social, moral and ethical issues by the end of the second year, when you will be able to engage in discussion and debate.

These topics or issues are then studied through a range of authentic media sources - television, press, radio, internet, film and through some literary texts and extracts and 2 pieces of literature are studied at HL. The IB curriculum offers a lot of flexibility with the literature and films choices and substantial parts of the content will vary depending on each year students' interests and motivations.

Students are assessed both externally and internally:

- External assessment consists of Paper 1: productive skills—writing (25%) and Paper 2: receptive skills (50%)—with separate sections for listening and reading
- Internal assessment at SL and HL consists of an individual oral assessment—productive and interactive skills (25%).



French Ab initio (available at SL only)

The language ab initio course is a language acquisition course for students with no prior experience of the target language, or for those students with very limited previous experience. Studying French at a beginner's level provides students with an exciting opportunity to acquire new language skills, as well as develop an appreciation of the cultural difference of French-speaking communities and function successfully in a French-speaking environment, helping students improve their opportunities for employment, travel and entertainment. The language ab initio syllabus is organised into the same five themes as the SL and HL courses above and students are exposed to a variety of authentic text types in relation to the prescribed themes and topics, as well as the content contained within the language-specific syllabuses.

Students are assessed both externally and internally:

- External assessment consists of Paper 1: productive skills—writing (25%) and Paper 2: receptive skills (50%)—with separate sections for listening and reading
- Internal assessment consists of an individual oral assessment—productive and interactive skills (25%).

Interested in French?

In French, books and films previously studied include: *L'étranger*, *Bonjour tristesse*, *No et moi*, *Huis clos*, *Le gone du chaâba*, *La haine* and *Welcome* which explore the wider and global themes of Identities, Immigration, racism and Francophone culture. You will work with authentic materials aimed at French speakers and will explore a huge variety of texts (articles, blogs, literary ones, interviews to name a few) and audio as well as video materials that will ensure you get a very current view of what is going on in the French speaking world, culturally and politically.



Interested in German?

In German, we have studied both modern and classic literature, such as Schlink's 'Der Vorleser' and Dürrenmatt's 'Der Besuch der alten Dame'. Films studied include 'Das Leben der Anderen' and 'Goodbye, Lenin!'. Through these works, you will delve into the social and historical context surrounding them and you can expect to question the attitudes and perspectives of the writers. You will encounter a range of authentic textual and audio-visual resources to ensure you are immersed in the German language, whilst also encouraging you to keep up to date with the current affairs of the German-speaking world.

Interested in Spanish?

Spanish is the second most widely spoken language in the world (over 500 million speakers worldwide) therefore IB students taking Spanish B find themselves in a strong position to undertake part of their studies abroad as well as improving their overall competitiveness in the job market. Many former IB students found having learnt Spanish essential to be able to study and/or work abroad (Developing Studies, International Relations, Journalism, Cultural Studies, International institutions, NGOs working in Latin America, Erasmus Program... and more).

During this two year course learners will work on a variety of authentic texts (written and oral) covering a wide range of GLOBAL topics and exploring them within the 21 independent countries where Spanish is an/the official language. Students enjoyed the following literature: Tú y Otros Desastres Naturales, Todo lo que Fuimos, Destronada, Castillos de Cartón as well as the following cinema Seven Days in La Havana, Chico y Rita, Diarios de motocicleta, Machuca, Tierra y Libertad, Bread and Roses... but the content will vary depending on each year students' interests and motivations.

Course Essentials							
	French			German		Spanish	
Levels Available	HL	SL	Ab SL	HL	SL	HL	SL
Entry Requirements	MFL 6+	MFL 6+	None	MFL 6+	MFL 6+	MFL 6+	MFL 6+
IA weighting	25% oral	25% oral	25% oral	25% oral	25% oral	25% oral	25% oral
Yr Y2 teaching split	40/60	33/66	33/66	50/50	50/50	50/50	50/50
University courses and careers	MFL/joint honours degrees, International Relations, Journalism, Cultural Studies, NGOs and charity work, Erasmus Program						

GROUP THREE: INDIVIDUALS AND SOCIETIES



History (available at HL and SL)

You will study a broad range of historical issues and controversies from the 19th and 20th centuries to enable you to develop a critical and comparative understanding of themes in world and European history, including authoritarian states and the development and fall of Communism. Higher Level students also specialise in 18th to 20th century European history, exploring revolutions and the rise of the nation-state, studying revolutionary France and Imperial, Soviet and Post-Soviet Russia. Through case studies, you'll get to grips with concepts such as causation, continuity and change over time, and explore varied historical perspectives.

For the IA you will investigate a historical question of your own choice, equipping you with essential research skills and preparing you for study beyond college. Recent topics have included: Causes of Tiananmen Square protests in China, the influence of King James 1st's *Daemonologie* on the Witch Craze in Early Modern England, Eva Peron's influence on the status of women in Argentina.

Global Politics (available at HL and SL)

If you want to change the world, you need to know how it works because in our interconnected world the decisions that politicians make increasingly have a global impact. From Black Lives Matter to Climate Change the role of states, non-state actors and individual citizens all have an impact. You will study the people, power and politics behind the conflicts and decision-making which affect citizens on the international, national and local stage. Central to this will be an investigation of concepts, such as sovereignty, human rights, development, and peace. The nature of the course means that the case studies used will change according to events and student interest but in-depth studies of the re-emergence of Russia as a regional and world power, together with the causes and impact of Brexit have featured in recent years. Through these studies, you will gain a greater understanding of the global consequences of the actions of politicians on all sides of the debate. At Higher Level you will also have the opportunity to study a number of global political challenges such as poverty, identity and security.



All students complete an engagement activity which takes learning out of the classroom to enable them to engage in a real life political issue and reflect on politics at a more local level. Some previous research questions chosen by students for their engagement activity include:

- Who is responsible for plastic pollution and recycling?
- To what extent are young people engaged in and taught about democracy in England?
- What is the impact of the current Relationship & Sex Education curriculum on LGBTQ+ inclusion in Primary and Secondary Education in England?

Psychology (available at HL and SL)

Psychology is the study of human behaviour and experience. You will gain a critical understanding of the ways that human behaviour is studied from biological, cognitive and social perspectives. During the two years you will develop an appreciation of Psychology as an academic discipline and as a body of knowledge which is relevant to the world around us. Topics include Mental Health, Human Relationships, Memory, Social Identity, Stereotypes, Genetics and Brain Plasticity, among others. Teaching and learning include lectures, class discussions, quizzes, and student presentations. Students should be advised that sound personal organisation and essay writing skills are desirable as there are a broad range of topics covered which are typically assessed by short or extended essay questions. At Higher Level you will also study Animal Research, Globalisation and Digital Technologies.

All students will be assessed by writing a Psychological Report (IA) based on a practical experiment conducted as a group. Students will develop skills in planning, conducting, analysing data and evaluating their research.

Course Essentials						
	History		Global Politics		Psychology	
Levels Available	HL	SL	HL	SL	HL	SL
Entry Requirements	Standard	Standard	Standard	Standard	Standard	Standard
IA weighting	20%	25%	20%	30%	20%	25%
Yr Y2 teaching split	50/50	50/50	50/50	50/50	50/50	50/50
University courses and careers	International Relations, Civil Service, eg Foreign Office, Development Work, Psychology, Neuroscience, Criminology, Criminal Justice Service, Education					

GROUP FOUR: EXPERIMENTAL SCIENCES

Biology (available at HL only)

This course will give you an understanding of the structure and functioning of organisms at all levels from the molecular level to the whole organism. You will be encouraged to appreciate the diversity of life and how different organisms show adaptations that enable them to exploit different environmental conditions and to recognise that these adaptations are a result of evolutionary change. Only Higher level is offered. Assessment is by external exam papers plus teacher-assessed practical skills. You will also be required to participate in a collaborative project.

The core topics studied at both SL and HL are cell biology, molecular biology, genetics, ecology, evolution and physiology. The course is assessed by exams at the end plus teacher-assessed practical skills; the internal assessment is worth 20% of your marks. You will also take part in a collaborative project with the Chemists and Physicists.

Previous titles for IAs include: Why do penguins huddle?, Why is pineapple served with gammon?



OUR STUDENTS LOLA CLARKE

STUDIED:

Biology, Chemistry, Global Politics (HL)
Literature, Spanish, Maths (SL)

PREVIOUS SCHOOL

Roedean School

WHAT NEXT?

Natural Sciences,
University College London



Environmental Systems & Societies (ESS) (available at SL only)

This group four course provides students with a sound understanding of the interrelationship between environmental systems and societies and a greater appreciation of pressing environmental issues that they will inevitably come to face. The ESS course combines teachings of Biology, Geography, Ecology, Environmental Science, Chemistry and even Physics and uses a teaching approach that allows students to evaluate the scientific, ethical and socio-political aspects of these issues.

It covers a range of environmental issues we encounter today from climate change and global warming to pollution as well as investigating ecosystems and biomes like tropical rainforests and deserts to studying biodiversity and endangered species. ESS also examines the human population on Earth, where it lives and the key demographic characteristics of it whilst looking into main anthropogenic influences in local and global aspects.

The course is particularly relevant to students who enjoy scientific study but do not require a core science for HE or career pathways, combining natural sciences with ethical, philosophical and political analysis it aims to foster an international perspective, awareness of local and global environmental concerns and an understanding of the scientific methods.

Previous titles for IAs include:

- To what extent does Gross National Income (GNI) per capita influence end user food waste?
- To what extent does human activity on a public footpath in Sevenoaks impact biodiversity in the surrounding ecosystem?

OUR STUDENTS **ELLA TINGLEY**

STUDIED:

Physics, Maths, Chemistry (HL)
Literature, German, Psychology (SL)

PREVIOUS SCHOOL

Oathall Community Collge

WHAT NEXT?

Civil Engineering
University of Dutham



Physics (available at HL and SL)

To study physics is to attempt to understand the nature of the universe itself. It is the search for answers from how the universe exploded into life in the Big Bang to what is the nature of time itself. Some of the greatest discoveries in history have been made by physicists and these discoveries have revolutionised our world—and physicists are continuing to change the way we think today. Indeed, when the discipline was first defined, it was about observing the Milky Way, the entire known universe at the time, while wondering about the existence of the atom.

Look up at the stars and not down at your feet ... Be curious.
Stephen Hawking

To put it simply, physicists seek to expand knowledge. They work to test hypotheses and explain observations. They use the results to build evidence, which ultimately leads to discoveries. These are scrutinised by the scientific community and, if accepted, become knowledge.

Facts are not science — as the dictionary is not literature. Martin H. Fischer

According to Richard Feynmann they, “Write down the problem, think hard, write down the answer”. This — alongside Albert Einstein’s famous pronouncement that, “Imagination is more important than knowledge” — is an excellent summary. Basically, they collect evidence to reach partial conclusions that eventually might be accepted as laws or explanatory theories; physicists explore new frontiers as varied as the existence of gravitational waves, the path to artificial intelligence, sustainable energy sources and the expansion of travel into space. There are almost no limits to physics!

Equipped with their five senses, physicists explore the universe around them and call the adventure Science. Edwin Hubble

Previous project titles have explored: mediaeval trebuchets, bridges, parachutes, photovoltaic cells and the physics of guitars.





Collaborative Sciences Project

The collaborative sciences project is an interdisciplinary sciences project, giving you a worthwhile challenge, addressing real-world problems that can be explored through the sciences. The nature of the challenge will allow you to integrate factual, procedural and conceptual knowledge developed during your studies.

By identifying and researching complex issues, you will develop an understanding of how interrelated systems, mechanisms and processes have an impact on a problem. You will then apply your collective understanding to develop solution-focused strategies that address the issue. Finally, you will evaluate and reflect on the inherent complexity of solving real-world problems.

Course Essentials				
	Biology	ESS	Physics	
Levels Available	HL	SL	HL	SL
Entry Requirements	7/7 in Combined Science or 7/7 in Biology plus one other science	6/6 in Combined Science or 6/6 in Biology in two separate sciences	7/7 in Combined Science or 7/7 in Physics plus one other science	6/6 in Combined Science or 6/6 in Physics plus one other science
IA weighting		25%	20%	20%
Yr Y2 teaching split	50/50	66/33	60/40	66/33
University courses and careers	Medicine, Natural Sciences	Env Science, Conservation, Ecology, Marine Biology, Science	Physics, Astronomy, Engineering, Architecture	



GROUP FIVE: MATHEMATICS

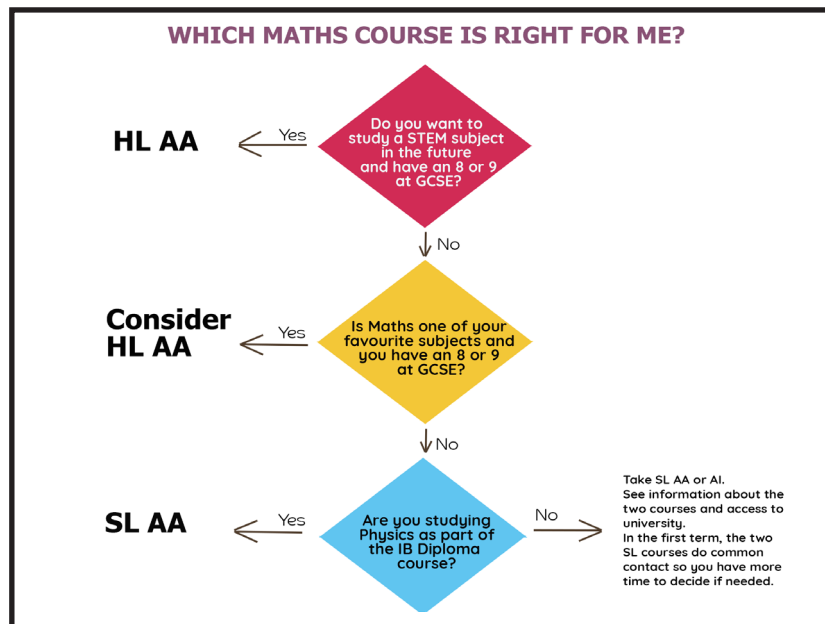
All IB students are required to study mathematics. There are three options to choose from:

1. Analysis and approaches SL
2. Analysis and approaches HL
3. Applications and interpretations SL

The 'Analysis and Approaches' and 'Applications and Interpretations' courses at SL are designed to be equivalent in difficulty and are equally well-regarded by universities. Both courses share a common core of material including all main topics (calculus, trigonometry, statistics and functions). All students are required to write an investigation exploring a topic of interest to them. Past topics have included pole-vaulting, archery, chaos theory and music. The investigation contributes 20% to the final grade.

The 'Applications' course allows calculator use in all papers and is weighted more towards applied maths, functions and statistics. The 'Analysis' course has one non-calculator paper and one calculator paper and is weighted more towards calculus, trigonometry and algebra

The choice between the two should be based on personal preference and interests. Most universities require HL Maths for STEM subjects such as Maths, Engineering, Physics and Chemistry.



Mathematics: Analysis and Approaches

(available at HL and SL)

This course is appropriate for students who enjoy the more pure and abstract elements of mathematics as well as problem solving in real world contexts. This course contains elements of pure mathematics such as algebra and trigonometry and fewer applied maths topics in statistics and modelling than the applications and interpretations course and is slightly more similar in content to the mathematics A-level. A student who enjoys algebra and pure mathematics would be well-suited to this course.

The course is offered at standard and higher levels. Students wishing to progress to a university subject requiring A-level maths (eg physics, engineering, mathematics) will usually need to take the HL option.

Mathematics: Applications and Interpretations

(available at SL only)

This course is appropriate for students who are interested in developing their mathematics for describing our world and solving practical problems. They may also be interested in harnessing the power of technology alongside exploring mathematical models. Students who take Mathematics: Applications and Interpretation will be those who enjoy mathematics best when seen in a practical context. This subject is aimed at students who will go on to study subjects such as social sciences, natural sciences, statistics, business, some economics courses, psychology, and design.

Course Essentials			
	Analysis and Approaches		Applications and Interpretations
Levels Available	HL	SL	SL
Entry Requirements	Grade 8 in Maths & Grade 7 in GCSE Science	Grade 6 in GCSE Maths	Grade 6 in GCSE Maths
IA weighting	20%	20%	20%
Yr Y2 teaching split	70/30	50/50	50/50
Exam papers/calculator use	3 papers 1 non-calc paper	2 papers, 1 non-calc paper	2 papers, both calculator papers
Emphasis in content	Additional content: complex numbers, vectors, extensions in calculus, functions and trigonometry	Calculus, pure maths, algebra, trigonometry	Modelling, Applications, Statistical methods
University courses and careers	Maths, Physical Sciences, Engineering (please check with individual universities)	All courses except those requiring HL Maths	All courses except those requiring HL Maths

GROUP SIX: ADDITIONAL SUBJECTS

Chemistry (available at HL only)

The course starts with ideas of atomic structure, the mole concept, bonding and energetics. This leads on to group chemistry, equilibrium and kinetics. The more demanding concepts involved in thermodynamics and equilibrium will challenge students, stimulating and extending their appreciation of Chemistry. Knowledge of organic chemistry will be developed to include important industrial and environmental aspects and the option module is Medicinal Chemistry linking nicely with the organic chemistry content. You will be encouraged to consider the impact Chemistry has made on society and the responsibilities those connected with the chemical industry have. We have very strong connections with both Brighton and Sussex Universities and attend events there, plus competitions such as the RSC Chemistry Olympiad exam, Cambridge Chemistry Challenge, plus the Cambridge Chemistry Race and the RAC Analytical Competition.

OUR STUDENTS ANNA ZHANG

STUDIED:

Biology, Chemistry, History (HL)
Literature, Mandarin, Maths (SL)

PREVIOUS SCHOOL

Varndean School

WHAT NEXT?

Medicine,
University College London



The course will also develop the following skills in the study of Chemistry:

- Models of the particulate nature of matter
- Models of bonding and structure
- Classification of matter
- What drives chemical reactions
- How much, how fast and how far?
- What are the mechanisms of chemical change?

Course Essentials	
	Chemistry
Levels Available	HL
Entry Requirements	7/7 in Combined Science or 7/7 in two separate sciences
IA weighting	20%
Yr Y2 teaching split	60/40
University courses and careers	Medicine, Veterinary Science, Dentistry, Chemistry, Forensics, Engineering

Philosophy (available at HL and SL)

Philosophy will teach you how to formulate convincing, rational arguments, critically examine your beliefs and spot your own biases. It will introduce you to global philosophical traditions, then develop in you a way of thinking that appreciates your intuitions and your knowledge of philosophical texts, themes and logical methods. You will be encouraged to read lots of philosophy, and take an interest in literature, arts and contemporary media; you will end up being able to identify and discuss philosophical issues in the world around you. This will help you on the way to being able to talk intelligently to anyone about their field of expertise. Lessons will be discussion based and you will be encouraged to develop your literacy and oracy skills in equal measure.

All students will study:

- The Core Module: 'Being Human', that examines issues concerning what is distinctive about being human and how to live well in the light of this.
- A theme: Ethics, including Biomedical and Business Ethics. Students find this course invaluable in helping them think about and negotiate the tricky moral issues they encounter in life.
- A text: Plato's 'Republic'.
- Write a 2,000 word coursework essay to address a philosophical issue of personal interest.

Previous coursework titles have included:

- Should I value art because of its formal qualities or because of the emotions it evokes in me?
- What should our attitude be towards the natural world?
- Do Humans have Free Will?
- Do Plato's Arguments in his Phaedo prove the Soul's Immortality?

Higher Level students will also study:

- Aesthetics. This theme asks questions like what is art? What is an artist, Is there a special artistic impulse? Should art have a message? Should art be useful?
- An extension topic: "Philosophy and contemporary issues" - An in-depth look at some of the **most pressing** issues facing the world today.

OUR STUDENTS LAURA BOYD

STUDIED:

Economics, History, Maths (HL)
Literature, French, Biology (SL)

PREVIOUS SCHOOL

Vardean School

WHAT NEXT?

Philosophy, Politics & Economics
University of Oxford



We have a great relationship with philosophy departments at Sussex and Brighton Universities; faculty members are often invited in to talk at our student led Philosophy Society. We collaborate with other departments and colleges for trips. (E.g. Berlin, Paris or Amsterdam). We collaborate with local and international creatives on artistic endeavours and run a meditation and storytelling club every week.

Course Essentials		
	Philosophy	
Levels Available	HL	SL
Entry Requirements	Standard	Standard
IA weighting	20%	25%
Yr Y2 teaching split	40/60	33/66
University courses and careers	English Literature, Sciences, PPE, Law, Civil Service, Int Relations, Arts, Humanities	An course or profession that requires you to think well



Economics (available at HL and SL)

Economics is an exciting, dynamic subject that allows students to develop an understanding of the complexities and interdependence of economic activities in a rapidly changing world.

At the heart of economic theory is the problem of scarcity and choice. Much of what we study in economics is about problems solving and decision making. While the world's population has unlimited needs and wants, there are limited resources to satisfy these needs and wants. As a result of this scarcity, choices have to be made. Many of the issues we look at in economics are controversial, for example, the extent to which we want to provide for our needs and wants through state intervention or through the market system. We also look at markets that fail, and how these problems can be rectified. We look at different approaches to development and reducing inequality. At both SL and HL, the course uses economic theories to examine the ways in which these choices are made:



- at the level of producers and consumers in individual markets (microeconomics)
- at the level of the government and the national economy (macroeconomics)
- at an international level where countries are becoming increasingly interdependent through international trade and the movement of labour and capital (the global economy)

You will produce three IA's over the course of the two years, in the past students have looked at issues like the impact and causes of the energy crisis and the impact of climate change.

OUR STUDENTS

BAPTISTE D'ABADIE DE LURBE

STUDIED:

Maths, Chemistry, Physics (HL)
Literature, German, Psychology (SL)

PREVIOUS SCHOOL

Bedes

WHAT NEXT?

Studying Economics in Germany



Course Essentials

	Economics	
Levels Available	HL	SL
Entry Requirements	Standard	Standard
IA weighting	20%	30%
Yr Y2 teaching split	60/40	60/40
University courses and careers	Economics, Politics, International Relations, PPE.	

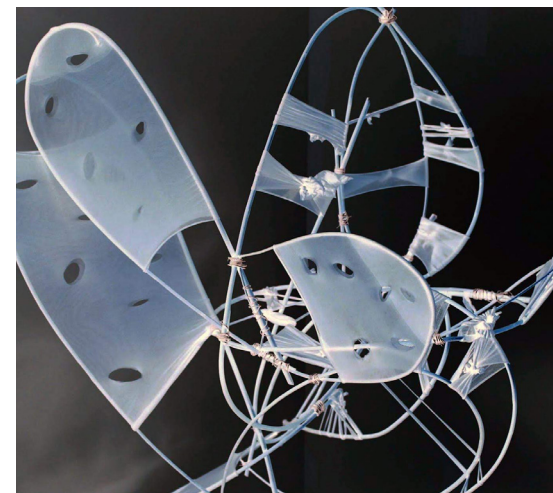
Visual Arts (available at HL and SL)

It is very helpful if students following IB Visual Arts have some prior experience of art-making at a level equivalent to GCSE, but this is not essential for Standard Level.

Our Visual Arts IB programme aims to engage you successfully with your own creative practice, developing ambition, confidence and success. You will have the opportunity to experience a broad range of ideas and processes before focusing on an area of creative interest and strength. Gallery trips, European study visits, meetings with artists, designers and photographers will help you extend your understanding of the changing contexts in which art is made. Your tutors are themselves practising artists. After following a fairly structured first term, you will then have the freedom to choose your area of work and build a portfolio on a range of scales and mediums including portrait, landscape, still life, sculpture, painting, drawing and mixed media, before selecting pieces from this for your final exhibition.

Visual Arts IB is assessed in three areas: Process Portfolio (sketchbook and artworks), Comparative Study (written essay) and Exhibition.

Course Essentials		
	Visual Arts	
Levels Available	HL	SL
Entry Requirements	Standard	Standard
IA weighting	Comparative Study (13-18 screens) - Assessed by IB 20% Process Portfolio (13-25 screens) - Assessed by IB 40% Exhibition (8-11 artworks) - Assessed by Teacher 40%	Comparative Study (10-15 screens) - Assessed by IB 20% Process Portfolio (9-18 screens) - Assessed by IB 40% Exhibition (4-7 artworks) - Assessed by Teacher 40%
Yr Y2 teaching split	60/40	66/33
University courses and careers	Art, Design, Architecture, Art History	



THE CORE

Theory of Knowledge

Theory of Knowledge is a central element of the IB in which we ask fundamental questions about the nature of knowledge and its relationship to the subject areas of the Diploma. Its principal aim is to explore the main categories of knowledge with special reference to the various problems that students encounter in their everyday learning.

- What is the basis for our understanding of the world and our beliefs?
- How do individual beliefs relate to the subjects we study?
- What status should we give to scientific knowledge as compared to artistic or literary knowledge?
- What is the influence of society and culture on what we think we know and believe?
- What problems of bias does our own experience present?
- How does language influence our experience and ideas of truth?
- What problems of communication does language present?
- What is the relationship between perception and questions of “reality”?
- How does maths relate to the world?
- Is it possible to have emotional truths?
- How is knowledge acquired and justified and how might this differ across subject areas?

It is hoped that students will acquire a set of critical and conceptual tools to enable them to reflect upon and better understand the continual connections which can be drawn among the other parts of the IB programme. The course takes as its content the academic, cultural and individual interests of the students and subjects these to critical analysis through applying a set of analytical tools which will be of vital and continuing value as you progress through your courses. Apart from an appreciation of the role of language in thought and knowledge, an understanding of the requirements of logical rigour for knowledge claims and an investigation of various knowledge systems, you will examine knowledge issues across different subject areas. You will be stimulated to develop as questioning thinkers, who are empowered to explore the nature of subjects, ethical debates and their personal contributions.

Assessment is by coursework:

1. An exhibition of three chosen objects and a 950 word description of how these objects link to knowledge issues (completed in the summer term of Yr1). A collaboration with Sussex University Anthropology Dept will introduce this assignment.
2. A 1,600 word essay from a choice of six essay titles, completed in the Spring Term of Year 2.

The essay is worth 2/3 of your ToK grade and is marked by the IB whilst the exhibition is worth 1/3 and is marked by your teachers and then externally moderated by the IB.



The Extended Essay

The Extended Essay is a perfect opportunity for you to engage with your favourite subject. It is written in the style of a university dissertation, being presented formally with an abstract, footnotes, bibliography and page numbers. The maximum length is 4,000 words. You can write on almost any topic in any subject available on the IB Programme as a whole – not just the subjects available at Varndean College.

Each student has their own supervisor whom they meet individually for advice on planning, researching and writing, but the essay remains very much their own work. The essay is marked by an examiner somewhere else in the world. The Extended Essay is important to the aims of the Diploma Programme because students are responsible for their own independent learning, through which they acquire and communicate in-depth knowledge and understanding. The research process involves intellectual risk-taking and extensive reflection. Open-mindedness, balance and fairness are key pre-requisites for a good Extended Essay.

Some examples of past Extended Essays:

- How can we explain the origins and nature of the Salem witch trials?
- Representations of precolonial and postcolonial religion in Nigerian Literature
- Representations of individuality in Aldous Huxley’s Brave New World and Thomas More’s Utopia
- How does Walt Whitman’s ‘I Sing the Body Electric’ align with Ralph Waldo Emerson’s ‘Nature’
- Do elephants have empathy?
- The extent to which psychological insights can be used to explain and address resistance to behaviour change regarding climate change
- What Effect do Education Systems have on the Educational Achievement and Wellbeing of Young People? A Comparative Study: Finland and England
- What are the socio-economic implications of the 2014 FIFA World Cup on Brazil?
- Factors effecting intraspecific aggression in breeding flamingo colonies
- To what extent should we be governed by happiness?
- To what extent is the Buddhist analysis of suffering correct?

Theory of Knowledge and Extended Essay Mark Scheme

		Theory of Knowledge			
		Grade A	Grade B	Grade C	Grade D
Extended Essay	Grade A	3 pts	3 pts	2 pts	2 pts
	Grade B	3 pts	2 pts	2 pts	1 pt
	Grade C	2 pts	2 pts	1 pt	0
	Grade D	2 pts	1 pt	0	0

Creativity, Activity and Service (CAS)

Because the IB believes that education should include every aspect of life an important part of the Diploma Programme core consists of Creativity, Activity and Service.

Students complete a programme in all three areas. CAS activity hours are not formally timetabled. Some take place during the college day, such as team sports, creative writing or choir. Others take place at times convenient to you. Personal tutors meet students individually to help them to organise their CAS programmes. Students keep a personal log in which they record what they have done and reflect upon what they have learned as they progress in each activity.

IB students at Varndean have undertaken a wide range of CAS creative activities: acting in plays; singing in the choir; baking; learning a musical instrument; taking part in the college's creative writing programme. There has even been an IB knitting group!

For activity, IB students have played in the College's netball or rugby teams, but they have also taken part in fitness programmes, running, hill-walking, zumba, skiing, yoga and pilates. There are many service opportunities available. Some IB students are active in the students' union; a considerable number volunteer in the NHS in Brighton; some have worked with the elderly; others volunteer at the Link College or local primary schools. Whatever you do, the CAS programme is a crucial part of the core of the Diploma Programme and its commitment to a complete and principled education.

Creativity: Cake Sale (Kirk Horn) and Photography (Aaron Goff)



Activity: Climbing (Leyona Bray Kaji) and Volunteering with Sussex Homeless Support (Madeline Downie)



The IB Tutorial Programme

Every IB student has a personal tutor who meets the student on a regular basis. The tutor is there to help with work planning, to advise on CAS and to support progress generally through the Diploma programme. The IB tutors get to know the student and their individual needs throughout the course and the tutor also provides a point of contact for parents with the college.

As the course develops, attention turns to university applications. The personal tutor provides a great deal of help with the whole process of choosing a university course and with writing the application. The tutor also writes the students' reference.



What our past students say about the IB

“What I particularly enjoyed most was the way I was challenged and pushed by the IB.”

Luca Buckley McDonald (2020-2022): Biology, University of Manchester

“Having the option to study six subjects broadened my options after college.”

Zachary Kent (2019-2021): Biochemistry, Imperial College London

“The IB is academically challenging and exciting. The range of subjects made my learning broader and more balanced whilst the higher and standard level structure allowed me to delve deeper into my favourite subjects and explore what I was specifically interested in. The nature of the course means that you are part of a community full of amazing people.”

Kate Granlund (2017-2019): English, University of Cambridge

“Studying the IB was one of the best choices I’ve made. It is quite a demanding programme but the teachers were excellent and so enthusiastic and I am constantly drawing on the things that I learnt. Varndean College is a special place to study and you really do feel part of a caring community.”

Caroline Banerjee (2015-2017): English, University of Cambridge

“My enthusiasm for languages was really cultivated by the wonderful teachers I had during my time at Varndean and the IB encouraged me to think beyond the UK in terms of possibilities. I spent the second year of my university degree studying in Tehran and travelling throughout Iran and in my third year worked during the holidays in Rajasthan, India on mental health intervention for a maternal health charity.”

Ella Cohen-Haddon (2013-2015): Persian Studies, University of Oxford



VISITING US

**INTERNATIONAL BACCALAUREATE
DIPLOMA PRESENTATION EVENING**

Tuesday 10 October 2023

6.30pm - 7.45pm (Doors 6pm)

www.varndean.ac.uk/events

COLLEGE OPEN EVENTS

Saturday 30 September 2023

11am - 2pm

Wednesday 1 & Thursday 2 November 2023

5pm - 8pm

Further details available via our website

www.varndean.ac.uk/events

For further information:

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