DCIS Sixth Form and IB Diploma Programme Handbook

DOVER COURT INTERNATIONAL SCHOOL SINGAPORE

A NORD ANGLIA EDUCATION SCHOOL

Contents

For more information about the IBDP programme at DCIS, please contact the IB Coordinator:

Dominic O'Shea, *Dominic.OShea@dovercourt.edu.sg*

Welcome to the Sixth Form at DCIS

The International Baccalaureate (IB) was founded in 1968, and seeks to provide an international education that develops the intellectual, personal, emotional and social skills needed to live, learn and work in a rapidly changing, intercultural world.

DCIS is committed to providing a high quality, challenging, international education at all levels through a framework of high expectations and this has shaped our decision to offer the International Baccalaureate Diploma Programme (IBDP).

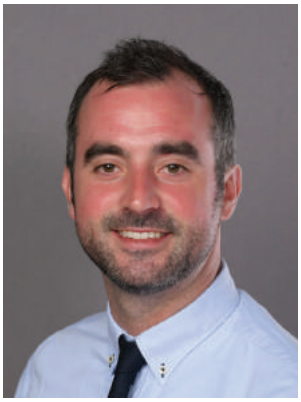
The IBDP is an accessible and rewarding programme that provides excellent preparation for university education and employment. IBDP students are valued for their high academic standards. In addition, the IB Learner Profile helps students to be critical thinkers who are open-minded, resilient and reflective and have a greater understanding of the wider world. Throughout the programme we encourage our students to study hard and also to become involved in school and community activities through the Creativity, Action and Service Programme.

- UK university admissions officers say the DP provides the best preparation for university for young people in the UK, with 97 percent of admissions officers scoring the DP four or five out of five, compared to 87 percent scoring A Levels similarly
- The DP ranks top in 14 out of 16 different factors that best prepare students for university from self-management to intercultural skills, creativity and an ability to cope with pressure
- 100 percent of UK university admissions officers agree that being able to think and learn independently is the most important factor in students being ready and equipped to thrive at university. Admissions officers believe that the DP is the route that most encourages independent enquiry among its students (95 percent), compared to A Levels (48 percent)
- 63 percent of admissions officers say they would accept a DP student even if they hadn't completed every aspect of the programme because they appreciate the value of the all-round academic education that the DP offers

At DCIS we have been able to provide our students with a variety of subjects to suit their interests and requirements, as well as excellent support for the core elements of the Diploma Programme. In addition, we have also been preparing the students for the next steps in their education with talks from local and international universities.

Our highly qualified and dedicated teachers are well prepared to help students achieve at the highest levels during the IBDP. We expect our students to commit themselves whole-heartedly to all aspects of school life so that DCIS Sixth Form will be an enriching and rewarding experience.

Craig Bull
Head of Secondary School



Dominic O'Shea
IB Coordinator

At DCIS we offer our students a wide variety of subjects to suit their interests and strengths as well as providing excellent support for the core elements of the Diploma Programme: Extended Essay, Theory of Knowledge and Creativity, Activity, Service. Our students are also well supported with information and counselling for the next steps in their education, which includes talks from local and international universities, careers fairs and guidance.

Throughout the IB programme we seek to develop students' academic progress and contribute to shaping their personal development. The IB learner profile outlines the traits we strive to nurture in our students, not only in lessons, but in everything they do. DCIS students can look forward to a challenging and rewarding programme along with excellent teaching and learning.

The three pathways for our Sixth Form students at DCIS

Pathway 1:
The International Baccalaureate Diploma Programme

The IBDP is a broad but challenging programme which provides excellent preparation for university education and life in the real world. Like most pre-university courses offered by other schools, students will need to have achieved a minimum standard in order to take the Diploma.

The curriculum is modelled by a circle with six academic areas surrounding the three core requirements. Over the course of the two-year programme, students study six subjects chosen from six subject groups:

- Three of the six subjects are studied at Higher Level (HL)
- Three subjects are studied at Standard Level (SL)
- One subject from each group is chosen PLUS Three core requirements:
  - Extended Essay (EE)
  - Theory of Knowledge (TOK)
  - Creativity, Action, Service (CAS)

The DCIS admissions requirement is at least 5 IGCSEs (or their equivalent) at grades A* – C (including English and Maths).

For Higher Level Maths, students should achieve an A*/A or Grade 9/8 for Standard Level, an A/B or grade 7/6 and for Maths Studies a C or grade 5.

In addition to this, students will be expected to have demonstrated a large degree of organisation skills and self-motivation as, without these qualities, they are unlikely to succeed on the diploma. DCIS requires that students obtain:

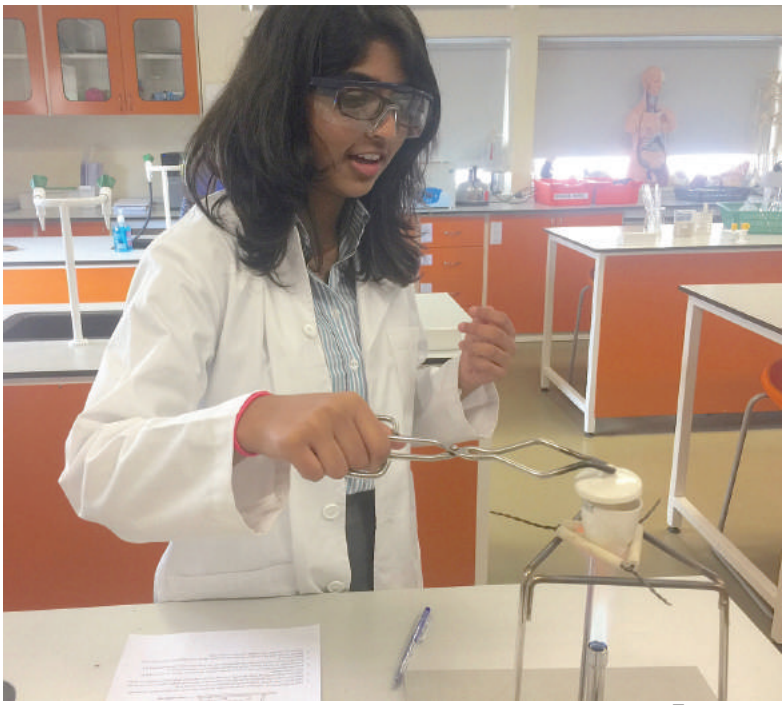
- For HL Options, either grade B or grade 6 or above.
- For SL options, either grade C or grade 5 or above at IGCSE

Pathway 2:
The International Baccalaureate Courses

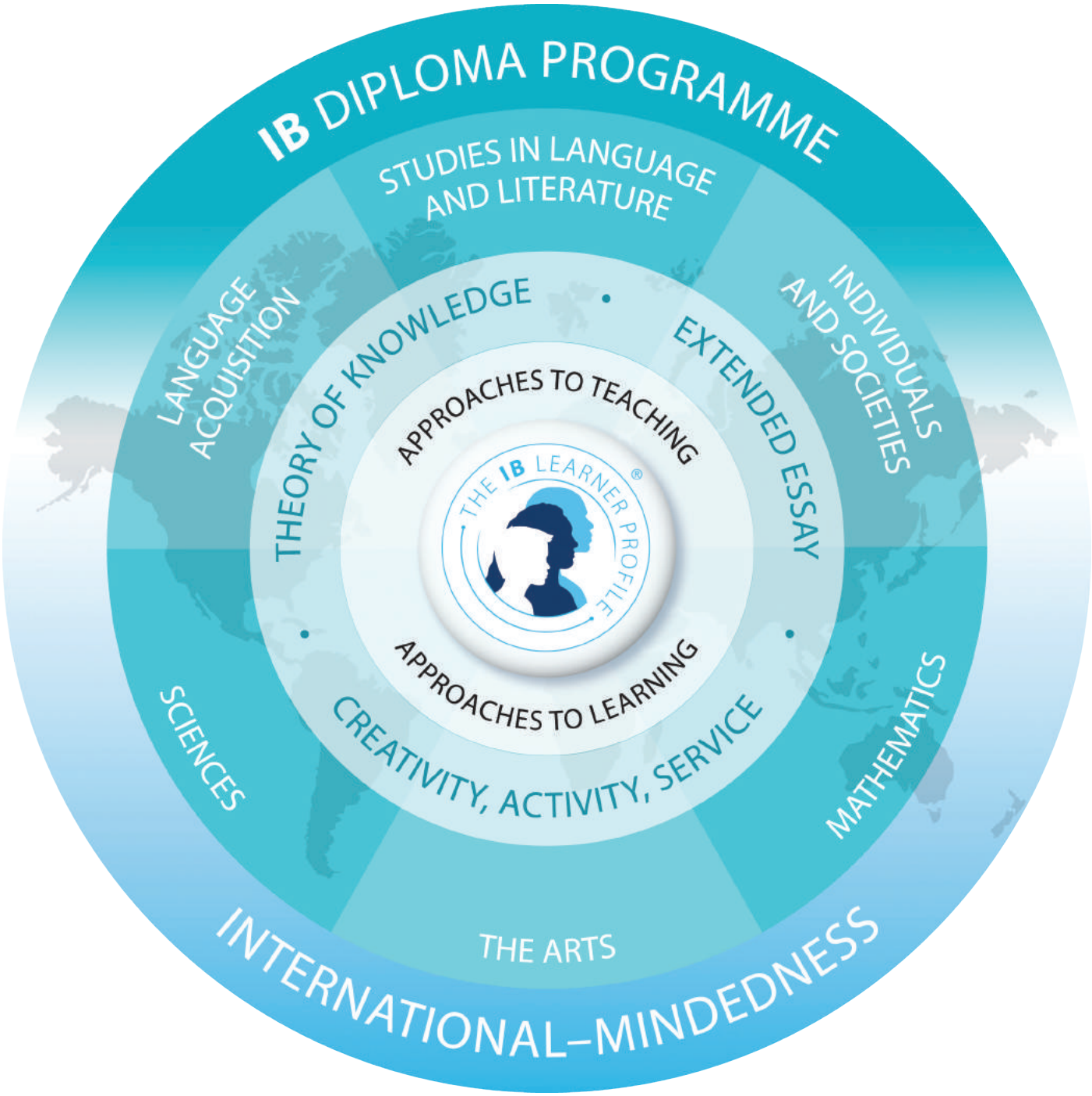
Students studying the IB Courses must choose a minimum of 4 subjects, which can be studied at Standard or Higher Level. Students will follow their Courses for 2 years and will be examined in exactly the same way as IBDP students; sitting the examinations in May of the second year. Essentially, Courses students follow exactly the same curriculum where exams and internal assessments are the same. They will also be required to complete 150 Creativity, Action and Service hours. Students can also choose to complete the Extended Essay and TOK and could receive additional points for doing so.

Pathway 3:
Department of Supportive Education (DSE)

Dover Court International School operates an inclusive education policy. In the DSE every student develops their individual academic, social, emotional and physical potential with a focus on key functional and life skills. DSE students access appropriate English National Curriculum subjects and follow courses from the ASDAN (Award Scheme Development and Accreditation Network) curriculum.



IB Diploma Programme Model



The IB Diploma Programme

The International Baccalaureate Diploma Programme, created in 1968, is an academically challenging and balanced programme of education designed for motivated secondary school students aged 16 to 19. The programme has earned a reputation for rigorous assessment, giving IB diploma holders access to over 2000 of the world's leading universities and preparing them for success in further studies and life beyond. The Diploma Programme's grading system is criterion-referenced: each student's performance is measured against well-defined levels of achievement consistent from one examination session to the next.

The programme is a comprehensive two-year international curriculum that is taught through a variety of languages in over 140 countries. The Diploma Programme incorporates the best elements of multiple national systems, without being based on any one. Internationally mobile students are able to transfer from one IB school to another and have few issues moving back into their national systems, if required. Students who remain closer to home benefit from a highly respected international curriculum that offer further opportunities.

The programme was born of efforts to establish a common curriculum and university entry credential for students moving from one country to another. International educators were motivated by practical considerations but also by an idealistic vision: students should share an academic experience that would emphasize critical thinking, intercultural understanding and exposure to a variety of points of view. It has been designed to address the intellectual, social, emotional and physical well-being of students.

The programme has the strengths of a traditional and broad curriculum with students studying six academic subjects concurrently, but has the addition of a core component featuring three important and unique features. Students are able to make connections across traditional academic disciplines and explore the nature of knowledge through the critical thinking based Theory of Knowledge (TOK) course. For their Extended Essay students undertake in-depth and independent research into an area of interest through the lens of one or more academic disciplines, guided by a teacher supervisor and gaining valuable experience in developing an academic research paper at a university level. And by leading and participating in activities that support the Creativity, Action, and Service (CAS) aspect of their studies, students enhance their personal and interpersonal development through experiential learning.

Subject briefs for all courses offered at DCIS follow. Some of the course content is currently being updated by IB. As soon as new briefs are available they will be shared with you.

IB learner profile

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.

As IB learners we strive to be:

INQUIRERS
We nurture our curiosity, developing skills for inquiry and research. We know how to learn independently and with others. We learn with enthusiasm and sustain our love of learning throughout life.

KNOWLEDGEABLE
We develop and use conceptual understanding, exploring knowledge across a range of disciplines. We engage with issues and ideas that have local and global significance.

THINKERS
We use critical and creative thinking skills to analyse and take responsible action on complex problems. We exercise initiative in making reasoned, ethical decisions.

COMMUNICATORS
We express ourselves confidently and creatively in more than one language and in many ways. We collaborate effectively, listening carefully to the perspectives of other individuals and groups.

PRINCIPLED
We act with integrity and honesty, with a strong sense of fairness and justice, and with respect for the dignity and rights of people everywhere. We take responsibility for our actions and their consequences.

OPEN-MINDED
We critically appreciate our own cultures and personal histories, as well as the values and traditions of others. We seek and evaluate a range of points of view, and we are willing to grow from the experience.

CARING
We show empathy, compassion and respect. We have a commitment to service, and we act to make a positive difference in the lives of others and in the world around us.

RISK-TAKERS
We approach uncertainty with forethought and determination; we work independently and cooperatively to explore new ideas and innovative strategies. We are resourceful and resilient in the face of challenges and change.

BALANCED
We understand the importance of balancing different aspects of our lives—intellectual, physical, and emotional—to achieve well-being for ourselves and others. We recognize our interdependence with other people and with the world in which we live.

REFLECTIVE
We thoughtfully consider the world and our own ideas and experience. We work to understand our strengths and weaknesses in order to support our learning and personal development.

The IB learner profile represents 10 attributes valued by IB World Schools. We believe these attributes, and others like them, can help individuals and groups become responsible members of local, national and global communities.

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

IBDP Core

Theory Of Knowledge (TOK)
The interdisciplinary TOK course is designed to develop a coherent approach to learning that transcends and unifies the academic areas and encourages appreciation of other cultural perspectives. The Theory of Knowledge course is, in part, intended to encourage students to reflect on the huge cultural shifts worldwide around the digital revolution and the information economy. The extent and impact of the changes vary greatly in different parts of the world, but everywhere their implications for knowledge are profound. TOK activities and discussions aim to help students discover and express their views on knowledge issues. The course encourages students to share ideas with others and to listen and learn from what others think.

Extended Essay
The extended essay offers the opportunity for IB students to investigate a topic of special interest, usually related to one of the student's six Diploma subjects. It is intended to promote high-level research and writing skills, intellectual discovery and creativity – resulting in approximately 40 hours of work. It provides students with an opportunity to engage in personal research on a topic of their choice, under the guidance of a supervisor. This leads to a piece of formally presented, structured piece of writing of no more that 4,000 words, in which ideas and findings are communicated in a reasoned and coherent manner, appropriate to the subject. Students follow the completion of the written essay with a short, concluding interview – viva voce – with their supervisor.

Creativity, Action and Service
Creativity, Action and Service (CAS) is fundamental to the students' IB experience. CAS requires students to take seriously the importance of life outside the academic world. This forces students to take on new challenges and work outside their comfort zone to promote individual growth. Students must create a balanced programme of activities with a combination of creative, active and service pursuits that take place within school or the local community.

Bring Your Own Device (BYOD)

All DCIS Years 12 and 13 students will need to bring laptops to school for use in their lessons. This guide answers a few questions about our move to BYOD (Bring Your Own Device).

What is the aim?
Students should be able to use their device to better organise their electronic work and to access the internet for research when needed during the Sixth Form. Students will need to frequently access the internet in order to connect to online journals and resources. Having unlimited access to a device also replicates how students are likely to work and organise their future lives at university and in work.

Why doesn't the school provide them?
If the school provided the laptops, it would be one type of device which may not be suitable for students' personal use. The aim of this policy is to allow students to integrate their life on one device to manage their personal time and work seamlessly. Parents and students are free to pick the device that best suits them and then replace it when they desire.

What device is needed?
Most relatively new laptops will be sufficient in terms of computing power for use in school. The requirement is for a laptop rather than a tablet to ensure it can run compatible programmes and a keyboard is needed so the entering of data is straightforward. A very basic laptop that can support standard software is all that is required. A solid state hard drive and long battery life are an excellent idea as they tend to be more robust and do not need charging through the school day. Another option is a Netbook which is also cost effective, light and has a good battery life.

How will students access the internet and is it safe?
Students will access the internet through our dedicated DCIS Student access. They must log on with their own details and we can then monitor internet use and take action if we find inappropriate use. Certain sites are already blocked. Students and parents will agree to our ICT Code of Conduct when accepting their place in the Sixth Form at DCIS. Students must have robust passwords and be responsible for who can access their computer; students are liable for internet access from their device. The students must also ensure that they backup work frequently. There are many home wireless hard drives that will do this automatically each evening.

Will students use their devices in each lesson?
Students will not use the device in every lesson but the advantage of this policy is that they can be easily used for parts of lessons. The actual use of devices will vary in each lesson.

Will the devices be safe in school?
The school cannot be responsible for laptops (or other expensive items) in school. Students should keep their laptops with them at all times. Parents should insure the laptops for loss or damage in the unlikely event that there is an issue.

What about technical support?
We have dedicated IT technicians in school who will be able to provide help for students accessing our systems. Hardware issues with student devices will need to be fixed outside of school. There will be a small number of emergency laptops in school that students can borrow if their device is not working.

How has the school prepared for this?
To allow all students access to the internet the school has expanded the wifi network and put in a separate student wifi for increased security. Teachers have long been using a variety of internet based applications including Edmodo and this move allows them to expand upon this.

What about homework?
Much of the homework we set is longer ongoing projects that require a mixture of work in school and at home. Students having access to the same device day or night makes this much easier and allows parents to look at what their child is working on.

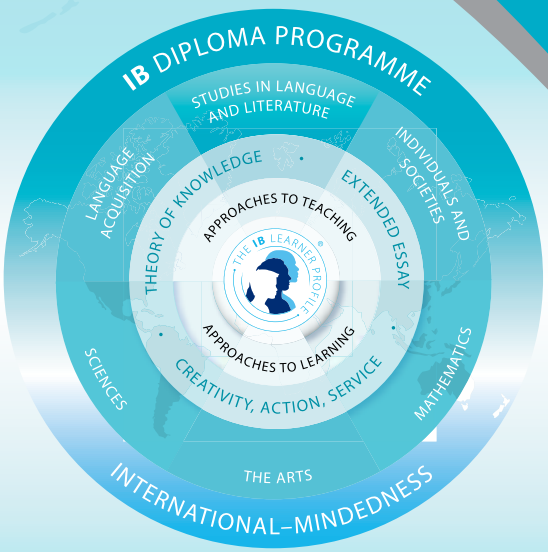
What if I still have questions?
If you have any further questions, please do not hesitate to contact the IB Coordinator:
Dominic.OShea@dovercourt.edu.sg

International Baccalaureate Diploma Programme Subject Brief

Studies in language and literature:
English A: Language and literature – Higher level

First assessments 2013 – Last assessments 2020

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints.



To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.
I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

The language A: language and literature course aims to develop skills of textual analysis and the understanding that texts, both literary and non-literary, can relate to culturally determined reading practices. The course also encourages students to question the meaning generated by language and texts. An understanding of the ways in which formal elements are used to create meaning in a text is combined with an exploration of how that meaning is affected by reading practices that are culturally defined and by the circumstances of production and reception. The study of literature in translation from other cultures is especially important to IB DP students because it contributes to a global perspective. Texts are chosen from a variety of sources, genres and media.

The aims of language A: language and literature higher level courses are to:

- introduce students to a range of texts from different periods, styles and genres
- develop in students the ability to engage in close, detailed analysis of individual texts and make relevant connections
- develop the students' powers of expression, both in oral and written communication
- encourage students to recognize the importance of the contexts in which texts are written and received
- encourage an appreciation of the different perspectives of other cultures, and how these perspectives construct meaning
- encourage students to appreciate the formal, stylistic and aesthetic qualities of texts
- promote in students an enjoyment of, and lifelong interest in, language and literature
- develop in students an understanding of how language, culture and context determine the ways in which meaning is constructed in texts
- encourage students to think critically about the different interactions between text, audience and purpose.

II. Curriculum model overview

Component	Recommended teaching hours
Part 1: Language in cultural context • effect of audience and purpose on the structure and content of texts • impact of language changes • effect of culture and context on language and meaning	60
Part 2: Language and mass communication • forms of communication within the media • educational, political or ideological influence of the media • ways in which mass media use language and image to inform, persuade or entertain	60

Part 3: Literature—texts and contexts • historical, cultural and social contexts in which texts are written and received • relationship between context and formal elements of the text, genre and structure • attitudes and values expressed by literary texts and their impact on readers	70
Part 4: Literature—critical study • detailed exploration of literary works • elements such as theme and the ethical stance or moral values of literary texts • appropriate use of literary terms	50

III. Assessment model

Having followed the language and literature higher level course, students will be expected to demonstrate the following.

Knowledge and understanding
- knowledge and understanding of a range of texts
- understanding of the use of language, structure, technique and style
- critical understanding of the ways in which readers construct meaning and the influence of context
- understanding of how different perspectives influence the reading of a text

Application and analysis
- ability to choose a text type appropriate to the purpose required
- ability to use terminology relevant to the various text types studied
- ability to analyse the effects of language, structure, technique and style on the reader
- awareness of the ways in which the production and reception of texts contribute to their meanings
- ability to substantiate and justify ideas with relevant examples

Synthesis and evaluation
- ability to compare and contrast the formal elements, content and context of texts
- ability to discuss the ways in which language and image may be used in a range of texts
- ability to evaluate conflicting viewpoints within and about a text
- ability to produce a critical response evaluating some aspects of text, context and meaning

Selection and use of appropriate presentation and language skills
- ability to express ideas clearly and with fluency, both written and orally
- ability to use the oral and written forms of the language, in a range of styles, registers and situations
- ability to discuss and analyse texts in a focused and logical manner
- ability to write a balanced, comparative analysis

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		4	70
Paper 1	A written comparative analysis of one pair of unseen texts.	2	25
Paper 2	In response to one of six questions, an essay based on at least two texts studied.	2	25
Written Tasks	At least four written tasks based on course material, two for external assessment.		20
Internal			30
Individual oral commentary	An oral commentary on an extract from a literary text studied; two guiding questions are given.		15
Further oral activity	At least two further oral activities. The mark of one is submitted for final assessment.		15

IV. Sample questions

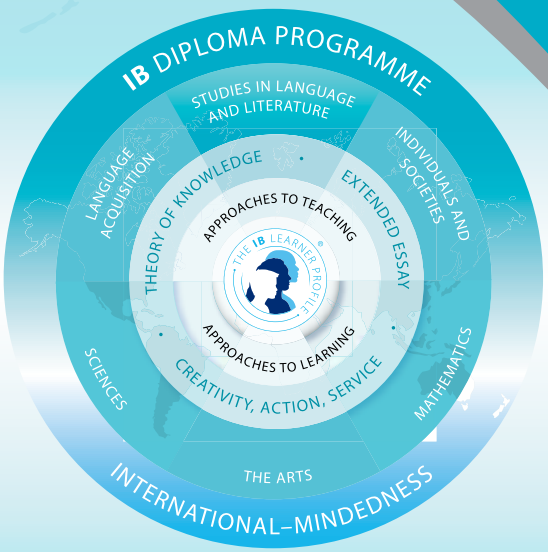
- Writers often use a character who is alienated from his or her culture or society in order to explore cultural or social values. Examine this idea with reference to at least two works studied.
- It has been said that history "cannot be unlived, but if faced with courage, need not be lived again." To what extent do at least two works studied "face" history in order to ensure that its wrongs "need not be lived again"?

International Baccalaureate Diploma Programme Subject Brief

Studies in language and literature:
English A: Language and literature – Standard level

First assessments 2013 – Last assessments 2020

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints.



To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.
I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

The language A: language and literature course aims to develop skills of textual analysis and the understanding that texts, both literary and non-literary, can relate to culturally determined reading practices, and to encourage students to question the meaning generated by language and texts. An understanding of the ways in which formal elements are used to create meaning in a text is combined with an exploration of how that meaning is affected by reading practices that are culturally defined and by the circumstances of production and reception. Helping students to focus closely on the language of studied texts and to become aware of the role of wider context in shaping meaning is central to the course. The study of literature in translation from other cultures is especially important to IB DP students because it contributes to a global perspective. Texts are chosen from a variety of sources, genres and media.

The aims of language A: language and literature standard level courses are to:

- introduce students to a range of texts from different periods, styles and genres
- develop in students the ability to engage in close, detailed analysis of individual texts and make relevant connections
- develop the students' powers of expression, both in oral and written communication
- encourage students to recognize the importance of the contexts in which texts are written and received
- encourage an appreciation of the different perspectives of other cultures, and how these perspectives construct meaning
- encourage students to appreciate the formal, stylistic and aesthetic qualities of texts
- promote in students an enjoyment of, and lifelong interest in, language and literature
- develop in students an understanding of how language, culture and context determine the ways in which meaning is constructed in texts
- encourage students to think critically about the different interactions between text, audience and purpose.

II. Curriculum model overview

Component	Recommended teaching hours
Part 1: Language in cultural context • effect of audience and purpose on the structure and content of texts • impact of language changes • effect of culture and context on language and meaning	40
Part 2: Language and mass communication • forms of communication within the media • educational, political or ideological influence of the media • ways in which mass media use language and image to inform, persuade or entertain	40

Part 3: Literature—texts and contexts • historical, cultural and social contexts in which texts are written and received • relationship between context and formal elements of the text, genre and structure • attitudes and values expressed by literary texts and their impact on readers	40
Part 4: Literature—critical study • detailed exploration of literary works • elements such as theme and the ethical stance or moral values of literary texts • appropriate use of literary terms	30

III. Assessment model

Having followed the language and literature standard level course, students will be expected to demonstrate the following.

Knowledge and understanding
- knowledge and understanding of a range of texts
- understanding of the use of language, structure, technique and style
- critical understanding of the ways in which readers construct meaning and the influence of context
- understanding of how different perspectives influence the reading of a text

Application and analysis
- ability to choose an appropriate text type
- ability to use terminology relevant to the various text types studied
- ability to analyse the effects of language, structure, technique and style on the reader
- awareness of the ways in which the production and reception of texts contribute to their meanings
- ability to substantiate and justify ideas with relevant examples

Synthesis and evaluation
- ability to compare and contrast the formal elements, content and context of texts
- Discuss the ways in which language and image may be used in a range of texts
- ability to evaluate conflicting viewpoints within and about a text

Selection and use of appropriate presentation and language skills
- ability to express ideas clearly and with fluency, both written and orally
- ability to use the oral and written forms of the language, in a range of styles, registers and situations
- ability to discuss and analyse texts in a focused and logical manner

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		3	70
Paper 1	Written analysis of one of two unseen texts.	1.5	25
Paper 2	In response to one of six questions, an essay based on two literary texts studied.	1.5	25
Written Tasks	At least three written tasks based on course material, submitting one for external assessment.		20
Internal			30
Individual oral commentary	An oral commentary on an extract from a literary text studied. Two guiding questions are given.		15
Further oral activity	At least two further oral activities. The mark of one is submitted for final assessment.		15

IV. Sample questions

- Writers often use a character who is alienated from his or her culture or society in order to explore cultural or social values. Examine this idea with reference to at least two works studied.
- It has been said that history "cannot be unlived, but if faced with courage, need not be lived again." To what extent do at least two works studied "face" history in order to ensure that its wrongs "need not be lived again"?

About the IB: For over 40 years the IB has built a reputation for high-quality, challenging programmes of education that develop internationally minded young people who are well prepared for the challenges of life in the 21st century and able to contribute to creating a better, more peaceful world.

For further information on the IB Diploma Programme, visit: ***http://www.ibo.org/diploma/*** *Complete subject guides can be accessed through the IB Online Curriculum Center (OCC), the IB university and government official system, or purchased through the IB store:* ***http://store.ibo.org***

To learn more about how the IB Diploma Programme prepares students for success at university, visit: ***www.ibo.org/recognition*** *or email:* ***recognition@ibo.org***

IB language A: literature higher level subject brief

International Baccalaureate®
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The International Baccalaureate® Diploma Programme, for students aged 16 to 19, is an academically challenging and balanced programme of education that prepares students for success at university and life beyond. Students take courses in six different subject groups, maintaining both breadth and depth of study. Language A: literature higher level is in group 1, studies in language and literature. In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

About the IB: For over 40 years the IB has built a reputation for high-quality, challenging programmes of education that develop internationally minded young people who are well prepared for the challenges of life in the 21st century and able to contribute to creating a better, more peaceful world.

The IB subject briefs illustrate key course components in the IB Diploma Programme.

Overview of the language A: literature higher level course and curriculum model

I. Course description and aims

The IB Diploma Programme language A: literature course develops understanding of the techniques involved in literary criticism and promotes the ability to form independent literary judgments. In language A: literature, the formal analysis of texts and wide coverage of a variety of literature—both in the language of the subject and in translated texts from other cultural domains—is combined with a study of the way literary conventions shape responses to texts.

Students completing this course will have a thorough knowledge of a range of texts and an understanding of other cultural perspectives. They will also have developed skills of analysis and the ability to support an argument in clearly expressed writing, sometimes at significant length. This course will enable them to succeed in a wide range of university courses, particularly in literature but also in subjects such as philosophy, law and language.

Texts studied are chosen from the prescribed literature in translation (PLT) list and the prescribed list of authors (PLA) or elsewhere. The PLT list is a wide-ranging list of works in translation, from a variety of languages, allowing teachers to select works in a language different from the language of the examination. The PLA lists authors from the language of the examination. The authors on the list are appropriate for students aged 16 to 19.

All group 1 courses are suitable for students experienced in using a language in an academic context. It is also recognized that students have language backgrounds that vary significantly. For one student the target language may be his or her only proficient language; another student may have a complex language profile and competence in more than one language. While students in the group 1 courses will undergo significant development in their ability to use language for a range of purposes, these are not language-acquisition courses. In group 1, it is assumed that students are highly competent in the target language, whether or not it is their mother tongue.

The aims of the language A: literature course at both higher and standard levels are to:

- encourage a personal appreciation of literature and develop an understanding of the techniques involved in literary criticism
- develop the students' powers of expression, both in oral and written communication, and provide the opportunity of practising and developing the skills involved in writing and speaking in a variety of styles and situations
- introduce students to a range of literary works of different periods, genres, styles and contexts
- broaden the students' perspective through the study of works from other cultures and languages
- introduce students to ways of approaching and studying literature, leading to the development of an understanding and appreciation of the relationships between different works
- develop the ability to engage in close, detailed analysis of written text
- promote in students an enjoyment of, and lifelong interest in, literature.

II. Curriculum model overview

Language A: literature higher level

Components		
Works in translation	Study of three works All works are chosen from the titles in the prescribed literature in translation list.	65 hours
Detailed study	Study of three works All works are chosen from the prescribed list of authors for the language being studied, each from a different genre.	65 hours
Literary genres	Study of four works All works are chosen from the prescribed list of authors for the language being studied, chosen from the same genre.	65 hours
Options	Study of three works Works are freely chosen in any combination.	45 hours
Total teaching hours		**240 hours**

Assessment for language A: literature higher level

The IB assesses student work as direct evidence of achievement against the stated goals of the Diploma Programme courses, which are to provide students with:

- a broad and balanced, yet academically demanding, programme of study
- the development of critical-thinking and reflective skills
- the development of research skills
- the development of independent learning skills
- the development of intercultural understanding
- a globally recognized university entrance qualification.

Students' success in the language A: literature higher level course is measured by combining their grades on external and internal assessment.

Students must demonstrate their ability to provide literary commentary about prose and poetry, both in written form and orally.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			**70**
Paper 1	Literary commentary and analysis of one unseen text	2	20
Paper 2	Essay on at least two works studied	2	25
Written assignment	Reflective statement and literary essay on one work studied		25
Internal			**30**
Oral work	Formal oral commentary and interview (20 minutes)		15
	Individual oral presentation (10-15 minutes)		15

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IB language A: literature standard level subject brief

International Baccalaureate®
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The International Baccalaureate® Diploma Programme, for students aged 16 to 19, is an academically challenging and balanced programme of education that prepares students for success at university and life beyond. Students take courses in six different subject groups, maintaining both breadth and depth of study. Language A: literature standard level is in group 1, studies in language and literature. In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

About the IB: For over 40 years the IB has built a reputation for high-quality, challenging programmes of education that develop internationally minded young people who are well prepared for the challenges of life in the 21st century and able to contribute to creating a better, more peaceful world.

The IB subject briefs illustrate key course components in the IB Diploma Programme.

Overview of the language A: literature standard level course and curriculum model

I. Course description and aims

The IB Diploma Programme language A: literature course develops understanding of the techniques involved in literary criticism and promotes the ability to form independent literary judgments. In language A: literature, the formal analysis of texts and wide coverage of a variety of literature—both in the language of the subject and in translated texts from other cultural domains—is combined with a study of the way literary conventions shape responses to texts.

Students completing this course will have a thorough knowledge of a range of texts and an understanding of other cultural perspectives. They will also have effectively developed skills of analysis and the ability to support of an argument in clearly expressed writing, sometimes at significant length. The course will enable them to succeed in a wide range of university courses, particularly in literature but also in subjects such as philosophy, law and language.

Texts studied can be chosen from the prescribed literature in translation (PLT) list, prescribed list of authors (PLA) or elsewhere. The PLT list is a wide-ranging list of works in translation, from a variety of languages, allowing teachers to select works in a language different from the language of the examination. The PLA lists authors from the language of the examination. The authors on the list are appropriate for students aged 16 to 19.

All group 1 courses are suitable for students experienced in using a language in an academic context. It is also recognized that students have language backgrounds that vary significantly. For one student the target language may be his or her only proficient language; another student may have a complex language profile and competence in more than one language. While students in the group 1 courses will undergo significant development in their ability to use language for a range of purposes, these are not language-acquisition courses. In group 1, it is assumed that students are highly competent in the target language, whether or not it is their mother tongue. The aims of the language A: literature course at both higher and standard levels are to:

- encourage a personal appreciation of literature and develop an understanding of the techniques involved in literary criticism
- develop the students' powers of expression, both in oral and written communication, and provide the opportunity of practising and developing the skills involved in writing and speaking in a variety of styles and situations
- introduce students to a range of literary works of different periods, genres, styles and contexts
- broaden the students' perspective through the study of works from other cultures and languages
- introduce students to ways of approaching and studying literature, leading to the development of an understanding and appreciation of the relationships between different works
- develop the ability to engage in close, detailed analysis of written text
- promote in students an enjoyment of, and lifelong interest in, literature.

II. Curriculum model overview

Language A: literature standard level

Components		
Works in translation	Study of two works All works are chosen from the titles in the prescribed literature in translation list.	40 hours
Detailed study	Study of two works All works are chosen from the prescribed list of authors for the language being studied, each from a different genre.	40 hours
Literary genres	Study of three works All works are chosen from the prescribed list of authors for the language being studied, chosen from the same genre.	40 hours
Options	Study of three works Works are freely chosen in any combination.	30 hours
Total teaching hours		**150 hours**

Assessment for language A: literature standard level

The IB assesses student work as direct evidence of achievement against the stated goals of the Diploma Programme courses, which are to provide students with:

- a broad and balanced, yet academically demanding, programme of study
- the development of critical-thinking and reflective skills
- the development of research skills
- the development of independent learning skills
- the development of intercultural understanding
- a globally recognized university entrance qualification.

Students' success in the language A: literature standard level course is measured by combining their grades on external and internal assessment.

Students must demonstrate their ability to provide literary commentary about prose and poetry, both in written form and orally.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			**70**
Paper 1	Literary analysis of one unseen text	1.5	20
Paper 2	Essay based on two works studied	1.5	25
Written assignment	Reflective statement and literary essay on one work studied		25
Internal			**30**
Oral work	Formal oral commentary and interview	10 minutes	15
	Individual oral presentation	10–15 minutes	15

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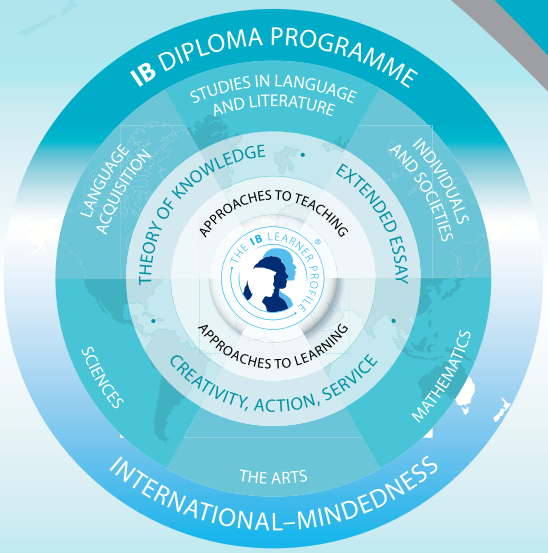
International Baccalaureate Diploma Programme Subject Brief

Language acquisition:

Language ab initio – Standard level

First assessments 2013 – Last assessments 2019

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints.



To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

The IB DP language ab initio course is designed to provide students with the necessary skills and intercultural understanding to enable them to communicate successfully in an environment where the language studied is spoken. This process encourages the learner to go beyond the confines of the classroom, expanding an awareness of the world and fostering respect for cultural diversity. The language ab initio course develops students' linguistic abilities through the development of receptive, productive and interactive skills by providing them opportunities to respond and interact appropriately in a defined range of everyday situations. Language ab initio is available at standard level only.

The aims of the language ab initio course are to:

- develop students' intercultural understanding
- enable students to understand and use the language they have studied in a range of contexts and for a variety of purposes
- encourage, through the study of texts and through social interaction, an awareness and appreciation of the different perspectives of people from other cultures
- develop students' awareness of the role of language in relation to other areas of knowledge
- develop students' awareness of the relationship between the languages and cultures with which they are familiar
- provide students with a basis for further study, work and leisure through the use of an additional language
- provide the opportunity for enjoyment, creativity and intellectual stimulation through knowledge of an additional language.

II. Curriculum model overview

Three areas of study – language, themes and texts – provide the basis of the language ab initio course. These three fundamental areas, as well as intercultural understanding, are all interrelated and should be studied concurrently.

Areas of Study
Language • Receptive skills: the ability to comprehend straightforward written and spoken language. • Productive skills: the ability to write and speak the target • language effectively. • Interactive skills: the ability to understand and respond effectively to written and spoken language.
Themes • Individuals and society – Daily routines; education; food and drink; personal details; appearance and character physical health; relationships; shopping • Leisure and work – Employment; entertainment; holidays; media; sport; technology; transport • Urban and rural environment – Environmental concerns; global issues; neighbourhood; physical geography; town and services; weather
Texts During the course, students are taught to understand and produce a variety of spoken, written and visual texts. Use of authentic texts is encouraged. Examples of texts to be studied include articles, letters, maps, timetables and web pages.

III. Assessment model

Having followed the language ab initio standard level course, students will be assessed on their ability to:

- demonstrate an awareness and understanding of the intercultural elements related to the prescribed topics
- communicate clearly and effectively in a range of situations
- understand and use accurately the basic structures of the language
- understand and use an appropriate range of vocabulary
- use a register and a format that are appropriate to the situation.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			75
Paper 1: Receptive skills	Understanding of four written texts. Text-handling exercises.	1.5	30
Paper 2: Productive skills	Two compulsory writing exercises. Section A: One question to be answered from a choice of two. Section B: One question to be answered from a choice of three.	1	25
Written assignment: Receptive and productive skills	A piece of writing, 200–300 words, in the target language carried out under teacher guidance.	2	20
Internal			25
Individual oral: Interactive skills	1. Presentation of a visual stimulus (from a choice of two) by the student 2. Follow-up questions on the visual stimulus 3. General conversation including at least two questions on the written assignment	10 minutes	25

IV. Sample questions

- Your teacher has asked you to speak about the disadvantages of using public transport. Write the text of your speech. Mention at least three disadvantages.
- You are on holiday in a (target language) speaking country. On your personal blog you post a message about someone you have just met. In your blog entry you explain:
    - three details about this person
    - where you met
    - what you have been doing together
    - what your future plans are

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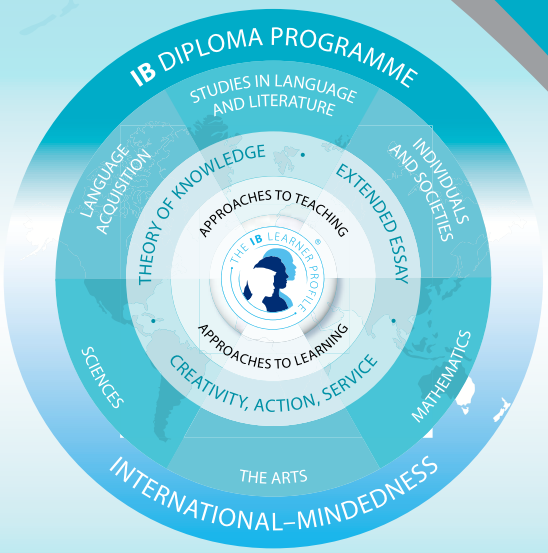
International Baccalaureate Diploma Programme Subject Brief

Language acquisition:

Language B – Higher level

First assessments 2013 – Last assessments 2019

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints.



To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Student may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

The IB DP language B course provides students with the opportunity to acquire or develop an additional language and to promote an understanding of other cultures through the study of language.

Language B is designed for students who possess a degree of knowledge and experience in the target language. Those learning a language B at higher level should be able to follow university courses in other disciplines in the language B that is studied.

The aims of the language B higher level course are to:

- develop students' intercultural understanding
- enable students to understand and use the language they have studied in a range of contexts and for a variety of purposes
- encourage, through the study of texts and through social interaction, an awareness and appreciation of the different perspectives of people from other cultures
- develop students' awareness of the role of language in relation to other areas of knowledge
- develop students' awareness of the relationship between the languages and cultures with which they are familiar
- provide students with a basis for further study, work and leisure through the use of an additional language
- provide the opportunity for enjoyment, creativity and intellectual stimulation through knowledge of an additional language.

II. Curriculum model overview

Component	Recommended teaching hours
Core ***Instruction on three topics*** • communication and media • global issues • Social relationships	240
Options ***Two options from the following five*** • cultural diversity • customs and traditions • health • leisure • science and technology	
Literature • Read 2 works of literature	

III. Assessment model

The assessments aim to test all students' ability to understand and use the language of study as well as key concepts through:

- learning a language by engaging with its use and meaning within a social framework
- developing receptive, productive and interactive skills to meet the objectives of the course.

Students' success in the language B higher level course is measured by combining their grades on external and internal assessment.

Students will be assessed on their ability to:

- communicate clearly and effectively in a range of situations, demonstrating linguistic competence and intercultural understanding
- use language appropriate to a range of interpersonal and/or cultural contexts
- understand and use language to express and respond to a range of ideas with accuracy and fluency
- organize ideas on a range of topics, in a clear, coherent and convincing manner
- understand, analyse and respond to a range of written and spoken texts
- understand and use works of literature written in the target language of study

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			70
Paper 1	Receptive skills Text handling exercise on 4 written texts.	1.5	25
Paper 2	Written productive skills through 2 writing exercises	1.5	25
Written assignment	Receptive and written productive skills Creative writing and rationale based on one literary text read during the course		20
Internal			30
Oral work	Individual oral presentation Interactive oral activities.		20 10

IV. Sample questions

Students are asked to write 250-400 words based on one of five available topics, such as:

- Social isolation can be considered a problem for today's teenagers. In class, you have been asked to give a speech to your classmates informing them about the problem. Write the text of your speech. [based on Option: Health]
- You are a student at an international school in a (target language) speaking country. Write an article to be published in the school magazine on how your experience at the international school will affect your future job prospects. [based on Option: Cultural diversity]

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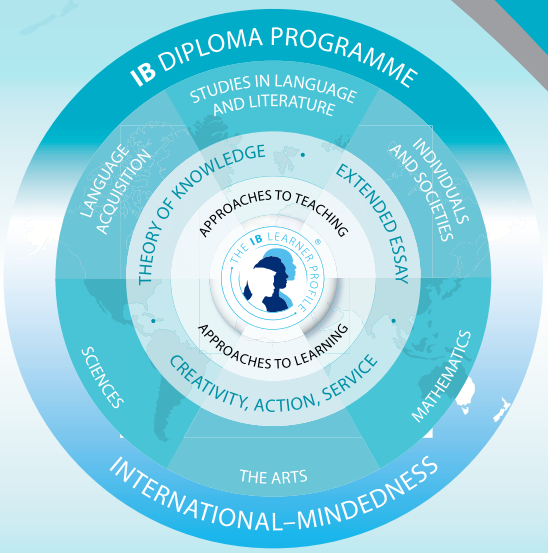
International Baccalaureate Diploma Programme Subject Brief

Language acquisition:

Language B – Standard level

First assessments 2013 – Last assessments 2019

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints.



To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Student may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

The IB DP language B course provides students with the opportunity to acquire or develop an additional language and to promote an understanding of other cultures through the study of language.

Language B is designed for students who possess a degree of knowledge and experience in the target language. High performing standard level students should be able to follow university courses in other disciplines in the language B that is studied.

The aims of the language B standard level course are to:

- develop students' intercultural understanding
- enable students to understand and use the language they have studied in a range of contexts and for a variety of purposes
- encourage, through the study of texts and social interaction, an awareness and appreciation of the different perspectives of people from other cultures
- develop students' awareness of the role of language in relation to other areas of knowledge
- develop students' awareness of the relationship between the languages and cultures with which they are familiar
- provide students with a basis for further study, work and leisure through the use of an additional language
- provide the opportunity for enjoyment, creativity and intellectual stimulation through knowledge of an additional language.

II. Curriculum model overview

Component	Recommended teaching hours
Core ***Instruction on three topics*** • communication and media • global issues • Social relationships	150
Options ***Two options from the following five*** • cultural diversity • customs and traditions • health • leisure • science and technology	

III. Assessment model

The assessments aim to test all students' ability to understand and use the language of study as well as key concepts through:

- learning a language by engaging with its use and meaning within a social framework
- developing receptive, productive and interactive skills in the language of study.

Students will be assessed on their ability to:

- communicate clearly and effectively in a range of situations, demonstrating linguistic competence and intercultural understanding
- use language appropriate to a range of interpersonal and/or cultural contexts
- understand and use language to express and respond to a range of ideas with accuracy and fluency
- organize ideas on a range of topics, in a clear, coherent and convincing manner
- understand, analyse and respond to a range of written and spoken texts.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			70
Paper 1	Text handling exercise on 4 written texts	1.5	25
Paper 2	Written productive skills through 1 writing exercise	1.5	25
Written assignment	Written exercise and rationale based on intertextual reading		20
Internal			30
Oral work	Individual oral presentation Interactive oral activities		20 10

IV. Sample questions

Students are asked to write 250-400 words based on one of five available topics, such as:

- Social isolation can be considered a problem for today's teenagers. In class, you have been asked to give a speech to your classmates informing them about the problem. Write the text of your speech. [based on Option: Health]
- You are a student at an international school in a (target language) speaking country. Write an article to be published in the school magazine on how your experience at the international school will affect your future job prospects. [based on Option: Cultural diversity]

International Baccalaureate Diploma Programme Subject Brief

Individuals and societies: History—higher level

First assessments 2017—last assessments 2025

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To ensure both breadth and depth of knowledge and understanding, students must choose six courses from six distinct groups: 1) studies in language and literature; 2) language acquisition; 3) individuals and societies; 4) sciences; 5) mathematics; 6) the arts. Students may choose to replace the arts course with a second course from one of the other five groups. At least three, and not more than four, subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, activity, service—are compulsory and central to the philosophy of the programme.

These DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

The DP history course is a world history course based on a comparative and multi-perspective approach to history. It involves the study of a variety of types of history, including political, economic, social and cultural, and provides a balance of structure and flexibility.

The course emphasizes the importance of encouraging students to think historically and to develop historical skills as well as gaining factual knowledge. It puts a premium on developing the skills of critical thinking, and on developing an understanding of multiple interpretations of history. In this way, the course involves a challenging and demanding critical exploration of the past. Teachers explicitly teach thinking and research skills such as comprehension, text analysis, transfer, and use of primary sources.

There are six key concepts that have particular prominence throughout the DP history course: change, continuity, causation, consequence, significance and perspectives.

The aims of the DP history course are to enable students to:

- develop an understanding of, and continuing interest in, the past
- encourage students to engage with multiple perspectives and to appreciate the complex nature of historical concepts, issues, events and developments
- promote international-mindedness through the study of history from more than one region of the world
- develop an understanding of history as a discipline and to develop historical consciousness including a sense of chronology and context, and an understanding of different historical perspectives
- develop key historical skills, including engaging effectively with sources
- increase students' understanding of themselves and of contemporary society by encouraging reflection on the past.

II. Curriculum model overview

Component	Recommended teaching hours
Prescribed subjects ***One of the following, using two case studies, each taken from a different region of the world:*** 1. Military leaders 2. Conquest and its impact 3. The move to global war 4. Rights and protest 5. Conflict and intervention	**40**

World history topics ***Two of the following, using topic examples from more than one region of the world:*** 1. Society and economy (750–1400) 2. Causes and effects of medieval wars (750–1500) 3. Dynasties and rulers (750–1500) 4. Societies in transition (1400–1700) 5. Early Modern states (1450–1789) 6. Causes and effects of Early Modern wars (1500–1750) 7. Origins, development and impact of industrialization (1750–2005) 8. Independence movements (1800–2000) 9. Evolution and development of democratic states (1848–2000) 10. Authoritarian states (20th century) 11. Causes and effects of 20th-century wars 12. The Cold War: Superpower tensions and rivalries (20th century)	**90**
HL options: Depth studies ***One of the following:*** 1. History of Africa and the Middle East 2. History of the Americas 3. History of Asia and Oceania 4. History of Europe	**90**
Internal assessment Historical investigation	**20**

III. Assessment model

There are four assessment objectives for the DP history course. Having followed the course at higher level (HL), students will be expected to meet the following objectives.

Assessment objective 1: Knowledge and understanding

- Demonstrate detailed, relevant and accurate historical knowledge.
- Demonstrate understanding of historical concepts and context.
- Demonstrate understanding of historical sources.

Assessment objective 2: Application and analysis

- Formulate clear and coherent arguments.
- Use relevant historical knowledge to effectively support analysis.
- Analyse and interpret a variety of sources.

Assessment objective 3: Synthesis and evaluation

- Integrate evidence and analysis to produce a coherent response.
- Evaluate different perspectives on historical issues and events, and integrate this evaluation effectively into a response.
- Evaluate sources as historical evidence, recognizing their value and limitations.
- Synthesize information from a selection of relevant sources.

Assessment objective 4: Use and application of appropriate skills

- Structure and develop focused essays that respond effectively to the demands of a question.
- Reflect on the methods used by, and challenges facing, the historian.
- Formulate an appropriate, focused question to guide a historical inquiry.
- Demonstrate evidence of research skills, organization, reference and selection of appropriate sources.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		5	80
Paper 1	Source-based paper based on the five prescribed subjects	1	20
Paper 2	Essay paper based on the 12 world history topics	1.5	25
Paper 3	Essay paper based on one of the four regional options	2.5	35
Internal			
Historical investigation	A historical investigation into a topic of the student's choice.	20	20

IV. Sample questions

Paper 1

When presented with five sources related to the enforcements of the provisions of the treaties, disarmament and London Naval Conference (1930), students will:

- explain the significance of the Conference
- compare and contrast the views of the Conference presented in different sources
- assess the value and limitations of sources
- use the sources and their own knowledge to discuss the extent to which they agree with the view that the London Naval Conference was unsuccessful.

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International Baccalaureate Diploma Programme Subject Brief

Individuals and societies: History—standard level

First assessments 2017—last assessments 2025

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To ensure both breadth and depth of knowledge and understanding, students must choose six courses from six distinct groups: 1) studies in language and literature; 2) language acquisition; 3) individuals and societies; 4) sciences; 5) mathematics; 6) the arts. Students may choose to replace the arts course with a second course from one of the other five groups. At least three, and not more than four, subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, activity, service—are compulsory and central to the philosophy of the programme.

These DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

The DP history course is a world history course based on a comparative and multi-perspective approach to history. It involves the study of a variety of types of history, including political, economic, social and cultural, and provides a balance of structure and flexibility.

The course emphasizes the importance of encouraging students to think historically and to develop historical skills as well as gaining factual knowledge. It puts a premium on developing the skills of critical thinking, and on developing an understanding of multiple interpretations of history. In this way, the course involves a challenging and demanding critical exploration of the past. Teachers explicitly teach thinking and research skills such as comprehension, text analysis, transfer, and use of primary sources.

There are six key concepts that have particular prominence throughout the DP history course: change, continuity, causation, consequence, significance and perspectives.

The aims of the DP history course are to enable students to:

- develop an understanding of, and continuing interest in, the past
- encourage students to engage with multiple perspectives and to appreciate the complex nature of historical concepts, issues, events and developments
- promote international-mindedness through the study of history from more than one region of the world
- develop an understanding of history as a discipline and to develop historical consciousness including a sense of chronology and context, and an understanding of different historical perspectives
- develop key historical skills, including engaging effectively with sources
- increase students' understanding of themselves and of contemporary society by encouraging reflection on the past.

II. Curriculum model overview

Component	Recommended teaching hours
Prescribed subjects ***One of the following, using two case studies, each taken from a different region of the world:*** 1. Military leaders 2. Conquest and its impact 3. The move to global war 4. Rights and protest 5. Conflict and intervention	**40**

World history topics ***Two of the following, using topic examples from more than one region of the world:*** 1. Society and economy (750–1400) 2. Causes and effects of medieval wars (750–1500) 3. Dynasties and rulers (750–1500) 4. Societies in transition (1400–1700) 5. Early Modern states (1450–1789) 6. Causes and effects of Early Modern wars (1500–1750) 7. Origins, development and impact of industrialization (1750–2005) 8. Independence movements (1800–2000) 9. Evolution and development of democratic states (1848–2000) 10. Authoritarian states (20th century) 11. Causes and effects of 20th-century wars 12. The Cold War: Superpower tensions and rivalries (20th century)	**90**
Internal assessment Historical investigation	**20**

III. Assessment model

There are four assessment objectives for the DP history course. Having followed the course at standard level (SL), students will be expected to meet the following objectives.

Assessment objective 1: Knowledge and understanding

- Demonstrate detailed, relevant and accurate historical knowledge.
- Demonstrate understanding of historical concepts and context.
- Demonstrate understanding of historical sources.

Assessment objective 2: Application and analysis

- Formulate clear and coherent arguments.
- Use relevant historical knowledge to effectively support analysis.
- Analyse and interpret a variety of sources.

Assessment objective 3: Synthesis and evaluation

- Integrate evidence and analysis to produce a coherent response.
- Evaluate different perspectives on historical issues and events, and integrate this evaluation effectively into a response.
- Evaluate sources as historical evidence, recognizing their value and limitations.
- Synthesize information from a selection of relevant sources.

Assessment objective 4: Use and application of appropriate skills

- Structure and develop focused essays that respond effectively to the demands of a question.
- Reflect on the methods used by, and challenges facing, the historian.
- Formulate an appropriate, focused question to guide a historical inquiry.
- Demonstrate evidence of research skills, organization, reference and selection of appropriate sources.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		2.5	75
Paper 1	Source-based paper based on the five prescribed subjects	1	30
Paper 2	Essay paper based on the 12 world history topics	1.5	45
Internal			
Historical investigation	A historical investigation into a topic of the student's choice.	20	25

IV. Sample questions

Paper 2 (HL and SL)

- Examine the impact of industrialization on standards of living and working conditions in one country.
- Compare and contrast the impact on women of the policies of two authoritarian states, each chosen from a different region.
- Compare and contrast the role of technology in determining the outcome of two 20th-century wars.
- Examine the impact of the US policy of containment on superpower relations between 1947 and 1964.

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International Baccalaureate Diploma Programme Subject Brief

Individuals and societies: Geography

First assessments 2019

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints. Approaches to teaching and learning (ATL) are deliberate strategies, skills and attitudes that permeate the teaching and learning environment. In the DP students develop skills from five ATL categories: thinking, research, social, self-management and communication.

To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, activity, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate the following key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

Geography is a dynamic subject firmly grounded in the real world, and focuses on the interactions between individuals, societies and physical processes in both time and space. It seeks to identify trends and patterns in these interactions. It also investigates the way in which people adapt and respond to change, and evaluates actual and possible management strategies associated with such change. Geography describes and helps to explain the similarities and differences between different places, on a variety of scales and from different perspectives.

Geography as a subject is distinctive in its spatial dimension and occupies a middle ground between social or human sciences and natural sciences. The course integrates physical, environmental and human geography, and students acquire elements of both socio-economic and scientific methodologies. Geography takes advantage of its position to examine relevant concepts and ideas from a wide variety of disciplines, helping students develop life skills and have an appreciation of, and a respect for, alternative approaches, viewpoints and ideas.

Students at both SL and HL are presented with a common core and optional geographic themes. HL students also study the HL core extension. Although the skills and activity of studying geography are common to all students, HL students are required to acquire a further body of knowledge, to demonstrate critical evaluation and to further synthesize the concepts in the HL extension.

The aims of the geography course at SL and HL are to enable students to:

- develop an understanding of the dynamic interrelationships between people, places, spaces and the environment at different scales
- develop a critical awareness and consider complexity thinking in the context of the nexus of geographic issues, including:
    - acquiring an in-depth understanding of how geographic issues, or wicked problems, have been shaped by powerful human and physical processes
    - synthesizing diverse geographic knowledge in order to form viewpoints about how these issues could be resolved.
- understand and evaluate the need for planning and sustainable
- development through the management of resources at varying scales.

II. Curriculum model overview

Syllabus component	Teaching hours	
	SL	HL
Geographic themes—seven options **SL—two options; HL— three options** • Freshwater • Oceans and coastal margins • Extreme environments • Geophysical hazards • Leisure, tourism and sport • Food and health • Urban environments	60	90
SL and HL core **Geographic perspectives—global change** • Population distribution—changing population • Global climate—vulnerability and resilience • Global resource consumption and security	70	70

HL only **Geographic perspectives—global interactions** • Power, places and networks • Human development and diversity • Global risks and resilience		60
Internal assessment **SL and HL Fieldwork** Fieldwork, leading to one written report based on a fieldwork question, information collection and analysis with evaluation	20	20
Total teaching hours	150	240

III. Assessment model

There are four assessment objectives (AOs) for the SL and HL geography course. Having followed the course at SL or HL, students will be expected to do the following:

1. **Demonstrate knowledge and understanding of specified content**
   - between areas of film focus and film elements employed by
   - the core theme—global change
   - two optional themes at SL and three optional themes at HL
   - at HL, the HL extension—global interactions
   - in internal assessment, a specific geographic research topic.
2. **Demonstrate application and analysis of knowledge and understanding**
   - apply and analyse geographic concepts and theories
   - identify and interpret geographic patterns and processes in unfamiliar information, data and cartographic material
   - demonstrate the extent to which theories and concepts are recognized and understood in particular contexts.
3. **Demonstrate synthesis and evaluation**
   - examine and evaluate geographic concepts, theories and perceptions
   - use geographic concepts and examples to formulate and present an argument
   - evaluate materials using methodology appropriate for geographic fieldwork
   - at HL only, demonstrate synthesis and evaluation of the HL extension—global interactions.
4. **Select, use and apply a variety of appropriate skills and techniques**
   - select, use and apply:
     - prescribed geographic skills in appropriate contexts
     - techniques and skills appropriate to a geographic research question.
   - produce well-structured written material, using appropriate terminology.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)		Weighting of final grade (%)	
		SL	HL	SL	HL
External		2.75	4.5	75	80
Paper 1	Each option has a structured question and one extended answer question from a choice of two.	1.5	2.25	35	35
Paper 2	Three structured questions, based on each SL/HL core unit. Infographic or visual stimulus, with structured questions. One extended answer question from a choice of two.	1.25	1.25	40	25
Paper 3	Choice of three extended answer questions, with two parts, based on each HL core extension unit.		1		20
Internal		20	20	25	20
Fieldwork	One written report based on a fieldwork question from any suitable syllabus topic, information collection and analysis with evaluation.	20	20	25	20

IV. Sample questions

- Examine the role of plate margin type in determining the severity of volcanic hazards.
- Evaluate the success of attempts to predict tectonic hazard event and their possible impacts.
- Evaluate the role of agribusiness and new technologies in increasing world food supply.
- Examine the relationship between food security and health.
- Using examples, analyse how technological developments can threaten the security of states.
- To what extent does a global culture exist?

International Baccalaureate Diploma Programme Subject Brief

Individuals and societies: Business management—Higher level

First assessments 2016 – Last assessments 2022

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints. Approaches to teaching and learning (ATL) within the DP are deliberate strategies, skills and attitudes that permeate the teaching and learning environment. In the DP students develop skills from five ATL categories: thinking, research, social, self-management and communication.

To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

The business management course is designed to develop students' knowledge and understanding of business management theories, as well as their ability to apply a range of tools and techniques. Students learn to analyse, discuss and evaluate business activities at local, national and international levels. The course covers a range of organizations from all sectors, as well as the sociocultural and economic contexts in which those organizations operate.

The course covers the key characteristics of business organization and environment, and the business functions of human resource management, finance and accounts, marketing and operations management. Links between the topics are central to the course. Through the exploration of six underpinning concepts (change, culture, ethics, globalization, innovation and strategy), the course allows students to develop a holistic understanding of today's complex and dynamic business environment. The conceptual learning is firmly anchored in business management theories, tools and techniques and placed in the context of real world examples and case studies.

The course encourages the appreciation of ethical concerns at both a local and global level. It aims to develop relevant and transferable skills, including the ability to: think critically; make ethically sound and well-informed decisions; appreciate the pace, nature and significance of change; think strategically; and undertake long-term planning, analysis and evaluation. The course also develops subject-specific skills, such as financial analysis.

The aims of the business management course at HL and SL are to:

1. encourage a holistic view of the world of business
2. empower students to think critically and strategically about individual and organizational behaviour
3. promote the importance of exploring business issues from different cultural perspectives
4. enable the student to appreciate the nature and significance of change in a local, regional and global context
5. promote awareness of the importance of environmental, social and ethical factors in the actions of individuals and organizations
6. develop an understanding of the importance of innovation in a business environment.

II. Curriculum model overview

Component	Recommended teaching hours
Unit 1: Business organization and environment 1.1 Introduction to business management 1.2 Types of organizations 1.3 Organizational objectives 1.4 Stakeholders 1.5 External environment 1.6 Growth and evolution 1.7 Organizational planning tools	**50**

Unit 2: Human resource management 2.1 Functions and evolution of human resource management 2.2 Organizational structure 2.3 Leadership and management 2.4 Motivation 2.5 Organizational (corporate) culture 2.6 Industrial/employee relations	**30**
Unit 3: Finance and accounts 3.1 Sources of finance 3.2 Costs and revenues 3.3 Break-even analysis 3.4 Final accounts 3.5 Profitability and liquidity ratio analysis 3.6 Efficiency ratio analysis 3.7 Cash flow 3.8 Investment appraisal 3.9 Budgets	**50**
Unit 4: Marketing 4.1 The role of marketing 4.2 Marketing planning (including introduction to the four Ps) 4.3 Sales forecasting 4.4 Market research 4.5 The four Ps (product, price, promotion, place) 4.6 The extended marketing mix of seven Ps 4.7 International marketing 4.8 E-commerce	**50**
Unit 5: Operations management 5.1 The role of operations management 5.2 Production methods 5.3 Lean production and quality management 5.4 Location 5.5 Production planning 5.6 Research and development 5.7 Crisis management and contingency planning	**30**
Internal assessment	**30**

III. Assessment model

By the end of the business management HL course, students are expected to reach the following assessment objectives.

1. Demonstrate knowledge and understanding of:
   - the business management tools, techniques and theories specified in the syllabus content
   - the six concepts that underpin the subject
   - real-world business problems, issues and decisions
   - the HL extension topics.
2. Demonstrate application and analysis of:
   - knowledge and skills to a variety of real-world and fictional business situations
   - business decisions by explaining the issue(s) at stake, selecting and interpreting data, and applying appropriate tools, techniques, theories and concepts
   - the HL extension topics.
3. Demonstrate synthesis and evaluation of:
   - business strategies and practices, showing evidence of critical thinking
   - business decisions, formulating recommendations
   - the HL extension topics.
4. Demonstrate a variety of appropriate skills to:
   - produce well-structured written material using business terminology
   - select and use quantitative and qualitative business tools, techniques and methods
   - select and use business material, from a range of primary and secondary sources.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		4.5	75
Paper 1	Structured and extended response questions	2.25	35
Paper 2	Structured and extended response questions	2.25	40
Internal		30	25
Research project	Students research and report on an issue facing an organization or a decision to be made by an organization (or several organizations). Maximum 2,000 words.	30	25

IV. Sample questions

- Analyse the appropriateness of a cost-plus pricing strategy for B-Pharma's drugs.
- Evaluate the effectiveness of the democratic leadership style of the partners at Hands.
- With reference to one or two organization(s) that you have studied, discuss how marketing strategies may differ in two cultures that you are familiar with.

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International Baccalaureate Diploma Programme Subject Brief

Individuals and societies:

Business management— Standard level

First assessments 2016 – Last assessments 2022

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To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

The business management course is designed to develop students' knowledge and understanding of business management theories, as well as their ability to apply a range of tools and techniques. Students learn to analyse, discuss and evaluate business activities at local, national and international levels. The course covers a range of organizations from all sectors, as well as the sociocultural and economic contexts in which those organizations operate.

The course covers the key characteristics of business organization and environment, and the business functions of human resource management, finance and accounts, marketing and operations management. Through the exploration of six underpinning concepts (change, culture, ethics, globalization, innovation and strategy), the course allows students to develop a holistic understanding of today's complex and dynamic business environment. The conceptual learning is firmly anchored in business management theories, tools and techniques and placed in the context of real world examples and case studies.

The course encourages the appreciation of ethical concerns, at both a local and global level. It aims to develop relevant and transferable skills, including the ability to: think critically; make ethically sound and well-informed decisions; appreciate the pace, nature and significance of change; think strategically; and undertake long term planning, analysis and evaluation. The course also develops subject-specific skills, such as financial analysis.

The aims of the business management course at HL and SL are to:

1. encourage a holistic view of the world of business
2. empower students to think critically and strategically about individual and organizational behaviour
3. promote the importance of exploring business issues from different cultural perspectives
4. enable the student to appreciate the nature and significance of change in a local, regional and global context
5. promote awareness of the importance of environmental, social and ethical factors in the actions of individuals and organizations
6. develop an understanding of the importance of innovation in a business environment.

II. Curriculum model overview

Component	Recommended teaching hours
Unit 1: Business organization and environment 1.1 Introduction to business management 1.2 Types of organizations 1.3 Organizational objectives 1.4 Stakeholders 1.5 External environment 1.6 Growth and evolution	**40**
Unit 2: Human resource management 2.1 Functions and evolution of human resource management 2.2 Organizational structure 2.3 Leadership and management 2.4 Motivation	**15**

Unit 3: Finance and accounts 3.1 Sources of finance 3.2 Costs and revenues 3.3 Break-even analysis 3.4 Final accounts (some HL only) 3.5 Profitability and liquidity ratio analysis 3.6 Cash flow 3.7 Investment appraisal (some HL only)	**35**
Unit 4: Marketing 4.1 The role of marketing 4.2 Marketing planning (including introduction to the four Ps) 4.3 Market research 4.4 The four Ps (product, price, promotion, place) 4.5 E-commerce	**35**
Unit 5: Operations management 5.1 The role of operations management 5.2 Production methods 5.3 Location	**10**
Internal assessment	**15**

III. Assessment model

By the end of the business management SL course, students are expected to reach the following assessment objectives.

1. Demonstrate knowledge and understanding of:
   - the business management tools, techniques and theories specified in the syllabus content
   - the six concepts that underpin the subject
   - real-world business problems, issues and decisions
2. Demonstrate application and analysis of:
   - knowledge and skills to a variety of real-world and fictional business situations
   - business decisions by explaining the issue(s) at stake, selecting and interpreting data, and applying appropriate tools, techniques, theories and concepts
3. Demonstrate synthesis and evaluation of:
   - business strategies and practices, showing evidence of critical thinking
   - business decisions, formulating recommendations
4. Demonstrate a variety of appropriate skills to:
   - produce well-structured written material using business terminology
   - select and use quantitative and qualitative business tools, techniques and methods
   - select and use business material, from a range of primary and secondary sources.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		3	75
Paper 1	Structured questions	1.25	35
Paper 2	Structured and extended response questions	1.75	40
Internal		15	25
Written commentary	Students produce a written commentary based on three to five supporting documents about a real issue or problem facing a particular organization. Maximum 1,500 words.	15	25

IV. Sample questions

- Apply the Boston Consulting Group (BCG) matrix to B-Pharma's product portfolio.
- Examine possible strategies for Dan Electro to prevent cash flow difficulties.
- With reference to one organization that you have studied, examine what changes globalization brings about in the management of human resources.

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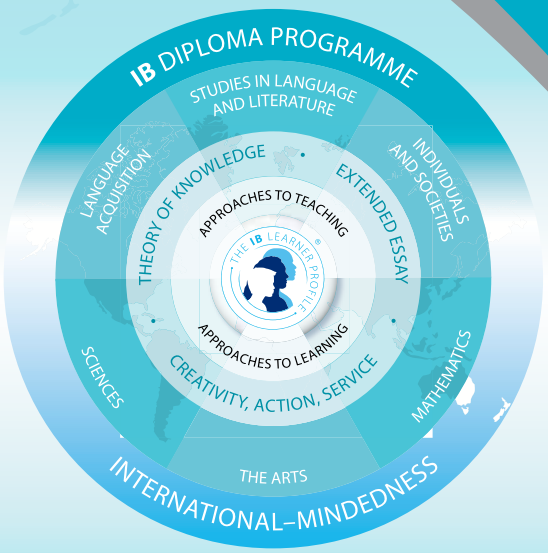
International Baccalaureate Diploma Programme Subject Brief

Individuals and societies:
Information technology in a global society – Higher level

First assessments 2012 – Last assessments 2019

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints.



To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.
I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

The IB DP information technology in a global society (ITGS) course is the study and evaluation of the impacts of information technology (IT) on individuals and society. It explores the advantages and disadvantages of the access and use of digitized information at the local and global level. ITGS provides a framework for the student to make informed judgments and decisions about the use of IT within social contexts.

The aims of the ITGS higher level courses are to:

- enable students to evaluate social and ethical considerations arising from the widespread use of IT by individuals, families, communities, organizations and societies at the local and global level
- develop students' understanding of the capabilities of current and emerging IT systems and to evaluate their impact on a range of stakeholders
- enable students to apply their knowledge of existing IT systems to various scenarios and to make informed judgments about the effects
- encourage students to use their knowledge of IT systems and practical IT skills to justify IT solutions for a specified client or end-user.

II. Curriculum model overview

Component	Recommended teaching hours
Strand 1: Social and ethical significance **SL/HL core** • Reliability and integrity • Security, privacy and anonymity • Intellectual property and authenticity • The digital divide and access equality • Surveillance • Globalization and cultural diversity • Policies, standards and protocols • People and machines • Digital citizenship	40
HL extension Social and ethical considerations linked to the two HL extension topics and annually issued case study.	20
Strand 2: Application to specified scenarios **SL/HL core** • Business and employment • Education and training • Environment • Health • Home and leisure • Politics and government	40
HL extension Scenarios based on real-life situations used to address specified IT developments in the two HL extension topics and annually issued case study.	35

Strand 3: IT systems **SL/HL core** • Hardware and oftware • Networks and internet • Personal and public communications • Multimedia/digital media • Databases, spreadsheets, modelling and simulations • Introduction to project management **HL extension** • IT systems in organizations • Robotics, artificial intelligence and expert systems • Information systems specific to the annually issued case study	40 35
The project (practical application of IT skills) The application of skills and knowledge to develop an original IT product for a specified client.	30

III. Assessment model

Having followed the ITGS higher level course, students will be expected to demonstrate the following.

Demonstrate knowledge and understanding of specified content
- IT applications and developments in specified scenarios
- The social and ethical significance of specified IT applications and developments
- Technical knowledge of ITGS terminology, concepts and tools
- Technical knowledge of IT systems
- Topics related to the annually issued case study

Application and analysis
- Explain the impacts of IT applications and developments in specified scenarios
- Analyse the social and ethical significance of specified IT applications and developments
- Transfer IT knowledge and make connections between specific scenarios
- Apply technical knowledge of IT systems acquired through independent research to provide supporting evidence for possible decisions related to the annually issued case study

Synthesis and evaluation
- Evaluate local and global impacts of specified IT developments through individually researched studies
- Evaluate a solution involving IT to a specified problem using knowledge of IT systems
- Discuss the social and ethical implications of specified IT policies and developments
- Evaluate, formulate and justify possible strategic courses of action related to the annually issued case study

Use of ITGS skills
- Demonstrate evidence of project management in the development of a well-organized product to resolve a specific issue
- Use IT tools and the product development life cycle (PDLC) to create an original product in consultation with a client
- Demonstrate evidence of the use of appropriate techniques to develop an original IT product

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		4.75	80
Paper 1	Four structured responses	2.25	35
Paper 2	Written response to previously unseen article	1.25	20
Paper 3	Four questions based on pre-seen case study	1.25	25
Internal		30	20
Written report	Development of an original IT product for a specified client		

IV. Sample questions

Questions based on stimulus material

- Identify two reasons why organizations continue to use legacy systems.
- Many organizations are developing intranets in an attempt to address the problems in their IT developments. To what extent are intranets likely to overcome these problems?
- Explain the purposes of the following in the home network:
  - SSID
  - Router
  - Switch

International Baccalaureate Diploma Programme Subject Brief

Individuals and societies:
Information technology in a global society – Standard level

First assessments 2012 – Last assessments 2019

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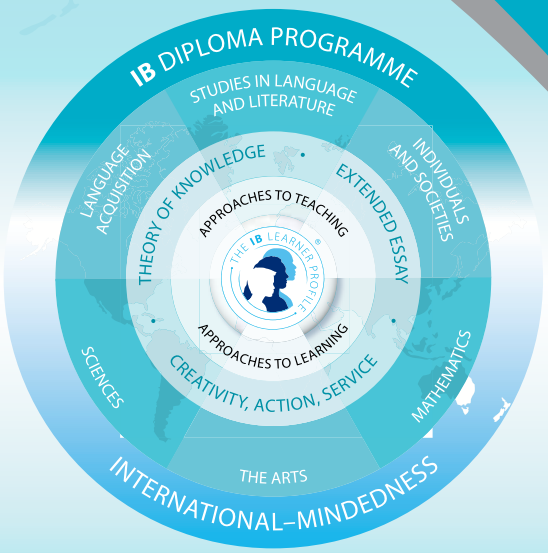

To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.
I. Course description and aims
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IV. Sample questions

I. Course description and aims

The IB DP information technology in a global society (ITGS) course is the study and evaluation of the impacts of information technology (IT) on individuals and society. It explores the advantages and disadvantages of the access and use of digitized information at the local and global level. ITGS provides a framework for the student to make informed judgments and decisions about the use of IT within social contexts.

The aims of the ITGS standard level courses are to:

- enable the student to evaluate social and ethical considerations arising from the widespread use of IT by individuals, families, communities, organizations and societies at the local and global level
- develop the student's understanding of the capabilities of current and emerging IT systems and to evaluate their impact on a range of stakeholders
- enable students to apply their knowledge of existing IT systems to various scenarios and to make informed judgments about the effects of IT developments on them
- encourage students to use their knowledge of IT systems and practical IT skills to justify IT solutions for a specified client or end-user.

II. Curriculum model overview

Component	Recommended teaching hours
Strand 1: Social and ethical significance • Reliability and integrity • Security • Privacy and anonymity • Intellectual property • Authenticity • The digital divide and equality of access • Surveillance • Globalization and cultural diversity • Policies • Standards and protocols • People and machines • Digital citizenship	40
Strand 2: Application to specified scenarios • Business and employment • Education and training • Environment • Health • Home and leisure • Politics and government	40

Strand 3: IT systems • Hardware • Software • Networks • Internet • Personal and public communications • Multimedia/digital media • Databases • Spreadsheets, modelling and simulations • Introduction to project management	40
The project (practical application of IT skills) The application of skills and knowledge to develop an original IT product for a specified client.	30

III. Assessment model

Having followed the ITGS standard level course, students will be expected to demonstrate the following:

Knowledge and understanding of specified content
- Demonstrate an awareness of IT applications and developments in specified scenarios
- Demonstrate an awareness of the social and ethical significance of specified IT applications and developments
- Demonstrate technical knowledge of ITGS terminology, concepts and tools
- Demonstrate technical knowledge of IT systems

Application and analysis
- Explain the impacts of IT applications and developments in specified scenarios
- Analyse the social and ethical significance of specified IT applications and developments
- Transfer IT knowledge and make connections between specific scenarios

Synthesis and evaluation
- Evaluate local and global impacts of specified IT developments through individually researched studies
- Evaluate a solution involving IT to a specified problem using knowledge of IT systems
- Discuss the social and ethical implications of specified IT policies and developments

Use of ITGS skills
- Demonstrate evidence of project management in the development of a well-organized product to resolve a specific issue
- Use IT tools and the product development life cycle (PDLC) to create an original product in consultation with a client
- Demonstrate evidence of the use of appropriate techniques to develop an original IT product.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		3	70
Paper 1	Three structured responses	1.75	40
Paper 2	Written response to previously unseen article	1.25	30
Internal		30	30
Written report	Development of an original IT product for a specified client		

IV. Sample questions

Questions based on stimulus material

- Describe the relationship between the server and a client in a network.
- A company is based at various geographical locations. The senior managing team is considering the use of web-based P2P networking in order to make business-related files available to its staff. To what extent would this be an effective way to share its business data?
- Describe the relationship of one primary stakeholder to the IT system.
- Evaluate the impact of the social/ethical issues on the relevant stakeholders.

International Baccalaureate Diploma Programme Subject Brief

Individuals and societies: Economics— higher level

First assessments 2013—last assessments 2019

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints. Approaches to teaching and learning (ATL) are deliberate strategies, skills and attitudes that permeate the teaching and learning environment. In the DP, students develop skills from five ATL categories: thinking, research, social, self-management and communication.

To ensure both breadth and depth of knowledge and understanding, students must choose six courses from six distinct groups: 1) studies in language and literature; 2) language acquisition; 3) individuals and societies; 4) sciences; 5) mathematics; 6) the arts. Students may choose to replace the arts course with a second course from one of the other five groups. At least three, and not more than four, subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, activity, service—are compulsory and central to the philosophy of the programme.

These DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

Economics is a dynamic social science. The study of economics is essentially about dealing with scarcity, resource allocation and the methods and processes by which choices are made in the satisfaction of human wants. As a social science, economics uses scientific methodologies that include quantitative and qualitative elements.

The DP economics course emphasizes the economic theories of microeconomics, which deal with economic variables affecting individuals, firms and markets, and the economic theories of macroeconomics, which deal with economic variables affecting countries, governments and societies. These economic theories are not studied in a vacuum—rather, they are to be applied to real-world issues. Prominent among these issues are fluctuations in economic activity, international trade, economic development and environmental sustainability.

The economics course encourages students to develop international perspectives, fosters a concern for global issues and raises students' awareness of their own responsibilities at a local, national and international level. Teachers explicitly teach thinking and research skills such as comprehension, text analysis, transfer, and use of primary sources.

The aims of the DP economics course are to enable students to:

- develop an understanding of microeconomic and macroeconomic theories and concepts and their real-world application
- develop an appreciation of the impact on individuals and societies of economic interactions between nations
- develop an awareness of development issues facing nations as they undergo the process of change

II. Curriculum model overview

Component	Recommended teaching hours
Section 1: Microeconomics 1.1 Competitive markets: demand and supply 1.2 Elasticity 1.3 Government intervention 1.4 Market failure 1.5 Theory of the firm and market structures	**95**
Section 2: Macroeconomics 2.1 The level of overall economic activity 2.2 Aggregate demand and aggregate supply 2.3 Macroeconomic objectives 2.4 Fiscal policy 2.5 Monetary policy 2.6 Supply-side policies	**50**
Section 3: International economics 3.1 International trade 3.2 Exchange rates 3.3 The balance of payments 3.4 Economic integration 3.5 Terms of trade	**45**

Section 4: Development economics 4.1. Economic development 4.2. Measuring development 4.3. The role of domestic factors 4.4. The role of international trade 4.5. The role of foreign direct investment (FDI) 4.6. The roles of foreign aid and multilateral development assistance 4.7. The role of international debt 4.8. The balance between markets and intervention	**30**
Internal assessment Portfolio of three commentaries	**20**

III. Assessment model

There are four assessment objectives for the DP economics course. Having followed the course at higher level (HL), students will be expected to meet the following objectives.

Assessment objective 1: Knowledge and understanding

- Demonstrate knowledge and understanding of the common SL/HL syllabus.
- Demonstrate knowledge and understanding of current economic issues and data.
- Demonstrate knowledge and understanding of the HL extension topics.

Assessment objective 2: Application and analysis

- Apply economic concepts and theories to real-world situations.
- Identify and interpret economic data.
- Demonstrate the extent to which economic information is used effectively in particular contexts.
- Demonstrate application and analysis of the extension topics.

Assessment objective 3: Synthesis and evaluation

- Examine economic concepts and theories.
- Use economic concepts and examples to construct and present an argument.
- Discuss and evaluate economic information and theories.
- Demonstrate economic synthesis and evaluation of the extension topics.

Assessment objective 4: Selection, use and application of appropriate skills and techniques

- Produce well-structured written material, using appropriate economic terminology, within specified time limits.
- Use correctly labelled diagrams to help explain economic concepts and theories.
- Select, interpret and analyse appropriate extracts from the news media.
- Interpret appropriate data sets.
- Use quantitative techniques to identify, explain and analyse economic relationships

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		4	80
Paper 1	Extended response paper on microeconomics and macroeconomics	1.5	30
Paper 2	Data response paper on international and development economics	1.5	30
Paper 3	HL extension paper on all syllabus content	1	20
Internal			
Portfolio	Three commentaries based on different sections of the syllabus and on published extracts from the news media.	20	20

IV. Sample questions

Paper 1

- Explain why firms in monopolistic competition can make economic profit in the short run only.
- Compare and contrast the market structures of monopoly and monopolistic competition.

Paper 2

- State two reasons why a multinational corporation (MNC) may wish to invest in an economically less developed country (LDC).

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International Baccalaureate Diploma Programme Subject Brief

Individuals and societies: Economics—standard level

First assessments 2013—last assessments 2023

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To ensure both breadth and depth of knowledge and understanding, students must choose six courses from six distinct groups: 1) studies in language and literature; 2) language acquisition; 3) individuals and societies; 4) sciences; 5) mathematics; 6) the arts. Students may choose to replace the arts course with a second course from one of the other five groups. At least three, and not more than four, subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, activity, service—are compulsory and central to the philosophy of the programme.

These DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

Economics is a dynamic social science. The study of economics is essentially about dealing with scarcity, resource allocation and the methods and processes by which choices are made in the satisfaction of human wants. As a social science, economics uses scientific methodologies that include quantitative and qualitative elements.

The DP economics course emphasizes the economic theories of microeconomics, which deal with economic variables affecting individuals, firms and markets, and the economic theories of macroeconomics, which deal with economic variables affecting countries, governments and societies. These economic theories are not studied in a vacuum—rather, they are to be applied to real-world issues. Prominent among these issues are fluctuations in economic activity, international trade, economic development and environmental sustainability.

The economics course encourages students to develop international perspectives, fosters a concern for global issues and raises students' awareness of their own responsibilities at a local, national and international level. Teachers explicitly teach thinking and research skills such as comprehension, text analysis, transfer, and use of primary sources.

The aims of the DP **economics** course are to enable students to:

- develop an understanding of microeconomic and macroeconomic theories and concepts and their real-world application
- develop an appreciation of the impact on individuals and societies of economic interactions between nations
- develop an awareness of development issues facing nations as they undergo the process of change.

II. Curriculum model overview

Component	Recommended teaching hours
Section 1: Microeconomics 1.1 Competitive markets: demand and supply 1.2 Elasticity 1.3 Government intervention 1.4 Market failure	**35**
Section 2: Macroeconomics 2.1. The level of overall economic activity 2.2. Aggregate demand and aggregate supply 2.3. Macroeconomic objectives 2.4. Fiscal policy 2.5. Monetary policy 2.6. Supply-side policies	**40**
Section 3: International economics 3.1. International trade 3.2. Exchange rates 3.3. The balance of payments 3.4. Economic integration	**25**

Section 4: Development economics 4.1. Economic development 4.2. Measuring development 4.3. The role of domestic factors 4.4. The role of international trade 4.5. The role of foreign direct investment (FDI) 4.6. The roles of foreign aid and multilateral development assistance 4.7. The role of international debt 4.8. The balance between markets and intervention	**30**
Internal assessment Portfolio of three commentaries	**20**

III. Assessment model

There are four assessment objectives for the DP economics course. Having followed the course at standard level (SL), students will be expected to meet the following objectives.

Assessment objective 1: Knowledge and understanding

- Demonstrate knowledge and understanding of the common SL/HL syllabus.
- Demonstrate knowledge and understanding of current economic issues and data.

Assessment objective 2: Application and analysis

- Apply economic concepts and theories to real-world situations.
- Identify and interpret economic data.
- Demonstrate the extent to which economic information is used effectively in particular contexts.

Assessment objective 3: Synthesis and evaluation

- Examine economic concepts and theories.
- Use economic concepts and examples to construct and present an argument.
- Discuss and evaluate economic information and theories.

Assessment objective 4: Selection, use and application of appropriate skills and techniques

- Produce well-structured written material, using appropriate economic terminology, within specified time limits.
- Use correctly labelled diagrams to help explain economic concepts and theories.
- Select, interpret and analyse appropriate extracts from the news media.
- Interpret appropriate data sets.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		3	80
Paper 1	Extended response paper on microeconomics and macroeconomics	1.5	40
Paper 2	Data response paper on international and development economics	1.5	40
Internal			
Portfolio	Three commentaries based on different sections of the syllabus and on published extracts from the news media.	20	20

IV. Sample questions

- Distinguish between structural unemployment and cyclical (demand-deficient) unemployment. Discuss policies that a government might use to reduce the levels of structural unemployment and cyclical (demand-deficient) unemployment. (Paper 1)
- Using an appropriate diagram, analyse the effect of "foreign buying of shares in South African companies" on the value of the rand. (Paper 2)

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International Baccalaureate Diploma Programme Subject Brief

Individuals and societies: Philosophy—Higher level

First assessments 2016 – Last assessments 2022

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints. Approaches to teaching and learning (ATL) within the DP are deliberate strategies, skills and attitudes that permeate the teaching and learning environment. In the DP students develop skills from five ATL categories: thinking, research, social, self-management and communication.

To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

The philosophy course provides an opportunity for students to engage with some of the world's most interesting and influential thinkers. It also develops highly transferable skills such as the ability to formulate arguments clearly, to make reasoned judgments and to evaluate highly complex and multifaceted issues. The emphasis of the DP philosophy course is on "doing philosophy", that is, on actively engaging students in philosophical activity. The course is focused on stimulating students' intellectual curiosity and encouraging them to examine both their own perspectives and those of others.

Students are challenged to develop their own philosophical voice and to grow into independent thinkers. They develop their skills through the study of philosophical themes and the close reading of a philosophical text. They also learn to apply their philosophical knowledge and skills to real-life situations and to explore how non-philosophical material can be treated in a philosophical way. HL students also engage in a deeper exploration of the nature of philosophy itself. Teachers explicitly teach thinking and research skills such as comprehension, text analysis, transfer, and use of primary sources.

The aim of the philosophy course is to engage students in philosophical activity, enabling them to:

1. develop an inquiring and intellectually curious way of thinking
2. formulate arguments in a sound and purposeful way
3. examine critically their own experiences and their ideological and cultural perspectives
4. appreciate the diversity of approaches within philosophical thinking
5. apply their philosophical knowledge and skills to the world around them.

II. Curriculum model overview

Component	Recommended teaching hours
Core theme The core theme "Being human" is compulsory for all students.	**50**
Optional themes HL students are required to study two themes from the following list. 1. Aesthetics 2. Epistemology 3. Ethics 4. Philosophy and contemporary society 5. Philosophy of religion 6. Philosophy of science 7. Political philosophy	**80**
Prescribed text Students are required to study one text from the "IB list of prescribed philosophical texts"	**40**

HL extension: Exploring philosophical activity HL students are required to explore the nature of philosophical activity.	**50**
Internal assessment SL and HL students are required to produce a philosophical analysis of a non-philosophical stimulus.	**20**

III. Assessment model

There are four assessment objectives for the DP philosophy course. Having followed the course, students will be expected to demonstrate the following:

1. Knowledge and understanding
   - Demonstrate knowledge and understanding of philosophical concepts, issues and arguments.
   - Identify the philosophical issues present in both philosophical and non-philosophical stimuli.
   - Demonstrate knowledge and understanding of the nature, function, meaning and methodology of philosophical activity.
2. Application and analysis
   - Analyse philosophical concepts, issues and arguments.
   - Analyse the philosophical issues present in both philosophical and non-philosophical stimuli.
   - Explain and analyse different approaches to philosophical issues, making use of relevant supporting evidence/examples.
   - Analyse the nature, function, meaning and methodology of philosophical activity.
3. Synthesis and evaluation
   - Evaluate philosophical concepts, issues and arguments.
   - Construct and develop relevant, balanced and focused arguments.
   - Discuss and evaluate different interpretations or points of view.
   - Evaluate the nature, function, meaning and methodology of philosophical activity.
   - Compare and contrast their personal experience of philosophical activity with the issues regarding philosophical activity raised in an unseen text.
4. Selection, use and application of appropriate skills and techniques
   - Demonstrate the ability to produce clear and well-structured written responses.
   - Demonstrate appropriate and precise use of philosophical vocabulary.
   - In the internal assessment task, demonstrate evidence of research skills, organization and referencing.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		4.75	80
Paper 1	Stimulus-based questions on core theme and essay questions on optional themes.	2.5	40
Paper 2	Questions on prescribed philosophical texts.	1	20
Paper 3	Written response to a previously unseen text. Students compare and contrast their experience of philosophical activity with the view(s) of philosophical activity found in the text.	1.25	20
Internal		20	20
Analysis	Students are required to complete a philosophical analysis of a non-philosophical stimulus.	20	20

IV. Sample questions

To what extent does the beauty of an object depend on how we see it, rather than the way that it really is? (Paper 1)

Evaluate the claim that it is unfair to hold scientists responsible for the consequences of their scientific discoveries. (Paper 1)

Part a.) Explain Mill's view of the relationship between liberty and utility.
Part b.) To what extent are liberty and utility fundamentally conflicting concepts?
(Paper 2)

International Baccalaureate Diploma Programme Subject Brief

Individuals and societies: Philosophy—Standard level

First assessments 2016 – Last assessments 2022

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To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

The philosophy course provides an opportunity for students to engage with some of the world's most interesting and influential thinkers. It also develops highly transferable skills such as the ability to formulate arguments clearly, to make reasoned judgments and to evaluate highly complex and multifaceted issues. The emphasis of the DP philosophy course is on "doing philosophy", that is, on actively engaging students in philosophical activity. The course is focused on stimulating students' intellectual curiosity and encouraging them to examine both their own perspectives and those of others.

Students are challenged to develop their own philosophical voice and to grow into independent thinkers. They develop their skills through the study of philosophical themes and the close reading of a philosophical text. They also learn to apply their philosophical knowledge and skills to real-life situations and to explore how non-philosophical material can be treated in a philosophical way. Teachers explicitly teach thinking and research skills such as comprehension, text analysis, transfer, and use of primary sources.

The aim of the philosophy course is to engage students in philosophical activity, enabling them to:

1. develop an inquiring and intellectually curious way of thinking
2. formulate arguments in a sound and purposeful way
3. examine critically their own experiences and their ideological and cultural perspectives
4. appreciate the diversity of approaches within philosophical thinking
5. apply their philosophical knowledge and skills to the world around them.

II. Curriculum model overview

Component	Recommended teaching hours
Core theme The core theme "Being human" is compulsory for all students.	**50**
Optional themes SL students are required to study one theme from the following list. 1. Aesthetics 2. Epistemology 3. Ethics 4. Philosophy and contemporary society 5. Philosophy of religion 6. Philosophy of science 7. Political philosophy	**40**
Prescribed text Students are required to study one text from the "IB list of prescribed philosophical texts".	**40**
Internal assessment SL and HL students are required to produce a philosophical analysis of a non-philosophical stimulus.	**20**

III. Assessment model

There are four assessment objectives for the DP philosophy course. Having followed the course, students will be expected to demonstrate the following:

1. Knowledge and understanding
   - Demonstrate knowledge and understanding of philosophical concepts, issues and arguments.
   - Identify the philosophical issues present in both philosophical and non-philosophical stimuli.
2. Application and analysis
   - Analyse philosophical concepts, issues and arguments.
   - Analyse the philosophical issues present in both philosophical and non-philosophical stimuli.
   - Explain and analyse different approaches to philosophical issues, making use of relevant supporting evidence/examples.
3. Synthesis and evaluation
   - Evaluate philosophical concepts, issues and arguments.
   - Construct and develop relevant, balanced and focused arguments.
   - Discuss and evaluate different interpretations or points of view.
4. Selection, use and application of appropriate skills and techniques
   - Demonstrate the ability to produce clear and well-structured written responses.
   - Demonstrate appropriate and precise use of philosophical vocabulary.
   - In the internal assessment task, demonstrate evidence of research skills, organization and referencing.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		2.75	75
Paper 1	Stimulus-based questions on core theme and essay questions on optional themes.	1.75	50
Paper 2	Questions on prescribed philosophical texts.	1	25
Internal		20	25
Analysis	Students are required to complete a philosophical analysis of a non-philosophical stimulus.	20	25

IV. Sample questions

To what extent do you agree with the claim that character-based approaches are more useful in making moral decisions than consequence-based approaches? (Paper 1)

Evaluate the claim that social networking technologies are fundamentally changing the nature of social interactions and relationships. (Paper 1)

Part a.) Explain Plato's distinction between knowledge, belief and ignorance.
Part b.) Discuss the viability of these distinctions. (Paper 2)

IB psychology higher level subject brief

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The IB Diploma Programme, for students aged 16 to 19, is an academically challenging and balanced programme of education that prepares students for success at university and life beyond. Students take courses in six different subject groups, maintaining both breadth and depth of study. Psychology higher level is in group 3, individuals and societies. In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

About the IB: For over 40 years the IB has built a reputation for high-quality, challenging programmes of education that develop internationally minded young people who are well prepared for the challenges of life in the 21st century and able to contribute to creating a better, more peaceful world.

The IB subject briefs illustrate key course components in the IB Diploma Programme.

Overview of the psychology higher level course and curriculum model

I. Course description and aims

The IB Diploma Programme higher level psychology course aims to develop an awareness of how research findings can be applied to better understand human behaviour and how ethical practices are upheld in psychological inquiry. Students learn to understand the biological, cognitive and sociocultural influences on human behaviour and explore alternative explanations of behaviour. They also understand and use diverse methods of psychological inquiry.

In addition, the course is designed to:

- encourage the systematic and critical study of human experience and behaviour; physical, economic and social environments; and the history and development of social and cultural institutions
- develop the capacity to identify, analyse critically and evaluate theories, concepts and arguments about the nature and activities of the individual and society
- enable students to collect, describe and analyse data used in studies, test hypotheses; and interpret complex data and source material
- enable the student to recognize that the content and methodologies are contestable and that their study requires the toleration of uncertainty
- develop an awareness of how psychological research can be applied for the better understanding of human behaviour
- ensure that ethical practices are upheld in psychological inquiry
- develop an understanding of the biological, cognitive and sociocultural influences on human behaviour
- develop an understanding of alternative explanations of behavior
- understand and use diverse methods of psychological inquiry.

II. Curriculum model overview

Psychology higher level

Core	90 hours of instruction on three topics • The biological level of analysis • The cognitive level of analysis • The sociocultural level of analysis	90 hours
Options	30 hours of instruction on two additional topics • Abnormal psychology • Developmental psychology • Health psychology • Psychology of human relationships • Sport psychology	60 hours
Additional higher level	Qualitative research in psychology	50 hours
Experimental study	Introduction to experimental research methodology	40 hours
Total teaching hours		**240 hours**

III. Assessment model

Assessment for psychology higher level

The IB assesses student work as direct evidence of achievement against the stated goals of the Diploma Programme courses, which are to provide students with:

- a broad and balanced, yet academically demanding, programme of study
- the development of critical-thinking and reflective skills
- the development of research skills
- the development of independent learning skills
- the development of intercultural understanding
- a globally recognized university entrance qualification.

The assessments aim to test all students' knowledge and understanding of key concepts through various activities that demonstrate:

- knowledge and comprehension of specified content, research methods, theories, such as key concepts, biological, cognitive and sociocultural levels of analysis
- application and analysis, including using psychological research and psychological concepts to formulate an argument in response to a specific question
- synthesis and evaluation of psychological theories, empirical studies, and research methods used to investigate behaviour
- selection and use of skills appropriate to psychology, the acquisition of knowledge, skills required for experimental design, data collection and presentation, data analysis and interpretation
- data analysis using an appropriate inferential statistical test and write an organized response.

Students' success in the psychology higher level course is measured by combining their grades on external and internal assessment.

On external assessments, students must be able to demonstrate an understanding of both basic facts and complex concepts related to the biological, cognitive and sociocultural levels of analysis. Students in higher level courses are also assessed on their knowledge and understanding of qualitative research. For their internal assessment, psychology higher level students plan, undertake and report on a simple experimental study.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			**80**
Paper 1	Question response and an essay	2	35
Paper 2	Answer 2 of 15 questions in essay form	2	25
Paper 3	Answer three questions	1	20
Internal			**20**
Study report	A report of a simple experimental study conducted by the student		

IV. Sample questions

The following questions appeared in previous IB Diploma Programme psychology higher level examinations.*

1. To what extent does genetic inheritance influence behaviour? Use relevant research studies in your response. (Paper 1)
2. Evaluate two research studies investigating the role of communication in maintaining relationships. (Paper 2)
3. The study outlined above uses the phrase "inductive content analysis". Explain the advantages and disadvantages of using this research strategy in the context of this specific study. (Paper 3, with regard to a supplied study)

* the syllabus for examinations current until 2016

Learn more about how the IB Diploma Programme prepares students for success at university by going online to www.ibo.org/universities or email us at recognition@ibo.org.

IB psychology standard level subject brief

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The IB subject briefs illustrate four key course components in the IB Diploma Programme.

Overview of the psychology standard level course and curriculum model

I. Course description and aims

The IB Diploma Programme standard level psychology course aims to develop an awareness of how research findings can be applied to better understand human behaviour and how ethical practices are upheld in psychological inquiry. Students learn to understand the biological, cognitive and sociocultural influences on human behaviour and explore alternative explanations of behaviour. They also understand and use diverse methods of psychological inquiry.

In addition, the course is designed to:

- encourage the systematic and critical study of human experience and behaviour and environments
- develop the capacity to identify, analyse critically and evaluate theories, concepts and arguments about the nature and activities of the individual and society
- enable students to collect, describe and analyse data used in studies of behaviour ; test hypotheses; and interpret complex data and source material
- enable students to recognize that the content and methodologies are contestable and that their study requires the toleration of uncertainty
- develop an awareness of how psychological research can be applied for better understanding of human behaviour
- ensure that ethical practices are upheld in psychological inquiry
- develop an understanding of the biological, cognitive and sociocultural influences on human behaviour
- develop an understanding of alternative explanations of behaviour
- understand and use diverse methods of psychological inquiry

II. Curriculum model overview

Psychology standard level

Components		90 hours
Core	90 hours of standard level instruction on 3 topics • The biological level of analysis • The cognitive level of analysis • The sociocultural level of analysis	90 hours
Options	30 hours of instruction on one additional topic • Abnormal psychology • Developmental psychology • Health psychology • Psychology of human relationships • Sport psychology	30 hours
Experimental Study	Introduction to experimental research methodology	30 hours
Total teaching hours		**150 hours**

III. Assessment model

Assessment for psychology standard level

The IB assesses student work as direct evidence of achievement against the stated goals of the Diploma Programme courses, which are to provide students with:

- a broad and balanced, yet academically demanding, programme of study
- the development of critical-thinking and reflective skills
- the development of research skills
- the development of independent learning skills
- the development of intercultural understanding
- a globally recognized university entrance qualification.

The assessments aim to test all students' knowledge and understanding of key concepts through:

- knowledge and comprehension of specified content, research methods and theories, such as key concepts, biological, cognitive and sociocultural levels of analysis
- application and analysis, including using psychological research and psychological concepts to formulate an argument in response to a specific question
- synthesis and evaluation of psychological theories, empirical studies, and research methods used to investigate behaviour
- selection and use of skills appropriate to psychology, the acquisition of knowledge, skills required for experimental design, data collection and presentati on, data analysis and interpretation
- data analysis using an appropriate statistical test and write an organized response.

Assessment for psychology standard level (continued)

Students' success in the psychology standard level course is measured by combining their grades on an external and internal assessment.

On external assessments, students must be able to demonstrate an understanding of both basic facts and complex concepts related to the biological, cognitive and sociocultural levels of analysis. For their internal assessment, standard level psychology students plan, undertake and report on a replication of a simple experimental study

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			**75**
Paper 1	Question response and an essay	2	50
Paper 2	Answer one of 15 questions in essay form	1	25
Internal			**25**
Study Report	A report of a simple experimental study conducted by the student		

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IV. Sample questions

The following questions appeared in previous IB Diploma Programme psychology standard level examinations.*

1. Discuss the use of one research method (e.g. experiments, case studies) in the cognitive level of analysis. Use relevant research studies in your response. (Paper 1)
2. Discuss how
   - biological, or
   - cognitive, or
   - socio-cultural

   factors influence psychological disorders. (Paper 2)
3. Evaluate one theory of motivation in sport. (Paper 2)

* the syllabus for examinations current until 2016

Learn more about how the IB Diploma Programme prepares students for success at university by going online to www.ibo.org/universities or email us at recognition@ibo.org.

International Baccalaureate Diploma Programme Subject Brief

Sciences:

Biology—Higher level

First assessments 2016 – Last assessments 2022

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints. Approaches to teaching and learning (ATL) within the DP are deliberate strategies, skills and attitudes that permeate the teaching and learning environment. In the DP students develop skills from five ATL categories: thinking, research, social, self-management and communication.

To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

Biology is the study of life. The vast diversity of species makes biology both an endless source of fascination and a considerable challenge. Biologists attempt to understand the living world at all levels from the micro to the macro using many different approaches and techniques. Biology is still a young science and great progress is expected in the 21st century. This progress is important at a time of growing pressure on the human population and the environment.

By studying biology in the DP students should become aware of how scientists work and communicate with each other. While the scientific method may take on a wide variety of forms, it is the emphasis on a practical approach through experimental work that characterizes the sciences. Teachers provide students with opportunities to design investigations, collect data, develop manipulative skills, analyse results, collaborate with peers and evaluate and communicate their findings.

Through the overarching theme of the nature of science, the aims of the DP biology course are to enable students to:

1. appreciate scientific study and creativity within a global context through stimulating and challenging opportunities
2. acquire a body of knowledge, methods and techniques that characterize science and technology
3. apply and use a body of knowledge, methods and techniques that characterize science and technology
4. develop an ability to analyse, evaluate and synthesize scientific information
5. develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities
6. develop experimental and investigative scientific skills including the use of current technologies
7. develop and apply 21st century communication skills in the study of science
8. become critically aware, as global citizens, of the ethical implications of using science and technology
9. develop an appreciation of the possibilities and limitations of science and technology
10. develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge.

II. Curriculum model overview

Component	Recommended teaching hours
Core	**95**
1. Cell biology	15
2. Molecular biology	21
3. Genetics	15
4. Ecology	12
5. Evolution and biodiversity	12
6. Human physiology	20
Additional higher level	**60**
7. Nucleic acids	9
8. Metabolism, cell respiration and photosynthesis	14
9. Plant biology	13
10. Genetics and evolution	8
11. Animal physiology	16

Option (Choice of one out of four)	**25**
A. Neurobiology and behaviour	25
B. Biotechnology and bioinformatics	25
C. Ecology and conservation	25
D. Human physiology	25
Practical scheme of work	**60**
Prescribed and other practical activities	40
Individual investigation	10
Group 4 project	10

The group 4 project

The group 4 project is a collaborative activity where students from different group 4 subjects, within or between schools, work together. It allows for concepts and perceptions from across disciplines to be shared while appreciating the environmental, social and ethical implications of science and technology. It can be practically or theoretically based and aims to develop an understanding of the relationships between scientific disciplines and their influence on other areas. The emphasis is on interdisciplinary cooperation and the scientific processes

III. Assessment model

It is the intention of this course that students are able to fulfill the following assessment objectives:

1. Demonstrate knowledge and understanding of:
   - facts, concepts, and terminology
   - methodologies and techniques
   - communicating scientific information.
2. Apply:
   - facts, concepts, and terminology
   - methodologies and techniques
   - methods of communicating scientific information.
3. Formulate, analyse and evaluate:
   - hypotheses, research questions and predictions
   - methodologies and techniques
   - primary and secondary data
   - scientific explanations.
4. Demonstrate the appropriate research, experimental, and personal skills necessary to carry out insightful and ethical investigations.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		4.5	80
Paper 1	40 multiple-choice questions	1	20
Paper 2	Data-based, short answer and extended response questions	2.25	36
Paper 3	Data-based, short answer and extended response questions	1.25	24
Internal		10	20
Individual investigation	Investigation and write-up of 6 to 12 pages	10	20

IV. Sample questions

- Membrane proteins of mice cells were marked with green and membrane proteins of human cells were marked with red. The cells were fused together. What would be seen after two hours? (Paper 1)

- The species is the basis for naming and classifying organism.
  - o Explain how new species can emerge by
    - directional selection
    - disruptive selection
    - polyploidy.
  - o Outline the advantages to scientists of the binomial system for naming species.
  - o Describe the use of dichotomous keys for the identification of specimens. (Paper 2)

- Brain death is a clinical diagnosis based on the absence of neurological function, with a known irreversible cause of coma.
  - o Explain a named method to assess brain damage.
  - o Distinguish between a reflex arc and other responses by the nervous system.
  - o Describe the events that occur in the nervous system when something very hot is touched. (Paper 3)

International Baccalaureate Diploma Programme Subject Brief

Sciences:

Biology—Standard level

First assessments 2016 – Last assessments 2022

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints. Approaches to teaching and learning (ATL) within the DP are deliberate strategies, skills and attitudes that permeate the teaching and learning environment. In the DP students develop skills from five ATL categories: thinking, research, social, self-management and communication.

To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

Biology is the study of life. The vast diversity of species makes biology both an endless source of fascination and a considerable challenge. Biologists attempt to understand the living world at all levels from the micro to the macro using many different approaches and techniques. Biology is still a young science and great progress is expected in the 21st century. This progress is important at a time of growing pressure on the human population and the environment.

By studying biology in the DP students should become aware of how scientists work and communicate with each other. While the scientific method may take on a wide variety of forms, it is the emphasis on a practical approach through experimental work that characterizes the sciences. Teachers provide students with opportunities to design investigations, collect data, develop manipulative skills, analyse results, collaborate with peers and evaluate and communicate their findings

Through the overarching theme of the nature of science, the aims of the DP biology course are to enable students to:

1. appreciate scientific study and creativity within a global context through stimulating and challenging opportunities
2. acquire a body of knowledge, methods and techniques that characterize science and technology
3. apply and use a body of knowledge, methods and techniques that characterize science and technology
4. develop an ability to analyse, evaluate and synthesize scientific information
5. develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities
6. develop experimental and investigative scientific skills including the use of current technologies
7. develop and apply 21st century communication skills in the study of science
8. become critically aware, as global citizens, of the ethical implications of using science and technology
9. develop an appreciation of the possibilities and limitations of science and technology
10. develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge.

II. Curriculum model overview

Component	Recommended teaching hours
Core	**95**
1. Cell biology	15
2. Molecular biology	21
3. Genetics	15
4. Ecology	12
5. Evolution and biodiversity	12
6. Human physiology	20
Option (choice of 1 out of 4)	**15**
1. Neurobiology and behaviour	15
2. Biotechnology and bioinformatics	15
3. Ecology and conservation	15
4. Human physiology	15

Practical scheme of work	**40**
Prescribed and other practical activities	20
Individual investigation	10
Group 4 project	10

The group 4 project

The group 4 project is a collaborative activity where students from different group 4 subjects, within or between schools, work together. It allows for concepts and perceptions from across disciplines to be shared while appreciating the environmental, social and ethical implications of science and technology. It can be practically or theoretically based and aims to develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge. The emphasis is on interdisciplinary cooperation and the scientific processes.

III. Assessment model

It is the intention of this course that students are able to fufill the following assessment objectives:

1. Demonstrate knowledge and understanding of:
   - facts, concepts, and terminology
   - methodologies and techniques
   - communicating scientific information.
2. Apply:
   - facts, concepts, and terminology
   - methodologies and techniques
   - methods of communicating scientific information.
3. Formulate, analyse and evaluate:
   - hypotheses, research questions and predictions
   - methodologies and techniques
   - primary and secondary data
   - scientific explanations.
4. Demonstrate the appropriate research, experimental, and personal skills necessary to carry out insightful and ethical investigations.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		3	80
Paper 1	30 multiple-choice questions	0.75	20
Paper 2	Data-based, short answer and extended response questions	1.25	40
Paper 3	Data-based, short answer and extended response questions	1	20
Internal		10	20
Individual investigation	Investigation and write-up of 6 to 12 pages	10	20

IV. Sample questions

- Cyclins were discovered by Timothy R. Hunt in 1982 while studying sea urchins. What is a function of cyclins? (Paper 1)

- Antibiotics can be used to treat bacterial infections in human tissues because of differences in cell structure between prokaryotes and eukaryotes.
  - o Distinguish between the structure of prokaryotes and eukaryotes.
  - o Evaluate the drug tests that Florey and Chain carried out on penicillin.
  - o Explain the reasons for the ineffectiveness of antibiotics in the treatment of viral diseases. (Paper 2)

- The company BASF produces a genetically modified potato called Amflora. Outline the purpose of modifying the potato. (Paper 3)

International Baccalaureate Diploma Programme Subject Brief

Sciences:

Physics—Higher level

First assessments 2016 – Last assessments 2022

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints. Approaches to teaching and learning (ATL) within the DP are deliberate strategies, skills and attitudes that permeate the teaching and learning environment. In the DP students develop skills from five ATL categories: thinking, research, social, self-management and communication.

To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

Physics is the most fundamental of the experimental sciences, as it seeks to explain the universe itself, from the very smallest particles to the vast distances between galaxies. Despite the exciting and extraordinary development of ideas throughout the history of physics, observations remain essential to the very core of the subject. Models are developed to try to understand observations, and these themselves can become theories that attempt to explain the observations.

Besides helping us better understand the natural world, physics gives us the ability to alter our environments. This raises the issue of the impact of physics on society, the moral and ethical dilemmas, and the social, economic and environmental implications of the work of physicists.

By studying physics students should become aware of how scientists work and communicate with each other. While the scientific method may take on a wide variety of forms, it is the emphasis on a practical approach through experimental work that characterizes the subject. Teachers provide students with opportunities to develop manipulative skills, design investigations, collect data, analyse results and evaluate and communicate their findings.

Through the overarching theme of the nature of science, the aims of the DP physics course are to enable students to:

1. appreciate scientific study and creativity within a global context through stimulating and challenging opportunities
2. acquire a body of knowledge, methods and techniques that characterize science and technology
3. apply and use a body of knowledge, methods and techniques that characterize science and technology
4. develop an ability to analyse, evaluate and synthesize scientific information
5. develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities
6. develop experimental and investigative scientific skills including the use of current technologies
7. develop and apply 21st century communication skills in the study of science
8. become critically aware, as global citizens, of the ethical implications of using science and technology
9. develop an appreciation of the possibilities and limitations of science and technology
10. develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge.

II. Curriculum model overview

Component	Recommended teaching hours
Core	**95**
1. Measurements and uncertainties	5
2. Mechanics	22
3. Thermal physics	11
4. Waves	15
5. Electricity and magnetism	15
6. Circular motion and gravitation	5
7. Atomic, nuclear and particle physics	14
8. Energy production	8

Additional higher level	**60**
9. Wave phenomena	17
10.Fields	11
11.Electromagnetic induction	16
12.Quantum and nuclear physics	16
Option (Choice of one out of four)	**25**
A. Relativity	25
B. Engineering physics	25
C. Imaging	25
D. Astrophysics	25
Practical scheme of work	**60**
Prescribed and other practical activities	40
Individual investigation (internally assessed)	10
Group 4 project	10

The group 4 project

The group 4 project is a collaborative activity where students from different group 4 subjects, within or between schools, work together. It allows for concepts and perceptions from across disciplines to be shared while appreciating the environmental, social and ethical implications of science and technology. It can be practically or theoretically based and aims to develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge. The emphasis is on interdisciplinary cooperation and the scientific processes.

III. Assessment model

It is the intention of this course that students are able to fulfill the following assessment objectives:

1. Demonstrate knowledge and understanding of:
   - facts, concepts, and terminology
   - methodologies and techniques
   - communicating scientific information.
2. Apply:
   - facts, concepts, and terminology
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   - methods of communicating scientific information.
3. Formulate, analyse and evaluate:
   - hypotheses, research questions and predictions
   - methodologies and techniques
   - primary and secondary data
   - scientific explanations.
4. Demonstrate the appropriate research, experimental, and personal skills necessary to carry out insightful and ethical investigations.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		4.5	80
Paper 1	40 multiple-choice questions	1	20
Paper 2	Short answer and extended response questions (Core and AHL)	2.25	36
Paper 3	Data- and practical-based questions plus, short answer and extended response questions on the option	1.25	24
Internal		10	20
Individual investigation	Investigation and write-up of 6 to 12 pages	10	20

IV. Sample questions

- Why is wave-particle duality used in describing the properties of light?
  A. Light is both a wave and a particle
  B. Both wave and particle models can explain all the properties of light
  C. Different properties of light can be more clearly explained by using one of the wave or particle models
  D. Scientists feel more confident when using more than one model to explain a phenomenon (Paper 1)

- The tower is 120m high with an internal diameter of 3.5m. When most of the air has been removed, the pressure in the tower is 0.96 Pa.
  Determine the number of molecules of air in the tower when the temperature of the air is 300 K. (Paper 2)

- The streamlines above the airfoil are closer to each other than the streamlines below the airfoil. Suggest why this implies that the speed of the air above the airfoil is greater than the speed of air below the airfoil. (Paper 3)

International Baccalaureate Diploma Programme Subject Brief

Sciences:

Physics—Standard level

First assessments 2016 – Last assessments 2022

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These IB DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

Physics is the most fundamental of the experimental sciences as it seeks to explain the universe itself, from the very smallest particles to the vast distances between galaxies. Despite the exciting and extraordinary development of ideas throughout the history of physics, observations remain essential to the very core of the subject. Models are developed to try to understand observations, and these themselves can become theories that attempt to explain the observations.

Besides helping us better understand the natural world, physics gives us the ability to alter our environments. This raises the issue of the impact of physics on society, the moral and ethical dilemmas, and the social, economic and environmental implications of the work of physicists.

By studying physics students should become aware of how scientists work and communicate with each other. While the scientific method may take on a wide variety of forms, it is the emphasis on a practical approach through experimental work that characterizes the subject. Teachers provide students with opportunities to develop manipulative skills, design investigations, collect data, analyse results and evaluate and communicate their findings.

Through the overarching theme of the nature of science, the aims of the DP physics course are to enable students to:

1. appreciate scientific study and creativity within a global context through stimulating and challenging opportunities
2. acquire a body of knowledge, methods and techniques that characterize science and technology
3. apply and use a body of knowledge, methods and techniques that characterize science and technology
4. develop an ability to analyse, evaluate and synthesize scientific information
5. develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities
6. develop experimental and investigative scientific skills including the use of current technologies
7. develop and apply 21st century communication skills in the study of science
8. become critically aware, as global citizens, of the ethical implications of using science and technology
9. develop an appreciation of the possibilities and limitations of science and technology
10. develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge.

II. Curriculum model overview

Component	Recommended teaching hours
Core	**95**
1. Measurements and uncertainties	5
2. Mechanics	22
3. Thermal physics	11
4. Waves	15
5. Electricity and magnetism	15
6. Circular motion and gravitation	5
7. Atomic, nuclear and particle physics	14
8. Energy production	8

Option (Choice of one out of four)	**15**
A. Relativity	15
B. Engineering physics	15
C. Imaging	15
D. Astrophysics	15
Practical scheme of work	**40**
Prescribed and other practical activities	20
Individual investigation (internally assessed)	10
Group 4 project	10

The group 4 project

The group 4 project is a collaborative activity where students from different group 4 subjects, within or between schools, work together. It allows for concepts and perceptions from across disciplines to be shared while appreciating the environmental, social and ethical implications of science and technology. It can be practically or theoretically based and aims to develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge. The emphasis is on interdisciplinary cooperation and the scientific processes.

III. Assessment model

It is the intention of this course that students are able to fulfill the following assessment objectives:

1. Demonstrate knowledge and understanding of:
   - facts, concepts, and terminology
   - methodologies and techniques
   - communicating scientific information.
2. Apply:
   - facts, concepts, and terminology
   - methodologies and techniques
   - methods of communicating scientific information.
3. Formulate, analyse and evaluate:
   - hypotheses, research questions and predictions
   - methodologies and techniques
   - primary and secondary data
   - scientific explanations.
4. Demonstrate the appropriate research, experimental, and personal skills necessary to carry out insightful and ethical investigations.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		3	80
Paper 1	30 multiple-choice questions	0.75	20
Paper 2	Short answer and extended response questions (Core)	1.25	40
Paper 3	Data- and practical-based questions plus, short answer and extended response questions on the option	1	20
Internal		10	20
Individual investigation	Investigation and write-up of 6 to 12 pages	10	20

IV. Sample questions

- An object falls freely from rest through a vertical distance of 44.0m in a time of 3.0s. What value should be quoted for the acceleration of free-fall? (Paper 1)
  A. $9.778 m s^{-2}$
  B. $9.780 m s^{-2}$
  C. $9.78 m s^{-2}$
  D. $9.8 m s^{-2}$

- There is a suggestion that the temperature of the Earth may increase if the use of fossil fuels is not reduced over the coming years. Explain, with reference to the enhanced greenhouse effect, why this temperature increase may occur. (Paper 2)

- In an experiment to measure the specific heat capacity of a metal, a piece of metal is placed inside a container of boiling water at 100°C. The metal is then transferred into a calorimeter containing water at a temperature of 10°C. The final equilibrium temperature of the water was measured. One source of error in this experiment is that the small mass of boiling water will be transferred to the calorimeter along with the metal.
  (a) Suggest the effect of the error on the measured value of the specific heat capacity of the metal
  (b) State one other source of error for this experiment (Paper 3)

International Baccalaureate Diploma Programme Subject Brief

Sciences:

Chemistry—Higher level

First assessments 2016 – Last assessments 2022

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints. Approaches to teaching and learning (ATL) within the DP are deliberate strategies, skills and attitudes that permeate the teaching and learning environment. In the DP students develop skills from five ATL categories: thinking, research, social, self-management and communication.

To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

Chemistry is an experimental science that combines academic study with the acquisition of practical and investigational skills. Chemical principles underpin both the physical environment in which we live and all biological systems. Chemistry is often a prerequisite for many other courses in higher education, such as medicine, biological science and environmental science.

Both theory and practical work should be undertaken by all students as they complement one another naturally, both in school and in the wider scientific community. The DP chemistry course allows students to develop a wide range of practical skills and to increase facility in the use of mathematics. It also allows students to develop interpersonal and information technology skills, which are essential to life in the 21st century.

By studying chemistry students should become aware of how scientists work and communicate with each other. While the scientific method may take on a wide variety of forms, it is the emphasis on a practical approach through experimental work that characterizes the subject.

Teachers provide students with opportunities to develop manipulative skills, design investigations, collect data, analyse results and evaluate and communicate their findings.

Through the overarching theme of the nature of science, the aims of the DP chemistry course are to enable students to:

1. appreciate scientific study and creativity within a global context through stimulating and challenging opportunities
2. acquire a body of knowledge, methods and techniques that characterize science and technology
3. apply and use a body of knowledge, methods and techniques that characterize science and technology
4. develop an ability to analyse, evaluate and synthesize scientific information
5. develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities
6. develop experimental and investigative scientific skills including the use of current technologies
7. develop and apply 21st century communication skills in the study of science
8. become critically aware, as global citizens, of the ethical implications of using science and technology
9. develop an appreciation of the possibilities and limitations of science and technology
10. develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge.

II. Curriculum model overview

Component	Recommended teaching hours
Core	**95**
1. Stoichiometric relationships	13.5
2. Atomic structure	6
3. Periodicity	6
4. Chemical bonding and structure	13.5
5. Energetics/thermochemistry	9
6. Chemical kinetics	7
7. Equilibrium	4.5
8. Acids and bases	6.5
9. Redox processes	8
10. Organic chemistry	11
11. Measurement and data processing	10

Additional higher level (AHL)	**60**
12.Atomic structure	2
13.The periodic table—the transition metals	4
14.Chemical bonding and structure	7
15.Energetics/thermochemistry	7
16.Chemical kinetics	6
17.Equilibrium	4
18.Acids and bases	10
19.Redox processes	6
20.Organic chemistry	12
21.Measurement and analysis	2
Option (Choice of one out of four)	**25**
A. Materials	25
B. Biochemistry	25
C. Energy	25
D. Medicinal chemistry	25
Practical scheme of work	**60**
Prescribed and other practical activities	40
Individual investigation (internally assessed)	10
Group 4 project	10

The group 4 project

The group 4 project is a collaborative activity where students from different group 4 subjects, within or between schools, work together. It allows for concepts and perceptions from across disciplines to be shared while appreciating the environmental, social and ethical implications of science and technology. It can be practically or theoretically based and aims to develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge. The emphasis is on interdisciplinary cooperation and the scientific processes.

III. Assessment model

Studying this course, students should be able to fulfill the following assessment objectives:

1. Demonstrate knowledge and understanding of:
   - facts, concepts, and terminology
   - methodologies and techniques
   - communicating scientific information.
2. Apply:
   - facts, concepts, and terminology
   - methodologies and techniques
   - methods of communicating scientific information.
3. Formulate, analyse and evaluate:
   - hypotheses, research questions and predictions
   - methodologies and techniques
   - primary and secondary data
   - scientific explanations.
4. Demonstrate the appropriate research, experimental, and personal skills necessary to carry out insightful and ethical investigations.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		4.5	80
Paper 1	40 multiple-choice questions (Core and AHL)	1	20
Paper 2	Short answer and extended response questions (Core and AHL)	2.25	36
Paper 3	Data- and practical –based questions, plus short answer and extended response questions on the option	1.25	24
Internal		10	20
Individual investigation	Investigation and write-up of 6 to 12 pages	10	20

IV. Sample questions

- What is the sum of the coefficients when the equation for the combustion of ammonia is balanced using the smallest possible whole numbers?

  ___ NH_3 (g) + ___ O_2 (g) → ___ N_2 (g) + ___ H_2O (g)

  A. 6
  B. 12
  C. 14
  D. 15 (Paper 1)

- The two isomers of $[Pt(NH_3)_2Cl_2]$ are crystalline. One of the isomers is widely used in the treatment of cancer.
  i. Draw both isomers of the complex,
  ii. Explain the polarity of each isomer using a diagram of each isomer to support your answer,
  iii. State a suitable method (other than looking at dipole moments) to distinguish between the two isomers
  iv. Compare and contrast the bonding types formed by nitrogen in $[Pt(NH_3)_2Cl_2]$ (Paper 2)

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International Baccalaureate Diploma Programme Subject Brief

Sciences:

Chemistry—Standard level

First assessments 2016 – Last assessments 2022

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To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.
I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

Chemistry is an experimental science that combines academic study with the acquisition of practical and investigational skills. Chemical principles underpin both the physical environment in which we live and all biological systems. Chemistry is often a prerequisite for many other courses in higher education, such as medicine, biological science and environmental science.

Both theory and practical work should be undertaken by all students as they complement one another naturally, both in school and in the wider scientific community. The DP chemistry course allows students to develop a wide range of practical skills and to increase facility in the use of mathematics. It also allows students to develop interpersonal and information technology skills, which are essential to life in the 21st century.

By studying chemistry students should become aware of how scientists work and communicate with each other. While the scientific method may take on a wide variety of forms, it is the emphasis on a practical approach through experimental work that characterizes the subject. Teachers provide students with opportunities to develop manipulative skills, design investigations, collect data, analyse results and evaluate and communicate their findings.

Through the overarching theme of the nature of science, the aims of the DP chemistry course are to enable students to:

1. appreciate scientific study and creativity within a global context through stimulating and challenging opportunities
2. acquire a body of knowledge, methods and techniques that characterize science and technology
3. apply and use a body of knowledge, methods and techniques that characterize science and technology
4. develop an ability to analyse, evaluate and synthesize scientific information
5. develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities
6. develop experimental and investigative scientific skills including the use of current technologies
7. develop and apply 21st century communication skills in the study of science
8. become critically aware, as global citizens, of the ethical implications of using science and technology
9. develop an appreciation of the possibilities and limitations of science and technology
10. develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge.

II. Curriculum model overview

Component	Recommended teaching hours
Core	**95**
1. Stoichiometric relationships	13.5
2. Atomic structure	6
3. Periodicity	6
4. Chemical bonding and structure	13.5
5. Energetics/thermochemistry	9
6. Chemical kinetics	7
7. Equilibrium	4.5
8. Acids and bases	6.5
9. Redox processes	8
10. Organic chemistry	11
11. Measurement and data processing	10

Option (choice of one out of four)	**15**
A. Materials	15
B. Biochemistry	15
C. Energy	15
D. Medicinal chemistry	15
Practical scheme of work	**40**
Prescribed and other practical activities	20
Individual investigation (internally assessed)	10
Group 4 project	10

The group 4 project

The group 4 project is a collaborative activity where students from different group 4 subjects, within or between schools, work together. It allows for concepts and perceptions from across disciplines to be shared while appreciating the environmental, social and ethical implications of science and technology. It can be practically or theoretically based and aims to develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge. The emphasis is on interdisciplinary cooperation and the scientific processes.

III. Assessment model

It is the intention of this course that students are able to fulfill the following assessment objectives:

1. Demonstrate knowledge and understanding of:
   - facts, concepts, and terminology
   - methodologies and techniques
   - communicating scientific information.
2. Apply:
   - facts, concepts, and terminology
   - methodologies and techniques
   - methods of communicating scientific information.
3. Formulate, analyse and evaluate:
   - hypotheses, research questions and predictions
   - methodologies and techniques
   - primary and secondary data
   - scientific explanations.
4. Demonstrate the appropriate research, experimental, and personal skills necessary to carry out insightful and ethical investigations.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		3	80
Paper 1	30 multiple-choice questions (Core)	0.75	20
Paper 2	Short answer and extended response questions (Core)	1.25	40
Paper 3	Data- and practical-based questions, plus short answer and extended response questions on the option	1	20
Internal		10	20
Individual investigation	Investigation and write-up of 6 to 12 pages	10	20

IV. Sample questions

- What is the total number of atoms in 0.50 mol of 1,4-diaminobenzene, $H_2NC_6H_4NH_2$?
  A. 16.0×10^{23}
  B. 48.0×10^{23}
  C. 96.0×10^{23}
  D. 192.0×10^{23}

  (Avogadro's constant (L or N_A) = 6.0×10^{23} mol^{-1}.) (Paper 1)
- Many automobile manufacturers are developing vehicles that use hydrogen as a fuel.
  1. Suggest why such vehicles are considered to cause less harm to the environment than those with internal combustion engines.
  2. Hydrogen can be produced from the reaction of coke with steam: $C(s)+2H_2O(g) \rightarrow 2H_2(g)+CO_2(g)$

  Using information from section 12 of the data booklet, calculate the change in enthalpy, ΔH, in kJ mol^{-1}, for this reaction. (Paper 2)

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International Baccalaureate Diploma Programme Subject Brief

Interdisciplinary course:

Environmental systems and societies—standard level

First assessments 2017—last assessments 2023

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To ensure both breadth and depth of knowledge and understanding, students must choose six courses from six distinct groups: 1) studies in language and literature; 2) language acquisition; 3) individuals and societies; 4) sciences; 5) mathematics; 6) the arts. Students may choose to replace the arts course with a second course from one of the other five groups. At least three, and not more than four, subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, activity, service—are compulsory and central to the philosophy of the programme.

These DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

Environmental systems and societies (ESS) is an interdisciplinary course offered only at standard level (SL). This course can fulfill either the individuals and societies or the sciences requirement. Alternatively, this course enables students to satisfy the requirements of both subjects groups simultaneously while studying one course.

ESS is firmly grounded in both a scientific exploration of environmental systems in their structure and function, and in the exploration of cultural, economic, ethical, political and social interactions of societies with the environment. As a result of studying this course, students will become equipped with the ability to recognize and evaluate the impact of our complex system of societies on the natural world.

The interdisciplinary nature of the DP course requires a broad skill set from students, including the ability to perform research and investigations, participation in philosophical discussion and problem-solving. The course requires a systems approach to environmental understanding and promotes holistic thinking about environmental issues. Teachers explicitly teach thinking and research skills such as comprehension, text analysis, knowledge transfer and use of primary sources. They encourage students to develop solutions at the personal, community and global levels.

The aims of the DP **environmental systems and societies** course are to enable students to:

- acquire the knowledge and understandings of environmental systems and issues at a variety of scales
- apply the knowledge, methodologies and skills to analyse environmental systems and issues at a variety of scales
- appreciate the dynamic interconnectedness between environmental systems and societies
- value the combination of personal, local and global perspectives in making informed decisions and taking responsible actions on environmental issues
- be critically aware that resources are finite, that these could be inequitably distributed and exploited, and that management of these inequities is the key to sustainability
- develop awareness of the diversity of environmental value systems
- develop critical awareness that environmental problems are caused and solved by decisions made by individuals and societies that are based on different areas of knowledge
- engage with the controversies that surround a variety of environmental issues
- create innovative solutions to environmental issues by engaging actively in local and global contexts.

II. Curriculum model overview

Component	Recommended teaching hours
Core content	**120**
1. Foundations of environmental systems and societies	16
2. Ecosystems and ecology	25
3. Biodiversity and conservation	13
4. Water and aquatic food production systems and societies	15
5. Soil systems and terrestrial food production systems and societies	12
6. Atmospheric systems and societies	10
7. Climate change and energy production	13
8. Human systems and resource use	16
Practical scheme of work	**30**
Practical activities	20
Individual investigation	10

The group 4 project

ESS students have the option to participate in the group 4 project. For those who participate, 10 hours of practical activities will be replaced with 10 hours of work on the group 4 project.

The group 4 project is a collaborative activity where students from different group 4 subjects, within or between schools, work together. It allows for concepts and perceptions from across disciplines to be shared while appreciating the environmental, social and ethical implications of science and technology. It can be practically or theoretically based and aims to develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge. The emphasis is on interdisciplinary cooperation and the scientific processes.

III. Assessment model

There are four assessment objectives for the DP environmental systems and societies course. Having followed the course at SL, students will be expected to do the following.

Assessment objective 1

Demonstrate knowledge and understanding of relevant:

- facts and concepts
- methodologies and techniques
- values and attitudes.

Assessment objective 2

Apply this knowledge and understanding in the analysis of:

- explanations, concepts and theories
- data and models
- case studies in unfamiliar contexts
- arguments and value systems.

Assessment objective 3

Evaluate, justify and synthesize, as appropriate:

- explanations, theories and models
- arguments and proposed solutions
- methods of fieldwork and investigation
- cultural viewpoints and value systems.

Assessment objective 4

Engage with investigations of environmental and societal issues at the local and global level through:

- evaluating the political, economic and social contexts of issues
- selecting and applying the appropriate research and practical skills necessary to carry out investigations
- suggesting collaborative and innovative solutions that demonstrate awareness and respect for the cultural differences and value systems of others.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		3	75
Paper 1	Case study	1	25
Paper 2	Short answers and structured essays	2	50
Internal			
Individual investigation	Written report of a research question designed and implemented by the student.	10	25

IV. Sample questions

Paper 1

- With reference to source material, outline two possible reasons why the snow leopard has received special attention from conservationists. [8]
- With reference to figures 6, 7 and 9 [in the resource booklet] explain how desertification and water resource shortage have led to the formation of smog in Ulan Bator. [3]

Paper 2

- Outline how the reasons for food wastage may differ between human societies. [4]
- Explain how the choice of food production systems may influence the ecological footprint of a named human society. [7]
- Discuss how different environmental value systems influence responses to the human population growth rate. [9]

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For more on how the DP prepares students for success at university, visit: ***www.ibo.org/en/university-admission*** *or email:* ***recognition@ibo.org****.*

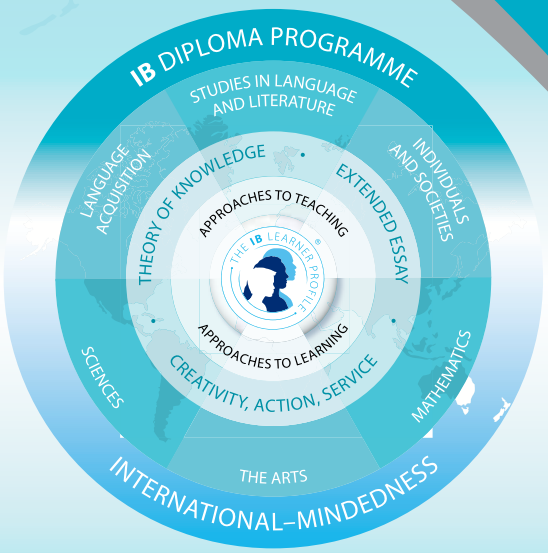
International Baccalaureate Diploma Programme Subject Brief

Mathematics:

Mathematics – Higher level

First assessments 2014 – Last assessments 2020

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints.



To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.
I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

The IB DP higher level mathematics course focuses on developing important mathematical concepts in a comprehensible, coherent and rigorous way, achieved by a carefully balanced approach. Students are encouraged to apply their mathematical knowledge to solve problems set in a variety of meaningful contexts. Development of each topic should feature justification and proof of results. Students should expect to develop insight into mathematical form and structure, and should be intellectually equipped to appreciate the links between concepts in different topic areas. They are also encouraged to develop the skills needed to continue their mathematical growth in other learning environments. The internally assessed exploration allows students to develop independence in mathematical learning. Students are encouraged to take a considered approach to various mathematical activities and to explore different mathematical ideas. The exploration also allows students to work without the time constraints of a written examination and to develop the skills they need for communicating mathematical ideas.

The aims of all mathematics courses in group 5 are to enable students to:

- enjoy and develop an appreciation of the elegance and power of mathematics
- develop an understanding of the principles and nature of mathematics
- communicate clearly and confidently in a variety of contexts
- develop logical, critical and creative thinking, and patience and persistence in problem-solving
- employ and refine their powers of abstraction and generalization
- apply and transfer skills to alternative situations, to other areas of knowledge and to future developments
- appreciate how developments in technology and mathematics have influenced each other
- appreciate the moral, social and ethical implications arising from the work of mathematicians and the applications of mathematics
- appreciate the international dimension in mathematics through an awareness of the universality of mathematics and its multicultural and historical perspectives
- appreciate the contribution of mathematics to other disciplines, and as a particular "area of knowledge" in the TOK course.

II. Curriculum model overview

Component	Recommended teaching hours
Topic 1 Algebra	30
Topic 2 Functions and equations	22
Topic 3 Circular functions and trigonometry	22
Topic 4 Vectors	24
Topic 5 Statistics and probability	36
Topic 6 Calculus	48

Option syllabus content Students must study one of the following options. ***Topic 7*** Statistics and probability ***Topic 8*** Sets, relations and groups ***Topic 9*** Calculus ***Topic 10*** Discrete mathematics	48
Mathematical exploration A piece of individual written work that involves investigating an area of mathematics.	10

III. Assessment model

Having followed the mathematics higher level course, students will be expected to demonstrate the following:

- Knowledge and understanding: recall, select and use knowledge of mathematical facts, concepts and techniques in a variety of familiar and unfamiliar contexts.
- Problem-solving: recall, select and use their knowledge of mathematical skills, results and models in both real and abstract contexts to solve problems.
- Communication and interpretation: transform common realistic contexts into mathematics; comment on the context; sketch or draw mathematical diagrams, graphs or constructions both on paper and using technology; record methods, solutions and conclusions using standardized notation.
- Technology: use technology, accurately, appropriately and efficiently both to explore new ideas and to solve problems.
- Reasoning: construct mathematical arguments through use of precise statements, logical deduction and inference, and by the manipulation of mathematical expressions.
- Inquiry approaches: investigate unfamiliar situations, both abstract and real-world, involving organizing and analysing information, making conjectures, drawing conclusions and testing their validity.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		5	80
Paper 1 (non-calculator)	Section A: Compulsory short-response questions based on the core syllabus. Section B: Compulsory extended-response questions based on the core syllabus.	2	30
Paper 2 (graphical display calculator required)	Section A: Compulsory short-response questions based on the core syllabus. Section B: Compulsory extended-response questions based on the core syllabus.	2	30
Paper 3 (graphical display calculator required)	Compulsory extended-response questions based mainly on the syllabus options.	1	20
Internal			20
Mathematical exploration	The individual exploration is a piece of written work that involves investigating an area of mathematics.		

IV. Sample questions

- The vectors a, b, c satisfy the equation a+b+c=0. Show that a×b=b×c=c×a.
- Consider the following system of equations:

  $x + y + z = 1$
  $2x + 3y + z = 3$
  $x + 3y - z = \lambda$

  where $\lambda \varepsilon R$.

  A. Show that this system does not have a unique solution for any value of λ.

  B. i. Determine the value of λ for which the system is consistent.
  ii. For this value of λ, find the general solution of the system.

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International Baccalaureate Diploma Programme Subject Brief

Mathematics:

Mathematics – Standard level

First assessments 2014 – Last assessments 2020

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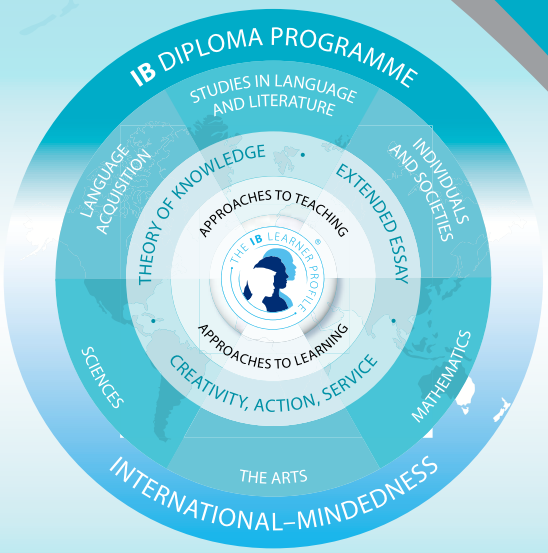

To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

The IB DP mathematics standard level (SL) course focuses on introducing important mathematical concepts through the development of mathematical techniques. The intention is to introduce students to these concepts in a comprehensible and coherent way, rather than insisting on the mathematical rigour required for mathematics HL. Students should, wherever possible, apply the mathematical knowledge they have acquired to solve realistic problems set in an appropriate context.

The internally assessed exploration offers students the opportunity for developing independence in their mathematical learning. Students are encouraged to take a considered approach to various mathematical activities and to explore different mathematical ideas. The exploration also allows students to work without the time constraints of a written examination and to develop the skills they need for communicating mathematical ideas.

The aims of all mathematics courses in group 5 are to enable students to:

- enjoy mathematics, and develop an appreciation of the elegance and power of mathematics
- develop an understanding of the principles and nature of mathematics
- communicate clearly and confidently in a variety of contexts
- develop logical, critical and creative thinking, and patience and persistence in problem-solving
- employ and refine their powers of abstraction and generalization
- apply and transfer skills to alternative situations, to other areas of knowledge and to future developments
- appreciate how developments in technology and mathematics have influenced each other
- appreciate the moral, social and ethical implications arising from the work of mathematicians and the applications of mathematics
- appreciate the international dimension in mathematics through an awareness of the universality of mathematics and its multicultural and historical perspectives
- appreciate the contribution of mathematics to other disciplines, and as a particular "area of knowledge" in the TOK course.

II. Curriculum model overview

Component	Recommended teaching hours
Topic 1 Algebra	9
Topic 2 Functions and equations	24
Topic 3 Circular functions and trigonometry	16
Topic 4 Vectors	16

Topic 5 Statistics and probability	35
Topic 6 Calculus	40
Mathematical exploration Internal assessment in mathematics SL is an individual exploration. This is a piece of written work that involves investigating an area of mathematics.	10

III. Assessment model

Having followed the mathematics standard level course, students will be expected to demonstrate the following.

- Knowledge and understanding: recall, select and use their knowledge of mathematical facts, concepts and techniques in a variety of familiar and unfamiliar contexts.
- Problem-solving: recall, select and use their knowledge of mathematical skills, results and models in both real and abstract contexts to solve problems.
- Communication and interpretation: transform common realistic contexts into mathematics; comment on the context; sketch or draw mathematical diagrams, graphs or constructions both on paper and using technology; record methods, solutions and conclusions using standardized notation.
- Technology: use technology, accurately, appropriately and efficiently both to explore new ideas and to solve problems.
- Reasoning: construct mathematical arguments through use of precise statements, logical deduction and inference, and by the manipulation of mathematical expressions.
- Inquiry approaches: investigate unfamiliar situations, both abstract and real-world, involving organizing and analysing information, making conjectures, drawing conclusions and testing their validity.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		3	80
Paper 1 (non-calculator)	Section A: Compulsory short-response questions based on the whole syllabus. Section B: Compulsory extended-response questions based on the whole syllabus.	1.5	40
Paper 2 (graphical display calculator required)	Section A: Compulsory short-response questions based on the whole syllabus. Section B: Compulsory extended-response questions based on the whole syllabus.	1.5	40
Internal			20
Mathematical exploration	Internal assessment in mathematics SL is an individual exploration. This is a piece of written work that involves investigating an area of mathematics.		

IV. Sample questions

- A data set has a mean of 20 and a standard deviation of 6.
  A) Each value in the data set has 10 added to it. Write down the value of
  i. the new mean;
  ii. the new standard deviation.
  B) Each value in the original data set is multiplied by 10.
  i. Write down the value of the new mean.
  ii. Find the value of the new variance.

- Given that $f(x) = 1/x$, answer the following.
  A) Find the first four derivatives of f (x).
  B) Write an expression for $f^{(n)}$ in terms of x and n.

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International Baccalaureate Diploma Programme Subject Brief

Mathematics:

Mathematical studies – Standard level

First assessments 2014 – Last assessments 2020

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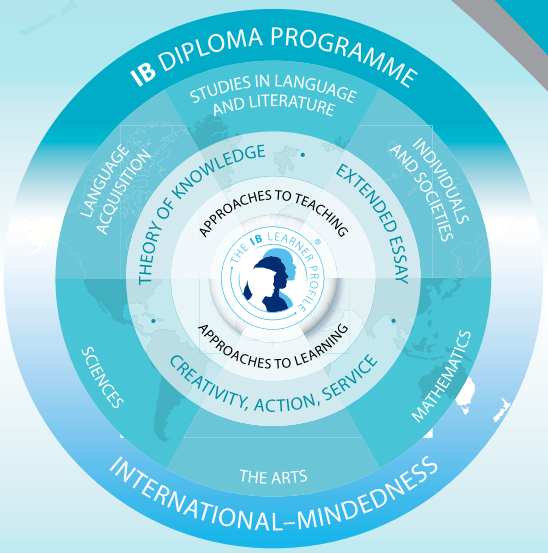

To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview
III. Assessment model
IV. Sample questions

I. Course description and aims

The IB DP mathematical studies standard level (SL) course focuses on important interconnected mathematical topics. The syllabus focuses on: placing more emphasis on student understanding of fundamental concepts than on symbolic manipulation and complex manipulative skills; giving greater emphasis to developing students' mathematical reasoning rather than performing routine operations; solving mathematical problems embedded in a wide range of contexts; using the calculator effectively. There is an emphasis on applications of mathematics and statistical techniques. It is designed to offer students with varied mathematical backgrounds and abilities the opportunity to learn important concepts and techniques and to gain an understanding of a wide variety of mathematical topics, preparing them to solve problems in a variety of settings, develop more sophisticated mathematical reasoning and enhance their critical thinking.

The aims of all DP mathematics courses are to enable students to:

- enjoy and develop an appreciation of the elegance and power of mathematics
- develop an understanding of the principles and nature of mathematics
- communicate clearly and confidently in a variety of contexts
- develop logical, critical and creative thinking, and patience and persistence in problem-solving
- employ and refine their powers of abstraction and generalization
- apply and transfer skills to alternative situations, to other areas of knowledge and to future developments
- appreciate how developments in technology and mathematics have influenced each other
- appreciate the moral, social and ethical implications arising from the work of mathematicians and the applications of mathematics
- appreciate the international dimension in mathematics through an awareness of the universality of mathematics and its multicultural and historical perspectives
- appreciate the contribution of mathematics to other disciplines, and as a particular "area of knowledge" in the TOK course.

II. Curriculum model overview

Component	Recommended teaching hours
Topic 1 Numbers and algebra	20
Topic 2 Descriptive statistics	12
Topic 3 Logic, sets and probability	20
Topic 4 Statistical application	17
Topic 5 Geometry and trigonometry	18
Topic 6 Mathematical models	20
Topic 7 Introduction to different calculus	18
Project An individual piece of work involving the collection of information or the generation of measurements, and subsequent the analysis and evaluation.	25

III. Assessment model

Having followed the mathematical studies SL course, students will be expected to demonstrate the following:

- Knowledge and understanding: recall, select and use knowledge of mathematical facts, concepts and techniques in a variety of contexts.
- Problem-solving: recall, select and use knowledge of mathematical skills, results and models to solve problems.
- Communication and interpretation: transform common realistic contexts into mathematics; comment on the context; create mathematical diagrams, graphs or constructions; record methods, solutions and conclusions using standardized notation.
- Technology: use technology accurately, appropriately and efficiently to explore new ideas and to solve problems.
- Reasoning: construct mathematical arguments through use of precise statements, logical deduction and inference, and by the manipulation of mathematical expressions.
- Investigative approaches: investigate unfamiliar situations involving organizing and analysing information or measurements, drawing conclusions, testing their validity, and considering their scope and limitations.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		3	80
Paper 1 (graphical display calculator required)	15 compulsory short-response questions based on the whole syllabus.	1.5	40
Paper 2 (graphical display calculator required)	6 compulsory extended-response questions based on the whole syllabus.	1.5	40
Internal			20
Project	An individual piece of work involving the collection of information or the generation of measurements, and subsequent analysis and evaluation.		20

IV. Sample questions

- A liquid is heated so that after 20 seconds of heating its temperature, T, is 25 °C and after 50 seconds of heating its temperature is 37 °C. The temperature of the liquid at time t can be modelled by $T = at + b$, where t is the time in seconds after the start of heating.

  Using this model one equation that can be formed is $20a + b = 25$
  A. Using the model, write down a second equation in a and b.
  B. Using your graphic display calculator or otherwise, find the value of a and of b.
  C. Use the model to predict the temperature of the liquid 60 seconds after the start of heating.

- Yun Bin invests 5000 euros in an account which pays a nominal annual interest rate of 6.25 %, compounded monthly. Give all answers correct to two decimal places.

  Find
  A. the value of the investment after 3 years;
  B. the difference in the final value of the investment if the interest was compounded quarterly at the same nominal rate.

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For further information on the IB Diploma Programme, visit: ***http://www.ibo.org/diploma/*** *Complete subject guides can be accessed through the IB Online Curriculum Center (OCC), the IB university and government official system, or purchased through the IB store:* ***http://store.ibo.org***

To learn more about how the IB Diploma Programme prepares students for success at university, visit: ***www.ibo.org/recognition*** *or email:* ***recognition@ibo.org***

International Baccalaureate Diploma Programme Subject Brief

The arts:

Visual arts—Higher level

First assessments 2016 – Last assessments 2022

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints. Approaches to teaching and learning (ATL) within the DP are deliberate strategies, skills and attitudes that permeate the teaching and learning environment. In the DP, students develop skills from five ATL categories: thinking, research, social, self-management and communication.

To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate three key course components.
I. Course description and aims II. Curriculum model overview III. Assessment model

I. Course description and aims

The IB Diploma Programme visual arts course encourages students to challenge their own creative and cultural expectations and boundaries. It is a thought-provoking course in which students develop analytical skills in problem-solving and divergent thinking, while working towards technical proficiency and confidence as art-makers. In addition to exploring and comparing visual arts from different perspectives and in different contexts, students are expected to engage in, experiment with and critically reflect upon a wide range of contemporary practices and media. The course is designed for students who want to go on to further study of visual arts in higher education as well as for those who are seeking lifelong enrichment through visual arts.

The role of visual arts teachers should be to actively and carefully organize learning experiences for the students, directing their study to enable them to reach their potential and satisfy the demands of the course. Students should be empowered to become autonomous, informed and skilled visual artists.

The aims of the arts subjects are to enable students to:

1. enjoy lifelong engagement with the arts
2. become informed, reflective and critical practitioners in the arts
3. understand the dynamic and changing nature of the arts
4. explore and value the diversity of the arts across time, place and cultures
5. express ideas with confidence and competence
6. develop perceptual and analytical skills.

In addition, the aims of the visual arts course at SL and HL are to enable students to:

7. make artwork that is influenced by personal and cultural contexts
8. become informed and critical observers and makers of visual culture and media
9. develop skills, techniques and processes in order to communicate concepts and ideas.

II. Curriculum model overview

Component	Recommended teaching hours
Visual arts in context • Examine and compare the work of artists from different cultural contexts. • Consider the contexts influencing their own work and the work of others. • Make art through a process of investigation, thinking critically and experimenting with techniques. • Apply identified techniques to their own developing work. • Develop an informed response to work and exhibitions they have seen and experienced. • Begin to formulate personal intentions for creating and displaying their own artworks.	**80**

Visual arts methods • Look at different techniques for making art. • Investigate and compare how and why different techniques have evolved and the processes involved. • Experiment with diverse media and explore techniques for making art. • Develop concepts through processes informed by skills, techniques and media. • Evaluate how their ongoing work communicates meaning and purpose. • Consider the nature of "exhibition", and think about the process of selection and the potential impact of their work on different audiences.	**80**
Communicating visual arts • Explore ways of communicating through visual and written means. • Make artistic choices about how to most effectively communicate knowledge and understanding. • Produce a body of artwork through a process of reflection and evaluation, showing a synthesis of skill, media and concept. • Select and present resolved works for exhibition. • Explain the ways in which the works are connected. • Discuss how artistic judgments impact the overall presentation.	**80**

Throughout the course students are required to maintain a visual arts journal. Although sections of the journal will be selected, adapted and presented for assessment, the journal itself is not directly assessed or moderated. It is, however, regarded as a fundamental activity of the course.

III. Assessment model

Having followed the visual arts course, students are expected to:

1. Demonstrate knowledge and understanding of specified content
   - Identify various contexts in which the visual arts can be created and presented
   - Describe artwork from differing contexts, and identify the ideas, conventions and techniques employed by the art-makers
   - Recognize the skills, techniques, media, forms and processes associated with the visual arts
   - Present work, using appropriate visual arts language, as appropriate to intentions
2. Demonstrate application and analysis of knowledge and understanding
   - Express concepts, ideas and meaning through visual communication
   - Analyse artworks from a variety of different contexts
   - Apply knowledge and understanding of skills, techniques, media, forms and processes related to art-making
3. Demonstrate synthesis and evaluation
   - Critically analyse and discuss artworks created by themselves and others and articulate an informed personal response
   - Formulate personal intentions for the planning, development and making of artworks that consider how meaning can be conveyed to an audience
   - Demonstrate the use of critical reflection to highlight success and failure in order to progress work
   - Evaluate how and why art-making evolves and justify the choices made in their own visual practice
4. Select, use and apply a variety of appropriate skills and techniques
   - Experiment with different media, materials and techniques in art-making
   - Make appropriate choices in the selection of images, media, materials and techniques in art-making
   - Demonstrate technical proficiency in the use and application of skills, techniques, media, images, forms and processes
   - Produce a body of resolved and unresolved artworks as appropriate to intentions

Assessment at a glance

Type of assessment	Format of assessment	Weighting of final grade (%)
External		60
Comparative study	• 10–15 screens which examine and compare at least 3 artworks, at least 2 of which need to be by different artists • 3–5 screens which analyse the extent to which the student's work and practices have been influenced by the art and artists examined • A list of sources used	20
Process portfolio	• 13–25 screens which evidence sustained experimentation, exploration, manipulation and refinement of a variety of art-making activities	40
Internal		40
Exhibition	• A curatorial rationale that does not exceed 700 words • 8–11 artworks • Exhibition text (stating the title, medium, size and intention) for each artwork	40

International Baccalaureate Diploma Programme Subject Brief

The arts:

Visual arts—Standard level

First assessments 2016 – Last assessments 2022

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints. Approaches to teaching and learning (ATL) within the DP are deliberate strategies, skills and attitudes that permeate the teaching and learning environment. In the DP students develop skills from five ATL categories: thinking, research, social, self-management and communication.

To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate three key course components.
I. Course description and aims II. Curriculum model overview III. Assessment model

I. Course description and aims

The IB Diploma Programme visual arts course encourages students to challenge their own creative and cultural expectations and boundaries. It is a thought-provoking course in which students develop analytical skills in problem-solving and divergent thinking, while working towards technical proficiency and confidence as art-makers. In addition to exploring and comparing visual arts from different perspectives and in different contexts, students are expected to engage in, experiment with and critically reflect upon a wide range of contemporary practices and media. The course is designed for students who want to go on to study visual arts in higher education as well as for those who are seeking lifelong enrichment through visual arts.

The role of visual arts teachers should be to actively and carefully organize learning experiences for the students, directing their study to enable them to reach their potential and satisfy the demands of the course. Students should be empowered to become autonomous, informed and skilled visual artists.

The aims of the arts subjects are to enable students to:

1. enjoy lifelong engagement with the arts
2. become informed, reflective and critical practitioners in the arts
3. understand the dynamic and changing nature of the arts
4. explore and value the diversity of the arts across time, place and cultures
5. express ideas with confidence and competence
6. develop perceptual and analytical skills.

In addition, the aims of the visual arts course at SL and HL are to enable students to:

7. make artwork that is influenced by personal and cultural contexts
8. become informed and critical observers and makers of visual culture and media
9. develop skills, techniques and processes in order to communicate concepts and ideas.

II. Curriculum model overview

Component	Recommended teaching hours
Visual arts in context • Examine and compare the work of artists from different cultural contexts. • Consider the contexts influencing their own work and the work of others. • Make art through a process of investigation, thinking critically and experimenting with techniques. • Apply identified techniques to their own developing work. • Develop an informed response to work and exhibitions they have seen and experienced. • Begin to formulate personal intentions for creating and displaying their own artworks.	**50**

Visual arts methods • Look at different techniques for making art. • Investigate and compare how and why different techniques have evolved and the processes involved. • Experiment with diverse media and explore techniques for making art. • Develop concepts through processes informed by skills, techniques and media. • Evaluate how their ongoing work communicates meaning and purpose. • Consider the nature of "exhibition" and think about the process of selection and the potential impact of their work on different audiences.	**50**
Communicating visual arts • Explore ways of communicating through visual and written means. • Make artistic choices about how to most effectively communicate knowledge and understanding. • Produce a body of artwork through a process of reflection and evaluation, showing a synthesis of skill, media and concept. • Select and present resolved works for exhibition. • Explain the ways in which the works are connected. • Discuss how artistic judgments impact the overall presentation.	**50**

Throughout the course students are required to maintain a visual arts journal. Although sections of the journal will be selected, adapted and presented for assessment, the journal itself is not directly assessed or moderated. It is, however, regarded as a fundamental activity of the course.

III. Assessment model

Having followed the visual arts course, students are expected to:

1. Demonstrate knowledge and understanding of specified content
   - Identify various contexts in which the visual arts can be created and presented
   - Describe artwork from differing contexts, and identify the ideas, conventions and techniques employed by the art-makers
   - Recognize the skills, techniques, media, forms and processes associated with the visual arts
   - Present work, using appropriate visual arts language, as appropriate to intentions
2. Demonstrate application and analysis of knowledge and understanding
   - Express concepts, ideas and meaning through visual communication
   - Analyse artworks from a variety of different contexts
   - Apply knowledge and understanding of skills, techniques, media, forms and processes related to art-making
3. Demonstrate synthesis and evaluation
   - Critically analyse and discuss artworks created by themselves and others and articulate an informed personal response
   - Formulate personal intentions for the planning, development and making of artworks that consider how meaning can be conveyed to an audience
   - Demonstrate the use of critical reflection to highlight success and failure in order to progress work
   - Evaluate how and why art-making evolves and justify the choices made in their own visual practice
4. Select, use and apply a variety of appropriate skills and techniques
   - Experiment with different media, materials and techniques in art-making
   - Make appropriate choices in the selection of images, media, materials and techniques in art-making
   - Demonstrate technical proficiency in the use and application of skills, techniques, media, images, forms and processes
   - Produce a body of resolved and unresolved artworks as appropriate to intentions

Assessment at a glance

Type of assessment	Format of assessment	Weighting of final grade (%)
External		60
Comparative study	• 10–15 screens which examine and compare at least 3 artworks, at least 2 of which should be by different artists • A list of sources used	20
Process portfolio	• 9–18 screens which evidence the student's sustained experimentation, exploration, manipulation and refinement of a variety of art-making activities	40
Internal		40
Exhibition	• A curatorial rationale that does not exceed 400 words • 4–7 artworks • Exhibition text (stating the title, medium, size and intention) for each artwork	40

IB music higher level subject brief

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The IB Diploma Programme, for students aged 16 to 19, is an academically challenging and balanced programme of education that prepares students for success at university and life beyond. Students take courses in six different subject groups, maintaining both breadth and depth of study. Music higher level is in group 6, the arts. In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

About the IB: For over 40 years the IB has built a reputation for high-quality, challenging programmes of education that develop internationally minded young people who are well prepared for the challenges of life in the 21st century and able to contribute to creating a better, more peaceful world.

The IB subject briefs illustrate key course components in the IB Diploma Programme.

Overview of the music higher level course and curriculum model

I. Course description and aims

The IB Diploma Programme higher level music course seeks to develop students' knowledge and potential as musicians, both personally and collaboratively. IB Diploma Programme music students are required to study musical perception and actively listen to a wide range of music from different parts of the world, musical cultures and time periods. They also develop aural perception and understanding of music by learning about musical elements, including form and structure, notations, musical terminology, and context. Through the course of study, students become aware of how musicians work and communicate. In addition, the course enables students to:

- enjoy lifelong engagement with the arts
- become informed, reflective and critical practitioners in the arts
- understand the dynamic and changing nature of the arts
- explore and value the diversity of the arts across time, place and cultures
- express ideas with confidence and competence
- develop perceptual and analytical skills
- develop their knowledge and potential as musicians, both personally and collaboratively.

II. Curriculum model overview

Music higher level

Components	
Musical perception	90 hours
Creating	75 hours
Solo performing	75 hours
Total teaching hours	**240 hours**

III. Assessment model

Assessment for music higher level

The IB assesses student work as direct evidence of achievement against the stated goals of the Diploma Programme courses, which are to provide students with:

- a broad and balanced, yet academically demanding, programme of study
- the development of critical-thinking and reflective skills
- the development of research skills
- the development of independent learning skills
- the development of intercultural understanding
- a globally recognized university entrance qualification.

The assessments aim to test all students' knowledge and understanding of key concepts through various activities that demonstrate:

- knowledge, understanding and perception of music in relation to time, place and cultures
- appropriate musical terminology to describe and reflect their critical understanding of music
- comparative analysis of music in relation to time, place and cultures
- creative skills through exploration, control and development of musical elements
- performance skills through solo music making
- critical-thinking skills through reflective thought.

Students' success in the music higher level course is measured by combining their grades in external and internal assessment.

Throughout the teaching of the course students should be encouraged to develop critical thinking and participate in inquiry-based learning, while working both individually and collaboratively.

Assessment for music higher level (continued)

The listening paper is based on musical perception—analysis, examination, comparing and contrasting of pieces of music. Section A relates to two prescribed works and section B to music from different times and places, encompassing jazz/pop, western art music and world music.

In the musical links investigation, through the study of pieces from two distinct musical cultures, students are encouraged to explore, analyse and examine the musical connections existing between two (or more) pieces of music. Through investigative study and analysis of the similarities and differences between the selected pieces of music, students learn to demonstrate significant musical links.

In creating, students create three pieces of 3 to 6 minutes in length choosing from a wide range of styles and media, including traditional instruments, voices and/or music technology, and reflect on their understanding of the intention, process and outcome of the pieces.

In the performing component, students must submit a programme of contrasting pieces in any style of music that is 20 minutes in length.

Assessment criteria are used to assess students' achievement in music. These criteria are related to the assessment objectives established for the music course and to the group 6 grade descriptors.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			**50**
Listening paper	Five musical perception questions	2.5	30
Musical links investigation	A written media script of 2,000 words or less, investigating the significant musical links between two or more pieces from distinct musical cultures		20
Internal			**50**
Creating and performing	**Creating:** three pieces of coursework with recordings and written work		25
	Solo performing: A recording selected from pieces presented during one or more public performances		25

IV. Sample questions

The following questions appeared in previous IB Diploma Programme music higher level examinations.*

Listening paper section A
Sample: *Symphony No 41 in C Major, K. 551 "Jupiter"* by W A Mozart and *El Salón México* by A Copland
Through the link of thematic development, compare Copland's *El Salón México* to any one movement (with exception of the fourth movement) of Mozart's *"Jupiter" Symphony.*

Listening paper section B
Sample: *First movement* from *Symphony No 1, Op 25 "Classical"* by S Prokofiev (score provided)
With clear reference to the score provided, analyse, examine and discuss in detail what you hear in this extract.

Sample: Unidentified Piece (no score provided)
Analyse, examine and discuss in detail what you hear in this extract.

* the syllabus for examinations current until 2019

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IB music standard level subject brief

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The IB Diploma Programme, for students aged 16 to 19, is an academically challenging and balanced programme of education that prepares students for success at university and life beyond. Students take courses in six different subject groups, maintaining both breadth and depth of study. Music standard level is in group 6, the arts. In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

About the IB: For over 40 years the IB has built a reputation for high-quality, challenging programmes of education that develop internationally minded young people who are well prepared for the challenges of life in the 21st century and able to contribute to creating a better, more peaceful world.

The IB subject briefs illustrate four key course components in the IB Diploma Programme.

Overview of the music standard level course and curriculum model

I. Course description and aims

The IB Diploma Programme standard level music course seeks to develop students' knowledge and potential as musicians, both personally and collaboratively. IB Diploma Programme music students are required to study musical perception and actively listen to a wide range of music from different parts of the world, musical cultures and time periods. They also develop aural perception and understanding of music by learning about musical elements, including form and structure, notations, musical terminology and context. Through the course of study, students become aware of how musicians work and communicate. In addition, the course enables students to:

- enjoy lifelong engagement with the arts
- become informed, reflective and critical practitioners in the arts
- understand the dynamic and changing nature of the arts
- explore and value the diversity of the arts across time, place and cultures
- express ideas with confidence and competence
- develop perceptual and analytical skills
- develop their knowledge and potential as musicians, both personally and collaboratively.

II. Curriculum model overview

Music standard level

Components		
Core	Musical perception	75 hours
Options	Students choose one of the three options • Creating • Solo performing • Group performing	75 hours
Total teaching hours		**150 hours**

III. Assessment model

Assessment for music standard level

The IB assesses student work as direct evidence of achievement against the stated goals of the Diploma Programme courses, which are to provide students with:

- a broad and balanced, yet academically demanding, programme of study
- the development of critical-thinking and reflective skills
- the development of research skills
- the development of independent learning skills
- the development of intercultural understanding
- a globally recognized university entrance qualification.

The assessments aim to test all students' knowledge and understanding of key concepts through various activities that demonstrate:

- knowledge, understanding and perception of music in relation to time, place and cultures
- appropriate musical terminology to describe and reflect their critical understanding of music
- comparative analysis of music in relation to time, place and cultures.
- creative skills through exploration, control and development of musical elements
- performance skills through solo or group music making
- critical-thinking skills through reflective thought.

Students' success in the music standard level course is measured by combining their grades on external and internal assessment.

Assessment for music standard level (continued)

Throughout the teaching of the course students should be encouraged to develop critical thinking and participate in inquiry-based learning, while working both individually and collaboratively.

The listening paper is based on musical perception, reflected through analysis and examination of pieces of music. Section A relates to two prescribed works, of which students study one. Section B relates to music from different times and places, encompassing jazz/pop, western art music and world music.

In the musical links investigation, through the study of pieces from two distinct musical cultures, students are encouraged to explore, analyse and examine the musical connections existing between two (or more) pieces of music. Through investigative study and analysis of the similarities and differences between the selected pieces of music, students learn to demonstrate significant musical links.

For the creating option, students create two 3- to 6-minute pieces, choosing from a wide range of styles and media, including traditional instruments, voices and/or music technology, and reflect on their understanding of the intention, process and outcome of the pieces

For the solo performing option, students must submit a programme of contrasting pieces in any style of music that is 15 minutes in length.

For the group performing option, a submission is made for students in the group of pieces selected from two or more public performances that is 20–30 minutes in length.

Assessment criteria are used to assess students' achievement in music. These criteria are related to the assessment objectives established for the music course and to the group 6 grade descriptors.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			**50**
Listening Paper	Four musical perception questions	2	30
Musical links investigation	A written media script of 2,000 words or less, investigating the significant musical links between two or more pieces from distinct musical cultures		20
Internal			**50**
Creating or performing	Students choose one of the three options. **Creating:** Two pieces of coursework with recordings and written work **Solo performing:** A recording selected from pieces presented during one or more public performances **Group performing:** A recording selected from pieces presented during two or more public performances		

IV. Sample questions

The following questions appeared in previous IB Diploma Programme music standard level examinations.*

Listening paper section A

Sample: *El Salón México* by A Copland

Demonstrate the rhythmic sophistication found in Copland's *El Salón México* by discussing **at least four** elements/features in the passage between rehearsal numbers 11–27 (bar/measure 103–267).

* the syllabus for examinations current until 2019

Listening paper section B

Sample: *First movement* from *Symphony No 1, Op 25 "Classical"* by S Prokofiev (score provided)

With clear reference to the score provided, analyse, examine and discuss in detail what you hear in this extract.

Sample: Unidentified Piece (no score provided)

Analyse, examine and discuss in detail what you hear in this extract.

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International Baccalaureate Diploma Programme Subject Brief

The Arts: Film

First assessments 2019

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints. Approaches to teaching and learning (ATL) are deliberate strategies, skills and attitudes that permeate the teaching and learning environment. In the DP students develop skills from five ATL categories: thinking, research, social, self-management and communication.

To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, activity, service—
are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate the following key course components
I. Course description and aims
II. Curriculum model overview
III. Assessment model

I. Course description and aims

The DP film course aims to develop students as proficient interpreters and makers of film texts. Through the study and analysis of film texts, and practical exercises in film production, students develop critical abilities and appreciation of artistic, cultural, historical and global perspectives in film. They examine concepts, theories, practices and ideas from multiple perspectives, challenging their own views to understand and value those of others. Students are challenged to acquire and develop critical thinking, reflective analysis and the imaginative synthesis through practical engagement in the art, craft and study of film.

Students experiment with film and multimedia technology, acquiring the skills and creative competencies required to successfully communicate through the language of the medium. They develop an artistic voice and learn how to express personal perspectives through film. The course emphasizes the importance of working collaboratively, international and intercultural dynamics, and an appreciation of the development of film across time and culture.

The film syllabus allows for greater breadth and depth in teaching and learning at HL through an additional assessment task, requiring HL students to reflect on the core syllabus areas to formulate their own intentions for a completed film. They work collaboratively as a core production team in order to effectively communicate on screen.

The aims of the Film course are to enable students to:

- explore the various contexts of film and make links to, and between, films, filmmakers and filmmaking techniques **(inquiry)**
- acquire and apply skills as discerning interpreters of film and as creators of film, working both individually and collaboratively **(action)**
- develop evaluative and critical perspectives on their own film work and the work of others **(reflection)**.

II. Curriculum model overview

Syllabus component	Teaching hours	
	SL	HL
Reading film Examine film as an art form, studying a broad range of film texts from a variety of **cultural contexts** and analysing how **film elements** combine to create meaning.	45	45
Contextualizing film Explore the evolution of film across time and culture. Examine various areas of **film focus** in order to recognize the similarities and differences that exist between films from contrasting **cultural contexts**.	45	45
Exploring film production roles Explore various **film production roles** through engagement with all phases of the filmmaking process. Acquire, develop and apply skills through filmmaking exercises, experiments and completed films.	60	60
HL only: Collaboratively producing film Focus on the collaborative aspects of filmmaking and experience working in **core production teams** to fulfill shared artistic intentions. Work in chosen **film production roles** and contribute to all phases of the filmmaking process to collaboratively create original completed films.		90
Total teaching hours	150	240

III. Assessment model

It is expected that by the end of the film course, students at SL or HL will be able to demonstrate the following.

1. Knowledge and understanding of specified contexts and processes

- Identify the film elements associated with conveying meaning in a variety of film texts.
- Formulate personal intentions for work, which arise from both research and artistic endeavour.
- Identify informative moments and examples from their own filmmaking work to support analysis.
- Present ideas, discoveries and learning that arise from both research and practical engagement with films, filmmakers and techniques.

2. Application and analysis of knowledge and understanding

- Analyse film from various cultural contexts and explain links between areas of film focus and film elements employed by filmmakers.
- Demonstrate knowledge and understanding of films, filmmakers and their various cultural contexts in order to influence, inform and impact the creation of film work.
- Explore and experiment with a variety of film-production roles in order to understand the associated skills, techniques and processes employed by filmmakers.

3. Synthesis and evaluation

- Critically interpret various sources of information in order to support analysis.
- Compare and contrast filmmakers, their films and their various cultural contexts in order to further the understanding of particular areas of film focus.
- Evaluate films created by themselves and others and articulate an informed personal response using appropriate cinematic language and vocabulary.
- Reflect on the process of collaboration and on the successes and challenges encountered as a member of a core production team.

4. Select, use and apply a variety of appropriate skills and techniques

- Make appropriate choices in the selection of words, images, sounds and techniques when assembling their own work for presentation.
- Experiment in a variety of film-production roles in order to produce film work that conveys meaning on screen.
- Collaborate effectively with others in the creation of film work.

Assessment at a glance

Type of assessment	Format of assessment	Weighting of final grade (%)	
		SL	HL
External		60	40
Textual analysis	Textual analysis (max 1,750 words) of a prescribed film text based on a chosen extract (max 5 mins), and list of sources.	30	20
Comparative study	Recorded multimedia comparative study (max 10 mins), and list of sources.	30	20
Internal		40	60
Film portfolio	Portfolio pages (max 9 pages: 3 pages per production role) and list of sources. A film reel (max 9 mins: 3 mins per production role, including 1 completed film).	40	25
Collaborative film project (HL only)	Completed film (max 7 mins). Project report (max 2,000 words) and list of sources.		35

About the IB: For nearly 50 years, the IB has built a reputation for high-quality, challenging programmes of education that develop internationally minded young people who are well prepared for the challenges of life in the 21st century and are able to contribute to creating a better, more peaceful world.

For further information on the IB Diploma Programme, and a complete list of DP subject briefs, visit: ***http://www.ibo.org/diploma/.***

Complete subject guides can be accessed through the IB online curriculum centre (OCC) or purchased through the IB store: ***http://store.ibo.org.***

For more on how the DP prepares students for success at university, visit: ***www.ibo.org/recognition or email: recognition@ibo.org.***

International Baccalaureate Diploma Programme Subject Brief

The arts:

Theatre—Higher level

First assessments 2016 – Last assessments 2022

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints. Approaches to teaching and learning (ATL) within the DP are deliberate strategies, skills and attitudes that permeate the teaching and learning environment. Students develop skills from five ATL categories: thinking, research, social, self-management and communication.

To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate three key course components.
I. Course description and aims II. Curriculum model overview III. Assessment model

I. Course description and aims

Theatre is a practical subject that encourages discovery through experimentation, risk-taking and the presentation of ideas. The IB DP theatre course is multifaceted and gives students the opportunity to actively engage in theatre as creators, designers, directors and performers. It emphasizes working both individually and collaboratively as part of an ensemble. The teacher's role is to create opportunities that allow students to explore, learn, discover and collaborate to become autonomous, informed and skilled theatre-makers.

Students learn to apply research and theory to inform and to contextualize their work. Through researching, creating, preparing, presenting and critically reflecting on theatre, they gain a richer understanding of themselves, their community and the world. Students experience the course from contrasting artistic and cultural perspectives. They learn about theatre from around the world, the importance of making theatre with integrity, and the impact that theatre can have on the world. It enables them to discover and engage with different forms of theatre across time, place and culture, promoting international-mindedness and an appreciation of the diversity of theatre.

The aims of all DP arts subjects are to enable students to:

1. enjoy lifelong engagement with the arts
2. become informed, reflective and critical practitioners in the arts
3. understand the dynamic and changing nature of the arts
4. explore and value the diversity of the arts across time, place and cultures
5. express ideas with confidence and competence
6. develop perceptual and analytical skills

In addition, the aims of the HL theatre course are to enable students to:

7. explore theatre in a variety of contexts and understand how these contexts inform practice (theatre in context)
8. understand and engage in the processes of transforming ideas into action (theatre processes)
9. develop and apply theatre production, presentation and performance skills, working both independently and collaboratively (presenting theatre)
10. understand and appreciate the relationship between theory and practice (theatre in context, theatre processes, presenting theatre).

II. Curriculum model overview

Component	Recommended teaching hours
Theatre in context • Research and examine the various contexts of: o at least one theatre theorist o at least one published play text and reflect on live theatre o at least one world theatre tradition. • Reflect on personal approaches, interests and skills in theatre. Research and examine at least one starting point and the approaches employed by an appropriate professional theatre company, and consider how this might influence personal approaches.	**80**

Theatre processes • Explore at least one theorist and collaboratively engage in creating theatre based on their theory. • Take part in the practical exploration of at least two contrasting published play texts and engage with the process of transforming a play text into action. • Practically examine the performance conventions of at least one world theatre tradition and apply this to the staging of a moment of theatre. • Respond to at least one starting point and engage with the process of transforming it collaboratively into an original piece of theatre.	**80**
Presenting theatre • Create, present and evaluate at least one theatre piece based on an aspect of a theatre theorist's work. • Direct and present at least one scene or section from one published play text. • Present a moment of theatre which demonstrates the performance convention(s) of at least one world theatre tradition. • Participate in at least one production of a collaboratively created piece of original theatre, created from a starting point, which is presented to others.	**80**

From the beginning of the course, and at regular intervals, students are required to maintain a theatre journal. Although elements of the journal may be selected, adapted and presented for assessment, the journal itself is not directly assessed or moderated. It is, however, regarded as a fundamental activity of the course.

III. Assessment model

Having followed the theatre course students are expected to:

1. Demonstrate knowledge and understanding of specified content
   - Describe the relationship between theatre and its contexts
   - Identify appropriate and valuable information from research for different specialist theatre roles
   - Present ideas, discoveries and learning, gained through research and practical exploration to others
2. Demonstrate application and analysis of knowledge and understanding
   - Explain the relationship and significance of the integration of production, performance and research elements
   - Explore and demonstrate different ways through which ideas can be presented and transformed into action
   - Explain what has informed, influenced and had impact on their work
3. Demonstrate synthesis and evaluation
   - Evaluate their work and the work of others
   - Discuss and justify choices
   - Examine the impact their work has had on others
4. Select, use and apply a variety of appropriate skills and techniques
   - Demonstrate appropriate skills and techniques in the creation and presentation of theatre in different specialist theatre roles
   - Demonstrate organization of material including use and attribution of sources
   - Demonstrate the ability to select, edit and present work appropriately

Assessment at a glance

Type of assessment	Format of assessment	Weighting of final grade (%)
External		75
Solo theatre piece	Create and present a solo theatre piece (4–8 minutes) based on an aspect(s) of theatre theory.	35
Director's notebook	Develop ideas regarding how a play text could be staged for an audience.	20
Research presentation	Deliver an individual presentation (15 minutes maximum) that outlines and physically demonstrates research into a convention of a theatre tradition.	20
Internal		25
Collaborative project	Collaboratively create and present an original piece of theatre (lasting 13–15 minutes) for and to a specified target audience.	25

The theatre course is structured for the assessment tasks to be ongoing with skills being developed throughout the course and the material for assessment developed throughout the latter part of the course.

International Baccalaureate Diploma Programme Subject Brief

The arts:

Theatre—Standard level

First assessments 2016 – Last assessments 2022

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints. Approaches to teaching and learning (ATL) within the DP are deliberate strategies, skills and attitudes that permeate the teaching and learning environment. In the DP students develop skills from five ATL categories: thinking, research, social, self-management and communication.

To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or a second subject from groups 1 to 5. At least three and not more than four subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.

These IB DP subject briefs illustrate three key course components.
I. Course description and aims II. Curriculum model overview III. Assessment model

I. Course description and aims

Theatre is a practical subject that encourages discovery through experimentation, risk-taking and the presentation of ideas. The IB DP theatre course is multifaceted and gives students the opportunity to actively engage in theatre as creators, designers, directors and performers. It emphasizes working both individually and collaboratively as part of an ensemble. The teacher's role is to create opportunities that allow students to explore, learn, discover and collaborate to become autonomous, informed and skilled theatre-makers.

Students learn to apply research and theory to inform and to contextualize their work. Through researching, creating, preparing, presenting and critically reflecting on theatre, they gain a richer understanding of themselves, their community and the world. Students experience the course from contrasting artistic and cultural perspectives. They learn about theatre from around the world, the importance of making theatre with integrity, and the impact that theatre can have on the world. It enables them to discover and engage with different forms of theatre across time, place and culture, promoting international-mindedness and an appreciation of the diversity of theatre.

The aims of all DP arts subjects are to enable students to:

1. enjoy lifelong engagement with the arts
2. become informed, reflective and critical practitioners in the arts
3. understand the dynamic and changing nature of the arts
4. explore and value the diversity of the arts across time, place and cultures
5. express ideas with confidence and competence
6. develop perceptual and analytical skills.

In addition, the aims of the SL theatre course are to enable students to:

7. explore theatre in a variety of contexts and understand how these contexts inform practice (theatre in context)
8. understand and engage in the processes of transforming ideas into action (theatre processes)
9. develop and apply theatre production, presentation and performance skills, working both independently and collaboratively (presenting theatre)

II. Curriculum model overview

Component	Recommended teaching hours
Theatre in context • Research and examine the various contexts of at least one published play text and reflect on live theatre. • Research and examine the various contexts of at least one world theatre tradition. • Reflect on personal approaches, interests and skills in theatre. Research and examine at least one starting point and the approaches employed by one appropriate professional theatre company, and consider how this might influence personal approaches.	**50**

Theatre processes • Take part in the practical exploration of at least two contrasting published play texts and engage with the process of transforming a play text into action. • Practically examine the performance conventions of at least one world theatre tradition and apply this to the staging of a moment of theatre. • Respond to at least one starting point and engage with the process of transforming it collaboratively into an original piece of theatre.	**50**
Presenting theatre • Direct at least one scene or section from one published play text which is presented to others. • Present a moment of theatre to others which demonstrates the performance convention(s) of at least one world theatre tradition. • Participate in at least one production of a collaboratively created piece of original theatre, created from a starting point, which is presented to others.	**50**

From the beginning of the course, and at regular intervals, students are required to maintain a theatre journal. Although elements of the journal may be selected, adapted and presented for assessment, the journal itself is not directly assessed or moderated. It is, however, regarded as a fundamental activity of the course.

III. Assessment model

Having followed the theatre course students are expected to:

1. Demonstrate knowledge and understanding of specified content
   - Describe the relationship between theatre and its contexts
   - Identify appropriate and valuable information from research for different specialist theatre roles
   - Present ideas, discoveries and learning, gained through research and practical exploration to others
2. Demonstrate application and analysis of knowledge and understanding
   - Explain the relationship and significance of the integration of production, performance and research elements
   - Explore and demonstrate different ways through which ideas can be presented and transformed into action
   - Explain what has informed, influenced and had impact on their work
3. Demonstrate synthesis and evaluation
   - Evaluate their work and the work of others
   - Discuss and justify choices
   - Examine the impact their work has had on others
4. Select, use and apply a variety of appropriate skills and techniques
   - Demonstrate appropriate skills and techniques in the creation and presentation of theatre in different specialist theatre roles
   - Demonstrate organization of material including use and attribution of sources
   - Demonstrate the ability to select, edit and present work appropriately

Assessment at a glance

Type of assessment	Format of assessment	Weighting of final grade (%)
External		65
Director's notebook	Develop ideas regarding how a play text could be staged for an audience.	35
Research presentation	Deliver an individual presentation (15 minutes maximum) that outlines and physically demonstrates research into a convention of a theatre tradition.	30
Internal		35
Collaborative project	Collaboratively create and present an original piece of theatre (lasting 13–15 minutes) for and to a specified target audience.	35

The theatre course is structured for the assessment tasks to be ongoing with skills being developed throughout the course and the material for assessment developed throughout the latter part of the course.

Notes

Notes

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