

International Baccalaureate Diploma Programme Subject Brief

Language A: literature

First assessments for SL and HL—2021

The Diploma Programme (DP) is a rigorous pre-university course of study designed for students in the 16 to 19 age range. It is a broad-based two-year course that aims to encourage students to be knowledgeable and inquiring, but also caring and compassionate. There is a strong emphasis on encouraging students to develop intercultural understanding, open-mindedness, and the attitudes necessary for them to respect and evaluate a range of points of view.

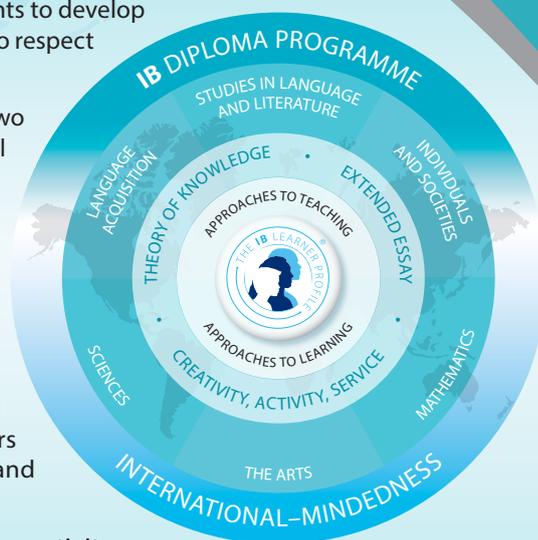
The course is presented as six academic areas enclosing a central core. Students study two modern languages (or a modern language and a classical language), a humanities or social science subject, an experimental science, mathematics and one of the creative arts. Instead of an arts subject, students can choose two subjects from another area. It is this comprehensive range of subjects that makes the Diploma Programme a demanding course of study designed to prepare students effectively for university entrance. In each of the academic areas students have flexibility in making their choices, which means they can choose subjects that particularly interest them and that they may wish to study further at university.

Normally, three subjects (and not more than four) are taken at higher level (HL), and the others are taken at standard level (SL). The IB recommends 240 teaching hours for HL subjects and 150 hours for SL. Subjects at HL are studied in greater depth and breadth than at SL.

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.

This IB DP subject brief has three key components:

- I. Course description and aims
- II. Curriculum model overview
- III. Assessment model



I. Course description and aims

The language A: literature aims at exploring the various manifestations of literature as a particularly powerful mode of writing across cultures and throughout history. The course aims at developing an understanding of factors that contribute to the production and reception of literature—the creativity of writers and readers, the nature of their interaction with their respective contexts and with literary tradition, the ways in which language can give rise to meaning and/or effect, and the performative and transformative potential of literary creation and response. Through close analysis of a range of literary texts in a number of literary forms and from different times and places, students will consider their own interpretations as well as the critical perspectives of others, to explore how such positions are shaped by cultural belief systems and to negotiate meanings for texts.

The aims of studies in language and literature courses are to enable students to:

- engage with a range of texts, in a variety of media and forms, from different periods, styles and cultures
- develop skills in listening, speaking, reading, writing, viewing, presenting and performing
- develop skills in interpretation, analysis and evaluation
- develop sensitivity to the formal and aesthetic qualities of texts and an appreciation of how they contribute to diverse responses and open up multiple meanings

- develop an understanding of relationships between texts and a variety of perspectives, cultural contexts, and local and global issues, and an appreciation of how they contribute to diverse responses and open up multiple meanings
- develop an understanding of the relationships between studies in language and literature and other disciplines
- communicate and collaborate in a confident and creative way
- foster a lifelong interest in and enjoyment of language and literature.

II. Curriculum model overview

Syllabus component	Recommended teaching hours	
	SL	HL
Readers, writers and texts	50	80
Time and space	50	80
Intertextuality: connecting texts	50	80
Total teaching hours	150	240

III. Assessment model

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

1. Know, understand and interpret:
 - a range of texts, works and/or performances, and their meanings and implications
 - contexts in which texts are written and/or received
 - elements of literary, stylistic, rhetorical, visual and/or performance craft
 - features of particular text types and literary forms.
2. Analyse and evaluate:
 - ways in which the use of language creates meaning
 - uses and effects of literary, stylistic, rhetorical, visual or theatrical techniques
 - relationships among different texts
 - ways in which texts may offer perspectives on human concerns.
3. Communicate:
 - ideas in clear, logical and persuasive ways
 - in a range of styles, registers and for a variety of purposes and situations
 - (for literature and performance only) ideas, emotion, character and atmosphere through performance.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)		Weighting of final grade (%)	
		SL	HL	SL	HL
External					
Paper 1: Guided literary analysis	Guided analysis of unseen literary passage/ passages from different text types.	1.25	2.25	35	35
Paper 2: Comparative essay	Comparative essay based on two literary works written in response to a choice of one out of four questions.	1.75	1.75	35	25
HL essay	Written coursework component: 1,200–1,500 word essay on one work studied.				20
Internal					
Individual oral	Prepared oral response on the way that one work originally written in the language studied and one work studied in translation have approached a common global issue.			30	20

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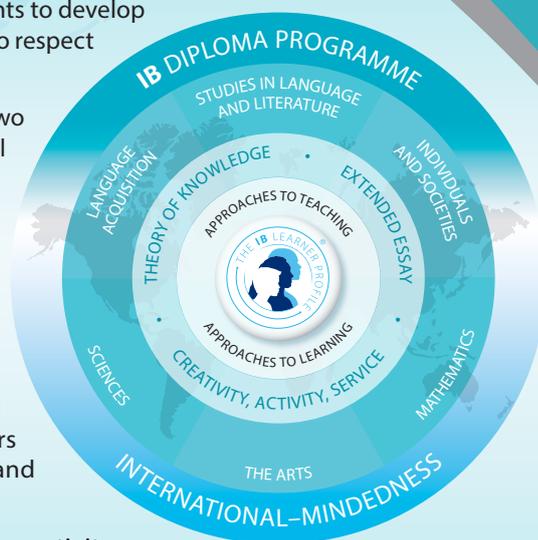
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I. Course description and aims

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International Baccalaureate Diploma Programme Subject Brief

Language ab initio

First assessment 2020

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I. Course description and aims

II. Curriculum model overview

III. Assessment model

IV. Content outline



I. Course description and aims

Language acquisition consists of two modern language courses—language ab initio and language B—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.

Offered at SL only, language ab initio is a language acquisition course designed for students with no previous experience in—or very little exposure to—the target language.

Language ab initio students develop their receptive, productive and interactive skills while learning to communicate in the target language in familiar and unfamiliar contexts.

Students develop the ability to communicate through the study of language, themes and texts. There are five prescribed themes: identities, experiences, human ingenuity, social organization and sharing the planet. While the themes are common to both language ab initio and language B, the language ab initio syllabus additionally prescribes four topics for each of the five themes, for a total of 20 topics that must be addressed over the two years of the course.

The following language acquisition aims are common to both language ab initio and language B.

- Develop international-mindedness through the study of languages, cultures, and ideas and issues of global significance.
- Enable students to communicate in 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 a variety of perspectives of people from diverse cultures.
- Develop students' understanding of the relationship between the languages and cultures with which they are familiar.
- Develop students' awareness of the importance of language in relation to other areas of knowledge.
- Provide students, through language learning and the process of inquiry, with opportunities for intellectual engagement and the development of critical- and creative-thinking skills.
- Provide students with a basis for further study, work and leisure through the use of an additional language.
- Foster curiosity, creativity and a lifelong enjoyment of language learning.

II. Curriculum model overview

The curriculum is organized around five prescribed themes and 20 prescribed topics with which the students engage through written, audio, visual and audio-visual texts.

Students develop into successful, effective communicators by considering the conceptual understandings of context, audience, purpose, meaning and variation.

Communication is evidenced through receptive, productive and interactive skills.

III. Assessment model

The language acquisition assessment objectives are common to both language ab initio and language B.

- Communicate clearly and effectively in a range of contexts and for a variety of purposes.
- Understand and use language appropriate to a range of interpersonal and/or intercultural contexts and audiences.
- Understand and use language to express and respond to a range of ideas with fluency and accuracy.
- Identify, organize and present ideas on a range of topics.
- Understand, analyse and reflect upon a range of written, audio, visual and audio-visual texts.

Assessment at a glance

Language ab initio SL assessment outline		Weighting
External 75%	Paper 1 (productive skills) Two written tasks—each from a choice of three Writing—30 marks	25%
	Paper 2 (receptive skills) Separate sections for listening and reading Listening—25 marks Reading—40 marks	25% 25%
Internal 25%	Individual oral assessment 30 marks	25%

For the individual oral internal assessment, the stimulus at language ab initio SL is a visual image that is clearly relevant to one (or more) of the themes of the course.

IV. Content outline

Theme	Guiding principle	Prescribed topics	Possible questions
Identities	Explore the nature of the self and how we express who we are.	<ul style="list-style-type: none"> • Personal attributes • Personal relationships • Eating and drinking • Physical well-being 	<ul style="list-style-type: none"> • How do I present myself to others? • How do I express my identity? • How do I achieve a balanced and healthy lifestyle?
Experiences	Explore and tell the stories of the events, experiences and journeys that shape our lives.	<ul style="list-style-type: none"> • Daily routine • Leisure • Holidays • Festivals and celebrations 	<ul style="list-style-type: none"> • How does travel broaden our horizons? • How would my life be different if I lived in another culture? • What are the challenges of being a teenager? • How are customs and traditions similar or different across cultures?
Human ingenuity	Explore the ways in which human creativity and innovation affect our world.	<ul style="list-style-type: none"> • Transport • Entertainment • Media • Technology 	<ul style="list-style-type: none"> • How do science and technology affect my life? • How do I use media in my daily life? • What can I learn about a culture through entertainment?
Social organization	Explore the ways in which groups of people organize themselves, or are organized, through common systems or interests.	<ul style="list-style-type: none"> • Neighbourhood • Education • The workplace • Social issues 	<ul style="list-style-type: none"> • What purpose do rules and regulations have in society? • What is my role in society? • What options do I have in the world of work?
Sharing the planet	Explore the challenges and opportunities faced by individuals and communities in the modern world.	<ul style="list-style-type: none"> • Climate • Physical geography • The environment • Global issues 	<ul style="list-style-type: none"> • What can I do to help the environment? • How do my surroundings affect the way I live? • What can I do to make the world a better place?

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International Baccalaureate Diploma Programme Subject Brief

Language B

First assessment 2020

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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.

This IB DP subject brief has four key components:

I. Course description and aims

II. Curriculum model overview

III. Assessment model

IV. Content outline



I. Course description and aims

Language acquisition consists of two modern language courses—language ab initio and language B—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.

Language B is a language acquisition course designed for students with some previous experience of the target language. Students further develop their ability to communicate through the study of language, themes and texts. There are five prescribed themes: identities, experiences, human ingenuity, social organization and sharing the planet.

Both language B SL and HL students learn to communicate in the target language in familiar and unfamiliar contexts. The distinction between language B SL and HL can be seen in the level of competency the student is expected to develop in receptive, productive and interactive skills.

At HL the study of two literary works originally written in the target language is required and students are expected to extend the range and complexity of the language they use and understand in order to communicate. Students continue to develop their knowledge of

vocabulary and grammar, as well as their conceptual understanding of how language works, in order to construct, analyse and evaluate arguments on a variety of topics relating to course content and the target language culture(s).

The following language acquisition aims are common to both language ab initio and language B.

- Develop international-mindedness through the study of languages, cultures, and ideas and issues of global significance.
- Enable students to communicate in 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 a variety of perspectives of people from diverse cultures.
- Develop students' understanding of the relationship between the languages and cultures with which they are familiar.
- Develop students' awareness of the importance of language in relation to other areas of knowledge.
- Provide students, through language learning and the process of inquiry, with opportunities for intellectual engagement and the development of critical- and creative-thinking skills.

- Provide students with a basis for further study, work and leisure through the use of an additional language.
- Foster curiosity, creativity and a lifelong enjoyment of language learning.

II. Curriculum model overview

The curriculum is organized around five prescribed themes with which the students engage through written, audio, visual and audio-visual texts.

Students develop into successful, effective communicators by considering the conceptual understandings of context, audience, purpose, meaning and variation.

Communication is evidenced through receptive, productive and interactive skills.

III. Assessment model

The language acquisition assessment objectives are common to both language ab initio and language B.

- Communicate clearly and effectively in a range of contexts and for a variety of purposes.
- Understand and use language appropriate to a range of interpersonal and/or intercultural contexts and audiences.
- Understand and use language to express and respond to a range of ideas with fluency and accuracy.
- Identify, organize and present ideas on a range of topics.
- Understand, analyse and reflect upon a range of written, audio, visual and audio-visual texts.

Assessment at a glance

Language B SL and HL assessment outline		Weighting
External 75%	Paper 1 (productive skills) One writing task from a choice of three Writing—30 marks	25%
	Paper 2 (receptive skills) Separate sections for listening and reading Listening—25 marks Reading—40 marks	25% 25%
Internal 25%	Individual oral assessment 30 marks	25%

The assessment outlines for language B SL and HL are identical; it is the nature of the assessment that differs and this is what distinguishes SL assessments from those of HL.

For language B HL paper 1, the tasks set will require more complex language and structures and demand higher-order thinking skills. Additionally for HL, a higher word range has been provided in order to accommodate the more complex responses required.

For the individual oral internal assessment, the stimulus at language B SL is a visual image that is clearly relevant to one (or more) of the themes of the course. The stimulus at language B HL is an excerpt from one of the two literary works studied.

IV. Content outline

Theme	Guiding principle	Optional recommended topics		Possible questions
Identities	Explore the nature of the self and what it is to be human.	<ul style="list-style-type: none"> • Lifestyles • Health and well-being • Beliefs and values 	<ul style="list-style-type: none"> • Subcultures • Language and identity 	<ul style="list-style-type: none"> • What constitutes an identity? • How do language and culture contribute to form our identity?
Experiences	Explore and tell the stories of the events, experiences and journeys that shape our lives.	<ul style="list-style-type: none"> • Leisure activities • Holidays and travel • Life stories 	<ul style="list-style-type: none"> • Rites of passage • Customs and traditions • Migration 	<ul style="list-style-type: none"> • How does our past shape our present and our future? • How and why do different cultures mark important moments in life?
Human ingenuity	Explore the ways in which human creativity and innovation affect our world.	<ul style="list-style-type: none"> • Entertainment • Artistic expressions • Communication and media 	<ul style="list-style-type: none"> • Technology • Scientific innovation 	<ul style="list-style-type: none"> • What can we learn about a culture through its artistic expression? • How do the media change the way we relate to each other?
Social organization	Explore the ways in which groups of people organize themselves, or are organized, through common systems or interests.	<ul style="list-style-type: none"> • Social relationships • Community • Social engagement 	<ul style="list-style-type: none"> • Education • The working world • Law and order 	<ul style="list-style-type: none"> • What is the individual's role in the community? • What role do rules and regulations play in the formation of a society?
Sharing the planet	Explore the challenges and opportunities faced by individuals and communities in the modern world.	<ul style="list-style-type: none"> • The environment • Human rights • Peace and conflict • Equality 	<ul style="list-style-type: none"> • Globalization • Ethics • Urban and rural environment 	<ul style="list-style-type: none"> • What environmental and social issues present challenges to the world, and how can these challenges be overcome? • What challenges and benefits does globalization bring?

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International Baccalaureate Diploma Programme Subject Brief

Individuals and societies: History—higher level

First assessments 2017

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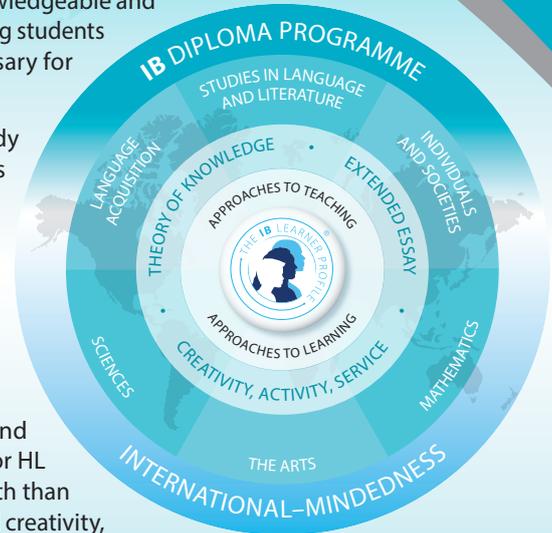
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- IV. Sample questions



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 re-search 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 <i>One of the following, using two case studies, each taken from a different region of the world:</i> <ol style="list-style-type: none"> 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 <i>Two of the following, using topic examples from more than one region of the world:</i> <ol style="list-style-type: none"> Society and economy (750–1400) Causes and effects of wars (750–1500) Dynasties and rulers (750–1500) Societies in transition (1400–1700) Early Modern states (1450–1789) Causes and effects of Early Modern wars (1500–1750) Origins, development and impact of industrialization (1750–2005) Independence movements (1800–2000) Emergence and development of democratic states (1848–2000) Authoritarian states (20th century) Causes and effects of 20th-century wars The Cold War: Superpower tensions and rivalries (20th century) 	90
HL options: Depth studies <i>One of the following:</i> <ol style="list-style-type: none"> History of Africa and the Middle East History of the Americas History of Asia and Oceania 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.

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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.

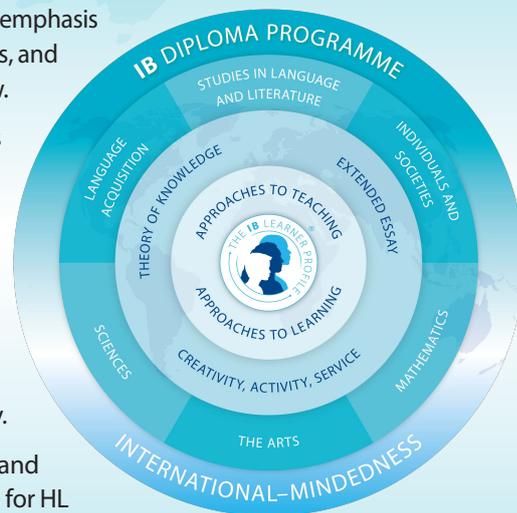
Individuals and societies: Philosophy SL and HL

First assessment 2025

The Diploma Programme (DP) is a rigorous pre-university course of study designed for students in the 16 to 19 age range. It is a broad-based two-year course that aims to encourage students to be knowledgeable and inquiring, but also caring and compassionate. There is a strong emphasis on encouraging students to develop intercultural understanding, open-mindedness, and the attitudes necessary for them to respect and evaluate a range of points of view.

The course is presented as six academic areas enclosing a central core. Students study two modern languages (or a modern language and a classical language), a humanities or social science subject, an experimental science, mathematics and one of the creative arts. Instead of an arts subject, students can choose two subjects from another area. It is this comprehensive range of subjects that makes the Diploma Programme a demanding course of study designed to prepare students effectively for university entrance. In each of the academic areas students have flexibility in making their choices, which means they can choose subjects that particularly interest them and that they may wish to study further at university.

Normally, three subjects (and not more than four) are taken at higher level (HL), and the others are taken at standard level (SL). The IB recommends 240 teaching hours for HL subjects and 150 hours for SL. Subjects at HL are studied in greater depth and breadth than at SL. 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.



I. Course description and aims

The DP philosophy course provides students with an opportunity to undertake systematic critical inquiry into profound and challenging questions, such as: What does it mean to be human? What is the relationship between justice, freedom and equality? What do we mean when we say something is right or wrong? These abstract questions arise out of our everyday experiences, and the practice of philosophy deepens and clarifies our understanding of these questions, as well as possible responses.

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

- develop an inquiring and intellectually curious way of thinking
- appreciate the diversity of perspectives, traditions and approaches within philosophical thinking
- critically examine their own experiences and perspectives
- learn from the thinking of others
- articulate their own views, ideas and arguments
- apply their philosophical knowledge and skills to the world around them.

II. Curriculum model overview

The DP philosophy course comprises a shared core syllabus for all SL and HL students, consisting of the study of the core theme “Being human”, one optional theme and one prescribed text, as well as the completion of the internal assessment exercise. In addition, students at HL must study one further optional theme as well as the HL extension topic “Philosophy and contemporary issues”. The recommended teaching hours for each element of the course are summarised below.

Syllabus content	Recommended teaching hours	
	SL	HL
Core theme: Being human The core theme “Being human” is compulsory for all students.	45	45
Optional themes SL students are required to study one theme from the following list. HL students are required to study two themes from the following list. <ol style="list-style-type: none"> 1. Aesthetics 2. Epistemology 3. Ethics 4. Philosophy of religion 5. Philosophy of science 6. Political philosophy 7. Social philosophy 	45	90
Prescribed text Students are required to study one text from the “IB list of prescribed philosophical texts”.	40	40
HL extension The HL extension topic “Philosophy and contemporary issues” is compulsory for all HL students.	-	45
Internal assessment: Philosophical analysis SL and HL students are required to write a philosophical analysis of a non-philosophical stimulus.	20	20

III. Assessment model

There are four assessment objectives for the DP philosophy course.

By the end of the DP philosophy course, students will be expected to achieve the following assessment objectives.

Assessment objective 1: Knowledge and understanding

- Demonstrate knowledge and understanding of philosophical concepts, issues and arguments.
- Identify philosophical issues present in both philosophical and non-philosophical stimuli.
- At **HL only**, demonstrate understanding of the nature, function, meaning and methodology of philosophical activity.

Assessment objective 2: Application and analysis

- Explain and analyse philosophical concepts, issues and arguments.
- Construct and develop clear explanations, making use of relevant supporting examples.
- Analyse the philosophical issues present in both philosophical and non-philosophical stimuli.
- At **HL only**, analyse the nature, function, meaning and methodology of philosophical activity.

Assessment objective 3: Synthesis and evaluation

- Evaluate philosophical concepts, issues and arguments.
- Construct and develop balanced and focused arguments, making use of relevant supporting evidence.
- Discuss points of view and come to reasoned conclusions.
- At **HL only**, evaluate the nature, function, meaning and methodology of philosophical activity.

Assessment objective 4: Use and application of appropriate skills

- 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 (SL)

Component	Description	Time	Weighting (% of final grade)
Paper 1	Extended response paper. (Students answer one stimulus-based question on the core theme and one thematic essay question on an optional theme.)	1 hour 45 minutes	50%
Paper 2	Extended response paper assessing the prescribed text.	1 hour	25%
Internal assessment	2000-word philosophical analysis of a non-philosophical stimulus	20 hours	25%

Assessment at a glance (HL)

Component	Description	Time	Weighting (% of final grade)
Paper 1	Extended response paper. (Students answer one stimulus-based question on the core theme and two thematic essay questions on two optional themes.)	2 hours 30 minutes	40%
Paper 2	Extended response paper assessing the prescribed text.	1 hour	20%
Paper 3	Unseen text paper assessing the HL extension topic. (Students respond to an 800 word unseen philosophical text discussing a contemporary issue.)	1 hour 15 minutes	20%
Internal assessment	2000-word philosophical analysis of a non-philosophical stimulus	20 hours	20%

IV. Sample questions

Paper 1

Evaluate the claim that there is an irresolvable tension between liberty and our obligations to others. (25 marks)

To what extent do you agree that virtue-based approaches fail to provide practical guidance on how we should act? (25 marks)

Paper 2

a. Explain Plato's distinction between knowledge and belief. [10 marks]

b. Discuss the viability of Plato's distinction between knowledge and belief. [15 marks]

a. Explain the view of the state found in the Tao Te Ching. [10 marks]

b. Evaluate the claim that the view of the state found in the Tao Te Ching assumes an overly positive view of human nature. [15 marks]

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International Baccalaureate Diploma Programme Subject Brief

Interdisciplinary course:

Environmental systems and societies—standard level

First assessments 2017—last assessments 2023

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

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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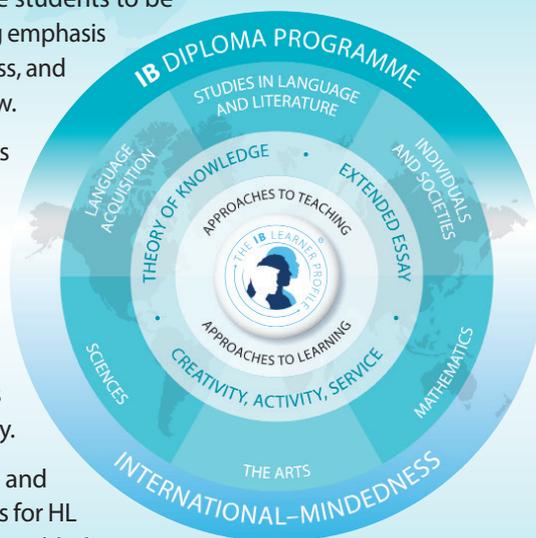
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The course is presented as six academic areas enclosing a central core. Students study two modern languages (or a modern language and a classical language), a humanities or social science subject, an experimental science, mathematics and one of the creative arts. Instead of an arts subject, students can choose two subjects from another area. It is this comprehensive range of subjects that makes the Diploma Programme a demanding course of study designed to prepare students effectively for university entrance. In each of the academic areas students have flexibility in making their choices, which means they can choose subjects that particularly interest them and that they may wish to study further at university.

Normally, three subjects (and not more than four) are taken at higher level (HL), and the others are taken at standard level (SL). The IB recommends 240 teaching hours for HL subjects and 150 hours for SL. Subjects at HL are studied in greater depth and breadth than at SL. 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.



I. Course description and aims

As one of the three natural sciences in the IB Diploma Programme, biology is primarily concerned with the study of life and living systems. Biologists attempt to make sense of the world through a variety of approaches and techniques, controlled experimentation and collaboration between scientists. At a time of global introspection on human activities and their impact on the world around us, developing and communicating a clear understanding of the living world has never been of greater importance than it is today.

Through the study of DP biology, students are empowered to make sense of living systems through unifying themes. By providing opportunities for students to explore conceptual frameworks, they are better able to develop understanding and awareness of the living world around them. This is carried further through a study of interactions at different levels of biological organization, from molecules and cells to ecosystems and the biosphere. Integral to the student experience of the DP biology course is the learning that takes place through scientific inquiry. With an emphasis on experimental work, teachers provide students with opportunities to ask questions, design experiments, collect and analyse data, collaborate with peers, and reflect, evaluate and communicate their findings.

DP biology enables students to constructively engage with topical scientific issues. Students examine scientific knowledge claims in a real-world context, fostering interest and curiosity. By exploring the subject, they develop understandings, skills and techniques which can be applied across their studies and beyond.

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

1. develop conceptual understanding that allows connections to be made between different areas of the subject, and to other DP sciences subjects
2. acquire and apply a body of knowledge, methods, tools and techniques that characterize science
3. develop the ability to analyse, evaluate and synthesize scientific information and claims
4. develop the ability to approach unfamiliar situations with creativity and resilience
5. design and model solutions to local and global problems in a scientific context
6. develop an appreciation of the possibilities and limitations of science
7. develop technology skills in a scientific context
8. develop the ability to communicate and collaborate effectively
9. develop awareness of the ethical, environmental, economic, cultural and social impact of science.

II. Curriculum model overview

The DP biology course promotes concept-based teaching and learning to foster critical thinking.

The DP biology course is built on:

- approaches to learning
- nature of science
- skills in the study of biology.

These three pillars support a broad and balanced experimental programme. As students progress through the course, they become familiar with traditional experimentation techniques, as well as the application of technology. These opportunities help them to develop their investigative skills and evaluate the impact of error and uncertainty in scientific inquiry. The scientific investigation then places a specific emphasis on inquiry-based skills and the formal communication of scientific knowledge. Finally, the collaborative sciences project extends the development of scientific communication in a collaborative and interdisciplinary context, allowing students to work together beyond the confines of biology.

Syllabus component	Recommended teaching hours	
	SL	HL
Syllabus content	110	180
Unity and diversity	19	33
<ul style="list-style-type: none"> • Water • Nucleic acids • Origins of cells * • Cell structure • Viruses * • Diversity of organisms • Classification and cladistics * • Evolution and speciation • Conservation of biodiversity 		

Syllabus component	Recommended teaching hours	
	SL	HL
Form and function <ul style="list-style-type: none"> • Carbohydrates and lipids • Proteins • Membranes and membrane transport • Organelles and compartmentalization • Cell specialization • Gas exchange • Transport • Muscle and motility * • Adaptation to environment • Ecological niches 	26	39
Interaction and interdependence <ul style="list-style-type: none"> • Enzymes and metabolism • Cell respiration • Photosynthesis • Chemical signalling * • Neural signalling • Integration of body systems • Defence against disease • Populations and communities • Transfer of energy and matter 	31	48
Continuity and change <ul style="list-style-type: none"> • DNA replication • Protein synthesis • Mutations and gene editing • Cell and nuclear division • Gene expression * • Water potential • Reproduction • Inheritance • Homeostasis • Natural selection • Sustainability and change • Climate change 	34	60
Experimental programme	40	60
Practical work	20	40
Collaborative sciences project	10	10
Scientific investigation	10	10

* Topics with content that should only be taught to HL students

Skills in the study of biology

The skills and techniques students must experience through the course are encompassed within the tools. These support the application and development of the inquiry process in the delivery of the biology course.

Tools

- Experimental techniques
- Technology
- Mathematics

Inquiry process

- Exploring and designing
- Collecting and processing data
- Concluding and evaluating

Teachers are encouraged to provide opportunities for students to encounter and practise the skills throughout the programme. Rather than being taught as stand-alone topics, these skills should be integrated into the teaching of the syllabus when they are relevant to the syllabus topics being covered.

III. Assessment model

There are four assessment objectives for the DP biology course. Having followed the biology course, students are expected to demonstrate the following assessment objectives.

Assessment objective 1

Demonstrate knowledge of:

- terminology, facts and concepts
- skills, techniques and methodologies.

Assessment objective 2

Understand and apply knowledge of:

- terminology and concepts
- skills, techniques and methodologies.

Assessment objective 3

Analyse, evaluate, and synthesize:

- experimental procedures
- primary and secondary data
- trends, patterns and predictions.

Assessment objective 4

Demonstrate the application of 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
		SL	HL	
External		3	4.5	80
Paper 1	Paper 1A: Multiple-choice questions Paper 1B: Data-based questions (four questions that are syllabus related, addressing all themes)	1.5	2	36
Paper 2	Data-based and short-answer questions Extended-response questions	1.5	2.5	44
Internal		10		20
Scientific investigation	The scientific investigation is an open-ended task in which the student gathers and analyses data in order to answer their own formulated research question. The outcome of the scientific investigation will be assessed through the form of a written report. The maximum overall word count for the report is 3,000 words.	10		20

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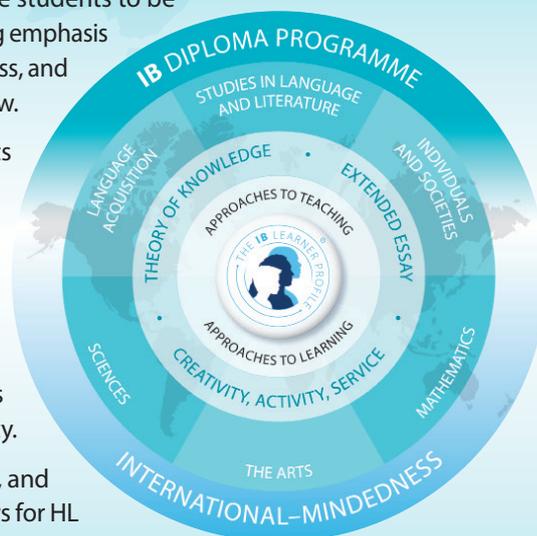
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The course is presented as six academic areas enclosing a central core. Students study two modern languages (or a modern language and a classical language), a humanities or social science subject, an experimental science, mathematics and one of the creative arts. Instead of an arts subject, students can choose two subjects from another area. It is this comprehensive range of subjects that makes the Diploma Programme a demanding course of study designed to prepare students effectively for university entrance. In each of the academic areas students have flexibility in making their choices, which means they can choose subjects that particularly interest them and that they may wish to study further at university.

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I. Course description and aims

As one of the three natural sciences in the IB Diploma Programme, chemistry is primarily concerned with identifying patterns that help to explain matter at the microscopic level. This then allows matter's behaviour to be predicted and controlled at a macroscopic level. The subject therefore emphasizes the development of representative models and explanatory theories, both of which rely heavily on creative but rational thinking.

DP chemistry enables students to constructively engage with topical scientific issues. Students examine scientific knowledge claims in a real-world context, fostering interest and curiosity. By exploring the subject, they develop understandings, skills and techniques which can be applied across their studies and beyond.

Integral to the student experience of the DP chemistry course is the learning that takes place through scientific inquiry both in the classroom and the laboratory.

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

1. develop conceptual understanding that allows connections to be made between different areas of the subject, and to other DP sciences subjects
2. acquire and apply a body of knowledge, methods, tools and techniques that characterize science
3. develop the ability to analyse, evaluate and synthesize scientific information and claims
4. develop the ability to approach unfamiliar situations with creativity and resilience
5. design and model solutions to local and global problems in a scientific context
6. develop an appreciation of the possibilities and limitations of science
7. develop technology skills in a scientific context
8. develop the ability to communicate and collaborate effectively
9. develop awareness of the ethical, environmental, economic, cultural and social impact of science.

II. Curriculum model overview

The DP chemistry course promotes concept-based teaching and learning to foster critical thinking.

The DP chemistry course is built on:

- approaches to learning
- nature of science
- skills in the study of chemistry.

These three pillars support a broad and balanced experimental programme. As students progress through the course, they become familiar with traditional experimentation techniques, as well as the application of technology. These opportunities help them to develop their investigative skills and evaluate the impact of error and uncertainty in scientific inquiry. The scientific investigation then places a specific emphasis on inquiry-based skills and the formal communication of scientific knowledge. Finally, the collaborative sciences project extends the development of scientific communication in a collaborative and interdisciplinary context, allowing students to work together beyond the confines of chemistry.

Syllabus component	Recommended teaching hours	
	SL	HL
Syllabus content	110	180
Structure 1. Models of the particulate nature of matter Structure 1.1—Introduction to the particulate nature of matter Structure 1.2—The nuclear atom Structure 1.3—Electron configurations Structure 1.4—Counting particles by mass: The mole Structure 1.5—Ideal gases	17	21
Structure 2. Models of bonding and structure Structure 2.1—The ionic model Structure 2.2—The covalent model Structure 2.3—The metallic model Structure 2.4—From models to materials	20	30
Structure 3. Classification of matter Structure 3.1—The periodic table: Classification of elements Structure 3.2—Functional groups: Classification of organic compounds	16	31
Reactivity 1. What drives chemical reactions? Reactivity 1.1—Measuring enthalpy change Reactivity 1.2—Energy cycles in reactions Reactivity 1.3—Energy from fuels Reactivity 1.4—Entropy and spontaneity (Additional higher level)	12	22
Reactivity 2. How much, how fast and how far? Reactivity 2.1—How much? The amount of chemical change Reactivity 2.2—How fast? The rate of chemical change Reactivity 2.3—How far? The extent of chemical change	21	31

Reactivity 3. What are the mechanisms of chemical change?	24	45
Reactivity 3.1—Proton transfer reactions		
Reactivity 3.2—Electron transfer reactions		
Reactivity 3.3—Electron sharing reactions		
Reactivity 3.4—Electron-pair sharing reactions		
Experimental programme	40	60
Practical work	20	40
Collaborative sciences project	10	10
Scientific investigation	10	10

Skills in the study of chemistry

The skills and techniques students must experience through the course are encompassed within the tools. These support the application and development of the inquiry process in the delivery of the chemistry course.

Tools

- Experimental techniques
- Technology
- Mathematics

Inquiry process

- Exploring and designing
- Collecting and processing data
- Concluding and evaluating

Teachers are encouraged to provide opportunities for students to encounter and practise the skills throughout the programme. Rather than being taught as stand-alone topics, these skills should be integrated into the teaching of the syllabus when they are relevant to the syllabus topics being covered.

III. Assessment model

There are four assessment objectives for the DP chemistry course. Having followed the chemistry course, students are expected to demonstrate the following assessment objectives.

Assessment objective 1

Demonstrate knowledge of:

- terminology, facts and concepts
- skills, techniques and methodologies.

Assessment objective 2

Understand and apply knowledge of:

- terminology and concepts
- skills, techniques and methodologies.

Assessment objective 3

Analyse, evaluate, and synthesize:

- experimental procedures
- primary and secondary data
- trends, patterns and predictions.

Assessment objective 4

Demonstrate the application of 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
		SL	HL	
External		3	4.5	80
Paper 1	Paper 1A: Multiple-choice questions Paper 1B: Data-based questions and questions on experimental work	1.5	2	36
Paper 2	Short answer and extended-response questions	1.5	2.5	44
Internal		10		20
Scientific investigation	The scientific investigation is an open-ended task in which the student gathers and analyses data in order to answer their own formulated research question. The outcome of the scientific investigation will be assessed through the form of a written report. The maximum overall word count for the report is 3,000 words.	10		20

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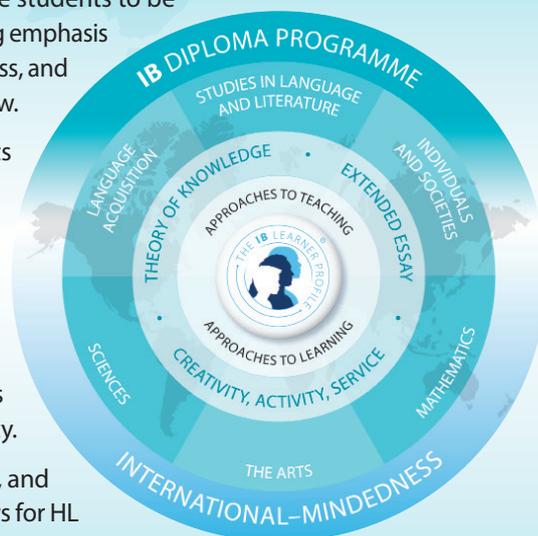
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The course is presented as six academic areas enclosing a central core. Students study two modern languages (or a modern language and a classical language), a humanities or social science subject, an experimental science, mathematics and one of the creative arts. Instead of an arts subject, students can choose two subjects from another area. It is this comprehensive range of subjects that makes the Diploma Programme a demanding course of study designed to prepare students effectively for university entrance. In each of the academic areas students have flexibility in making their choices, which means they can choose subjects that particularly interest them and that they may wish to study further at university.

Normally, three subjects (and not more than four) are taken at higher level (HL), and the others are taken at standard level (SL). The IB recommends 240 teaching hours for HL subjects and 150 hours for SL. Subjects at HL are studied in greater depth and breadth than at SL. 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.



I. Course description and aims

As one of the three natural sciences in the IB Diploma Programme, physics is concerned with an attempt to understand the natural world; from determining the nature of the atom to finding patterns in the structure of the universe. It is the search for answers from how the universe exploded into life to the nature of time itself. Observations are 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 leading to a better understanding of the natural world, physics gives us the ability to alter our environments.

DP physics enables students to constructively engage with topical scientific issues. Students examine scientific knowledge claims in a real-world context, fostering interest and curiosity. By exploring the subject, they develop understandings, skills and techniques which can be applied across their studies and beyond.

Integral to the student experience of the DP physics course is the learning that takes place through scientific inquiry both in the classroom and the laboratory.

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

1. develop conceptual understanding that allows connections to be made between different areas of the subject, and to other DP sciences subjects
2. acquire and apply a body of knowledge, methods, tools and techniques that characterize science
3. develop the ability to analyse, evaluate and synthesize scientific information and claims
4. develop the ability to approach unfamiliar situations with creativity and resilience
5. design and model solutions to local and global problems in a scientific context
6. develop an appreciation of the possibilities and limitations of science
7. develop technology skills in a scientific context

8. develop the ability to communicate and collaborate effectively
9. develop awareness of the ethical, environmental, economic, cultural and social impact of science.

II. Curriculum model overview

The DP physics course promotes concept-based teaching and learning to foster critical thinking.

The DP physics course is built on:

- approaches to learning
- nature of science
- skills in the study of physics.

These three pillars support a broad and balanced experimental programme. As students progress through the course, they become familiar with traditional experimentation techniques, as well as the application of technology. These opportunities help them to develop their investigative skills and evaluate the impact of error and uncertainty in scientific inquiry. The scientific investigation then places a specific emphasis on inquiry-based skills and the formal communication of scientific knowledge. Finally, the collaborative sciences project extends the development of scientific communication in a collaborative and interdisciplinary context, allowing students to work together beyond the confines of physics.

Syllabus component	Recommended teaching hours	
	SL	HL
Syllabus content	110	180
A Space, time and motion	27	42
A.1 Kinematics •		
A.2 Forces and momentum •		
A.3 Work, energy and power •		
A.4 Rigid body mechanics •••		
A.5 Galilean and special relativity •••		
B. The particulate nature of matter	24	32
B.1 Thermal energy transfers •		
B.2 Greenhouse effect •		
B.3 Gas laws •		
B.4 Thermodynamics •••		
B.5 Current and circuits •		
C. Wave behaviour	17	29
C.1 Simple harmonic motion ••		
C.2 Wave model •		
C.3 Wave phenomena ••		
C.4 Standing waves and resonance •		
C.5 Doppler effect ••		
D. Fields	19	38
D.1 Gravitational fields ••		
D.2 Electric and magnetic fields ••		
D.3 Motion in electromagnetic fields •		
D.4 Induction •••		

E. Nuclear and quantum physics	23	39
E.1 Structure of the atom ••		
E.2 Quantum physics •••		
E.3 Radioactive decay ••		
E.4 Fission •		
E.5 Fusion and stars •		
Experimental programme	40	60
Practical work	20	40
Collaborative sciences project	10	10
Scientific investigation	10	10

Key to table:

- Topics with content that should be taught to all students
- Topics with content that should be taught to all students plus additional HL content
- Topics with content that should only be taught to HL students

Skills in the study of physics

The skills and techniques students must experience through the course are encompassed within the tools. These support the application and development of the inquiry process in the delivery of the physics course.

Tools

- Experimental techniques
- Technology
- Mathematics

Inquiry process

- Exploring and designing
- Collecting and processing data
- Concluding and evaluating

Teachers are encouraged to provide opportunities for students to encounter and practise the skills throughout the programme. Rather than being taught as stand-alone topics, these skills should be integrated into the teaching of the syllabus when they are relevant to the syllabus topics being covered.

III. Assessment model

There are four assessment objectives for the DP physics course. Having followed the physics course, students are expected to demonstrate the following assessment objectives.

Assessment objective 1

Demonstrate knowledge of:

- terminology, facts and concepts
- skills, techniques and methodologies.

Assessment objective 2

Understand and apply knowledge of:

- terminology and concepts
- skills, techniques and methodologies.

Assessment objective 3

Analyse, evaluate, and synthesize:

- experimental procedures
- primary and secondary data
- trends, patterns and predictions.

Assessment objective 4

Demonstrate the application of 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
		SL	HL	
External		3	4.5	80
Paper 1	Paper 1A: Multiple-choice questions Paper 1B: Data-based questions	1.5	2	36
Paper 2	Short-answer and extended-response questions	1.5	2.5	44
Internal		10		20
Scientific investigation	The scientific investigation is an open-ended task in which the student gathers and analyses data in order to answer their own formulated research question. The outcome of the scientific investigation will be assessed through the form of a written report. The maximum overall word count for the report is 3,000 words.	10		20

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International Baccalaureate Diploma Programme Subject Brief

Sciences:

Design technology—Standard level

First assessments 2016

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 in 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 Diploma Programme design technology course aims to develop internationally minded people whose enhanced understanding of design and the technological world can facilitate our shared guardianship of the planet and create a better world.

Inquiry and problem-solving are at the heart of the subject. DP design technology requires the use of the design cycle as a tool, which provides the methodology used to structure the inquiry and analysis of problems, the development of feasible solutions, and the testing and evaluation of the solution. A solution can be defined as a model, prototype, product or system that students have developed independently.

DP design technology achieves a high level of design literacy by enabling students to develop critical-thinking and design skills, which they can apply in a practical context. While designing may take various forms, it will involve the selective application of knowledge within an ethical framework.

Through the overarching theme of the nature of design, the aim of the DP design technology course is to enable students to develop:

1. a sense of curiosity as they acquire the skills necessary for independent and lifelong learning and action through inquiry into the technological world around them
2. an ability to explore concepts, ideas and issues with personal, local and global significance to acquire in-depth knowledge and understanding of design and technology
3. initiative in applying thinking skills critically and creatively to identify and resolve complex social and technological problems through reasoned ethical decision-making

4. an ability to understand and express ideas confidently and creatively using a variety of communication techniques through collaboration with others
5. a propensity to act with integrity and honesty, and take responsibility for their own actions in designing technological solutions to problems
6. an understanding and appreciation of cultures in terms of global technological development, seeking and evaluating a range of perspectives
7. a willingness to approach unfamiliar situations in an informed manner and explore new roles, ideas and strategies to confidently articulate and defend proposals
8. an understanding of the contribution of design and technology to the promotion of intellectual, physical and emotional balance and the achievement of personal and social well-being
9. empathy, compassion and respect for the needs and feelings of others in order to make a positive difference to the lives of others and to the environment
10. skills that enable them to reflect on the impacts of design and technology on society and the environment in order to develop their own learning and enhance solutions to technological problems.

II. Curriculum model overview

Component	Recommended teaching hours
Core	90
1. Human factors and ergonomics	12
2. Resource management and sustainable production	22
3. Modelling	12
4. Raw material to final product	23
5. Innovation and design	13
6. Classic design	8
Practical work	60
Design project	40
Group 4 project	10
Teacher-directed activities	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

The assessment objectives for design technology reflect those parts of the aims that will be formally assessed either internally or externally. Wherever appropriate, the assessment draws upon environmental and technological contexts and identify the social, moral and economic effects of technology. It is the intention of the design technology course that students are able to fulfill the following assessment objectives:

- Demonstrate knowledge and understanding of:
 - facts, concepts, principles and terminology
 - design methodology and technology
 - methods of communicating and presenting technological information.
- Apply and use:
 - facts, concepts, principles and terminology
 - design methodology and technology
 - methods of communicating and presenting technological information.

- Construct, analyse and evaluate:
 - design briefs, problems, specifications and plans
 - methods, techniques and products
 - data, information and technological explanations.
- Demonstrate the appropriate research, experimentation, modelling and personal skills necessary to carry out innovative, insightful, ethical and effective designing.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		2.25	60
Paper 1	Multiple-choice questions on core material	0.75	30
Paper 2	Data-based, short-answer, and extended-response questions on core material	1.5	30
Internal		40	40
Design project	Individual design project	40	40

IV. Sample questions

- Which phrase best reflects the philosophy of the circular economy? (Paper 1)
 - Cradle to cradle
 - Cradle to grave
 - Made to be made again
 - Take, make, dispose
- Explain how the use of “design for the environment” software assists designers in choosing materials. (Paper 2)
- Discuss why the use of thermoplastic renders a product green but not sustainable. (Paper 2)

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International Baccalaureate Diploma Programme Subject Brief

Sciences: Sports, exercise and health science

First assessments: SL – 2014; HL - 2018



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 four 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

Sports, exercise and health science (SEHS) is an experimental science course combining academic study with practical and investigative skills. SEHS explores the science underpinning physical performance and provides the opportunity to apply these principles. The course incorporates the disciplines of anatomy and physiology, biomechanics, psychology and nutrition. Students cover a range of core and option topics, and carry out practical (experimental) investigations in both laboratory and field settings. The course offers a deeper understanding of the issues related to sports, exercise and health in the 21st century and addresses the international dimension and ethics related to both the individual and global context.

Apart from being worthy of study in its own right, SEHS is good preparation for courses in higher or further education related to sports fitness and health, and serves as useful preparation for employment in sports and leisure industries.

Both the SL and HL have a common core syllabus, internal assessment scheme, and overlapping elements in the options studied. While the skills and activities are common to all students, HL requires additional material and topics within the options.

Through studying any of the group 4 subjects, students should become aware of how scientists work and communicate, and the variety of forms of the “scientific method” with an emphasis on a practical approach through experimental work. In this context, the aims of SEHS is for students to:

- appreciate scientific study and creativity within a global context through stimulating and challenging opportunities
- acquire a body of knowledge, methods and techniques that characterize science and technology
- apply and use a body of knowledge, methods and techniques that characterize science and technology

- develop an ability to analyse, evaluate and synthesize scientific information
- develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities
- develop experimental and investigative scientific skills including the use of current technologies
- develop and apply 21st century communication skills in the study of science
- become critically aware, as global citizens, of the ethical implications of using science and technology
- develop an appreciation of the possibilities and limitations of science and technology
- develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge.

II. Curriculum model overview

Syllabus component	Recommended teaching hours	
	SL	HL
Core	80	
• Anatomy		7
• Exercise physiology		17
• Energy systems		13
• Movement analysis		15
• Skill in sports		15
• Measurement and evaluation of human performance.		13

Additional higher level (AHL)		50
• Further anatomy		7
• The endocrine system		7
• Fatigue		6
• Friction and drag		8
• Skill acquisition and analysis		9
• Genetics and athletic performance		7
• Exercise and immunity.		6
Options (Two of four)	30	50
• Optimizing physiological performance		
• Psychology of sports		
• Physical activity and health		
• Nutrition for sports, exercise and health.		
Practical work	40	60
• Investigations	20	40
• Group 4 project	10	10
• Individual investigation (internal assessment)	10	10
Total teaching hours	150	240

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.**

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Assessment at a glance

Type of assessment	Format of assessment	Time (hours)		Weighting of final grade (%)	
		SL	HL	SL	HL
External		3	4.5	80	80
Paper 1	SL: 30 multiple choice questions on the core. HL: 40 multiple choice questions on the core and the AHL.	0.75	1	20	20
Paper 2	One data-based and several short answer questions SL: one extended response question. HL: two of four extended response questions.	1.25	2.25	35	35
Paper 3	Several short answer questions in each of the two options. HL: additional extended response questions.	1	1.25	25	25
Internal		10	10	20	20
Individual investigation		10	10	20	20

IV. Sample questions

- At rest, the arterio-venous oxygen difference is approximately 5 mL of oxygen per 100 mL of blood. What happens to this figure when someone participates in moderately intense exercise?
- Outline the general characteristics that are common to muscle tissue.
- **(HL only)** outline the term talent.
- **(HL only)** explain factors that may affect progression through the stages of talent evolution for an athlete according to Bloom (1985) and Cole (1999).
- **(HL only)** outline talent transfer from gymnastics to high board diving.

International Baccalaureate Diploma Programme Subject Brief

Mathematics: analysis and approaches

First assessments for SL and HL—2021

The Diploma Programme (DP) is a rigorous pre-university course of study designed for students in the 16 to 19 age range. It is a broad-based two-year course that aims to encourage students to be knowledgeable and inquiring, but also caring and compassionate. There is a strong emphasis on encouraging students to develop intercultural understanding, open-mindedness, and the attitudes necessary for them to respect and evaluate a range of points of view.

The course is presented as six academic areas enclosing a central core. Students study two modern languages (or a modern language and a classical language), a humanities or social science subject, an experimental science, mathematics and one of the creative arts. Instead of an arts subject, students can choose two subjects from another area. It is this comprehensive range of subjects that makes the Diploma Programme a demanding course of study designed to prepare students effectively for university entrance. In each of the academic areas students have flexibility in making their choices, which means they can choose subjects that particularly interest them and that they may wish to study further at university.

Normally, three subjects (and not more than four) are taken at higher level (HL), and the others are taken at standard level (SL). The IB recommends 240 teaching hours for HL subjects and 150 hours for SL. Subjects at HL are studied in greater depth and breadth than at SL. 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.

This IB DP subject brief has three key components:

I. Course description and aims

II. Curriculum model overview

III. Assessment model



I. Course description and aims

Individual students have different needs, aspirations, interests and abilities. For this reason there are two different DP subjects in mathematics, Mathematics: analysis and approaches and Mathematics: applications and interpretation. Each course is designed to meet the needs of a particular group of students. Both courses are offered at SL and HL.

The IB DP Mathematics: analysis and approaches course recognizes the need for analytical expertise in a world where innovation is increasingly dependent on a deep understanding of mathematics. The focus is 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 abstract problems as well as those set in a variety of meaningful contexts. Mathematics: analysis and approaches has a strong emphasis on the ability to construct, communicate and justify correct mathematical arguments. 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. Students 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. Throughout the course students are encouraged to take a considered approach to various mathematical activities and to explore different mathematical ideas.

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

- develop a curiosity and enjoyment of mathematics, and appreciate its elegance and power
- develop an understanding of the concepts, principles and nature of mathematics
- communicate mathematics clearly, concisely and confidently in a variety of contexts
- develop logical and creative thinking, and patience and persistence in problem solving to instil confidence in using mathematics
- employ and refine their powers of abstraction and generalization
- take action to apply and transfer skills to alternative situations, to other areas of knowledge and to future developments in their local and global communities
- appreciate how developments in technology and mathematics influence each other
- appreciate the moral, social and ethical questions arising from the work of mathematicians and the applications of mathematics
- appreciate the universality of mathematics and its multicultural, international and historical perspectives
- appreciate the contribution of mathematics to other disciplines, and as a particular “area of knowledge” in the TOK course
- develop the ability to reflect critically upon their own work and the work of others
- independently and collaboratively extend their understanding of mathematics.

II. Curriculum model overview

Mathematics: analysis and approaches and Mathematics: applications and interpretation share 60 hours of common SL content.

Syllabus component	Recommended teaching hours	
	SL	HL
<ul style="list-style-type: none"> Number and algebra Functions Geometry and trigonometry Statistics and probability Calculus 	19	39
Development of investigational, problem-solving and modelling skills and the exploration of an area of mathematics	30	30
Total teaching hours	150	240

III. Assessment model

Problem-solving is central to learning mathematics and involves the acquisition of mathematical skills and concepts in a wide range of situations, including non-routine, open-ended and real-world problems.

The assessment objectives are common to Mathematics: analysis and approaches and to Mathematics: applications and interpretation.

- **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 abstract and real-world 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; use appropriate notation and terminology.
- **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 from the real world, involving organizing and analyzing information, making conjectures, drawing conclusions, and testing their validity.

The exploration is an integral part of the course and its assessment, and is compulsory for both SL and HL students. It enables students to demonstrate the application of their skills and knowledge, and to pursue their personal interests, without the time limitations and other constraints that are associated with written examinations.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)		Weighting of final grade (%)	
		SL	HL	SL	HL
External					
Paper 1	No technology allowed. Section A: compulsory short-response questions based on the syllabus. Section B: compulsory extended-response questions based on the syllabus.	1.5	2	40	30
Paper 2	Technology allowed. Section A: compulsory short-response questions based on the syllabus. Section B: compulsory extended-response questions based on the syllabus.	1.5	2	40	30
Paper 3	Technology allowed. Two compulsory extended-response problem-solving questions.		1		20
Internal					
Exploration		15	15	20	20

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International Baccalaureate Diploma Programme Subject Brief

Mathematics: applications and interpretation

First assessments for SL and HL—2021

The Diploma Programme (DP) is a rigorous pre-university course of study designed for students in the 16 to 19 age range. It is a broad-based two-year course that aims to encourage students to be knowledgeable and inquiring, but also caring and compassionate. There is a strong emphasis on encouraging students to develop intercultural understanding, open-mindedness, and the attitudes necessary for them to respect and evaluate a range of points of view.

The course is presented as six academic areas enclosing a central core. Students study two modern languages (or a modern language and a classical language), a humanities or social science subject, an experimental science, mathematics and one of the creative arts. Instead of an arts subject, students can choose two subjects from another area. It is this comprehensive range of subjects that makes the Diploma Programme a demanding course of study designed to prepare students effectively for university entrance. In each of the academic areas students have flexibility in making their choices, which means they can choose subjects that particularly interest them and that they may wish to study further at university.

Normally, three subjects (and not more than four) are taken at higher level (HL), and the others are taken at standard level (SL). The IB recommends 240 teaching hours for HL subjects and 150 hours for SL. Subjects at HL are studied in greater depth and breadth than at SL. 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.

This IB DP subject brief has three key components:

- I. Course description and aims
- II. Curriculum model overview
- III. Assessment model



I. Course description and aims

Individual students have different needs, aspirations, interests and abilities. For this reason there are two different DP subjects in mathematics, Mathematics: analysis and approaches and Mathematics: applications and interpretation. Each course is designed to meet the needs of a particular group of students. Both courses are offered at SL and HL.

The IB DP Mathematics: applications and interpretation course recognizes the increasing role that mathematics and technology play in a diverse range of fields in a data-rich world. As such, it emphasizes the meaning of mathematics in context by focusing on topics that are often used as applications or in mathematical modelling. To give this understanding a firm base, this course includes topics that are traditionally part of a pre-university mathematics course such as calculus and statistics. Students are encouraged to solve real-world problems, construct and communicate this mathematically and interpret the conclusions or generalizations.

Students should expect to develop strong technology skills, and will be intellectually equipped to appreciate the links between the theoretical and the practical concepts in mathematics. All external assessments involve the use of technology. Students 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. Throughout the course students are encouraged to take a considered approach to various mathematical activities and to explore different mathematical ideas.

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

- develop a curiosity and enjoyment of mathematics, and appreciate its elegance and power
- develop an understanding of the concepts, principles and nature of mathematics
- communicate mathematics clearly, concisely and confidently in a variety of contexts
- develop logical and creative thinking, and patience and persistence in problem solving to instil confidence in using mathematics
- employ and refine their powers of abstraction and generalization
- take action to apply and transfer skills to alternative situations, to other areas of knowledge and to future developments in their local and global communities
- appreciate how developments in technology and mathematics influence each other
- appreciate the moral, social and ethical questions arising from the work of mathematicians and the applications of mathematics
- appreciate the universality of mathematics and its multicultural, international and historical perspectives
- appreciate the contribution of mathematics to other disciplines, and as a particular “area of knowledge” in the TOK course
- develop the ability to reflect critically upon their own work and the work of others
- independently and collaboratively extend their understanding of mathematics.

II. Curriculum model overview

Mathematics: applications and interpretation and Mathematics: analysis and approaches share 60 hours of common content.

Syllabus component	Recommended teaching hours	
	SL	HL
<ul style="list-style-type: none"> Number and algebra Functions Geometry and trigonometry Statistics and probability Calculus 	16 31 18 36 19	29 42 46 52 41
Development of investigational, problem-solving and modelling skills and the exploration of an area of mathematics	30	30
Total teaching hours	150	240

III. Assessment model

Problem-solving is central to learning mathematics and involves the acquisition of mathematical skills and concepts in a wide range of situations, including non-routine, open-ended and real-world problems.

The assessment objectives are common to Mathematics: applications and interpretation and to Mathematics: analysis and approaches.

- **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 abstract and real-world 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; use appropriate notation and terminology.
- **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 from the real world, involving organizing and analyzing information, making conjectures, drawing conclusions, and testing their validity.

The exploration is an integral part of the course and its assessment, and is compulsory for both SL and HL students. It enables students to demonstrate the application of their skills and knowledge, and to pursue their personal interests, without the time limitations and other constraints that are associated with written examinations.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)		Weighting of final grade (%)	
		SL	HL	SL	HL
External					
Paper 1	Technology allowed. Compulsory short-response questions based on the syllabus.	1.5	2	40	30
Paper 2	Technology allowed. Compulsory extended-response questions based on the syllabus.	1.5	2	40	30
Paper 3	Technology allowed. Two compulsory extended-response problem-solving questions.		1		20
Internal					
Exploration		15	15	20	20

About the IB: For over 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, visit: www.ibo.org/en/dp.

Complete subject guides can be accessed through the programme resource centre or purchased through the IB store: store.ibo.org.

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

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

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