

Core requirements: Extended essay, theory of knowledge and creativity, action, service subject brief



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

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

The IB subject brief illustrates the key components of the core requirements in the IB Diploma Programme.

I. Extended essay

III. Creativity, action, service

II. Theory of knowledge

The IB core elements of extended essay, theory of knowledge and creativity, action, service are described below.

I. Extended essay

The extended essay of some 4,000 words offers the opportunity for IB students to investigate a topic of special interest, usually one of the student's six Diploma Programme subjects, and acquaints them with the independent research and writing skills expected at university. It is intended to promote high-level research and writing skills, intellectual discovery and creativity—resulting in approximately 40 hours of work. It provides students with an opportunity to engage in personal research on a topic of choice, under the guidance of a supervisor.

This leads to a major piece of formally presented, structured writing of no more than 4,000 words, in which ideas and findings are communicated in a reasoned and coherent manner, appropriate to the subject. It is recommended that students follow the completion of the written essay with a short, concluding interview—*viva voce*—with the supervisor. In countries where normally interviews are required prior to acceptance for employment or for a place at university, the extended essay has proved to be a valuable stimulus for discussion.

Extended essay assessment

Students are expected to demonstrate the ability to do the following:

- plan and pursue a research project with intellectual initiative and insight
- gather and interpret material from sources appropriate to the research question
- structure a reasoned argument in response to the research question on the basis of the material gathered
- present their extended essay in a format appropriate to the subject, acknowledging sources in one of the established academic ways
- use the terminology and language appropriate to the subject with skill and understanding
- apply analytical and evaluative skills appropriate to the subject, with an understanding of the implications and the context of their research.

The extended essay contributes to the overall diploma score through the award of points in conjunction with

theory of knowledge. A maximum of three points are awarded according to a student's combined performance in both the extended essay and theory of knowledge.

II. Theory of knowledge

The interdisciplinary theory of knowledge course is designed to develop a coherent approach to learning that transcends and unifies the academic areas and encourages appreciation of other cultural perspectives. The theory of knowledge course is in part intended to encourage students to reflect on the huge cultural shifts worldwide around the digital revolution and the information economy. The extent and impact of the changes vary greatly in different parts of the world, but everywhere their implications for knowledge are profound. Theory of knowledge encourages critical thinking about knowledge itself and aims to help young people make sense of what they encounter. Its core content focuses on questions such as the following.

- What counts as knowledge?
- How does it grow?
- What are its limits?
- Who owns knowledge?
- What is the value of knowledge?
- What are the implications of having, or not having, knowledge?

Theory of knowledge activities and discussions aim to help students discover and express their views on knowledge issues. The course encourages students to share ideas with others and to listen to and learn from what others think. In this process students' thinking and their understanding of knowledge as a human construction are shaped, enriched and deepened. Connections may be made between knowledge encountered in different Diploma Programme subjects, in creativity, action, service experience or in extended essay research; distinctions between different kinds of knowledge may be clarified.

The aims of the theory of knowledge course are to:

- develop a fascination with the richness of knowledge as a human endeavour, and an understanding of the empowerment that follows from reflecting upon it
- develop an awareness of how knowledge is constructed, critically examined, evaluated and renewed, by communities and individuals

- encourage students to reflect on their experiences as learners, in everyday life and in the Diploma Programme, and to make connections between academic disciplines and between thoughts, feelings and actions
- encourage an interest in the diversity of ways of thinking and ways of living of individuals and communities, and an awareness of personal and ideological assumptions, including participants' own
- encourage consideration of the responsibilities originating from the relationship between knowledge, the community and the individual as citizen of the world.

Theory of knowledge assessment

The theory of knowledge assessment model contains two components, both of which should be completed within the 100 hours designated for the course. Presentations are an integral part of the course.

Type of assessment	Format of assessment	Weighting of final grade (%)
External assessment	Essay (1,200 to 1,600 words) on a prescribed title	65
	Essay on a title chosen from a list of 10 titles prescribed by the IB for each examination session	
Internal assessment	One 10-minute presentation to the class	35
	The theory of knowledge presentation requires students to identify and explore the knowledge issues raised by a substantive real-life situation that is of interest to them.	

The two assessment tasks, the essay and the presentation, are seen as complementary opportunities for students to show the extent to which they have achieved the theory of knowledge course objectives. Students should be able to demonstrate the ability to:

- analyse critically knowledge claims, their underlying assumptions and their implications
- generate questions, explanations, conjectures, hypotheses, alternative ideas and possible solutions in response to knowledge issues concerning areas of knowledge, ways of knowing and students' own experience as learners
- demonstrate an understanding of different perspectives on knowledge issues
- draw links and make effective comparisons between different approaches to knowledge issues that derive from areas of knowledge, ways of knowing, theoretical positions and cultural values
- demonstrate an ability to give a personal, self-aware response to a knowledge issue
- formulate and communicate ideas clearly with due regard for accuracy and academic honesty.

Both assessment tasks have at their centre reflection on knowledge issues but this reflection is demonstrated

differently in each. The emphasis in the theory of knowledge presentation is on demonstrating an understanding of knowledge at work in the world.

Diploma points matrix for extended essay and theory of knowledge

Performance in the extended essay and in theory of knowledge is assessed using IB assessment criteria. Using the two performance levels and the diploma points matrix, a maximum of three diploma points can be awarded for a student's combined performance in theory of knowledge and the extended essay.

III. Creativity, action, service

Creativity, action, service is at the heart of the Diploma Programme, involving students in a range of activities that take place alongside their academic studies throughout the IB Diploma Programme. The component's three strands, often interwoven with particular activities, are characterized as follows.

- **Creativity**—arts and other experiences that involve creative thinking
- **Action**—physical exertion contributing to a healthy lifestyle, complementing academic work elsewhere in the IB Diploma Programme
- **Service**—an unpaid and voluntary exchange that has a learning benefit for the student

Creativity, action, service encourages students to be involved in activities as individuals and as part of a team that take place in local, national and international contexts. Creativity, action, service enables students to enhance their personal and interpersonal development as well as their social and civic development, through experiential learning, lending an important counterbalance to the academic pressures of the rest of the IB Diploma Programme. It should be both challenging and enjoyable—a personal journey of self-discovery that recognizes each student's individual starting point.

Activities should provide:

- real, purposeful activities, with significant outcomes
- personal challenge—tasks must extend the student and be achievable in scope
- thoughtful consideration, such as planning, reviewing progress and reporting
- reflection on outcomes and personal learning.

Creativity, action, service evaluation

Creativity, action, service is not formally assessed, but students need to reflect on their activities and be able to demonstrate that they have:

- increased their awareness of their own strengths and areas for growth
- undertaken new challenges and developed new skills
- planned and initiated activities and worked collaboratively with others
- shown perseverance and commitment in their activities
- engaged with issues of global importance
- considered the ethical implications of their actions.

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International Baccalaureate Diploma Programme Subject Brief

Diploma Programme Core:

Creativity, action, service

2010–2016

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 life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints.

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



Elements of CAS

Creativity, action, service (CAS) is at the heart of the DP, involving students in a range of activities that take place alongside their academic studies. The component's three strands, often interwoven with particular activities, are characterized as follows:

- **Creativity**—exploring and extending ideas leading to an original or interpretive product or performance. This may include visual and performing arts, digital design, writing, film, culinary arts and crafts.
- **Action**—physical exertion contributing to a healthy lifestyle. Pursuits may include individual and team sports, dance, outdoor recreation, fitness training, and any other form of physical exertion that purposefully contributes to a healthy lifestyle.
- **Service**—collaborative and reciprocal engagement with the community in response to an authentic need. Through Service, students develop and apply personal and social skills in real-life situations involving decision-making, problem solving, initiative, responsibility, and accountability for their actions.

Service experiences can be approached using the Service Learning model. Service Learning is the development and application of knowledge and skills towards meeting an identified community need. In this research-based approach, students undertake service initiatives often related to topics studied in the curriculum, utilising skills, understanding and values developed in these studies. Service Learning builds upon students' prior knowledge and background, enabling them to make links between their academic disciplines and their Service experiences.

CAS encourages students to be involved in local, national and international activities as individuals and as part of a team, enabling them to enhance their personal, interpersonal, social and civic development. It can be both challenging and a personal journey of self-discovery. CAS activities are usually real and purposeful with significant outcomes, extending the student while involving planning, reviewing progress, reporting and reflection on outcomes and personal learning.

International dimensions

CAS activities are seen in a broader context, bearing in mind the maxim "Think globally, act locally". Working with people from different social or cultural backgrounds in the vicinity of the school can do as much to increase mutual understanding as large international projects.

CAS and ethical education

Because it involves real activities with significant outcomes, CAS provides a major opportunity for ethical education, understood as involving principles, attitudes and behaviour. The emphasis in CAS is on helping students to develop their own identities, in accordance with the ethical principles embodied in the IB mission statement and the IB learner profile. Various ethical issues will arise naturally, and may be experienced as challenges to a student's ideas, instinctive responses or ways of behaving.



Aims

Within the DP, CAS provides the main opportunity to develop many of the attributes described in the IB learner profile. For this reason, the aims of CAS have been written in a form that highlights their connections with the IB learner profile. The CAS programme aims to develop students who:

- enjoy and find significance in a range of CAS experiences involving intellectual, physical, creative, emotional and fun elements
- meaningfully reflect upon their experiences
- identify goals, develop strategies and initiate further actions for personal growth
- explore new possibilities, embrace new challenges and adapt to new roles
- actively participate in planned, sustained, and collaborative CAS Projects
- understand that they are members of local and global communities with responsibilities towards each other and the environment.

- worked collaboratively with others - Collaboration can be shown in many different activities. At least one project, involving collaboration and the integration of at least two of creativity, action and service, is required.
- shown perseverance and commitment in their activities - At a minimum, this implies attending regularly and accepting a share of the responsibility for dealing with problems that arise in the course of activities.
- engaged with issues of global importance - Students may be involved in international projects but there are many global issues that can be acted upon locally or nationally.
- considered the ethical implications of their actions - Ethical decisions arise in almost any CAS activity, and evidence of thinking about ethical issues can be shown in various ways.
- developed new skills - As with new challenges, new skills may be shown in activities that the student has not previously undertaken, or in increased expertise in an established area.

Learning outcomes

Successful completion of CAS is a requirement for the award of the IB diploma. CAS is not formally assessed but students need to document their activities and provide evidence that they have achieved all eight key learning outcomes.

Learning outcomes are differentiated from assessment objectives because they are not rated on a scale. The completion decision for the school in relation to each student is, simply, “Have these outcomes been achieved?” This focus on learning outcomes emphasizes that it is the activity's contribution to the student's development that is most important. The guideline for the minimum amount of CAS activity is 150 hours, with a reasonable balance between creativity, action and service.

As a result of their CAS experience as a whole, including reflections, there should be evidence that students have:

- increased their awareness of their own strengths and areas for growth - They are able to see themselves as individuals with various skills and abilities, and understand that they can make choices about how to move forward.
- undertaken new challenges - A new challenge may be an unfamiliar activity, or an extension to an existing one.
- planned and initiated activities - Planning and initiation is often in collaboration with others. It can be shown in activities that are part of larger projects, as well as in small student-led activities.

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International Baccalaureate Diploma Programme Subject Brief

Diploma Programme Core:

Extended essay, including the world studies option

First assessments 2013 – Last assessments 2017

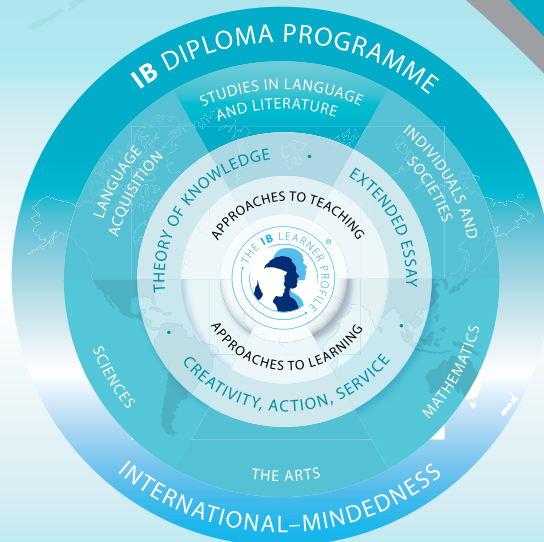
The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural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

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

These IB DP subject briefs illustrate four key course components.

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

- III. Assessment model
- IV. Sample topics



I. Course description and aims

The extended essay is an in-depth study of a focused topic chosen from the list of approved DP subjects—normally one of the student's six chosen subjects, or in World Studies. World Studies provides students the opportunity to carry out an in-depth interdisciplinary study of an issue of contemporary global significance, utilizing two IB disciplines. Both are intended to promote high-level research and writing skills, intellectual discovery and creativity, engaging students in personal research in a topic of their own choice, under the guidance of a supervisor (a teacher in the school). This leads to a major piece of formally presented, structured writing, in which ideas and findings are communicated in a reasoned, coherent and appropriate manner.

The extended essay, including the world studies option, is a compulsory, externally assessed piece of independent research/investigation. Presented as a formal piece of scholarship containing no more than 4,000 words, it is the result of approximately 40 hours of student work, and concluded with a short interview, or viva voce, with the supervising teacher (recommended).

The aims of the extended essay, including the World Studies option, are to provide students with the opportunity to:

- pursue independent research on a focused topic
- develop research and communication skills
- develop creativity and critical thinking
- engage in a systematic process of research
- experience the excitement of intellectual discovery.

II. Curriculum model overview

Component

The research process

1. Choose the approved DP subject*.
2. Choose a topic.
3. Formulate a well-focused research question.
4. Plan the investigation and writing process.
5. Plan a structure (outline headings) for the essay. This may change as the investigation develops.
6. Undertake some preparatory reading.
7. Carry out the investigation.

**For the World Studies option, students choose a topic which must address both an issue of global significance, and invite an interdisciplinary approach involving two approved DP subjects.*

Writing and formal presentation

- The required elements of the final work to be submitted are:
- Title page
- Abstract
- Contents page
- Introduction
- Body (development/methods/results)
- Conclusion
- References and bibliography
- Appendices.

The upper limit of 4,000 words includes the introduction, body, conclusion and any quotations.

The viva voce (concluding interview)

The viva voce is a short interview (10-15 minutes) between the student and the supervisor, and a recommended conclusion to the process. The viva voce serves as:

- A check on plagiarism and malpractice in general
- An opportunity to reflect on successes and difficulties
- An opportunity to reflect on what has been learned
- An aid to the supervisor's report.

III. Assessment model

The extended essay, including the World Studies option, is assessed against common criteria, interpreted in ways appropriate to each subject. Students are expected to:

- plan and pursue a research project with intellectual initiative and insight
- formulate a precise research question
- gather and interpret material from appropriate sources
- structure a reasoned evidence-based argument in response to the research question
- present their work in an appropriate format, acknowledging sources in an established academic way
- use the appropriate terminology and language with skill and understanding
- apply appropriate analytical and evaluative skills, with an understanding of the implications and context of their research.

Assessment at a glance

Assessment criteria	Description
Research question	The purpose of the essay is specified.
Introduction	Makes clear how the research question relates to existing knowledge on the topic and explains how the topic chosen is significant and worthy of investigation.
Investigation	A planned and an appropriate range of sources have been consulted, or data has been gathered, relevant to the research question.
Knowledge and understanding of the topic	The knowledge and understanding of the topic studied, as well as the ability to locate the academic context for the investigation.

Reasoned argument	The essay uses the material collected to present ideas in a logical and coherent manner, and develops a reasoned argument in relation to the research question.
Application of appropriate analytical and evaluative skills	The essay demonstrates appropriate analytical and evaluative skills.
Use of appropriate language	The language used communicates clearly the ideas and arguments presented, and whether terminology appropriate to the subject is used accurately.
Conclusion	The essay incorporates a conclusion that is relevant to the research question and is consistent with the evidence presented in the essay.
Formal presentation	The layout, organization, appearance and formal elements of the essay consistently follow a standard format.
Abstract	Clearly states the research question, how the investigation was undertaken and the conclusion(s) of the essay.
Holistic judgment	The qualities that distinguish an essay from the average, such as intellectual initiative, depth of understanding and insight. While these qualities will be clearly present in the best work, less successful essays may also show some evidence of them.

The extended essay contributes to the overall diploma score through the award of points in conjunction with theory of knowledge. A maximum of three points are awarded according to a student's combined performance in both the extended essay and theory of knowledge.

IV. Sample extended essay topics chosen by students

- To what extent did General Zia Ul-Haq disrupt the progress of women's rights in Pakistan?
- How useful is the concept of totalitarianism in explaining Nazi Germany and Stalinist Russia?
- How do photographers of violence and suffering make a fair, accurate and visually compelling case for human rights? (World Studies).

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International Baccalaureate Diploma Programme Subject Brief

Diploma Programme core:

Theory of knowledge

First assessments 2015 – Last assessments 2021

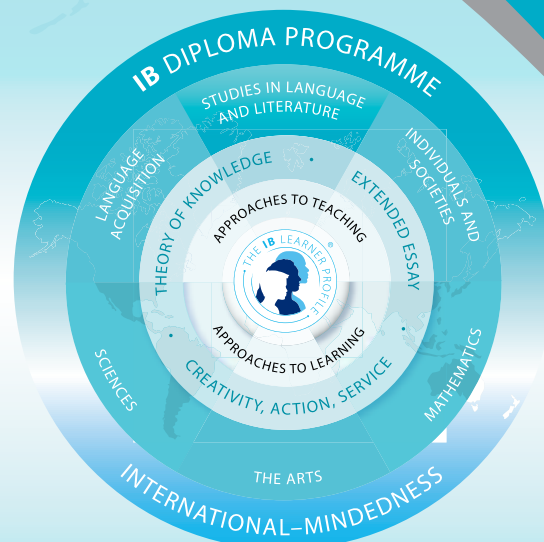


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These IB DP subject briefs illustrate four key course components.

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



- III. Assessment model
- IV. Sample questions

I. Course description and aims

Theory of knowledge (TOK) is a course about critical thinking and inquiring into the process of knowing, rather than about learning a specific body of knowledge. It plays a special role in the DP by providing an opportunity for students to reflect on the nature of knowledge, to make connections between areas of knowledge and to become aware of their own perspectives and those of the various groups whose knowledge they share. It is a core element undertaken by all DP students, and schools are required to devote at least 100 hours of class time to the course. The overall aim of TOK is to encourage students to formulate answers to the question “how do you know?” in a variety of contexts, and to see the value of that question. This allows students to develop an enduring fascination with the richness of knowledge.

The aims of the TOK course are to:

- make connections between a critical approach to the construction of knowledge, the academic disciplines and the wider world
- develop an awareness of how individuals and communities construct knowledge and how this is critically examined
- develop an interest in the diversity and richness of cultural perspectives and an awareness of personal and ideological assumptions
- critically reflect on their own beliefs and assumptions, leading to more thoughtful, responsible and purposeful lives
- understand that knowledge brings responsibility which leads to commitment and action.

II. Curriculum model overview

Component

Knowing about knowing

TOK examines how we know what we claim to know, by encouraging students to analyse knowledge claims and explore knowledge questions. A knowledge claim is the assertion that “I/we know X” or “I/we know how to Y”, or a statement about knowledge; a knowledge question is an open question about knowledge. The distinction between shared knowledge and personal knowledge is intended to help teachers construct their TOK course and to help students explore the nature of knowledge.

Ways of knowing

While there are arguably many ways of knowing (WOKs), TOK identifies eight specific WOKs: language, sense perception, emotion, reason, imagination, faith, intuition, and memory. Students must explore a range of ways of knowing, and it is suggested to study four of these in depth.

Areas of knowledge

Areas of knowledge are specific branches of knowledge, each of which can be seen to have a distinct nature and different methods of gaining knowledge. TOK distinguishes between eight areas of knowledge: mathematics, the natural sciences, the human sciences, the arts, history, ethics, religious knowledge systems, and indigenous knowledge systems. Students must explore a range of areas of knowledge, and it is suggested to study six of these eight.

III. Assessment model

Having followed the TOK course, students will be expected to demonstrate the following:

- Identify and analyse the various kinds of justifications used to support knowledge claims.
- Formulate, evaluate and attempt to answer knowledge questions.
- Examine how academic disciplines/areas of knowledge generate and shape knowledge.
- Understand the roles played by ways of knowing in the construction of shared and personal knowledge.
- Explore links between knowledge claims, knowledge questions, ways of knowing and areas of knowledge.
- Demonstrate an awareness and understanding of different perspectives and be able to relate these to one's own perspective.
- Explore a real-life/contemporary situation from a TOK perspective in the presentation.

IV. Sample prescribed titles

- Using history and at least one other area of knowledge, examine the claim that it is possible to attain knowledge despite problems of bias and selection.
- "It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts" (Arthur Conan Doyle). Consider the extent to which this statement may be true in two or more areas of knowledge.
- In what ways may disagreement aid the pursuit of knowledge in the natural and human sciences?

Assessment at a glance

Type of assessment	Format of assessment	Weighting of final grade (%)
External		
Part I: Essay on a prescribed title	One essay on a title chosen from a list of six prescribed titles.	67
Internal		
Part 2: Presentation	One presentation to the class by an individual or a group (max of three persons); approximately 10 minutes per student. One written presentation planning document for each student.	33

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International Baccalaureate Diploma Programme Subject Brief

Studies in language and literature:

English A: Language and literature – Higher level

First assessments 2013 – Last assessments 2020



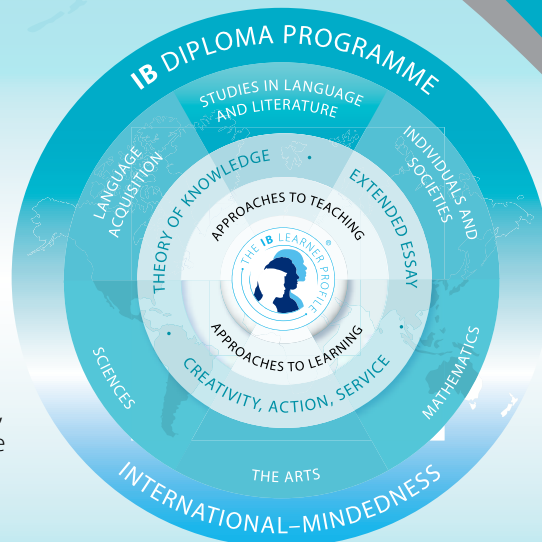
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I. Course description and aims

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

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

- introduce students to a range of texts from different periods, styles and genres
- develop in students the ability to engage in close, detailed analysis of individual texts and make relevant connections
- develop the students' powers of expression, both in oral and written communication
- encourage students to recognize the importance of the contexts in which texts are written and received
- encourage an appreciation of the different perspectives of other cultures, and how these perspectives construct meaning
- encourage students to appreciate the formal, stylistic and aesthetic qualities of texts

- promote in students an enjoyment of, and lifelong interest in, language and literature
- develop in students an understanding of how language, culture and context determine the ways in which meaning is constructed in texts
- encourage students to think critically about the different interactions between text, audience and purpose.

II. Curriculum model overview

Component	Recommended teaching hours
Part 1: Language in cultural context <ul style="list-style-type: none"> • effect of audience and purpose on the structure and content of texts • impact of language changes • effect of culture and context on language and meaning 	60
Part 2: Language and mass communication <ul style="list-style-type: none"> • forms of communication within the media • educational, political or ideological influence of the media • ways in which mass media use language and image to inform, persuade or entertain 	60

Part 3: Literature—texts and contexts <ul style="list-style-type: none"> historical, cultural and social contexts in which texts are written and received relationship between context and formal elements of the text, genre and structure attitudes and values expressed by literary texts and their impact on readers 	70
Part 4: Literature—critical study <ul style="list-style-type: none"> detailed exploration of literary works elements such as theme and the ethical stance or moral values of literary texts appropriate use of literary terms 	50

III. Assessment model

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

Knowledge and understanding

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

Application and analysis

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

Synthesis and evaluation

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

Selection and use of appropriate presentation and language skills

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

Assessment at a glance

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

IV. Sample questions

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

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International Baccalaureate Diploma Programme Subject Brief

Studies in language and literature:

English A: Language and literature – Standard level

First assessments 2013 – Last assessments 2020



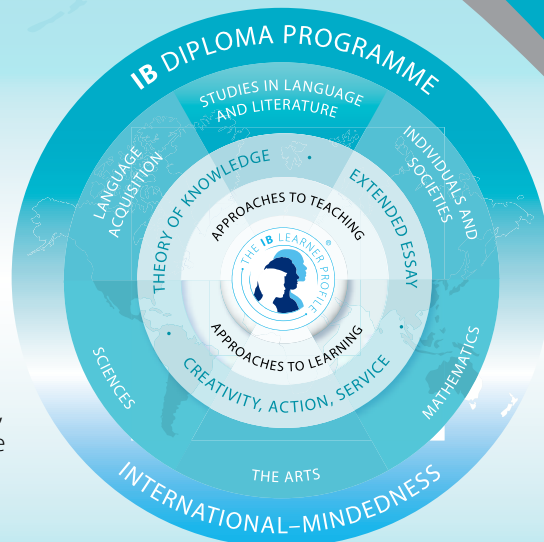
The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural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

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

These IB DP subject briefs illustrate four key course components.

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

- III. Assessment model
- IV. Sample questions



I. Course description and aims

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

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

- introduce students to a range of texts from different periods, styles and genres
- develop in students the ability to engage in close, detailed analysis of individual texts and make relevant connections
- develop the students' powers of expression, both in oral and written communication
- encourage students to recognize the importance of the contexts in which texts are written and received
- encourage an appreciation of the different perspectives of other

cultures, and how these perspectives construct meaning

- encourage students to appreciate the formal, stylistic and aesthetic qualities of texts
- promote in students an enjoyment of, and lifelong interest in, language and literature
- develop in students an understanding of how language, culture and context determine the ways in which meaning is constructed in texts
- encourage students to think critically about the different interactions between text, audience and purpose.

II. Curriculum model overview

Component	Recommended teaching hours
Part 1: Language in cultural context <ul style="list-style-type: none"> • effect of audience and purpose on the structure and content of texts • impact of language changes • effect of culture and context on language and meaning 	40
Part 2: Language and mass communication <ul style="list-style-type: none"> • forms of communication within the media • educational, political or ideological influence of the media • ways in which mass media use language and image to inform, persuade or entertain 	40

Part 3: Literature—texts and contexts <ul style="list-style-type: none"> historical, cultural and social contexts in which texts are written and received relationship between context and formal elements of the text, genre and structure attitudes and values expressed by literary texts and their impact on readers 	40
Part 4: Literature—critical study <ul style="list-style-type: none"> detailed exploration of literary works elements such as theme and the ethical stance or moral values of literary texts appropriate use of literary terms 	30

III. Assessment model

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

Knowledge and understanding

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

Application and analysis

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

Synthesis and evaluation

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

Selection and use of appropriate presentation and language skills

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

Assessment at a glance

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

IV. Sample questions

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

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IB language A: literature higher level

subject brief



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

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

I. Course description and aims

III. Assessment model

II. Curriculum model overview

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

I. Course description and aims

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

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

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

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

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

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

II. Curriculum model overview

Language A: literature higher level

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

III. Assessment model

Assessment for language A: literature higher level

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

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

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

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

Assessment at a glance

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

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IB language A: literature standard level

subject brief



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

I. Course description and aims

III. Assessment model

II. Curriculum model overview

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

I. Course description and aims

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

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

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

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

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

II. Curriculum model overview

Language A: literature standard level

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

Assessment for language A: literature standard level

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

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

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

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

Assessment at a glance

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



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International Baccalaureate Diploma Programme Subject Brief

Language acquisition:

Language B – Higher level

First assessments 2013 – Last assessments 2019

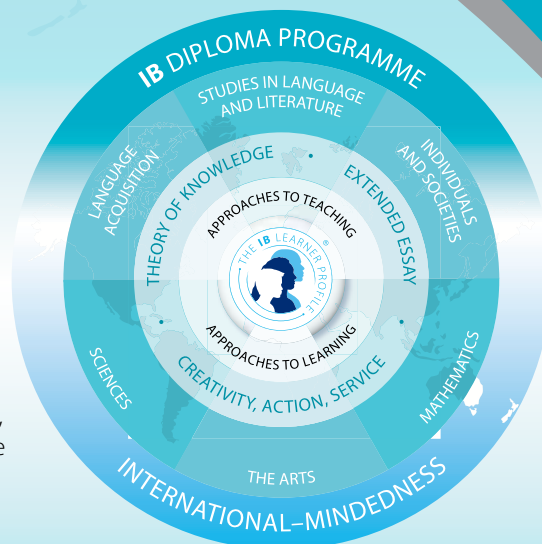
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To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Student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

These IB DP subject briefs illustrate four key course components.

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

- III. Assessment model
- IV. Sample questions



I. Course description and aims

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

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

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

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

II. Curriculum model overview

Component	Recommended teaching hours
Core Instruction on three topics <ul style="list-style-type: none"> • communication and media • global issues • Social relationships 	240
Options Two options from the following five <ul style="list-style-type: none"> • cultural diversity • customs and traditions • health • leisure • science and technology 	
Literature <ul style="list-style-type: none"> • Read 2 works of literature 	

III. Assessment model

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

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

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

Students will be assessed on their ability to:

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

Assessment at a glance

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

IV. Sample questions

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

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

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International Baccalaureate Diploma Programme Subject Brief

Language acquisition:

Language B – Standard level

First assessments 2013 – Last assessments 2019

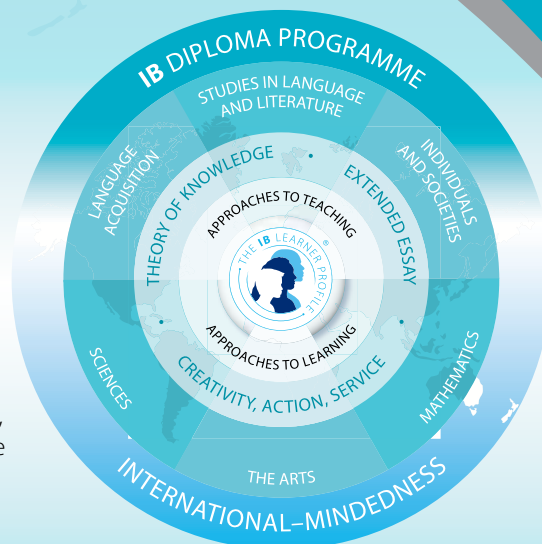
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To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Student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

These IB DP subject briefs illustrate four key course components.

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

- III. Assessment model
- IV. Sample questions



I. Course description and aims

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

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

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

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

II. Curriculum model overview

Component	Recommended teaching hours
Core Instruction on three topics <ul style="list-style-type: none"> • communication and media • global issues • Social relationships 	150
Options Two options from the following five <ul style="list-style-type: none"> • cultural diversity • customs and traditions • health • leisure • science and technology 	

III. Assessment model

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

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

Students will be assessed on their ability to:

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

IV. Sample questions

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

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

Assessment at a glance

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

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International Baccalaureate Diploma Programme Subject Brief

Language acquisition:

Language ab initio – Standard level

First assessments 2013 – Last assessments 2019

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

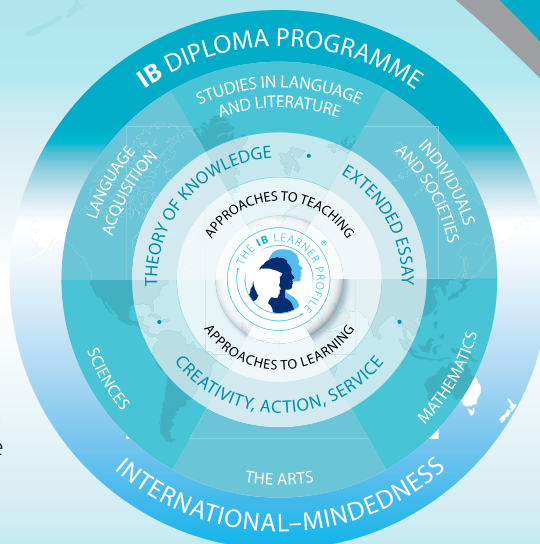
These IB DP subject briefs illustrate four key course components.

I. Course description and aims

II. Curriculum model overview

III. Assessment model

IV. Sample questions



I. Course description and aims

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

The aims of the language ab initio course are to:

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

II. Curriculum model overview

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

Areas of Study

Language

- Receptive skills: the ability to comprehend straightforward written and spoken language.
- Productive skills: the ability to write and speak the target language effectively.
- Interactive skills: the ability to understand and respond effectively to written and spoken language.

Themes

- Individuals and society – Daily routines; education; food and drink; personal details; appearance and character physical health; relationships; shopping
- Leisure and work – Employment; entertainment; holidays; media; sport; technology; transport
- Urban and rural environment – Environmental concerns; global issues; neighbourhood; physical geography; town and services; weather

Texts

During the course, students are taught to understand and produce a variety of spoken, written and visual texts. Use of authentic texts is encouraged. Examples of texts to be studied include articles, letters, maps, timetables and web pages.

III. Assessment model

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

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

Assessment at a glance

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

IV. Sample questions

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

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International Baccalaureate Diploma Programme Subject Brief

Sciences:

Environmental systems and societies – Standard level

First assessments 2010 – Last assessments 2016

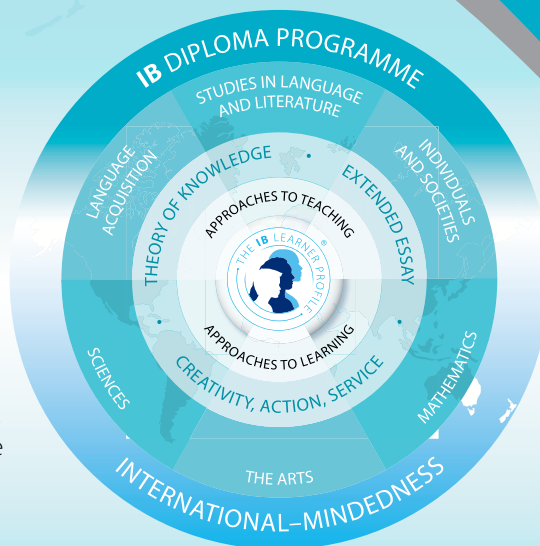
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To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students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

These IB DP subject briefs illustrate four key course components.

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

- III. Assessment model
- IV. Sample questions



I. Course description and aims

The IB DP environmental systems and societies standard level course aims to provide students with a coherent perspective of the interrelationships between environmental systems and societies; one that enables them to adopt an informed personal response to the wide range of pressing environmental issues that they will inevitably come to face. Students' attention is constantly drawn to their own relationship with their environment and the significance of choices and decisions that they make in their own lives. It is intended that students develop a sound understanding of the interrelationships between environmental systems and societies, rather than a purely journalistic appreciation of environmental issues. The teaching approach strives to be conducive to students evaluating the scientific, ethical and socio-political aspects of issues.

The aims of the environmental systems and societies standard level course are to:

- promote understanding of environmental processes at a variety of scales, from local to global
- provide a body of knowledge, methodologies and skills that can be used in the analysis of environmental issues at local and global levels
- enable students to apply the knowledge, methodologies and skills gained

- promote critical awareness of a diversity of cultural perspectives
- recognize the extent to which technology plays a role in both causing and solving environmental problems
- appreciate the value of local as well as international collaboration in resolving environmental problems
- appreciate that environmental issues may be controversial, and may provoke a variety of responses
- appreciate that human society is both directly and indirectly linked to the environment at a number of levels and at a variety of scales.

II. Curriculum model overview

Component	Recommended teaching hours
Topic 1: Systems and models	5
Topic 2: The ecosystem	31
<ul style="list-style-type: none"> • Structure • Measuring abiotic components of the system • Measuring biotic components of the system • Biomes • Function • Changes • Measuring changes in the system 	

Topic 3: Human population, carrying capacity and resource use <ul style="list-style-type: none"> Population dynamics Resources—natural capital Energy resources The soil system Food resources Water resources Limits to growth Environmental demands of human populations 	39
Topic 4: Conservation and biodiversity <ul style="list-style-type: none"> Biodiversity in ecosystems Evaluating biodiversity and vulnerability Conservation of biodiversity 	15
Topic 5: Pollution management <ul style="list-style-type: none"> Nature of pollution Detection and monitoring of pollution Approaches to pollution management Eutrophication Solid domestic waste Depletion of stratospheric ozone Urban air pollution Acid deposition 	18
Topic 6: The issue of global warming	6
Topic 7: Environmental value systems	6

III. Assessment model

Having followed the environmental systems and societies standard level course, students should achieve the following objectives.

- Demonstrate an understanding of information, terminology, concepts, methodologies and skills with regard to environmental issues.
- Apply and use information, terminology, concepts, methodologies and skills with regard to environmental issues.
- Synthesize, analyse and evaluate research questions, hypotheses, methods and scientific explanations with regard to environmental issues.
- Using a holistic approach, make reasoned and balanced judgments using appropriate economic, historical, cultural, socio-political and scientific sources.
- Articulate and justify a personal viewpoint on environmental issues with reasoned argument while appreciating alternative viewpoints, including the perceptions of different cultures.

- Demonstrate the personal skills of cooperation and responsibility appropriate for effective investigation and problem solving.
- Select and demonstrate the appropriate practical and research skills necessary to carry out investigations with due regard to precision.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			80
Paper 1	Short-answer and data-based questions	1	30
Paper 2	<ul style="list-style-type: none"> Section A – analysis of data related to a case study Section B – responses to two structured essay questions from a choice of four 	2	50
Internal			20
Practical scheme of work (PSOW)	<ul style="list-style-type: none"> A series of practical and fieldwork activities 	30	20

IV. Sample questions

- With reference to a named ecosystem, identify one direct and one indirect threat to the ecosystem’s biodiversity.
- Compare the attitudes towards the natural environment of two named contrasting societies, and discuss the consequences of these attitudes to the way in which natural resources are used.

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

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

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

Overview of the economics higher level course and curriculum model

I. Course description and aims

The IB Diploma Programme economics higher level course aims to provide students with a core knowledge of economics, encourage students to think critically about economics, promote an awareness and understanding of internationalism in economics and encourage students' development as independent learners. Alongside the empirical observations of positive economics, students of the subject are asked to formulate normative questions and to recognize their own tendencies for bias.

In addition, the course is designed to:

- encourage the systematic and critical study of human experience and behaviour; physical, economic and social environments; and the economics and development of social and cultural institutions
- develop the capacity to identify, analyse critically and evaluate theories, concepts and arguments about the nature and activities of the individual and society
- enable students to collect, describe and analyse data used in studies of society; test hypotheses; and interpret complex data and source material
- promote an appreciation of the way learning is relevant to both the culture in which the student lives and the culture of other societies
- develop an awareness that human attitudes and beliefs are widely diverse and that the study of society requires an appreciation of such diversity
- enable the student to recognize that the content and methodologies of the subjects in group 3 are contestable and that their study requires the toleration of uncertainty.

Macroeconomics

Measuring national income
Introduction to development
Macroeconomic models
Demand-side and supply-side policies
Unemployment and inflation
Distribution of income

International economics

Reasons for trade
Free trade and protectionism
Economic integration
World Trade Organization (WTO)
Balance of payments
Exchange rates
Balance of payment problems
Terms of trade

Development economics

Sources of economic growth and/or development
Consequences of growth
Barriers to economic growth and/or development
Growth and development strategies
Evaluation of growth and development strategies

III. Assessment model

Assessment for economics higher level

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

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

II. Curriculum model overview

Economics higher level

Components

Introduction to economics

Microeconomics

Markets
Elasticities
Theory of the firm
Market failure

Assessment for economics higher level (continued)

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

- understand and apply economic concepts and theories to a range of circumstances and a variety of situations
- analyse information through the use of economic concepts and theories
- evaluate concepts and theories from different economic perspectives.

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

In external assessment components, students must be able to demonstrate an understanding of both basic facts and complex concepts related to the full economics syllabus. The internal assessment measures students' ability to produce a portfolio of four commentaries—each 650 to 750 words—based on a news media extract that links economic theory to a real-world situation. Three of the four commentaries must have as their main focus a different section of the syllabus, although commentaries may reference other sections. A fourth commentary can focus either on a single section or on two or more sections of the syllabus.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			80
<i>Paper 1</i>	Four extended-response questions based on all five sections of the syllabus	1	20
<i>Paper 2</i>	Six short-answer questions based on all five sections of the syllabus	1	20
<i>Paper 3</i>	A data-response paper on all five sections of the syllabus	2	40
Internal			20
<i>Portfolio</i>	A portfolio of four commentaries		

IV. Sample Questions

1. (a) Using examples, describe various sources of funds available to developing countries through trade and aid.
(b) Evaluate trade and aid as means of achieving economic growth and development. (Paper 1)
2. Explain why Veblen goods are an exception to the law of demand. (Paper 2)
3. Study the extract below and answer the questions that follow. (Paper 3)

Devaluation's downbeat start

"If Argentina falls one more step, there will be a disaster," said Eduardo Duhalde, its new president, urging Congress to grant him emergency powers to cope with the country's economic collapse. Congress duly granted those powers. Mr. Duhalde promptly used them to order a devaluation and launched Argentina into the unknown.

After a decade in which the Argentinean peso has been fixed to the US dollar, many of the emergency measures unveiled are designed to cushion the impact of the devaluation on ordinary Argentines. Instead of a free float, the government has set an official exchange rate of 1.4 pesos to the dollar (i.e. a 29 % devaluation) for exports, those imports judged to be essential, and most capital transactions.

In a move to make the public less upset, the prices charged by privatized telephone, water and energy companies will not change. These had been pegged to the dollar and indexed to inflation in the US. Now, they will be switched to pesos at par and the link to US prices will be scrapped. Congress has also given official powers to impose price controls, but they say that they will only use them on sensitive products, such as fuels and medicines.

In a country with a history of hyperinflation, the government is clearly scared that an uncontrolled devaluation would lead to massive price rises. In fact, though some prices have already gone up, the economy's deep recession may restrain inflation. If inflation and the exchange rate are to be restrained, Congress will have to approve a convincingly balanced budget. Last year, as the economy collapsed, the government's deep spending cuts failed to keep up with plunging tax revenues, causing a deficit of \$9 billion. Now the government will save money by not servicing most of its debt, but in order to balance the books further, deeper cuts will be required.

Source: © The Economist Newspaper Limited, London, January 12th 2002 (adapted with permission)

- (a) Define the following terms indicated in bold in the text:
 - (i) devaluation
 - (ii) inflation.
- (b) Using an appropriate diagram, explain why "an uncontrolled devaluation would lead to massive price rises."
- (c) Using an appropriate diagram, explain the likely impact of imposing price controls on "sensitive products."
- (d) Using information from the text and your knowledge of economics, evaluate the advantages and disadvantages of Argentina adopting a contractionary fiscal policy.

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

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

Overview of the economics standard level course and curriculum model

I. Course description and aims

The IB Diploma Programme standard level economics course aims to provide students with a core knowledge of economics, encourage students to think critically about economics, promote an awareness and understanding of internationalism in economics and encourage students' development as independent learners. Alongside the empirical observations of positive economics, students of the subject are asked to formulate normative questions and to recognize their own tendencies for bias.

In addition, the course is designed to:

- encourage the systematic and critical study of human experience and behaviour; physical, economic and social environments; and the economics and development of social and cultural institutions
- develop the capacity to identify, analyse critically and evaluate theories, concepts and arguments about the nature and activities of the individual and society
- enable students to collect, describe and analyse data used in studies of society, test hypotheses, and interpret complex data and source material
- promote an appreciation of the way learning is relevant to both the culture in which the student lives and the culture of other societies
- develop an awareness that human attitudes and beliefs are diverse and that the study of society requires an appreciation of such diversity
- enable the student to recognize that the content and methodologies of the subjects in group 3 are contestable and that their study requires the toleration of uncertainty.

II. Curriculum model overview

Economics standard level

Components

Microeconomics
Markets
Elasticities
Market failure

Macroeconomics

Measuring national income
Introduction to development
Macroeconomic models
Demand-side and supply-side policies
Unemployment and inflation
Distribution of income

International economics

Reasons for trade
Free trade and protectionism
Economic integration
World Trade Organization (WTO)
Balance of payments
Exchange rates
Balance of payment problems
Terms of trade

Development economics

Sources of economic growth and/or development
Consequences of growth
Barriers to economic growth and/or development
Growth and development strategies
Evaluation of growth and development strategies

III. Assessment model

Assessment for economics standard level

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

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

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

- understand and apply economic concepts and theories to a range of circumstances and a variety of situations
- analyse information through the use of economic concepts and theories
- evaluate concepts and theories from different economic perspectives.

Assessment for economics standard level (continued)

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

In external assessment components, students must be able to demonstrate an understanding of both basic facts and complex concepts related to the full economics syllabus. The internal assessment measures students' ability to produce a portfolio of four commentaries—each 650 to 750 words—based on a news media extract that links economic theory to a real-world situation. Three of the four commentaries must have as their main focus a different section of the syllabus, although commentaries may reference other sections. A fourth commentary can focus either on a single section or on two or more sections of the syllabus.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			75
<i>Paper 1</i>	Four extended-response questions based on all five sections of the syllabus	1	25
<i>Paper 2</i>	A data-response paper on all five sections of the syllabus	2	50
Internal			25
<i>Portfolio</i>	A portfolio of four commentaries		

IV. Sample questions

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

1. (a) Explain the concept of elasticity of demand.
(b) Evaluate the significance of elasticity of demand to businesses and government. (Paper 1)
2. Study the extract below and answer the questions that follow. (Paper 2)

Jump in unemployment drives down shares and dollars

News of a surprise sharp rise in unemployment in the United States drove the exchange rate of the US dollar and share prices down, ending a difficult and uncertain week for the US currency. For the second month in a row, official data showed that expectations of a turnaround in the US labour market had been too optimistic.

The unemployment rate rose by 0.3 percentage points to a seven-year high of 6 %. Economists had been predicting that the rate would rise by a smaller amount to 5.8 %. Analysts note that the unemployment rate was affected by an increase in numbers of previously inactive workers, who recorded themselves as unemployed as a result of more generous unemployment benefit.

The news caused the dollar to slide against all large currencies. The dollar fell by a cent to a six month low of \$0.917 against the Euro. The dollar has been under pressure this week as market participants have begun to focus on the large size of the US current account deficit and the obvious signs of sluggishness in the economic recovery. Traders have seized any opportunity to sell the currency.

The Federal Reserve would like to raise interest rates to prop up the dollar, but they are worried that this would increase the level of unemployment.

The disappointing unemployment news was followed by suggestions that the recovery in the service sector was also weakening. The regular survey issued by the Institute of Supply Management showed that overall activity in the service sector grew at a slower rate in April than it had in March. Government officials have played down the unemployment figures, saying that the economy was poised to grow. But the markets continue to have a pessimistic view of the prospects for US profit growth and the currency.

Source: © Financial Times, May 14th 2002 (adapted with permission)

Based on the previous extract:

- (a) Define the following terms indicated in bold in the text:
 - (i) unemployment rate
 - (ii) current account deficit.
- (b) Using an appropriate diagram, explain why higher interest rates might increase unemployment.
- (c) Using an appropriate diagram, explain why more generous unemployment benefits may have caused the unemployment rate to rise.
- (d) Using information from the text and your knowledge of economics, evaluate the possible effects of fall in the value of the US dollar on the American economy.

* the syllabus for examinations current until 2012.

International Baccalaureate Diploma Programme Subject Brief

Individuals and societies:

Geography – Higher level

First assessments 2011 – Last assessments 2017

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

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

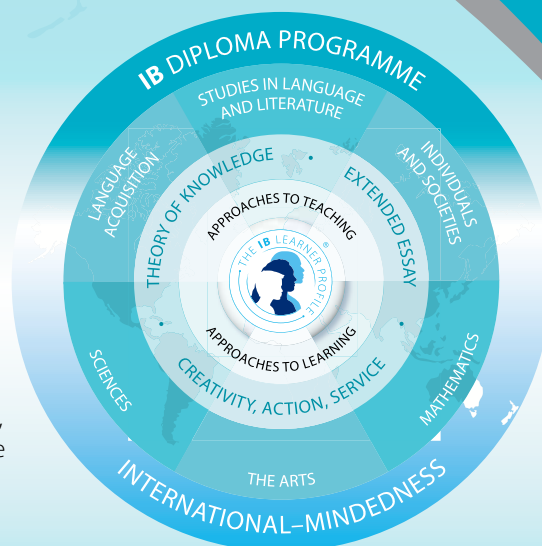
These IB DP subject briefs illustrate four key course components.

I. Course description and aims

II. Curriculum model overview

III. Assessment model

IV. Sample questions



I. Course description and aims

Geography is a dynamic subject that is firmly grounded in the real world and focuses on the interactions between individuals, societies and the physical environment in both time and space. It seeks to identify trends and patterns in these interactions and examines the processes behind them. Geography is distinctive in that it occupies the middle ground between social sciences and natural sciences. The DP geography course integrates both physical and human geography, and ensures that students acquire elements of both scientific and socio-economic methodologies. Geography takes advantage of its position between both these groups of subjects to examine relevant concepts and ideas from a wide variety of disciplines. This helps students develop an appreciation of, and a respect for, alternative approaches, viewpoints and ideas.

The aims of the geography higher level courses are to:

- encourage the systematic and critical study of human experience and behaviour; physical, economic and social environments; and the history and development of social and cultural institutions
- develop in the student the capacity to identify, to analyse critically and to evaluate theories, concepts and arguments about the nature and activities of the individual and society

- enable the student to collect, describe and analyse data used in studies of society, to test hypotheses, and to interpret complex data and source material
- promote the appreciation of the way in which learning is relevant both to the student's own culture, and the culture of other societies
- develop an awareness in the student that human attitudes and beliefs are widely diverse and that the study of society requires an appreciation of such diversity
- enable the student to recognize that the content and methodologies of the subjects in group 3 are contestable and that their study requires the toleration of uncertainty.
- develop an understanding of the interrelationships between people, places, spaces and the environment
- develop a concern for human welfare and the quality of the environment, and an understanding of the need for planning and sustainable management
- appreciate the relevance of geography in analysing contemporary issues and challenges, and develop a global perspective of diversity and change.

II. Curriculum model overview

Component	Recommended teaching hours
Part 1: Core theme <ul style="list-style-type: none"> Populations in transition Disparities in wealth and development Patterns in environmental quality and sustainability Patterns in resource consumption 	70
Part 2: Optional themes - Three optional themes are required. <ul style="list-style-type: none"> Freshwater—issues and conflicts Oceans and their coastal margins Extreme environments Hazards and disasters—risk assessment and response Leisure, sport and tourism The geography of food and health Urban environments 	90
Part 3: Global interactions <ul style="list-style-type: none"> Measuring global interactions Changing space—the shrinking world Economic interactions and flows Environmental change Sociocultural exchanges Political outcomes Global interactions at the local level 	60
Fieldwork <ul style="list-style-type: none"> Fieldwork, leading to one written report based on a fieldwork question, information collection and analysis with evaluation. 	20

III. Assessment model

Having followed the geography higher level course, students will be expected to:

Demonstrate knowledge and understanding of specified content

- The core theme—patterns and change
- Three HL optional themes
- The HL extension—global interactions
- An internally assessed specific geographic research topic

Demonstrate application and analysis of knowledge and understanding

- Apply and analyse geographic concepts and theories
- Identify and interpret geographic patterns and processes in unfamiliar information, data and cartographic material

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- Demonstrate the extent to which theories and concepts are recognized and understood in particular contexts

Demonstrate synthesis and evaluation

- Examine and evaluate geographic concepts, theories and perceptions
- Use geographic concepts and examples to formulate and present an argument
- Evaluate materials using methodology appropriate for geographic fieldwork
- Demonstrate synthesis and evaluation of the HL extension—global interactions

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

- Select, use and apply the prescribed geographic skills in appropriate contexts
- Produce well-structured written material, using appropriate terminology
- Select, use and apply techniques and skills appropriate to a geographic research question.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		4.5	80
Paper 1	Multiple short answer and one extended response	1.5	25
Paper 2	Three structured questions based on stimulus material	2	35
Paper 3	One essay question	1	20
Internal		20	20
Written report	Written report based on fieldwork (2,500 words maximum)		

IV. Sample questions

- Describe what is meant by a neo-Malthusian view.
- Discuss the connections between affluence and health.
- Explain how global interaction may be measured.

International Baccalaureate Diploma Programme Subject Brief

Individuals and societies:

Geography – Standard level

First assessments 2011 – Last assessments 2017

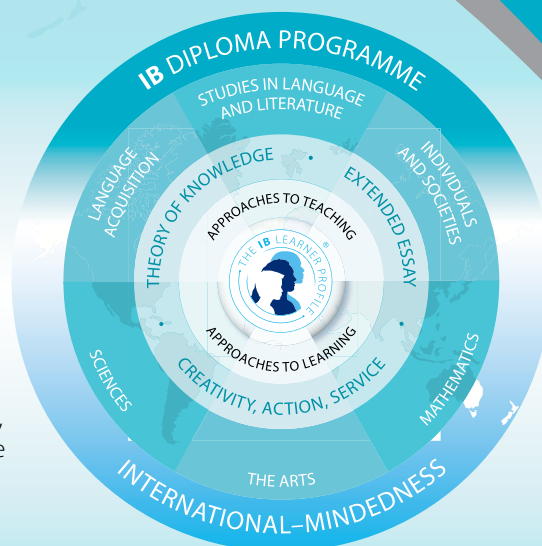
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These IB DP subject briefs illustrate four key course components.

I. Course description and aims
II. Curriculum model overview

III. Assessment model
IV. Sample questions



I. Course description and aims

Geography is a dynamic subject that is firmly grounded in the real world and focuses on the interactions between individuals, societies and the physical environment in both time and space. It seeks to identify trends and patterns in these interactions and examines the processes behind them. Geography is distinctive in that it occupies the middle ground between social sciences and natural sciences. The DP geography course integrates both physical and human geography, and ensures that students acquire elements of both scientific and socio-economic methodologies. Geography takes advantage of its position between both these groups of subjects to examine relevant concepts and ideas from a wide variety of disciplines. This helps students develop an appreciation of, and a respect for, alternative approaches, viewpoints and ideas.

The aims of the geography standard level courses are to:

- encourage the systematic and critical study of human experience and behaviour; physical, economic and social environments; and the history and development of social and cultural institutions
- develop in the student the capacity to identify, to analyse critically and to evaluate theories, concepts and arguments about the nature and activities of the individual and society
- enable the student to collect, describe and analyse data used in studies of society, to test hypotheses, and to interpret complex data and source material

- promote the appreciation of the way in which learning is relevant both to the student's own culture, and the culture of other societies
- develop an awareness in the student that human attitudes and beliefs are widely diverse and that the study of society requires an appreciation of such diversity
- enable the student to recognize that the content and methodologies of the subjects in group 3 are contestable and that their study requires the toleration of uncertainty.
- develop an understanding of the interrelationships between people, places, spaces and the environment
- develop a concern for human welfare and the quality of the environment, and an understanding of the need for planning and sustainable management
- appreciate the relevance of geography in analysing contemporary issues and challenges, and develop a global perspective of diversity and change.

II. Curriculum model overview

Component	Recommended teaching hours
Part 1: Core theme <ul style="list-style-type: none"> Populations in transition Disparities in wealth and development Patterns in environmental quality and sustainability Patterns in resource consumption 	70
Part 2: Optional themes - Three optional themes are required. <ul style="list-style-type: none"> Freshwater—issues and conflicts Oceans and their coastal margins Extreme environments Hazards and disasters—risk assessment and response Leisure, sport and tourism The geography of food and health Urban environments 	60
Fieldwork <ul style="list-style-type: none"> Fieldwork, leading to one written report based on a fieldwork question, information collection and analysis with evaluation. 	20

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

- Select, use and apply the prescribed geographic skills in appropriate contexts
- Produce well-structured written material, using appropriate terminology
- Select, use and apply techniques and skills appropriate to a geographic research question.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			75
Paper 1	Multiple short answer and one extended response	1.5	40
Paper 2	Two structured questions based on stimulus material	1.33	35
Internal			25
Written report	Written report based on fieldwork (2,500 words maximum)	20	

III. Assessment model

Having followed the geography standard level course, students will be expected to:

Demonstrate knowledge and understanding of specified content

- The core theme—patterns and change
- Two optional themes
- An internally assessed specific geographic research topic

Demonstrate application and analysis of knowledge and understanding

- Apply and analyse geographic concepts and theories
- Identify and interpret geographic patterns and processes in unfamiliar information, data and cartographic material
- Demonstrate the extent to which theories and concepts are recognized and understood in particular contexts

Demonstrate synthesis and evaluation

- Examine and evaluate geographic concepts, theories and perceptions
- Use geographic concepts and examples to formulate and present an argument
- Evaluate materials using methodology appropriate for geographic fieldwork

IV. Sample questions

- State the three components that are used to calculate the Human Development Index.
- Explain how trade and access to markets may reduce disparities.
- Explain how and why the following factors may influence population density in hot, arid areas: human discomfort and inaccessibility.
- Using examples, examine how extreme environments offer both challenges and opportunities for mineral extraction.

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

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Overview of the history higher level course and curriculum model

I. Course description and aims

The IB Diploma Programme higher level history course aims to promote an understanding of history as a discipline, including the nature and diversity of sources, methods and interpretations. Students are encouraged to comprehend the present by reflecting critically on the past. They are further expected to understand historical developments at national, regional and international levels and learn about their own historical identity through the study of the historical experiences of different cultures. In addition, the course is designed to:

- encourage the systematic and critical study of human experience and behaviour; physical, economic and social environments; and the history and development of social and cultural institutions
- develop the capacity to identify, analyse critically and evaluate theories, concepts and arguments about the nature and activities of the individual and society
- enable students to collect, describe and analyse data used in studies of society; test hypotheses; and interpret complex data and source material
- promote an appreciation of the way learning is relevant to both the culture in which the student lives and the culture of other societies
- develop an awareness that human attitudes and beliefs are widely diverse and that the study of society requires an appreciation of such diversity
- enable the student to recognize that the content and methodologies of the subjects in group 3 are contestable and that their study requires the toleration of uncertainty.

<i>History of Europe and the Islamic world—study two of the following topics</i>	90 hours
<ul style="list-style-type: none"> • Dynasties and rulers • Society and economy • Wars and warfare • Intellectual, cultural and artistic developments • Religion and the state 	
<i>Higher level option—study three sections in the selected option</i>	90 hours
<ul style="list-style-type: none"> • Aspects of the history of medieval Europe and the Islamic world 	
<i>Historical investigation</i>	20 hours
Total teaching hours	240 hours

Route 2

<i>20th century world history—study one of three pre-scribed subjects</i>	40 hours
<ul style="list-style-type: none"> • Peacemaking, peacekeeping—international relations 1918–36 • The Arab–Israeli conflict 1945–79 • Communism in crisis 1976–89 	
<i>20th century world history—study two of the following topics</i>	90 hours
<ul style="list-style-type: none"> • Causes, practices and effects of wars • Democratic states—challenges and responses • Origins and development of authoritarian and single-party states • Nationalist and independence movements in Africa and Asia and post–1945 Central and Eastern European states • The Cold War 	
<i>Higher level option—study three sections in the selected option</i>	90 hours
<ul style="list-style-type: none"> • Aspects of the history of Africa • Aspects of the history of the Americas • Aspects of the history of Asia and Oceania • Aspects of the history of Europe and the Middle East 	
<i>Historical investigation</i>	20 hours
Total teaching hours	240 hours

II. Curriculum model overview

History higher level

Route 1

<i>History of Europe and the Islamic world—study one of two prescribed subjects</i>	40 hours
<ul style="list-style-type: none"> • The origins and rise of Islam c500–661 • The kingdom of Sicily 1130–1302 	

III. Assessment model

Assessment for history higher level

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

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

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

- knowledge and comprehension of specified content, such as an ability to recall and select relevant historical knowledge
- application and analysis, including the ability to apply historical knowledge as evidence
- synthesis and evaluation abilities
- the selection and use of historical skills.

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

On external assessments, students must be able to demonstrate an understanding of both basic facts and complex concepts related to the historical periods studied, depending on the chosen route of study. The internal assessment measures students' ability to use their own initiative to take on a historical inquiry. Students should be able to develop and apply the skills of a historian by selecting and analysing a good range of source material and managing diverse interpretations. The activity demands that students search for, select, evaluate and use evidence to reach a relevant conclusion.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			80
<i>Paper 1</i>	Route 1: short answer/structured questions from one of two prescribed subjects Route 2: short answer/structured questions from one of three prescribed subjects	1	20
<i>Paper 2</i>	Routes 1 and 2: two extended-response questions chosen from five topics	1.5	25
<i>Paper 3</i>	Three extended-response questions	2.5	35
Internal			20
<i>Study report</i>	Historical investigation on any area of the syllabus		

IV. Sample questions

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

1. Using these sources and your own knowledge, analyse how and why Henry VI became King of Sicily in December 1194. (Route 1, paper 1)
2. Analyse the reasons for, and impact of, the Sunni/Shia divide. (Route 1, paper 2)
3. Compare and contrast the domestic policies of Disraeli and Gladstone. (Route 2, paper 3 Europe and the Middle East)

* the syllabus for examinations current until 2016

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

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| II. Curriculum model overview | IV. Sample questions |

Overview of the history standard level course and curriculum model

I. Course description and aims

The IB Diploma Programme standard level history course aims to promote an understanding of history as a discipline, including the nature and diversity of sources, methods and interpretations. Students are encouraged to comprehend the present by reflecting critically on the past. They are further expected to understand historical developments at national, regional and international levels and learn about their own historical identity through the study of the historical experiences of different cultures. In addition, the course is designed to:

- encourage the systematic and critical study of human experience and behaviour; physical, economic and social environments; and the history and development of social and cultural institutions
- develop the capacity to identify, analyse critically and evaluate theories, concepts and arguments about the nature and activities of the individual and society
- enable students to collect, describe and analyse data used in studies of society, test hypotheses, and interpret complex data and source material
- promote an appreciation of the way learning is relevant to both the culture in which the student lives and the culture of other societies
- develop an awareness that human attitudes and beliefs are widely diverse and that the study of society requires an appreciation of such diversity
- enable the student to recognize that the content and methodologies of the subjects in group 3 are contestable and that their study requires the toleration of uncertainty.

II. Curriculum model overview

History standard level

Choice component: Route 1

<i>History of Europe and the Islamic world—study one of two prescribed subjects</i>	40 hours
<ul style="list-style-type: none"> • The origins and rise of Islam c500–661 • The kingdom of Sicily 1130–1302 	

<i>History of Europe and the Islamic world—study two of the following topics</i>	90 hours
<ul style="list-style-type: none"> • Dynasties and rulers • Society and economy • Wars and warfare • Intellectual, cultural and artistic developments • Religion and the state 	

<i>Historical investigation</i>	20 hours
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Total teaching hours	150 hours
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Choice component: Route 2

<i>20th century world history—study one of three prescribed subjects</i>	40 hours
<ul style="list-style-type: none"> • Peacemaking, peacekeeping—international relations 1918–36 • The Arab–Israeli conflict 1945–79 • Communism in crisis 1976–89 	

<i>20th century world history—study two of the following topics</i>	90 hours
<ul style="list-style-type: none"> • Causes, practices and effects of wars • Democratic states—challenges and responses • Origins and development of authoritarian and single-party states • Nationalist and independence movements in Africa and Asia and post-1945 Central and Eastern European states • The Cold War 	

<i>Historical investigation</i>	20 hours
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Total teaching hours	150 hours
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III. Assessment model

Assessment for history standard level

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

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

Assessment for history standard level (continued)

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

- knowledge and comprehension of specified content, such as an ability to recall and select relevant historical knowledge
- application and analysis, including the ability to apply historical knowledge as evidence
- synthesis and evaluation abilities
- the selection and use of historical skills.

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

On external assessments, students must be able to demonstrate an understanding of both basic facts and complex concepts related to the historical periods studied, depending on the chosen route of study. The internal assessment measures students' ability to use their own initiative to take on a historical inquiry. Students should be able to develop and apply the skills of a historian by selecting and analysing a good range of source material and managing diverse interpretations. The activity demands that students search for, select, evaluate and use evidence to reach a relevant conclusion.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			75
<i>Paper 1</i>	Route 1: short answer and structured questions from one of two prescribed subjects Route 2: short answer and structured questions from one of three prescribed subjects	1	30
<i>Paper 2</i>	Routes 1 and 2: two extended-response questions chosen from five topics	1.5	45
Internal			25
<i>Study report</i>	Historical investigation on any area of the syllabus		

IV. Sample questions

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

1. Using provided sources and your own knowledge, analyse how the Arab Muslims controlled the lands and people they had conquered. (Route 1, Paper 1)
2. Compare and contrast the parts played by Cuba and Vietnam in the Cold War. (Route 2, Paper 2)

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

I. Course description and aims

III. Assessment model

II. Curriculum model overview

IV. Sample questions

Overview of the psychology higher level course and curriculum model

I. Course description and aims

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

In addition, the course is designed to:

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

II. Curriculum model overview

Psychology higher level

<i>Core</i>	90 hours of instruction on three topics <ul style="list-style-type: none">• The biological level of analysis• The cognitive level of analysis• The sociocultural level of analysis	90 hours
<i>Options</i>	30 hours of instruction on two additional topics <ul style="list-style-type: none">• Abnormal psychology• Developmental psychology• Health psychology• Psychology of human relationships• Sport psychology	60 hours
<i>Additional higher level</i>	Qualitative research in psychology	50 hours
<i>Experimental study</i>	Introduction to experimental research methodology	40 hours
Total teaching hours		240 hours

III. Assessment model

Assessment for psychology higher level

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

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

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

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

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

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

Assessment at a glance

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

IV. Sample questions

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

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

* the syllabus for examinations current until 2016

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

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Overview of the psychology standard level course and curriculum model

I. Course description and aims

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

In addition, the course is designed to:

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

II. Curriculum model overview

Psychology standard level

Components		90 hours
Core	90 hours of standard level instruction on 3 topics <ul style="list-style-type: none"> • The biological level of analysis • The cognitive level of analysis • The sociocultural level of analysis 	90 hours

Options	30 hours of instruction on one additional topic <ul style="list-style-type: none"> • Abnormal psychology • Developmental psychology • Health psychology • Psychology of human relationships • Sport psychology 	30 hours
Experimental Study	Introduction to experimental research methodology	30 hours
Total teaching hours		150 hours

III. Assessment model

Assessment for psychology standard level

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

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

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

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

Assessment for psychology standard level (continued)

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

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

Assessment at a glance

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

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IV. Sample questions

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

1. Discuss the use of one research method (e.g. experiments, case studies) in the cognitive level of analysis. Use relevant research studies in your response. (Paper 1)
2. Discuss how
 - biological, or
 - cognitive, or
 - socio-culturalfactors influence psychological disorders. (Paper 2)
3. Evaluate one theory of motivation in sport. (Paper 2)

* the syllabus for examinations current until 2016

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International Baccalaureate Diploma Programme Subject Brief

Sciences:

Biology—Higher level

First assessments 2016 – Last assessments 2022

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

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

These IB DP subject briefs illustrate four key course components.

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

- III. Assessment model
- IV. Sample questions



I. Course description and aims

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

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

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

1. appreciate scientific study and creativity within a global context through stimulating and challenging opportunities
2. acquire a body of knowledge, methods and techniques that characterize science and technology
3. apply and use a body of knowledge, methods and techniques that characterize science and technology
4. develop an ability to analyse, evaluate and synthesize scientific information
5. develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities

6. develop experimental and investigative scientific skills including the use of current technologies
7. develop and apply 21st century communication skills in the study of science
8. become critically aware, as global citizens, of the ethical implications of using science and technology
9. develop an appreciation of the possibilities and limitations of science and technology
10. develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge.

II. Curriculum model overview

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

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

The group 4 project

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

III. Assessment model

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

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

Assessment at a glance

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

IV. Sample questions

- Membrane proteins of mice cells were marked with green and membrane proteins of human cells were marked with red. The cells were fused together. What would be seen after two hours? (Paper 1)
- The species is the basis for naming and classifying organism.
 - Explain how new species can emerge by
 - directional selection
 - disruptive selection
 - polyploidy.
 - Outline the advantages to scientists of the binomial system for naming species.
 - Describe the use of dichotomous keys for the identification of specimens. (Paper 2)
- Brain death is a clinical diagnosis based on the absence of neurological function, with a known irreversible cause of coma.
 - Explain a named method to assess brain damage.
 - Distinguish between a reflex arc and other responses by the nervous system.
 - Describe the events that occur in the nervous system when something very hot is touched. (Paper 3)

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International Baccalaureate Diploma Programme Subject Brief

Sciences:

Biology—Standard level

First assessments 2016 – Last assessments 2022

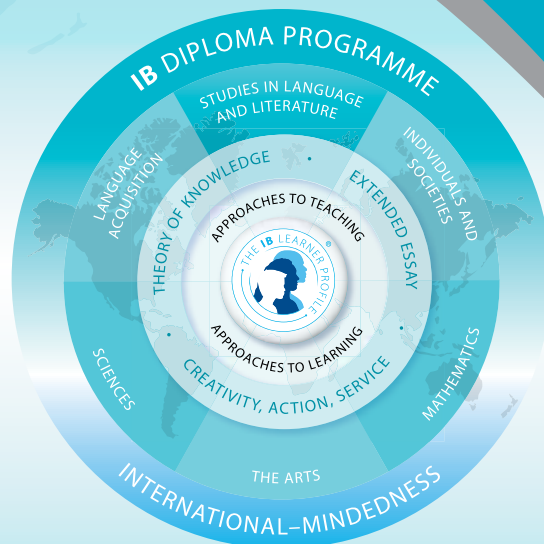
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To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students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

These IB DP subject briefs illustrate four key course components.

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

- III. Assessment model
- IV. Sample questions



I. Course description and aims

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

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

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

1. appreciate scientific study and creativity within a global context through stimulating and challenging opportunities
2. acquire a body of knowledge, methods and techniques that characterize science and technology
3. apply and use a body of knowledge, methods and techniques that characterize science and technology
4. develop an ability to analyse, evaluate and synthesize scientific information
5. develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities

6. develop experimental and investigative scientific skills including the use of current technologies
7. develop and apply 21st century communication skills in the study of science
8. become critically aware, as global citizens, of the ethical implications of using science and technology
9. develop an appreciation of the possibilities and limitations of science and technology
10. develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge.

II. Curriculum model overview

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

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

The group 4 project

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

III. Assessment model

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

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

Assessment at a glance

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

IV. Sample questions

- Cyclins were discovered by Timothy R. Hunt in 1982 while studying sea urchins. What is a function of cyclins? (Paper 1)
- Antibiotics can be used to treat bacterial infections in human tissues because of differences in cell structure between prokaryotes and eukaryotes.
 - o Distinguish between the structure of prokaryotes and eukaryotes.
 - o Evaluate the drug tests that Florey and Chain carried out on penicillin.
 - o Explain the reasons for the ineffectiveness of antibiotics in the treatment of viral diseases. (Paper 2)
- The company BASF produces a genetically modified potato called Amflora. Outline the purpose of modifying the potato. (Paper 3)

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International Baccalaureate Diploma Programme Subject Brief

Sciences:

Chemistry—Higher level

First assessments 2016 – Last assessments 2022

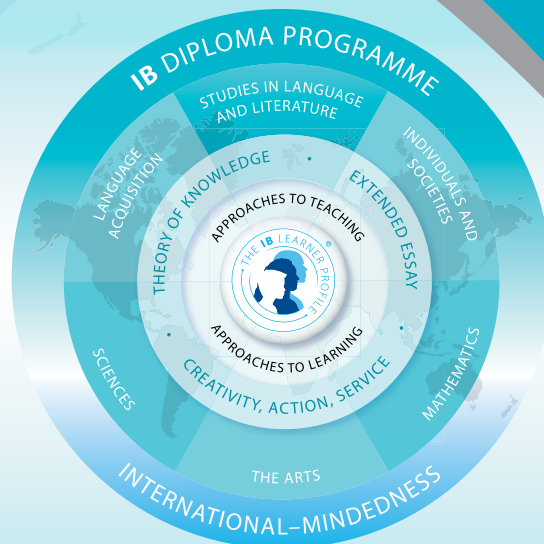
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To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students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

These IB DP subject briefs illustrate four key course components.

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

- III. Assessment model
- IV. Sample questions



I. Course description and aims

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

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

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

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

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

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

characterize science and technology

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

II. Curriculum model overview

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

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

The group 4 project

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III. Assessment model

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

- Demonstrate knowledge and understanding of:
 - facts, concepts, and terminology
 - methodologies and techniques
 - communicating scientific information.
- Apply:
 - facts, concepts, and terminology
 - methodologies and techniques
 - methods of communicating scientific information.
- Formulate, analyse and evaluate:
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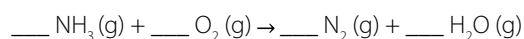
- Demonstrate the appropriate research, experimental, and personal skills necessary to carry out insightful and ethical investigations.

Assessment at a glance

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

IV. Sample questions

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



- 6
- 12
- 14
- 15 (Paper 1)

- The two isomers of $[\text{Pt}(\text{NH}_3)_2\text{Cl}_2]$ are crystalline. One of the isomers is widely used in the treatment of cancer.
 - Draw both isomers of the complex,
 - Explain the polarity of each isomer using a diagram of each isomer to support your answer,
 - State a suitable method (other than looking at dipole moments) to distinguish between the two isomers
 - Compare and contrast the bonding types formed by nitrogen in $[\text{Pt}(\text{NH}_3)_2\text{Cl}_2]$ (Paper 2)

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International Baccalaureate Diploma Programme Subject Brief

Sciences:

Chemistry—Standard level

First assessments 2016 – Last assessments 2022

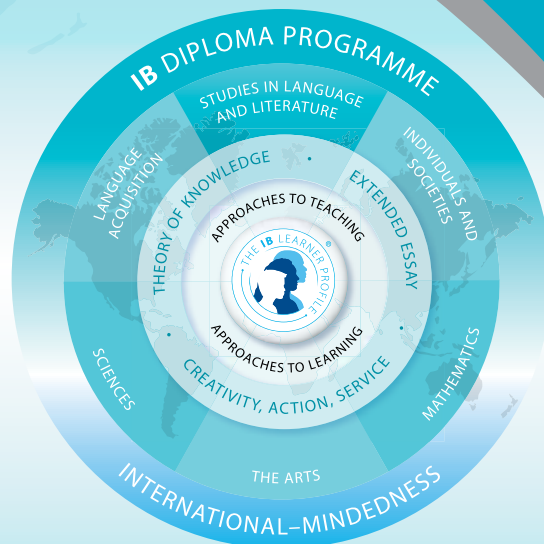
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These IB DP subject briefs illustrate four key course components.

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

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- IV. Sample questions



I. Course description and aims

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

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

II. Curriculum model overview

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

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

The group 4 project

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III. Assessment model

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

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

Assessment at a glance

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

IV. Sample questions

- What is the total number of atoms in 0.50 mol of 1,4-diaminobenzene, $\text{H}_2\text{NC}_6\text{H}_4\text{NH}_2$?
 - A. 16.0×10^{23}
 - B. 48.0×10^{23}
 - C. 96.0×10^{23}
 - D. 192.0×10^{23}
 (Avogadro's constant (L or N_A) = $6.0 \times 10^{23} \text{ mol}^{-1}$). (Paper 1)
- Many automobile manufacturers are developing vehicles that use hydrogen as a fuel.
 1. Suggest why such vehicles are considered to cause less harm to the environment than those with internal combustion engines.
 2. Hydrogen can be produced from the reaction of coke with steam: $\text{C(s)} + 2\text{H}_2\text{O(g)} \rightarrow 2\text{H}_2\text{(g)} + \text{CO}_2\text{(g)}$
 Using information from section 12 of the data booklet, calculate the change in enthalpy, ΔH , in kJ mol^{-1} , for this reaction. (Paper 2)

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International Baccalaureate Diploma Programme Subject Brief

Sciences:

Design technology—Higher level

First assessments 2016 — Last assessments 2022

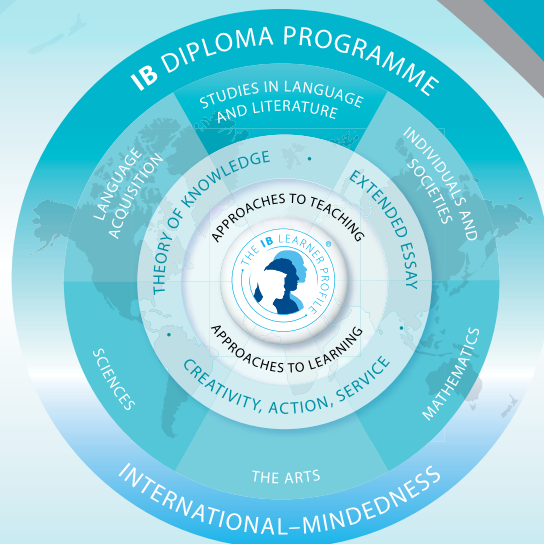
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These IB DP subject briefs illustrate four key course components.

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

- III. Assessment model
- IV. Sample questions



I. Course description and aims

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
Additional higher level (AHL)	54
7. User-centred design (UCD)	12
8. Sustainability	14
9. Innovation and markets	13
10. Commercial production	15
Practical work	96
Design project	60
Group 4 project	10
Teacher-directed activities	26

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:

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

3. Construct, analyse and evaluate:
 - design briefs, problems, specifications and plans
 - methods, techniques and products
 - data, information and technological explanations.
4. 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		4	60
Paper 1	Multiple-choice questions on core and HL extension material	1	20
Paper 2	Data based, short-answer, and extended-response questions on core material	1.5	20
Paper 3	Structured questions on HL extension material	1.5	20
Internal		60	40
Design project	Individual design project	60	40

IV. Sample questions

- At which stage of the product life cycle would user attitudes and behaviours be likely to have greater impact than those of the designer or the manufacturer? (Paper 1)
 - A. Production
 - B. Distribution, including packaging
 - C. Utilization
 - D. Disposal
- Explain how relative advantage, triability and observability impact on the rate of consumer adoption of flexible screen based smartphones. (Paper 2)
- Explain how the concept of Kaizen helps to improve the efficiency of the production process. (Paper 3)

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Sciences:

Design technology—Standard level

First assessments 2016 — Last assessments 2022

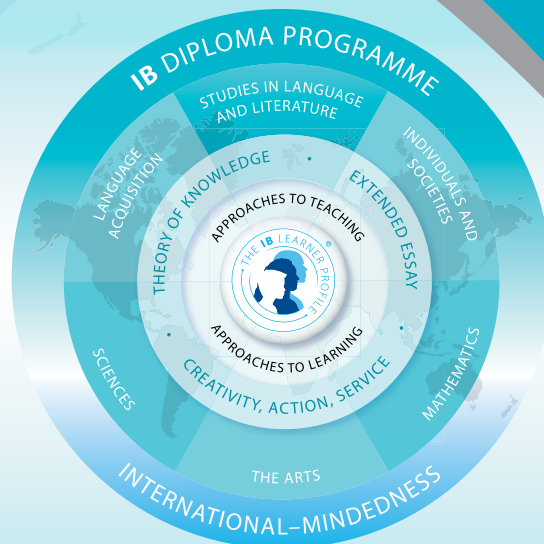
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To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students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

These IB DP subject briefs illustrate four key course components.

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

- III. Assessment model
- IV. Sample questions



I. Course description and aims

The 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:

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

3. Construct, analyse and evaluate:
 - design briefs, problems, specifications and plans
 - methods, techniques and products
 - data, information and technological explanations.
4. 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)
 - A. Cradle to cradle
 - B. Cradle to grave
 - C. Made to be made again
 - D. 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:

Physics—Higher level

First assessments 2016 – Last assessments 2022

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

These IB DP subject briefs illustrate four key course components.

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

- III. Assessment model
- IV. Sample questions



I. Course description and aims

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

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

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

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

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

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

II. Curriculum model overview

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

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

The group 4 project

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

III. Assessment model

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

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

Assessment at a glance

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

IV. Sample questions

- Why is wave-particle duality used in describing the properties of light?
 - A. Light is both a wave and a particle
 - B. Both wave and particle models can explain all the properties of light
 - C. Different properties of light can be more clearly explained by using one of the wave or particle models
 - D. Scientists feel more confident when using more than one model to explain a phenomenon (Paper 1)
- The tower is 120m high with an internal diameter of 3.5m. When most of the air has been removed, the pressure in the tower is 0.96 Pa. Determine the number of molecules of air in the tower when the temperature of the air is 300 K. (Paper 2)
- The streamlines above the airfoil are closer to each other than the streamlines below the airfoil. Suggest why this implies that the speed of the air above the airfoil is greater than the speed of air below the airfoil. (Paper 3)

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International Baccalaureate Diploma Programme Subject Brief

Sciences:

Physics—Standard level

First assessments 2016 – Last assessments 2022

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These IB DP subject briefs illustrate four key course components.

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

- III. Assessment model
- IV. Sample questions



I. Course description and aims

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

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

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4. develop an ability to analyse, evaluate and synthesize scientific information
5. develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities
6. develop experimental and investigative scientific skills including the use of current technologies
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II. Curriculum model overview

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

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

The group 4 project

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III. Assessment model

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

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

Assessment at a glance

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

IV. Sample questions

- An object falls freely from rest through a vertical distance of 44.0m in a time of 3.0s. What value should be quoted for the acceleration of free-fall? (Paper 1)
 - 9.778ms^{-2}
 - 9.780ms^{-2}
 - 9.78ms^{-2}
 - 9.8ms^{-2}
- There is a suggestion that the temperature of the Earth may increase if the use of fossil fuels is not reduced over the coming years. Explain, with reference to the enhanced greenhouse effect, why this temperature increase may occur. (Paper 2)
- In an experiment to measure the specific heat capacity of a metal, a piece of metal is placed inside a container of boiling water at 100°C . The metal is then transferred into a calorimeter containing water at a temperature of 10°C . The final equilibrium temperature of the water was measured. One source of error in this experiment is that the small mass of boiling water will be transferred to the calorimeter along with the metal.
 - Suggest the effect of the error on the measured value of the specific heat capacity of the metal
 - State one other source of error for this experiment (Paper 3)

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International Baccalaureate Diploma Programme Subject Brief

Mathematics:

Mathematics – Higher level

First assessments 2014 – Last assessments 2020

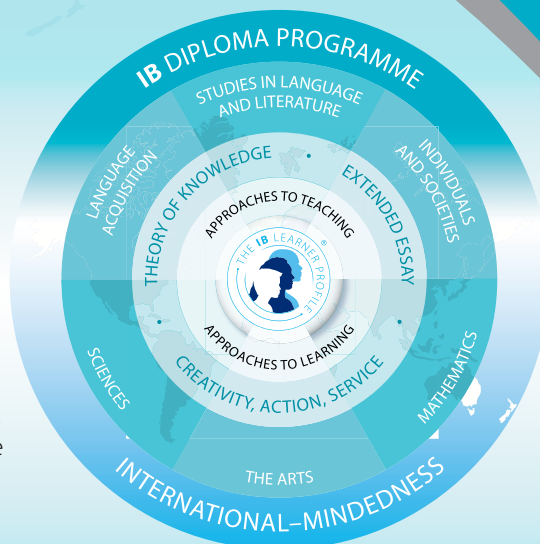
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To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students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

These IB DP subject briefs illustrate four key course components.

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

- III. Assessment model
- IV. Sample questions



I. Course description and aims

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

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

- enjoy and develop an appreciation of the elegance and power of mathematics
- develop an understanding of the principles and nature of mathematics
- communicate clearly and confidently in a variety of contexts
- develop logical, critical and creative thinking, and patience and persistence in problem-solving
- employ and refine their powers of abstraction and generalization

- apply and transfer skills to alternative situations, to other areas of knowledge and to future developments
- appreciate how developments in technology and mathematics have influenced each other
- appreciate the moral, social and ethical implications arising from the work of mathematicians and the applications of mathematics
- appreciate the international dimension in mathematics through an awareness of the universality of mathematics and its multicultural and historical perspectives
- appreciate the contribution of mathematics to other disciplines, and as a particular “area of knowledge” in the TOK course.

II. Curriculum model overview

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

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

III. Assessment model

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

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

Assessment at a glance

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

IV. Sample questions

- The vectors a, b, c satisfy the equation $a+b+c=0$. Show that $axb=bx c=cxa$.
- Consider the following system of equations:
$$\begin{aligned}x + y + z &= 1 \\2x + 3y + z &= 3 \\x + 3y - z &= \lambda\end{aligned}$$
where $\lambda \in \mathbb{R}$.
 - Show that this system does not have a unique solution for any value of λ .
 - Determine the value of λ for which the system is consistent.
 - For this value of λ , find the general solution of the system.

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International Baccalaureate Diploma Programme Subject Brief

Mathematics:

Mathematics – Standard level

First assessments 2014 – Last assessments 2020

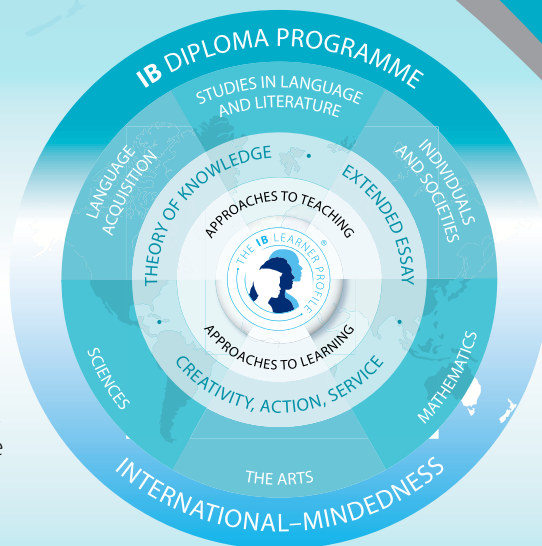
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To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students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

These IB DP subject briefs illustrate four key course components.

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

- III. Assessment model
- IV. Sample questions



I. Course description and aims

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

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

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

- enjoy mathematics, and develop an appreciation of the elegance and power of mathematics
- develop an understanding of the principles and nature of mathematics
- communicate clearly and confidently in a variety of contexts
- develop logical, critical and creative thinking, and patience and persistence in problem-solving

- employ and refine their powers of abstraction and generalization
- apply and transfer skills to alternative situations, to other areas of knowledge and to future developments
- appreciate how developments in technology and mathematics have influenced each other
- appreciate the moral, social and ethical implications arising from the work of mathematicians and the applications of mathematics
- appreciate the international dimension in mathematics through an awareness of the universality of mathematics and its multicultural and historical perspectives
- appreciate the contribution of mathematics to other disciplines, and as a particular “area of knowledge” in the TOK course.

II. Curriculum model overview

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

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

III. Assessment model

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

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

Assessment at a glance

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

IV. Sample questions

- A data set has a mean of 20 and a standard deviation of 6.
A) Each value in the data set has 10 added to it. Write down the value of
i. the new mean;
ii. the new standard deviation.
B) Each value in the original data set is multiplied by 10.
i. Write down the value of the new mean.
ii. Find the value of the new variance.
- Given that $f(x) = 1/x$, answer the following.
A) Find the first four derivatives of $f(x)$.
B) Write an expression for $f^{(n)}$ in terms of x and n .

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International Baccalaureate Diploma Programme Subject Brief

Mathematics:

Mathematical studies – Standard level

First assessments 2014 – Last assessments 2020

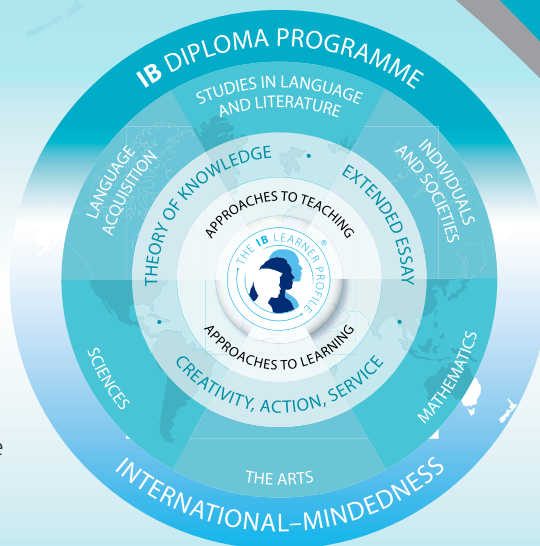
The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural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

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

These IB DP subject briefs illustrate four key course components.

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

- III. Assessment model
- IV. Sample questions



I. Course description and aims

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

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

- enjoy and develop an appreciation of the elegance and power of mathematics
- develop an understanding of the principles and nature of mathematics
- communicate clearly and confidently in a variety of contexts
- develop logical, critical and creative thinking, and patience and persistence in problem-solving
- employ and refine their powers of abstraction and generalization
- apply and transfer skills to alternative situations, to other areas of knowledge and to future developments
- appreciate how developments in technology and mathematics have influenced each other
- appreciate the moral, social and ethical implications arising from the work of mathematicians and the applications of mathematics

- appreciate the international dimension in mathematics through an awareness of the universality of mathematics and its multicultural and historical perspectives
- appreciate the contribution of mathematics to other disciplines, and as a particular "area of knowledge" in the TOK course.

II. Curriculum model overview

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

III. Assessment model

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

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

IV. Sample questions

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

Using this model one equation that can be formed is $20a + b = 25$

- A. Using the model, write down a second equation in a and b .
 - B. Using your graphic display calculator or otherwise, find the value of a and of b .
 - C. Use the model to predict the temperature of the liquid 60 seconds after the start of heating.
- Yun Bin invests 5000 euros in an account which pays a nominal annual interest rate of 6.25 %, compounded monthly. Give all answers correct to two decimal places.
- Find
- A. the value of the investment after 3 years;
 - B. the difference in the final value of the investment if the interest was compounded quarterly at the same nominal rate.

Assessment at a glance

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

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International Baccalaureate Diploma Programme Subject Brief

The arts:

Theatre—Higher level

First assessments 2016 – Last assessments 2022

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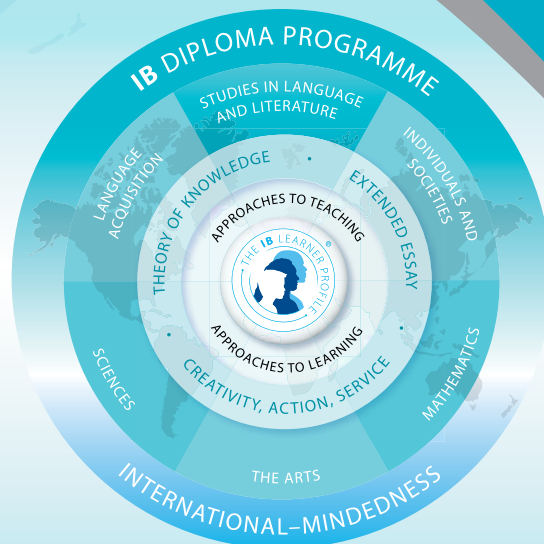
To ensure both breadth and depth of knowledge and understanding, students must choose at least one subject from five groups: 1) their best language, 2) additional language(s), 3) social sciences, 4) experimental sciences, and 5) mathematics. Students may choose either an arts subject from group 6, or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

These IB DP subject briefs illustrate three key course components.

I. Course description and aims

II. Curriculum model overview

III. Assessment model



I. Course description and aims

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

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

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

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

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

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

II. Curriculum model overview

Component	Recommended teaching hours
Theatre in context <ul style="list-style-type: none"> • Research and examine the various contexts of: <ul style="list-style-type: none"> ◦ at least one theatre theorist ◦ at least one published play text and reflect on live theatre ◦ at least one world theatre tradition. • Reflect on personal approaches, interests and skills in theatre. Research and examine at least one starting point and the approaches employed by an appropriate professional theatre company, and consider how this might influence personal approaches. 	80

Theatre processes

- Explore at least one theorist and collaboratively engage in creating theatre based on their theory.
- Take part in the practical exploration of at least two contrasting published play texts and engage with the process of transforming a play text into action.
- Practically examine the performance conventions of at least one world theatre tradition and apply this to the staging of a moment of theatre.
- Respond to at least one starting point and engage with the process of transforming it collaboratively into an original piece of theatre.

80

Presenting theatre

- Create, present and evaluate at least one theatre piece based on an aspect of a theatre theorist's work.
- Direct and present at least one scene or section from one published play text.
- Present a moment of theatre which demonstrates the performance convention(s) of at least one world theatre tradition.
- Participate in at least one production of a collaboratively created piece of original theatre, created from a starting point, which is presented to others.

80

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

III. Assessment model

Having followed the theatre course students are expected to:

1. Demonstrate knowledge and understanding of specified content
 - Describe the relationship between theatre and its contexts
 - Identify appropriate and valuable information from research for different specialist theatre roles
 - Present ideas, discoveries and learning, gained through research and practical exploration to others

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

Assessment at a glance

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

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

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International Baccalaureate Diploma Programme Subject Brief

The arts:

Theatre—Standard level

First assessments 2016 – Last assessments 2022

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

These IB DP subject briefs illustrate three key course components.

I. Course description and aims

II. Curriculum model overview

III. Assessment model



I. Course description and aims

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

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

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

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

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

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

II. Curriculum model overview

Component	Recommended teaching hours
Theatre in context <ul style="list-style-type: none"> • Research and examine the various contexts of at least one published play text and reflect on live theatre. • Research and examine the various contexts of at least one world theatre tradition. • Reflect on personal approaches, interests and skills in theatre. Research and examine at least one starting point and the approaches employed by one appropriate professional theatre company, and consider how this might influence personal approaches. 	50

Theatre processes

- Take part in the practical exploration of at least two contrasting published play texts and engage with the process of transforming a play text into action.
- Practically examine the performance conventions of at least one world theatre tradition and apply this to the staging of a moment of theatre.
- Respond to at least one starting point and engage with the process of transforming it collaboratively into an original piece of theatre.

50

Presenting theatre

- Direct at least one scene or section from one published play text which is presented to others.
- Present a moment of theatre to others which demonstrates the performance convention(s) of at least one world theatre tradition.
- Participate in at least one production of a collaboratively created piece of original theatre, created from a starting point, which is presented to others.

50

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

III. Assessment model

Having followed the theatre course students are expected to:

1. Demonstrate knowledge and understanding of specified content
 - Describe the relationship between theatre and its contexts
 - Identify appropriate and valuable information from research for different specialist theatre roles
 - Present ideas, discoveries and learning, gained through research and practical exploration to others
2. Demonstrate application and analysis of knowledge and understanding
 - Explain the relationship and significance of the integration of production, performance and research elements
 - Explore and demonstrate different ways through which ideas can be presented and transformed into action
 - Explain what has informed, influenced and had impact on their work

3. Demonstrate synthesis and evaluation
 - Evaluate their work and the work of others
 - Discuss and justify choices
 - Examine the impact their work has had on others
4. Select, use and apply a variety of appropriate skills and techniques
 - Demonstrate appropriate skills and techniques in the creation and presentation of theatre in different specialist theatre roles
 - Demonstrate organization of material including use and attribution of sources
 - Demonstrate the ability to select, edit and present work appropriately

Assessment at a glance

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

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

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International Baccalaureate Diploma Programme Subject Brief

The arts:

Visual arts—Higher level

First assessments 2016 – Last assessments 2022

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

These IB DP subject briefs illustrate three key course components.

I. Course description and aims

II. Curriculum model overview

III. Assessment model



I. Course description and aims

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

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

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

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

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

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

II. Curriculum model overview

Component	Recommended teaching hours
Visual arts in context <ul style="list-style-type: none"> • Examine and compare the work of artists from different cultural contexts. • Consider the contexts influencing their own work and the work of others. • Make art through a process of investigation, thinking critically and experimenting with techniques. • Apply identified techniques to their own developing work. • Develop an informed response to work and exhibitions they have seen and experienced. • Begin to formulate personal intentions for creating and displaying their own artworks. 	80

Visual arts methods <ul style="list-style-type: none"> Look at different techniques for making art. Investigate and compare how and why different techniques have evolved and the processes involved. Experiment with diverse media and explore techniques for making art. Develop concepts through processes informed by skills, techniques and media. Evaluate how their ongoing work communicates meaning and purpose. Consider the nature of “exhibition”, and think about the process of selection and the potential impact of their work on different audiences. 	80
Communicating visual arts <ul style="list-style-type: none"> Explore ways of communicating through visual and written means. Make artistic choices about how to most effectively communicate knowledge and understanding. Produce a body of artwork through a process of reflection and evaluation, showing a synthesis of skill, media and concept. Select and present resolved works for exhibition. Explain the ways in which the works are connected. Discuss how artistic judgments impact the overall presentation. 	80

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

III. Assessment model

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

- Demonstrate knowledge and understanding of specified content
 - Identify various contexts in which the visual arts can be created and presented
 - Describe artwork from differing contexts, and identify the ideas, conventions and techniques employed by the art-makers
 - Recognize the skills, techniques, media, forms and processes associated with the visual arts
 - Present work, using appropriate visual arts language, as appropriate to intentions
- Demonstrate application and analysis of knowledge and understanding
 - Express concepts, ideas and meaning through visual communication

- Analyse artworks from a variety of different contexts
 - Apply knowledge and understanding of skills, techniques, media, forms and processes related to art-making
- Demonstrate synthesis and evaluation
 - Critically analyse and discuss artworks created by themselves and others and articulate an informed personal response
 - Formulate personal intentions for the planning, development and making of artworks that consider how meaning can be conveyed to an audience
 - Demonstrate the use of critical reflection to highlight success and failure in order to progress work
 - Evaluate how and why art-making evolves and justify the choices made in their own visual practice
 - Select, use and apply a variety of appropriate skills and techniques
 - Experiment with different media, materials and techniques in art-making
 - Make appropriate choices in the selection of images, media, materials and techniques in art-making
 - Demonstrate technical proficiency in the use and application of skills, techniques, media, images, forms and processes
 - Produce a body of resolved and unresolved artworks as appropriate to intentions

Assessment at a glance

Type of assessment	Format of assessment	Weighting of final grade (%)
External		60
Comparative study	<ul style="list-style-type: none"> 10–15 screens which examine and compare at least 3 artworks, at least 2 of which need to be by different artists 3–5 screens which analyse the extent to which the student's work and practices have been influenced by the art and artists examined A list of sources used 	20
Process portfolio	<ul style="list-style-type: none"> 13–25 screens which evidence sustained experimentation, exploration, manipulation and refinement of a variety of art-making activities 	40
Internal		40
Exhibition	<ul style="list-style-type: none"> A curatorial rationale that does not exceed 700 words 8–11 artworks Exhibition text (stating the title, medium, size and intention) for each artwork 	40

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International Baccalaureate Diploma Programme Subject Brief

The arts:

Visual arts—Standard level

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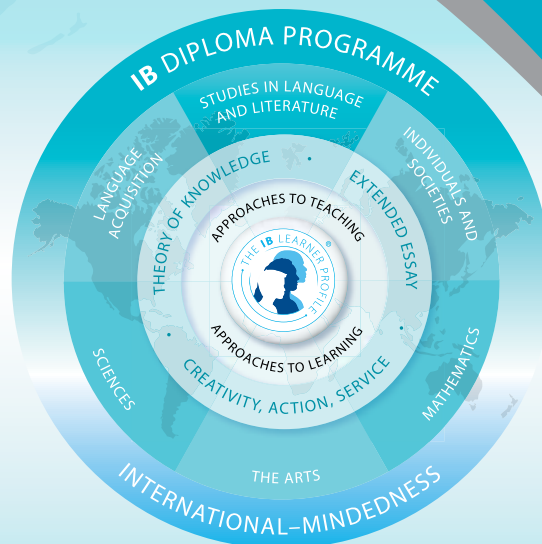
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I. Course description and aims

II. Curriculum model overview

III. Assessment model



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6. develop perceptual and analytical skills.

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

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

II. Curriculum model overview

Component	Recommended teaching hours
Visual arts in context <ul style="list-style-type: none"> Examine and compare the work of artists from different cultural contexts. Consider the contexts influencing their own work and the work of others. Make art through a process of investigation, thinking critically and experimenting with techniques. Apply identified techniques to their own developing work. Develop an informed response to work and exhibitions they have seen and experienced. Begin to formulate personal intentions for creating and displaying their own artworks. 	50

Visual arts methods <ul style="list-style-type: none"> • Look at different techniques for making art. • Investigate and compare how and why different techniques have evolved and the processes involved. • Experiment with diverse media and explore techniques for making art. • Develop concepts through processes informed by skills, techniques and media. • Evaluate how their ongoing work communicates meaning and purpose. • Consider the nature of “exhibition” and think about the process of selection and the potential impact of their work on different audiences. 	50
Communicating visual arts <ul style="list-style-type: none"> • Explore ways of communicating through visual and written means. • Make artistic choices about how to most effectively communicate knowledge and understanding. • Produce a body of artwork through a process of reflection and evaluation, showing a synthesis of skill, media and concept. • Select and present resolved works for exhibition. • Explain the ways in which the works are connected. • Discuss how artistic judgments impact the overall presentation. 	50

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

III. Assessment model

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

1. Demonstrate knowledge and understanding of specified content
 - Identify various contexts in which the visual arts can be created and presented
 - Describe artwork from differing contexts, and identify the ideas, conventions and techniques employed by the art-makers
 - Recognize the skills, techniques, media, forms and processes associated with the visual arts
 - Present work, using appropriate visual arts language, as appropriate to intentions
2. Demonstrate application and analysis of knowledge and understanding
 - Express concepts, ideas and meaning through visual communication

- Analyse artworks from a variety of different contexts
 - Apply knowledge and understanding of skills, techniques, media, forms and processes related to art-making
3. Demonstrate synthesis and evaluation
 - Critically analyse and discuss artworks created by themselves and others and articulate an informed personal response
 - Formulate personal intentions for the planning, development and making of artworks that consider how meaning can be conveyed to an audience
 - Demonstrate the use of critical reflection to highlight success and failure in order to progress work
 - Evaluate how and why art-making evolves and justify the choices made in their own visual practice
 4. Select, use and apply a variety of appropriate skills and techniques
 - Experiment with different media, materials and techniques in art-making
 - Make appropriate choices in the selection of images, media, materials and techniques in art-making
 - Demonstrate technical proficiency in the use and application of skills, techniques, media, images, forms and processes
 - Produce a body of resolved and unresolved artworks as appropriate to intentions

Assessment at a glance

Type of assessment	Format of assessment	Weighting of final grade (%)
External		60
Comparative study	<ul style="list-style-type: none"> • 10–15 screens which examine and compare at least 3 artworks, at least 2 of which should be by different artists • A list of sources used 	20
Process portfolio	<ul style="list-style-type: none"> • 9–18 screens which evidence the student’s sustained experimentation, exploration, manipulation and refinement of a variety of art-making activities 	40
Internal		40
Exhibition	<ul style="list-style-type: none"> • A curatorial rationale that does not exceed 400 words • 4–7 artworks • Exhibition text (stating the title, medium, size and intention) for each artwork 	40

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

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

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

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

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

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

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

Overview of the music higher level course and curriculum model

I. Course description and aims

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

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

II. Curriculum model overview

Music higher level

Components	
<i>Musical perception</i>	90 hours
<i>Creating</i>	75 hours
<i>Solo performing</i>	75 hours
Total teaching hours	240 hours

III. Assessment model

Assessment for music higher level

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

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

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

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

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

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

Assessment for music higher level (continued)

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

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

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

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

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

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			50
<i>Listening paper</i>	Seven musical perception questions	3	30
<i>Musical links investigation</i>	A written media script of 2,000 words or less, investigating the significant musical links between two or more pieces from distinct musical cultures		20
Internal			50
<i>Creating and performing</i>	Creating: three pieces of coursework with recordings and written work		25
	Solo performing: A recording selected from pieces presented during one or more public performances		25

IV. Sample questions

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

Listening paper section A

Sample: *Violin Concerto II Allegro – Adagio* by A Berg and *Adiós Nonino* by A Piazzolla
Investigate significant musical links between these two pieces by analysing and comparing and contrasting their timbre/tone colour and melody.

Listening paper section B

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

Sample: *String Quartet No. 8, Op. 110 - Movement I* by D Shostakovich (score provided)

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

Listening paper section C

Sample: Select any two of the extracts from section B. Investigate and evaluate two (or more) significant musical links between these extracts. Arguments must be fully justified, located and relevant to the chosen extracts.

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

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

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

Overview of the music standard level course and curriculum model

I. Course description and aims

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

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

II. Curriculum model overview

Music standard level

Components		
Core	Musical perception	75 hours
Options	Students choose one of the three options <ul style="list-style-type: none"> • Creating • Solo performing • Group performing 	75 hours
Total teaching hours		150 hours

III. Assessment model

Assessment for music standard level

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

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

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

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

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

Assessment for music standard level (continued)

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

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

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

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

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

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

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

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			50
<i>Listening Paper</i>	Five musical perception questions	2.25	30
<i>Musical links investigation</i>	A written media script of 2,000 words or less, investigating the significant musical links between two or more pieces from distinct musical cultures		20
Internal			50
<i>Creating or performing</i>	Students choose one of the three options. Creating: Two pieces of coursework with recordings and written work Solo performing: A recording selected from pieces presented during one or more public performances Group performing: A recording selected from pieces presented during two or more public performances		

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IV. Sample questions

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

Listening paper section A

Sample: *Violin Concerto II Allegro* – *Adagio* by A Berg and *Adiós Nonino* by A Piazzolla

Investigate significant musical links between these two pieces by analysing and comparing and contrasting their timbre/tone colour and melody.

Listening paper section B

Sample: Unidentified Piece (no score provided)

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

Sample: *String Quartet No. 8, Op. 110 - Movement I* by D Shostakovich (score provided)

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

* the syllabus for examinations current until 2016

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