جيمس مودرن أكاديمي
GEMS Modern Academy

International Baccalaureate

Curriculum Information Booklet

2020 - 2022

GEMS EDUCATION

Contents

DP SUBJECT INFORMATION:

Key Acronyms and Terms

The following acronyms are used throughout this booklet. Subject specific acronyms are explained in the relevant subject pages.

IBO	**International Baccalaureate Organisation**
IB	**International Baccalaureate**
IBDP	**International Baccalaureate Diploma Programme**
IBDPC	**International Baccalaureate Diploma Programme Coordinator**
SL	**Standard Level**
HL	**Higher Level**
The Core	**Comprised of TOK, EE and CAS**
TOK	**Theory of Knowledge**
CAS	**Creativity Activity Service**
EE	**Extended Essay**
IB1	**Grade 11**
IB2	**Grade 12**
GMA	**GEMS Modern Academy**

Dear Parents,

It is my pleasure to formally introduce myself to you as the International Baccalaureate Diploma Programme (IBDP) Coordinator at GEMS Modern Academy.

The Diploma Programme (DP) is a fantastic, enriching journey for students and teachers alike. In the 21st century, knowledge and data are more readily available and accessible to the citizens of the world than ever before. The global workforce is beginning to face an increasing shortage of skilled workers who have the ability to learn how to learn, adapt to new circumstances, take risks, innovate, and develop increasingly effective interpersonal skills.

Through this two year experience, your son or daughter is going to lay the groundwork for a lifetime of learning. The DP is an unrivaled international secondary school qualification that is not only academically enriching, but also develops successful global citizens of the highest character. GEMS Modern Academy provides a unique environment for students to experience this curriculum. It is no coincidence that the Modern Learner Profile shares so much in common with the IB Learner Profile. We are truly privileged to offer the DP in such a wonderful atmosphere that encourages students to reach their full potential. The outstanding results from our very first batch have shown that Modern truly offers a Diploma Programme of the highest standard.

Naturally, as with any worthwhile venture, success will not come instantly or easily! Students who develop the capacity to persevere, are willing to make mistakes, learn from these mistakes, and improve continuously are the ones who find the most success in the DP and in life. Your encouragement in this process will be vital.

With your continued support, our main objective is to encourage and guide students as they each strive to achieve their own unique goals. I personally look forward to welcoming your applications for study at the IB level and to working with you and your child to help realise these goals!

Sincerely,

S. Sunipa Neogi

Sunipa Neogi
IBDP Coordinator
sunipa.n_mhs@gemsedu.com

IB Key Application Dates 2020-22

Sunday 18th October – 28st October 2020	IB taster lessons for Grade 10 students
Tuesday 3rd November 2020	**Applications portal open for IB from current and external students via OpenApply website** Meet the IB teachers afternoon session for Grade 10 students/parents
Sunday 8th November 2020	IB InfoPack for prospective parents **Applications close for IB**
Thursday 10th December 2020	Late applications accepted onto waiting list. External applications accepted at any time subject to student numbers
January 2021	**Evaluation/interview process begins for selected applicants**
Late February/early March 2021	IB offer letters distribution commences
Monday, 29th March 2021 (3:00 pm)	**Last day for all parents/students to confirm acceptance of offers.**
April 2021	Offers made to students on waiting list
Monday 4tt April 2021	IB Bridge Programme begins
Tuesday 2nd April 2021	IB Bridge Programme InfoPack

The IB Curriculum at GEMS Modern Academy

At GEMS Modern Academy we offer two IB categories of study for students from the International Baccalaureate Organisation (IBO).

- **The IB Diploma Programme (IBDP)**
  An academically stimulating and balanced programme of education with final examinations in six subjects and an additional 'Core' programme of study (TOK, CAS, EE), that prepares students for success at university and life beyond.

- **The IB Diploma Course**
  A flexible and equally stimulating version of the Diploma Programme in which students take 6 DP subjects at any level and have the option of taking parts of the 'Core' of the Diploma Course (TOK, CAS and EE). This category also provides students with the qualifications to access a wide range of universities.

What is the International Baccalaureate Organisation?

The International Baccalaureate Organisation was established in the late 1960s to meet the educational needs of students in International Schools. From these early days it has grown to an organisation that teaches over 876,000 students in 4267 schools in nearly 130 countries. The IB is now taught in both International Schools and State sector schools across the globe, with the highest number of schools being in the United States.

The International Baccalaureate Organisation (IBO) is based in Geneva with its head curriculum office in Cardiff in the UK. There are regional offices that deal with Professional Development and administration of the program in different parts of the world in the Asia Pacific, South America, North America and Europe, Middle East and Africa.

The IBO Mission Statement

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

To this end the organisation works with schools, governments and international organizations to develop challenging programmes of international education and rigorous assessment.

These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.

The International Baccalaureate at GMA

Why has Modern chosen the IB?

The IB is recognised as one of the pre-eminent curriculum programmes worldwide. It is a holistic, and student-centred curriculum that helps prepare students become successful 21st-century learners. Heavily focused on inquiry, critical thinking and problem solving, it encourages international mindedness, compassion, tolerance and a love for learning. These values are shared by all Modernites which makes the decision to offer the IB a very obvious one. The robust IB curriculum is recognised globally as an excellent preparation for university and beyond. One of the driving motivations for implementing the IBDP is the fact that it is acknowledged by Universities worldwide as an excellent qualification and it is particularly sought after by the world's top universities.

We strongly believe that the IB Mission aligns closely with the Modern Mission and Vision statements:

The GMA Mission Statement

To develop GEMS Modern Academy into a vibrant and exemplary educational institution where students are nurtured and encouraged to achieve their ultimate potential. GEMS Modern Academy will create an all-inclusive, student-focused learning environment by providing opportunities for enrichment in the fields of academics, sports and fine arts.

The GMA Vision Statement

Inspiring children to be positive change-makers.

The Learner Profile and the IB Curriculum

The IB Learner Profile is at the core of all IB curriculum models.

The breadth of the IB Programmes adds a value independent of any specific course. It is hard to quantify the value of scientists being required to study literature, or of artists being required to study mathematics, but we believe that it adds much to the educational experience of those in our IB programmes.

Beyond the explicitly academic aspect of the courses, the IB's mission statement is translated into a set of learning outcomes as identified in the Learner Profile. The IB Learner Profile describes a broad range of human capacities and responsibilities that go beyond academic success. They imply commitment to help all members of the school community learn to respect themselves, others and the world around them. Each of the IB's programmes is committed to the development of students according to the IB learner profile.

The profile aims to develop learners who are:

- Inquirers
- Knowledgeable
- Thinkers
- Communicators
- Principled
- Open-minded
- Caring
- Risk takers
- Balanced
- Reflective

A short video about the IB Learner Profile can be found here:
http://www.ibo.org/benefits/learner-profile/

The full IB Learner Profile is printed on the following page.

IB learner profile

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

As IB learners we strive to be:

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

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

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

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

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

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

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

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

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

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

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

International Baccalaureate®
Baccalauréat International

Expectations for our IB Learners at GMA

In line with the IB philosophy, an IB learner at Modern will receive an enriching, student-centred and holistic education. Each of our students should be ready to embrace the following expectations and privileges.

As an IB learner at Modern, you should:

- be fully committed to the requirement of IB Philosophy and curriculum
- utilise your time productively inside and outside of the classroom
- aspire to be a learner that inquires creatively and who pursues intellectual and extracurricular interests with enthusiasm
- strive to learn both independently and together with others
- balance your intellectual, physical and emotional needs
- embrace new opportunities and challenges with the support of your peers and teachers
- be caring and empathetic participants in the school, local community and beyond
- undertake positions of responsibility and leadership both locally and globally
- reflect on your experiences and of those in the world around you
- act as a positive role models for the rest of the school and community
- be approachable and available to support and assist younger students

GEMS Modern Academy

IB Diploma Programme

The IB Diploma Programme (IBDP) is an academically enriching and balanced programme of education that prepares students, aged 16 to 19, for success at university and life beyond. It has been designed to address the intellectual, social, emotional and physical well-being of students. Over the past 40 years, the DP has gained recognition and respect from the world's leading universities. It prepares students for effective participation in a rapidly evolving and increasingly global society as they:

- acquire breadth and depth of knowledge and understanding **by studying subjects across six subject groups**
- **study at least two languages** (English and a foreign language) while developing a sense of international-mindedness
- make connections across traditional academic disciplines and explore the nature of knowledge through the programme's unique **Theory of Knowledge** (**TOK**) course
- undertake in-depth research into an area of interest through the lens of one or more academic disciplines through the **Extended Essay (EE)**
- enhance personal and interpersonal development through **Creativity, Activity and Service (CAS).**

IB Diploma Programme candidates must choose at least one subject each from six groups:

- Studies in language and literature
- Language acquisition
- Individuals and societies
- Sciences
- Mathematics
- Arts*

*Instead of an Arts subject, students may elect to choose a second subject from Individuals and Societies or the Sciences.

It is important to note that the IB Diploma Programme is a package, and the whole is bigger than the sum of its parts. In addition to subject-specific knowledge, the academic challenge of taking six subjects, the Extended Essay (EE) and Theory of Knowledge (TOK) allows students to develop excellent academic and personal skills in preparation for further study.

The Diploma Programme is nicely summarised by the diagram below -- note that the curriculum puts the learner and IB learner profile at the centre of its philosophy and structure.

IB Diploma Programme – Categories of Study

1. IB Diploma

IB Diploma candidates must study three subjects are taken at higher level (HL, 240 recommended teaching hours), while the remaining are taken at standard level (SL, 150 recommended teaching hours). HL and SL courses differ in scope but are measured according to the same grade descriptors with students expected to demonstrate a greater body of knowledge, understanding and skills at higher level.

Each subject is scored on a points scale from 1 to 7 (the highest grade being 7).

In addition to the 6 subjects, there are three compulsory core elements that are central to the philosophy of the programme and worth a maximum of 3 points in total:

- The Extended Essay (EE)
- Theory of Knowledge (TOK)
- Creativity, Activity and Service (CAS)

International Baccalaureate Diploma Award

The Diploma is awarded to students who achieve a minimum score of 24 (out of a possible total of 45), fulfil other minimum requirements (e.g. completing an Extended Essay) and have no failing conditions (see the list below).

At Modern, we have organised reporting, monitoring and counselling systems that highlight areas of concern for students at an early stage. The full requirements for students to pass the Diploma can be found in the IB General Regulations Booklet section 13 on the IBO website: http://www.ibo.org/globalassets/publications/become-an-ib-school/dp-general-regulations-en.pdf

The current updated IBDP failing conditions from the May 2018 examination session are listed below:

1. CAS requirements have not been met.
2. Candidate's total points are fewer than 24.
3. An N has been given for theory of knowledge, extended essay or for a contributing subject.
4. A grade E has been awarded for one or both of theory of knowledge and the extended essay.
5. There is a grade 1 awarded in a subject/level.
6. Grade 2 has been awarded three or more times (HL or SL).
7. Grade 3 or below has been awarded four or more times (HL or SL).
8. Candidate has gained fewer than 12 points on HL subjects (for candidates who register for four HL subjects, the three highest grades count).
9. Candidate has gained fewer than 9 points on SL subjects (candidates who register for two SL subjects must gain at least 5 points at SL).

2. The IB Diploma Course (aka 'Certificate')

In line with its inclusive philosophy, the IBO offers the **Diploma Course** category which provides a flexible pathway for students to experience the DP and gain entry to university. Approximately 40% of global IB candidates choose this route for a variety of reasons. Some can directly gain university entry without needing to meet all of the passing requirements for the Diploma category. Others individually tailor the programme to maximise their strengths and build on their weaknesses in a safe way, free from any possible failing conditions.

Students still undertake 6 subjects, but there is no requirement to study 3 at the Higher Level. While CAS is still mandatory and a very constructive experience, students have the option to undertake TOK and/or the Extended Essay.

At the end of the Programme, students are awarded a **Certificate of Diploma Programme Course Results**, which serves as their credential for university

A multitude of universities across the world recognise the DP Courses as a valid prerequisite for study at Higher Education. All students, regardless of their DP pathway, are carefully guided to choose subjects that allow access to Higher Education at the end of Grade 12 (IB Year 2). We have a number of graduates from our first graduating batch who have gone on to successfully gain admission to universities in the UK, USA and India via the Diploma Course route.

Typical IB Diploma Course Outline

Subjects

- English SL
- Mathematics SL
- Foreign language
- 3 further subjects choices (at SL unless DP subject entry requirements met for HL)

Core

- CAS
- Theory of Knowledge (optional course)
- Extended Essay (optional and with consultation)

The Diploma Programme Subject Options

Students choose one subject from each group (three at HL and three at SL for 'Diploma' candidates). The only exceptions being those who choose Environmental Systems and Societies and/or the free elective in Group 6 (see below).

Group 1: Studies in Language and Literature (English)

- Language A: Literature HL/SL
- Language A: English Language & Literature HL/SL

Group 2: Language Acquisition

- Arabic ab initio
- Arabic B
- French ab initio SL
- French B HL/SL
- Hindi B HL/SL
- Spanish B
- Spanish ab initio SL

Ab Initio language is an entry level language focusing more on conversational language – students choosing Ab Initio courses should not have any prior language study at Grades 7 to 10 (ages 11-16) in the chosen language.

Group 3: Individuals and Societies

- Business Management HL/SL
- Economics HL/SL
- Geography HL/SL
- Global Politics HL/SL
- History HL/SL
- Information Technology in a Global Society HL/SL
- Psychology HL/SL
- Environmental Systems and Societies (SL only)*

*Note: Environmental Systems and Societies constitutes an interdisciplinary subject and can meet the requirement for Group 3 AND Group 4.

Therefore, if a student does not wish to take any of the subjects offered in Group 4 they can opt for this and vice-versa.

Group 4: Sciences

- Biology HL/SL
- Chemistry HL/SL
- Computer Science HL/SL
- Environmental Systems and Societies (SL only)
- Physics HL/SL
- Sport, Exercise and Health Science (SL only)

Group 5: Mathematics

- Math - Applications and interpretation HL
- Math - Applications and interpretation SL
- Math - Analysis and approaches HL
- Math - Analysis and approaches SL

Group 6: Arts and Electives

- Music HL/SL
- Visual Arts HL/SL
- Free elective (another subject from Group 3 or 4)

The full range of subjects offered will be dependent on student interest. The school however is committed to offering as many subjects as possible to maximize opportunities for our students.

The IB Diploma Programme Core

In addition to disciplinary and interdisciplinary study, the Diploma Programme features three core elements that broaden students' educational experience. This gives students a unique and definitive edge in terms of university preparation.

Theory of knowledge (TOK)

TOK plays a special role in the Diploma Programme by providing an opportunity for students to reflect on the nature of knowledge. Students develop an understanding of how knowledge is constructed, communicated and developed over time in different areas of knowledge. By exploring different perspectives and considering the different ways in which we acquire knowledge, students carefully reflect upon "knowledge questions" which lie at the heart of the TOK course. This unique subject takes students on a 100 hour journey that culminates in two final assessments - a 20-30 minute presentation and a 1600 word essay.

The extended essay (EE)

The EE allows students to engage in independent research through an in-depth study of a question relating to one of the DP subjects they are studying. The World Studies extended essay option allows students to focus on a topic of global significance which they examine through the lens of at least two DP subjects. With guidance from an assigned supervisor, students navigate the research process and build invaluable skills that prepare them the demands of university life. The final outcome is a 4000 word essay which is developed over approximately 40 hours of research time.

Creativity, activity, service (CAS)

CAS involves students in a range of activities alongside their academic studies throughout the Diploma Programme. Creativity encourages students to engage in the arts and creative thinking. Activity seeks to develop a healthy lifestyle through physical activity. Service with the community offers a vehicle for new learning with academic value. The three strands of CAS enhance students' personal and interpersonal development through experiential learning and reflection.

Activities planned by students in the past have included the Future Hope trip to Kolkata to support orphans, the Global Goals wall, the Helping Hands CAS project to raise money for Dubai cares, and the organisation of the first intra-school Model United Nations programme here at Modern.

Here at Modern we offer a comprehensive array of creative activities, events such as Model United Nations, World Scholar's Cup, debating, sports, expeditions and service related opportunities allow students to take part in the activities needed while also providing them with structured support at all stages through the utilisation of the online ManageBac system. Activities planned and completed as part of the CAS programme significantly augment a student's curriculum vitae and helps differentiate them at both university and employment related interviews.

An in depth description of all three core areas can be found later in this booklet.

Admissions Policy

Subject Option Prerequisites & Recommendations

In conjunction with our general school admissions policy, we are proud to be a fully-inclusive programme. It is our first priority to help students access the IB Diploma Programme in the way that suits each child best.

Selection of Diploma subject options should be undertaken with careful consideration of student interest, possible university pathways, Grade 10 outcomes, work ethic, and any additional context that can be gained from standardised testing conducted within the school.

We are able to use this information to counsel students on the Diploma stream and subject options in which they are most likely to have positive learning experiences and outcomes.

There are several IB-specific admission requirements that should be noted:

- If a student wishes to select a Diploma subject that they have not previously studied, then the consistency of their overall attainment will be considered. Subjects such as Visual Arts and Music require a consultation with the subject teacher to ensure that the prerequisite technical skills required are present.

- The recommended prerequisite Grade 10 scores for English, Mathematics and Science Higher Level selections are as follows. Consistency in attainment across both the Grade 10 preliminary examinations and final examinations is essential.

DP Subject choice	ICSE Grade 10 prerequisite (Preliminary and final)
English HL	80%
Mathematics HL	92%
Mathematics SL	80%
Biology HL Chemistry HL Physics HL Computer Science HL	85%

The GMA IB Bridge Programme

We have found that our students are highly-adaptable individuals who transition from the ICSE to the IB Diploma very successfully. To help them transition smoothly, the purpose-built and bespoke modules of our Bridge Programme were designed here at Modern to help students develop the skills necessary to be successful in the DP. It is unique and unparalleled in the UAE, focusing on the IB approaches to teaching and learning:

Teaching is:

- Based on inquiry
- Focused on conceptual understanding
- Informed by formative and summative assessment
- Developed in local and global contexts (i.e. international-mindedness)

The following learning skills are developed:

- Communication skills
- Social skills
- Self-management skills
- Research skills

The Bridge provides an engaging framework of learning that encourages students to become creative, critical and inquiring thinkers. Students attend the Bridge Programme in the April term after their Grade 10 ICSE examinations are completed in March.

The following modules have been designed at Modern to address the gaps identified in the section above. The 6 modules on the left hand side mirror their respective IB subject group, i.e. Deconstruct helps student develop skills relevant to Group 1: Studies in Language and Literature. The other 6 modules focus on the Core components of the IB Diploma Programme and the “approaches to learning” that are critical to success.

Modules	
Deconstruct	**Time Management and CAS**
Lingua Franca	**TOK**
Social Entrepreneurship	**Critical Thinking**
Investigative Science	**Assessment in DP**
Data Analysis	**Academic Honesty**
Flexi Module	**Big Write**
Data Exploration	**Global Citizenship**

IB Diploma Programme – Application Process

Application Process:

The required application details can be submitted via the school IB application portal:

https://gemsmoderndxb.openapply.com/

As part of the application, students will need to write no more than one side of A4 to explain why they would like to study in the Diploma Programme, where their main passions and areas of enthusiasm lie, and what long-term goals they might be working toward.

Evidence of achievements, leadership roles and responsibilities need to be mentioned in the application and they will be discussed at the IB interviews. Students should discuss activities undertaken both inside and outside of school and they can be of an academic or non-academic nature.

Subject teacher recommendations:

Subject recommendations will be solicited from ICSE subject teachers in many cases. With these recommendations and the Grade 10 year's average (percentage), we will advise each student on safe and informed decisions regarding selection of Higher Level and Standard Level subjects.

Reference:

External students will need to submit a reference to the IBDP Coordinator for admission into the Diploma Programme. This can be obtained from a Supervisor or subject teacher.

University Recognition:

IB Diploma and DP Courses

The IB Diploma Programme is widely recognised and often pursued by universities around the world as a qualification of excellence. In many cases IB graduates are often preferred over other qualifications because of the breadth of their prior studies. Even a modest Diploma pass fares favourably with other qualifications like the ISC, British A-level or American curriculum.

You may read more about how strongly universities value IB graduates the 2016 University Admissions Officers Report:

http://ibo.org/uk/universities/university-admissions-officers-report-2016-key-findings/

Recognition of the IB in India is also growing exponentially – it is clear that Indian institutions also greatly value IB graduates. You may read in more detail about this in the IB-published "India recognition guide":

http://www.ibo.org/contentassets/d883e8b8f46446079f14679a9a6971c3/india-recognition-guide-2016.pdf

Students wishing to study in the UK are given a very generous UCAS points with an IBDP pass. Many Universities in the United States even give unconditional offers and/or advanced credit for IBDP graduates.

Information about individual entry requirements and the UCAS tariff tables for UK University admissions can be found on the UCAS websites:

http://www.ucas.com/

https://www.ucas.com/ucas/undergraduate/getting-started/entry-requirements/tariff/tariff-tables

Nevertheless, like all High School qualifications, it is important to check your target university to see specific university and course requirements. Modern will offer clear, informed guidance on university selection and tertiary options over the course of the DP.

For the Courses Programme students UCAS points are awarded for each IB course finished and also for the TOK course (if taken).

IB Examination Registration Fees

Parents/Guardians are required to pay an IB Diploma registration fee for the final board examinations in addition to the school's regular tuition fees.

There are also fees for any changes or amendments to IB subject options that are requested in the second year of the IB Diploma. These will be communicated by the IB Coordinator at the time of the request.

The IB Team at Modern

IB Diploma Coordinator	Dr Sunipa Neogi	sunipa.n_mhs@gemsedu.com
IB Diploma Assistant Coordinator	Mrs Vinaya Jaydev	paliyath.v_mhs@gemsedu.com
Careers/University Counsellors	Mrs Shilpa Kapoor	shilpa.k_mhs@gemsedu.com
Extended Essay Coordinator	Mr Sheldon Dias	sheldon.d_mhs@gemsedu.com
CAS Coordinator	Ms Bipasha De	bipasha.d_mhs@gemsedu.com
Theory of Knowledge Coordinator	Mrs Sreekala Sureshkumar	sreekala.k_mhs@gemsedu.com

DP Subject Information

Group 1:
Studies in Language and Literature

- English Literature HL
- English Literature SL
- English Language and Literature HL
- English Language and Literature SL

International Baccalaureate Diploma Programme Subject Brief

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

First assessments 2013 – Last assessments 2020

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

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

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

I. Course description and aims

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

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

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

II. Curriculum model overview

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

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

III. Assessment model

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

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

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

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

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

Assessment at a glance

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

IV. Sample questions

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

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

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

III. Assessment model

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

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

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

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

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

Assessment at a glance

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

IV. Sample questions

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

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IB language A: literature higher level subject brief

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.

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

I. Course description and aims

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

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

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

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

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

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

II. Curriculum model overview

Language A: literature higher level

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

Assessment for language A: literature higher level

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

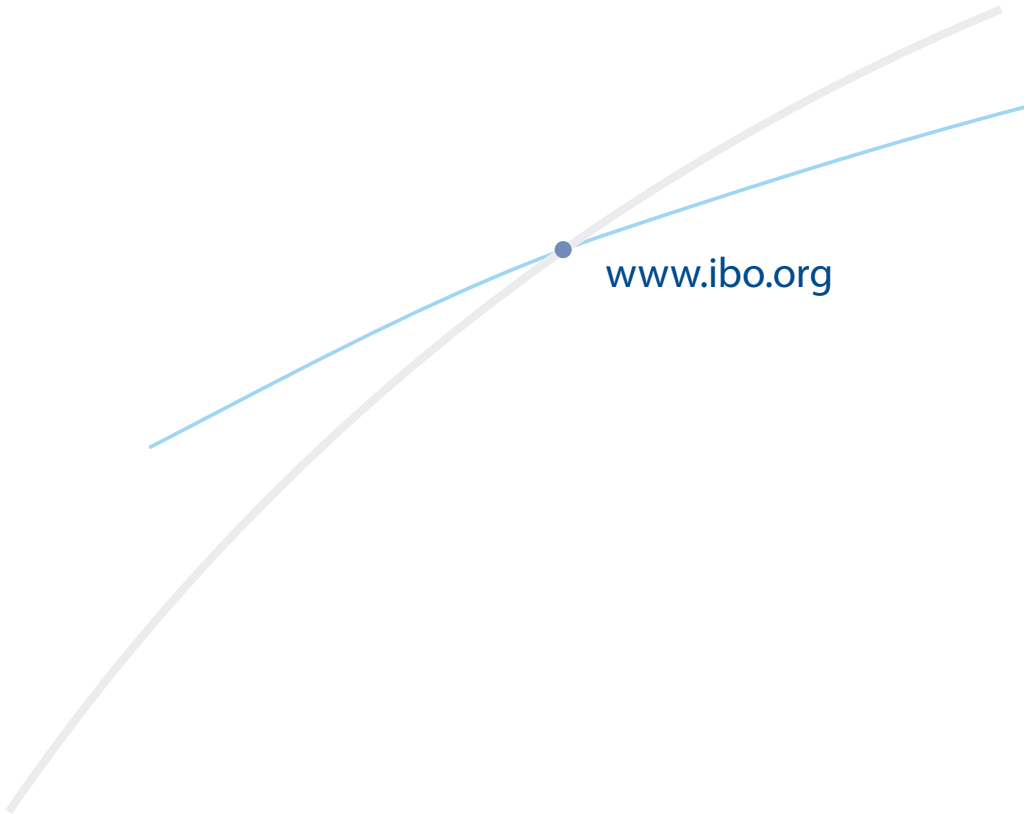
- a broad and balanced, yet academically demanding, programme of study
- the development of critical-thinking and reflective skills
- the development of research skills
- the development of independent learning skills
- the development of intercultural understanding
- a globally recognized university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

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

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

Assessment at a glance

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



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IB language A: literature standard level subject brief

International Baccalaureate
Baccalauréat International
Bachillerato Internacional

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

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

I. Course description and aims

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

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

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

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

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

II. Curriculum model overview

Language A: literature standard level

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

Assessment for language A: literature standard level

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

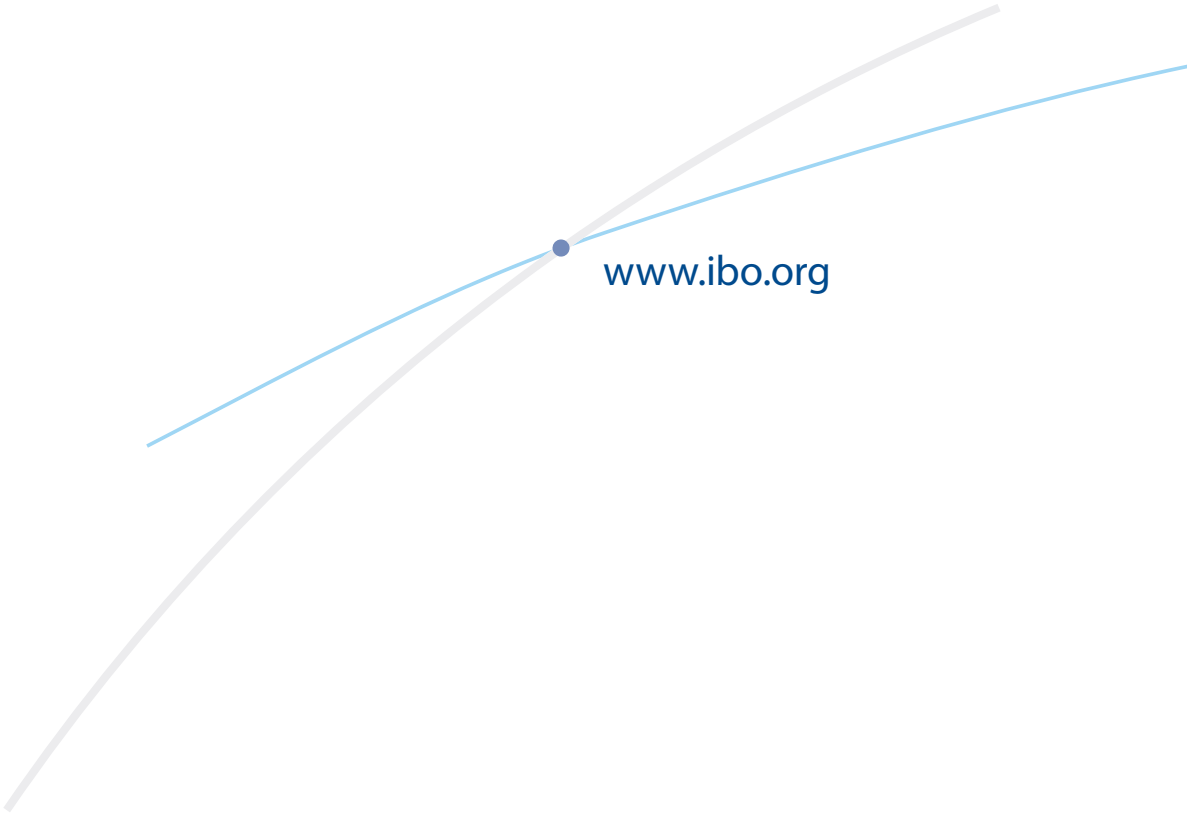
- a broad and balanced, yet academically demanding, programme of study
- the development of critical-thinking and reflective skills
- the development of research skills
- the development of independent learning skills
- the development of intercultural understanding
- a globally recognized university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

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

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

Assessment at a glance

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



DP Subject Information

Group 2: Language Acquisition

- Arabic ab initio
- Arabic B
- French B HL/SL
- French ab initio SL
- Hindi B HL/SL
- Mandarin ab initio SL (online only)
- Spanish ab initio SL
- Spanish B

The structures of these courses at HL, SL and Ab Initio Level are generic so there is only one information sheet for each of these types of course.

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

Language acquisition:
Language B – Higher level

First assessments 2013 – Last assessments 2019

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

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

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

I. Course description and aims

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

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

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

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

II. Curriculum model overview

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

III. Assessment model

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

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

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

Students will be assessed on their ability to:

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

Assessment at a glance

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

IV. Sample questions

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

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

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International Baccalaureate Diploma Programme Subject Brief

Language acquisition:
Language B – Standard level

First assessments 2013 – Last assessments 2019

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

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

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

I. Course description and aims

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

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

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

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

II. Curriculum model overview

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

III. Assessment model

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

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

Students will be assessed on their ability to:

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

Assessment at a glance

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

IV. Sample questions

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

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

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

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DP Subject Information

Group 3: Individuals and Societies

- Business and Management HL/SL
- Economics HL/SL
- Geography HL/SL
- History HL/SL
- Information Technology in the Global Society (ITGS) HL/SL
- Psychology HL/SL
- Environmental Systems and Societies (SL only)*

***Note:** Environmental Systems and Societies constitutes an interdisciplinary subject counts toward Group 3: Individuals and Societies and Group 4: Sciences.

Therefore, if a student does not wish to take any of the subjects offered in Group 4 they can opt for this and vice-versa. See the Group 4 subject pages for more information.

International Baccalaureate Diploma Programme Subject Brief

Individuals and societies: Business management—Higher level

First assessments 2016 – Last assessments 2022

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

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

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

I. Course description and aims

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

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

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

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

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

II. Curriculum model overview

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

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

III. Assessment model

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

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

Assessment at a glance

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

IV. Sample questions

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

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International Baccalaureate Diploma Programme Subject Brief

Individuals and societies:
Business management— Standard level

First assessments 2016 – Last assessments 2022

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

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

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

I. Course description and aims

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

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

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

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

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

II. Curriculum model overview

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

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

III. Assessment model

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

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

Assessment at a glance

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

IV. Sample questions

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

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IB economics higher level subject brief

International Baccalaureate
Baccalauréat International
Bachillerato Internacional

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.

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

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

Overview of the 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.

II. Curriculum model overview

Economics higher level

Components
Introduction to economics
Microeconomics Markets Elasticities Theory of the firm 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 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.

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**
Paper 1	Four extended-response questions based on all five sections of the syllabus	1	20
Paper 2	Six short-answer questions based on all five sections of the syllabus	1	20
Paper 3	A data-response paper on all five sections of the syllabus	2	40
Internal			**20**
Portfolio	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.

IB economics standard level subject brief

International Baccalauréat
Baccalauréat International
Bachillerato Internacional

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 standard level is in group 3, individuals and societies. In addition, three core elements—the extended essay, theory of knowledge and creativity, action, service—are compulsory and central to the philosophy of the programme.
About the IB: For over 40 years the IB has built a reputation for high-quality, challenging programmes of education that develop internationally minded young people who are well prepared for the challenges of life in the 21st century and able to contribute to creating a better, more peaceful world.

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

Overview of the 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**
Paper 1	Four extended-response questions based on all five sections of the syllabus	1	25
Paper 2	A data-response paper on all five sections of the syllabus	2	50
Internal			**25**
Portfolio	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 • 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. • 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 • 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 • 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
- 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	IWritten 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.

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International Baccalaureate Diploma Programme Subject Brief

Individuals and societies: Geography – Standard 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 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 • 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. • 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 • 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 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

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	IWritten report based on fieldwork (2,500 words maximum)	20	

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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International Baccalaureate Diploma Programme Subject Brief

Individuals and societies: Global politics—higher level

First assessments 2017—last assessments 2023

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

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

These DP subject briefs illustrate four key course components.

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

I. Course description and aims

The DP global politics course explores fundamental political concepts such as power, equality, sustainability and peace in a range of contexts. It allows students to develop an understanding of the local, national, international and global dimensions of political activity and processes, as well as to explore political issues affecting their own lives. The course helps students to understand abstract political concepts by grounding them in real-world examples and case studies. It also invites comparison between such examples and case studies to ensure a wider and transnational perspective.

Teachers explicitly teach thinking and research skills such as comprehension, text analysis, transfer, and use of primary sources. The study of global politics enables students to critically engage with different and new perspectives and approaches to politics in order to comprehend the challenges of the changing world and become aware of their role in it as active global citizens.

The aims of the global politics course are to enable students to:

- understand key political concepts and contemporary political issues in a range of contexts
- develop an understanding of the local, national, international and global dimensions of political activity
- understand, appreciate and critically engage with a variety of perspectives and approaches in global politics
- appreciate the complex and interconnected nature of many political issues, and develop the capacity to interpret competing and contestable claims regarding those issues.

II. Curriculum model overview

Component	Recommended teaching hours
Core units: People, power and politics Four compulsory units: 1. Power, sovereignty and international relations 2. Human rights 3. Development 4. Peace and conflict	**130**
Engagement activity An engagement on a political issue of personal interest, complemented with research.	**20**
HL extension: Global political challenges Political issues in two of the following six global political challenges are researched and presented through a case study approach. 1. Environment 2. Poverty 3. Health 4. Identity 5. Borders 6.Security	**90**

III. Assessment model

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

Assessment objective 1: Knowledge and understanding

- Demonstrate knowledge and understanding of key political concepts and contemporary issues in global politics.
- Demonstrate understanding of relevant source material.
- Demonstrate understanding of a political issue in a particular experiential situation.
- Demonstrate in-depth knowledge and understanding of political issues in two detailed case studies.

Assessment objective 2: Application and analysis

- Apply knowledge of key political concepts to analyse contemporary political issues in a variety of contexts.
- Identify and analyse relevant material and supporting examples.
- Use political concepts and examples to formulate, present and sustain an argument.
- Apply knowledge of global politics to inform and analyse experiential learning about a political issue.
- Apply knowledge of global politics to analyse political issues in two case studies.

Assessment objective 3: Synthesis and evaluation

- Compare, contrast, synthesize and evaluate evidence from sources and background knowledge.
- Compare, contrast, synthesize and evaluate a variety of perspectives and approaches to global politics, and evaluate political beliefs, biases and prejudices, and their origin.
- Synthesize and evaluate results of experiential learning and more theoretical perspectives on a political issue.
- Demonstrate synthesis and evaluation of different approaches to, and interpretations of, political issues in two case studies.

Assessment objective 4: Use and application of appropriate skills

- Produce well-structured written material that uses appropriate terminology.
- Organize material into a clear, logical, coherent and relevant response.
- Demonstrate evidence of research skills, organization and referencing.
- Present ideas orally with clarity.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		4	60
Paper 1	Stimulus-based paper on a topic from one of the four core units	1.25	20
Paper 2	Extended response paper based on the four core units	2.75	40
Internal			
Engagement activity	A written report (2,000-word maximum) on a political issue explored through engagement and research.	20	20
HL extension: global political challenges	Two video-recorded oral presentations (10-minute maximum each) of two case studies chosen from two different HL extension topics.	90	20

IV. Sample questions

Paper 1

- According to the stimulus material, what are three advantages of NGOs over other actors in global politics?
- Explain the term "civil society", using both the information in the sources and examples you have studied.

Paper 2

- "A national or regional approach to human rights enforcement is more effective than a global approach." Discuss.
- Evaluate the claim that humanitarian intervention is a justifiable intrusion into the sovereignty of a state.

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International Baccalaureate Diploma Programme Subject Brief

Individuals and societies: Global politics—standard level

First assessments 2017—last assessments 2023

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

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

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

I. Course description and aims

The 21st century is characterized by rapid change and increasing interconnectedness, impacting individuals and societies in unprecedented ways and creating complex global political challenges. Global politics is an exciting, dynamic subject that draws on a variety of disciplines in the social sciences and humanities, reflecting the complex nature of many contemporary political issues. The study of global politics enables students to critically engage with different and new perspectives and approaches to politics in order to comprehend the challenges of the changing world and become aware of their role in it as active global citizens.

The DP global politics course explores fundamental political concepts such as power, equality, sustainability and peace in a range of contexts. It allows students to develop an understanding of the local, national, international and global dimensions of political activity and processes, as well as to explore political issues affecting their own lives. The course helps students to understand abstract political concepts by grounding them in real-world examples and case studies. It also invites comparison between such examples and case studies to ensure a wider and transnational perspective.

The core units of the course together make up a central unifying theme of "people, power and politics". The emphasis on "people" reflects the fact that the course explores politics not only at a state level but also explores the function and impact of non-state actors, communities, groups and individuals. The concept of "power" is also emphasized as being particularly crucial to understanding the dynamics, tensions and outcomes of global politics. Throughout the course, issues such as conflict, migration or climate change are explored through an explicitly political lens: "politics" provides a uniquely rich context in which to explore the relationship between people and power. Teachers explicitly teach thinking and research skills such as comprehension, text analysis, transfer, and use of primary sources.

The aims of the global politics course are to enable students to:

- understand key political concepts and contemporary political issues in a range of contexts
- develop an understanding of the local, national, international and global dimensions of political activity
- understand, appreciate and critically engage with a variety of perspectives and approaches in global politics
- appreciate the complex and interconnected nature of many political issues, and develop the capacity to interpret competing and contestable claims regarding those issues.

II. Curriculum model overview

Component	Recommended teaching hours
Core units: People, power and politics Four compulsory units: 1. Power, sovereignty and international relations 2. Human rights 3. Development 4. Peace and conflict	**130**
Engagement activity An engagement on a political issue of personal interest, complemented with research.	**20**

III. Assessment model

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

Assessment objective 1: Knowledge and understanding

- Demonstrate knowledge and understanding of key political concepts and contemporary issues in global politics.
- Demonstrate understanding of relevant source material.
- Demonstrate understanding of a political issue in a particular experiential situation.

Assessment objective 2: Application and analysis

- Apply knowledge of key political concepts to analyse contemporary political issues in a variety of contexts.
- Identify and analyse relevant material and supporting examples.
- Use political concepts and examples to formulate, present and sustain an argument.
- Apply knowledge of global politics to inform and analyse experiential learning about a political issue.

Assessment objective 3: Synthesis and evaluation

- Compare, contrast, synthesize and evaluate evidence from sources and background knowledge.
- Compare, contrast, synthesize and evaluate a variety of perspectives and approaches to global politics, and evaluate political beliefs, biases and prejudices, and their origin.
- Synthesize and evaluate results of experiential learning and more theoretical perspectives on a political issue.

Assessment objective 4: Use and application of appropriate skills

- Produce well-structured written material that uses appropriate terminology.
- Organize material into a clear, logical, coherent and relevant response.
- Demonstrate evidence of research skills, organization and referencing.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		3	75
Paper 1	Stimulus-based paper based on a topic from one of the four core units	1.25	30
Paper 2	Extended response paper based on the fore core units	1.75	45
Internal			
Engagement activity	A written report (2,000-word maximum) on a political issue explored through engagement and research.	20	25

IV. Sample questions

Paper 1

- Contrast the views of two sources within the stimulus material regarding the relationship between NGOs and the state.
- "NGOs are insignificant actors in global politics." Using the sources and your own knowledge evaluate this claim.

Paper 2

- To what extent is state sovereignty an outdated concept in the 21st century?
- Evaluate the claim that humanitarian intervention is a justifiable intrusion into the sovereignty of a state.

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International Baccalaureate Diploma Programme Subject Brief

Individuals and societies: History—higher level

First assessments 2017—last assessments 2023

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

These DP subject briefs illustrate four key course components.

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

I. Course description and aims

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

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

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

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

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

II. Curriculum model overview

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

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

III. Assessment model

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

Assessment objective 1: Knowledge and understanding

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

Assessment objective 2: Application and analysis

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

Assessment objective 3: Synthesis and evaluation

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

Assessment objective 4: Use and application of appropriate skills

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

Assessment at a glance

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

IV. Sample questions

Paper 1

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

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

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International Baccalaureate Diploma Programme Subject Brief

Individuals and societies: History—standard level

First assessments 2017—last assessments 2023

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

These DP subject briefs illustrate four key course components.

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

I. Course description and aims

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

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

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

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

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

II. Curriculum model overview

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

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

III. Assessment model

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

Assessment objective 1: Knowledge and understanding

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

Assessment objective 2: Application and analysis

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

Assessment objective 3: Synthesis and evaluation

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

Assessment objective 4: Use and application of appropriate skills

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

Assessment at a glance

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

IV. Sample questions

Paper 2 (HL and SL)

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

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

For further information on the IB Diploma Programme, visit: ***www.ibo.org/en/programmes/diploma-programme/****.*

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/en/university-admission*** *or email:* ***recognition@ibo.org****.*

International Baccalaureate Diploma Programme Subject Brief

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

First assessments 2012 – Last assessments 2019

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

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

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

I. Course description and aims

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

The aims of the ITGS higher level courses are to:

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

II. Curriculum model overview

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

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

III. Assessment model

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

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

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

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

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

Assessment at a glance

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

IV. Sample questions

Questions based on stimulus material

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

International Baccalaureate Diploma Programme Subject Brief

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

First assessments 2012 – Last assessments 2019

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

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

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

I. Course description and aims

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

The aims of the ITGS standard level courses are to:

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

II. Curriculum model overview

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

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

III. Assessment model

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

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

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

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

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

Assessment at a glance

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

IV. Sample questions

Questions based on stimulus material

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

IB psychology higher level subject brief

International Baccalaureate
Baccalauréat International
Bachillerato Internacional

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

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

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

Overview of the psychology higher level course and curriculum model

I. Course description and aims

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

In addition, the course is designed to:

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

II. Curriculum model overview

Psychology higher level

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

III. Assessment model

Assessment for psychology higher level

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

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

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

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

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

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

Assessment at a glance

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

IV. Sample questions

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

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

* the syllabus for examinations current until 2016

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

IB psychology standard level subject brief

International Baccalauréat
Baccalauréat International
Bachillerato Internacional

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

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

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

Overview of the psychology standard level course and curriculum model

I. Course description and aims

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

In addition, the course is designed to:

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

II. Curriculum model overview

Psychology standard level

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

III. Assessment model

Assessment for psychology standard level

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

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

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

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

Assessment for psychology standard level (continued)

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

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

Assessment at a glance

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

www.ibo.org

IV. Sample questions

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

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

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

* the syllabus for examinations current until 2016

DP Subject Information

Group 4: Sciences

- Biology HL/SL
- Chemistry HL/SL
- Computer Science HL/SL
- Environmental Systems and Societies (SL only)*
- Physics HL/SL
- Sports Exercise and Health Science HL/SL

***Note:** Environmental Systems and Societies constitutes an interdisciplinary subject and counts towards both Group 3: Individuals and Societies or Group 4: Sciences.

Therefore, if a student does not wish to take any of the subjects offered in Group 4 they can opt for this and vice-versa.

International Baccalaureate Diploma Programme Subject Brief

Sciences:

Biology—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

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

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

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

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

II. Curriculum model overview

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

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

The group 4 project

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

III. Assessment model

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

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

Assessment at a glance

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

IV. Sample questions

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

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

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

International Baccalaureate Diploma Programme Subject Brief

Sciences:

Biology—Standard level

First assessments 2016 – Last assessments 2022

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IV. Sample questions

I. Course description and aims

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

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

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

II. Curriculum model overview

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

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

The group 4 project

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

III. Assessment model

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

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

Assessment at a glance

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

IV. Sample questions

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

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

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

International Baccalaureate Diploma Programme Subject Brief

Sciences:

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

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

III. Assessment model

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

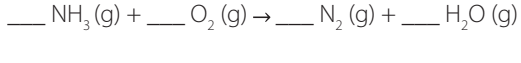
1. Demonstrate knowledge and understanding of:
   - facts, concepts, and terminology
   - methodologies and techniques
   - communicating scientific information.
2. Apply:
   - facts, concepts, and terminology
   - methodologies and techniques
   - methods of communicating scientific information.
3.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

Assessment at a glance

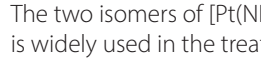
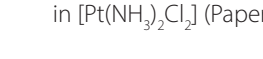
Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		4.5	80
Paper 1	40 multiple-choice questions (Core and AHL)	1	20
Paper 2	Short answer and extended response questions (Core and AHL)	2.25	36
Paper 3	Data- and practical –based questions, plus short answer and extended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

IV. Sample questions

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



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

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

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International Baccalaureate Diploma Programme Subject Brief

Sciences:

Chemistry—Standard level

First assessments 2016 – Last assessments 2022

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

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

I. Course description and aims

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

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

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

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

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

II. Curriculum model overview

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

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

The group 4 project

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

III. Assessment model

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

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

Assessment at a glance

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

IV. Sample questions

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

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

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

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International Baccalaureate Diploma Programme Subject Brief

Sciences:

Computer science – 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 computer science HL course requires an understanding of the fundamental concepts of computational thinking as well as knowledge of how computers and other digital devices operate. The course, underpinned by conceptual thinking, draws on a wide spectrum of knowledge, and enables and empowers innovation, exploration and the acquisition of further knowledge. Students study how computer science interacts with and influences cultures, society and how individuals and societies behave, and the ethical issues involved. During the course the student will develop computational solutions. This will involve the ability to:

- identify a problem or unanswered question
- design, prototype and test a proposed solution
- liaise with clients to evaluate the success of the proposed solution and make recommendations for future developments.

The aims of the computer science HL courses are to:

- provide opportunities for study and creativity within a global context that will stimulate and challenge students developing the skills necessary for independent and lifelong learning
- provide a body of knowledge, methods and techniques that characterize computer science
- enable students to apply and use a body of knowledge, methods and techniques that characterize computer science
- demonstrate initiative in applying thinking skills critically to identify and resolve complex problems
- engender an awareness of the need for, and the value of, effective collaboration and communication in resolving complex problems
- develop logical and critical thinking as well as experimental, investigative and problem-solving skills
- develop and apply the students' information and communication technology skills in the study of computer science to communicate information confidently and effectively
- raise awareness of the moral, ethical, social, economic and environmental implications of using science and technology
- develop an appreciation of the possibilities and limitations associated with continued developments in IT systems and computer science
- encourage an understanding of the relationships between scientific disciplines and the overarching nature of the scientific method.

II. Curriculum model overview

Component	Recommended teaching hours
Core syllabus content	
SL/HL core	80
• Topic 1: System fundamentals • Topic 2: Computer organization • Topic 3: Networks • Topic 4: Computational thinking, problem-solving and programming	
HL extension	45
• Topic 5: Abstract data structures • Topic 6: Resource management • Topic 7: Control	
Case study Additional subject content introduced by the annually issued case study	30

Option **SL/HL core** **HL extension** Students study one of the following options: • Option A: Databases • Option B: Modelling and simulation • Option C: Web science • Option D: Object-oriented programming (OOP)	 30 15
Internal assessment **Solution** Practical application of skills through the development of a product and associated documentation	30
Group 4 project	10

III. Assessment model

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

Know and understand:
- relevant facts and concepts
- appropriate methods and techniques
- computer science terminology
- methods of presenting information.

Apply and use:
- relevant facts and concepts
- relevant design methods and techniques
- terminology to communicate effectively
- appropriate communication methods to present information.

Construct, analyse, evaluate and formulate:
- success criteria, solution specifications including task outlines, designs and test plans
- appropriate techniques within a specified solution.

Demonstrate the personal skills of cooperation and perseverance as well as appropriate technical skills for effective problem-solving in developing a specified product.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			80
Paper 1	• Section A consists of several compulsory short answer questions. • Section B consists of five compulsory structured questions.	2 hours, 10 min.	40
Paper 2	An examination paper of between three and seven compulsory question; linked to the option studied.	1 hour, 20 min.	20
Paper 3	An examination paper consisting of four compulsory questions based on a pre-seen case study.	1 hour	20
Internal			20
Written commentary	A report of The development of a computational solution. Students must produce: • a cover page that follows the prescribed format • a product • supporting documentation (word limit 2,000 words).	30 hours	25
Group 4 project	To be assessed using the criterion Personal skills.	10 hours	

IV. Sample questions

- Draw the representation of the binary search tree if the following data were inserted in this order:
  - FALCON, CANARY, PIGEON, TURKEY, OSPREY.
- Discuss the methods used by criminals to hide or disguise certain files. For each method, identify the countermeasures that can be taken by a computer forensic scientist.

International Baccalaureate Diploma Programme Subject Brief

Sciences:

Computer science – 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 Computer science SL course requires an understanding of the fundamental concepts of computational thinking as well as knowledge of how computers and other digital devices operate. The course, underpinned by conceptual thinking, draws on a wide spectrum of knowledge, and enables and empowers innovation, exploration and the acquisition of further knowledge. Students study how computer science interacts with and influences cultures, society and how individuals and societies behave, and the ethical issues involved. During the course the student will develop computational solutions. This will involve the ability to:

- identify a problem or unanswered question
- design, prototype and test a proposed solution
- liaise with clients to evaluate the success of the proposed solution and make recommendations for future developments.

The aims of the computer science standard level courses are to:

- provide opportunities for study and creativity within a global context that will stimulate and challenge students developing the skills necessary for independent and lifelong learning
- provide a body of knowledge, methods and techniques that characterize computer science
- enable students to apply and use a body of knowledge, methods and techniques that characterize computer science
- demonstrate initiative in applying thinking skills critically to identify and resolve complex problems
- engender an awareness of the need for, and the value of, effective collaboration and communication in resolving complex problems
- develop logical and critical thinking as well as experimental, investigative and problem-solving skills
- develop and apply the students' information and communication technology skills in the study of computer science to communicate information confidently and effectively
- raise awareness of the moral, ethical, social, economic and environmental implications of using science and technology
- develop an appreciation of the possibilities and limitations associated with continued developments in IT systems and computer science
- encourage an understanding of the relationships between scientific disciplines and the overarching nature of the scientific method.

II. Curriculum model overview

Component	Recommended teaching hours
Core syllabus content **SL/HL core** The topics that must be studied, including some practical work, are: • Topic 1: System fundamentals • Topic 2: Computer organization • Topic 3: Networks • Topic 4: Computational thinking, problem-solving and programming	80
Option **SL/HL core**	30
Internal assessment **Solution** • Practical application of skills through the development of a product and associated documentation	30
Group 4 project	10

III. Assessment model

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

Know and understand:
- relevant facts and concepts
- appropriate methods and techniques
- computer science terminology
- methods of presenting information.

Apply and use:
- relevant facts and concepts
- relevant design methods and techniques
- terminology to communicate effectively
- appropriate communication methods to present information.

Construct, analyse, evaluate and formulate:
- success criteria, solution specifications including task outlines, designs and test plans
- appropriate techniques within a specified solution.

Demonstrate the personal skills of cooperation and perseverance as well as appropriate technical skills for effective problem-solving in developing a specified product.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External			70
Paper 1	• Section A consists of several compulsory short answer questions • Section B consists of three compulsory structured questions.	1.5	45
Paper 2	An examination paper of between two and five compulsory questions; linked to the option studied.	1	25
Internal			30
Solution	The development of a computational solution. Students must produce: • a cover page that follows the prescribed format • a product supporting documentation (word limit 2,000 words). There must be evidence of independent research and investigation for students to reach the top level.	30	
Group 4 project	To be assessed using the criterion Personal skills.	10	

IV. Sample questions

- The colour of a pixel can be stored as a 16-bit integer.
  (a) State how many different colours can be represented in a 16-bit integerfield.
  (b) State whether this storage system for colour values is digital or analog.
  (c) Outline one advantage and one disadvantage of using 32-bits per-pixel to store colours instead of 16-bits per-pixel.
- State the output of the following code fragment:
  double n= 1234.5678;
  double p = math.floor((n*100)/100); output (p);
  Recall that math.floor(3.7) produces the integer result 3.

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International Baccalaureate Diploma Programme Subject Brief

Interdisciplinary course:
Environmental systems and societies—standard level

First assessments 2017—last assessments 2023

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

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

I. Course description and aims

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

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

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

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

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

II. Curriculum model overview

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

The group 4 project

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

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

III. Assessment model

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

Assessment objective 1

Demonstrate knowledge and understanding of relevant:

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

Assessment objective 2

Apply this knowledge and understanding in the analysis of:

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

Assessment objective 3

Evaluate, justify and synthesize, as appropriate:

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

Assessment objective 4

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

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

Assessment at a glance

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

IV. Sample questions

Paper 1

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

Paper 2

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

International Baccalaureate Diploma Programme Subject Brief

Sciences:

Physics—Higher level

First assessments 2016 – Last assessments 2022

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

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

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

I. Course description and aims

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

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

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

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

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

II. Curriculum model overview

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

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

The group 4 project

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

III. Assessment model

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

1. Demonstrate knowledge and understanding of:
   - facts, concepts, and terminology
   - methodologies and techniques
   - communicating scientific information.
2. Apply:
   - facts, concepts, and terminology
   - 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)

International Baccalaureate Diploma Programme Subject Brief

Sciences:

Physics—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

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

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

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

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

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

II. Curriculum model overview

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

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

The group 4 project

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

III. Assessment model

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

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

Assessment at a glance

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

IV. Sample questions

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

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

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

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****.*

International Baccalaureate Diploma Programme Subject Brief

Sciences:

Sports, exercise and health science – 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 course in sports, exercise and health science standard level (SL) involves the study of the science that underpins physical performance. The course incorporates the traditional disciplines of anatomy and physiology, biomechanics, psychology and nutrition. Students cover a range of topics and carry out practical (experimental) investigations in both laboratory and field settings. This provides an opportunity to acquire the knowledge and understanding necessary to apply scientific principles and critically analyse human performance. Where relevant, the course will address issues of international dimensions and ethics by considering sport, exercise and health relative to the individual in a global context.

The aims of the sports, exercise and health science SL course are to:

- provide stimulating and challenging opportunities for scientific study and creativity within a global context
- provide a body of knowledge, methods and techniques that characterize science and technology
- enable students to apply and use a body of knowledge, methods and techniques that characterize science and technology
- develop an ability to analyse, evaluate and synthesize scientific information
- engender an awareness of the need for, and the value of, effective collaboration and communication during scientific activities
- develop experimental and investigative scientific skills
- develop and apply the students' information and communication technology skills in the study of science
- raise awareness of the moral, ethical, social, economic and environmental implications of using science and technology
- develop an appreciation of the possibilities and limitations associated with science and scientists
- encourage an understanding of the relationships between scientific disciplines and the overarching nature of the scientific method.

II. Curriculum model overview

Component	Recommended teaching hours
Core	**80**
Topic 1: Anatomy • The skeletal system • The muscular system	7
Topic 2: Exercise physiology • Structure and function of the ventilatory system • Structure and function of the cardiovascular system	17
Topic 3: Energy systems • Nutrition • Carbohydrate and fat metabolism • Nutrition and energy systems	13
Topic 4: Movement analysis • Neuromuscular function • Joint and movement type • Fundamentals of biomechanics	15
Topic 5: Skill in sport • The characteristic and classification of skill • Information processing • Principles of skill learning	15
Topic 6: Measurement and evaluation of human performance • Statistical analysis • Study design • Components of fitness • Principles of training programme design	13

Option Students are required to study any two of four options.	**30**
A. Optimizing physiological performance	15
B. Psychology of sport	15
C. Physical activity and health	15
D. Nutrition for sport, exercise and health	15
Internal assessment	**40**

III. Assessment model

Demonstrate an understanding of:

- scientific facts and concepts
- scientific methods and techniques
- scientific terminology
- methods of presenting scientific information.

Apply and use:

- scientific facts and concepts
- scientific methods and techniques
- scientific terminology to communicate effectively
- •appropriate methods to present scienti c information.

Construct, analyse and evaluate:

- hypotheses, research questions and predictions
- scientific methods and techniques
- scientific explanations.

Demonstrate the personal skills of cooperation, perseverance and responsibility appropriate for effective scientific investigation and problem solving.
Demonstrate the manipulative skills necessary to carry out scientific investigations with precision and safety.

Assessment at a glance

Type of assessment	Format of assessment	Time (hours)	Weighting of final grade (%)
External		3	76
Paper 1	30 multiple-choice questions on the core syllabus.	.75	20
Paper 2	A: Students answer one data-based question and several short-answer questions on the core. B: Students answer one of three extended-response question on the core.	1.25	32
Paper 3	Several short-answer questions (all compulsory) in each of the two options studied.	1	24
Internal		40	24
Investigations	A mixture of short- and long-term investigations.	30	
Group 4 project	Interdisciplinary project. Assessed for personal skills only.	10	

IV. Sample questions

1. At rest, the arterio-venous oxygen difference is approximately 5 mL of oxygen per 100 mL (dL) of blood. What happens to this figure when someone participates in moderately intense exercise?
2. Outline the general characteristics that are common to muscle tissue.
3. Caffeine is one nutritional ergogenic aid that may be used by athletes during competition.
   - Identify two other nutritional ergogenic aids.
   - Discuss the possible contributions of caffeine to an athlete's training and competition performance.
   - Define the term glycemic index.
   - Explain the relevance of GI with regard to the performance of endurance athletes during and after competition.

DP Subject Information

Group 5: Mathematics

- Math - Applications and interpretation HL
- Math - Applications and interpretation SL
- Math - Analysis and approaches HL
- Math - Analysis and approaches SL

Diploma Programme

New DP Mathematics

What is the best fit for your school?

After a seven-year curriculum review, two new subjects in mathematics will be replacing the current four subjects in 2019. In addition to giving more choice to a greater number of students, these courses will give your school greater flexibility in the way you group students, schedule lessons and teach the skills and content.

MATHEMATICS: ANALYSIS AND APPROACHES

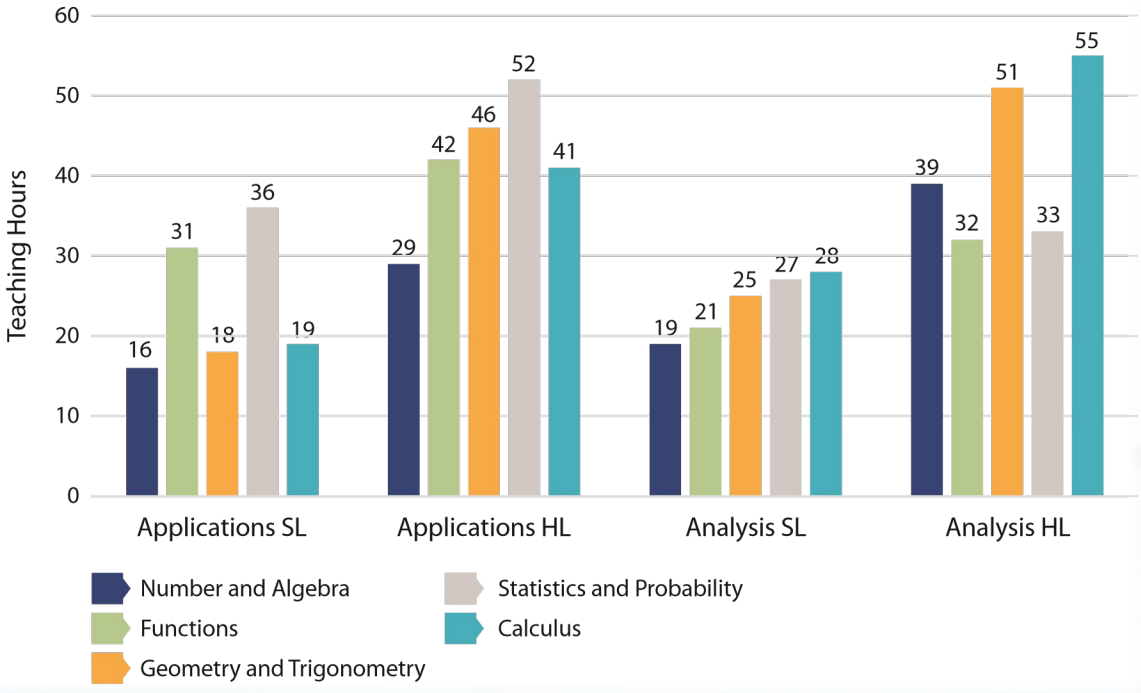
- Offered at both SL and HL
- Emphasis on algebraic methods
- Develop strong skills in mathematical thinking
- Real and abstract mathematical problem solving
- For students interested in mathematics, engineering, physical sciences, and some economics

MATHEMATICS: APPLICATIONS AND INTERPRETATION

- Offered at both SL and HL
- Emphasis on modelling and statistics
- Develop strong skills in applying mathematics to the real-world
- Real mathematical problem solving using technology
- For students interested in social sciences, natural sciences, medicine, statistics, business, engineering, some economics, psychology, and design

Mathematics Subject Breakdown

All courses cover the same 5 topics within mathematics but with varying emphasis



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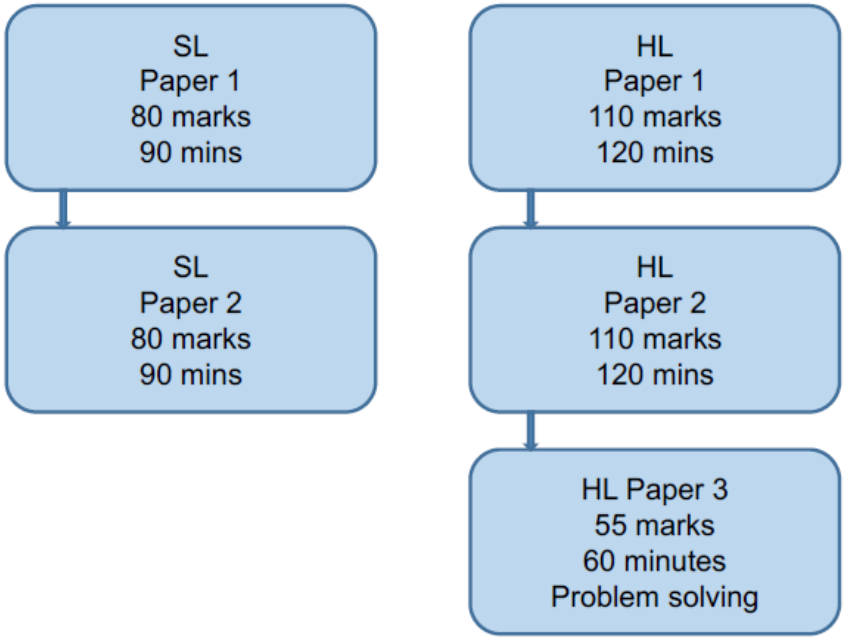
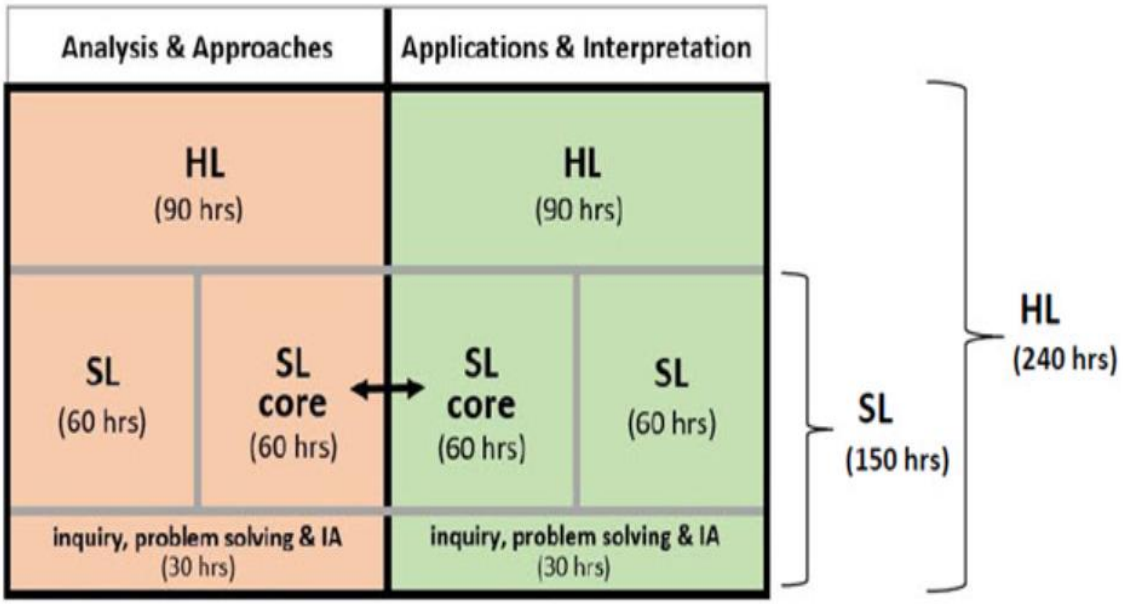
Here are some suggestions as to how you might run the courses

DP Year	Current	Recommendation 1	Recommendation 2	Also Consider
1	Mathematical Studies SL 1	Mathematics Applications SL 1	Mathematics Analysis SL 1	*Combine Applications SL and Analysis SL for part of the year to cover the common content together and then allow students to decide*
2	Mathematical Studies SL 2	Mathematics Applications SL 2	Mathematics Analysis SL 2	
1	Mathematics SL 1	Mathematics Analysis SL 1	Mathematics Applications SL 1	*Combine Applications SL and Analysis SL for part of the year to cover the common content together and then allow students to decide*
2	Mathematics SL 2	Mathematics Analysis SL 2	Mathematics Applications SL 2	
1	Mathematics HL 1	Mathematics Applications HL 1	Mathematics Analysis HL 1	
2	Mathematics HL 2	Mathematics Applications HL 2	Mathematics Analysis HL 2	
1	Mathematics HL 1	Mathematics Analysis HL 1	Mathematics Applications HL 1	
2	Mathematics HL 2	Mathematics Analysis HL 2	Mathematics Applications HL 2	

The DP Mathematics assessment model





Course aims

Both Mathematics: analysis and approaches and Mathematics: applications and interpretation at SL and HL share the same 12 aims. These aims are explicitly linked to the content of both subjects.

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

Mathematics: analysis and approaches – course outline

Syllabus component	Teaching hours	
	SL	HL
Topic 1 - Number and algebra	19	39
Topic 2 – Functions	21	32
Topic 3 - Geometry and trigonometry	25	51
Topic 4 - Statistics and probability	27	33
Topic 5 - Calculus	28	55
The "toolkit" and Mathematical exploration Investigative, problem-solving and modelling skills development leading to an individual exploration. The exploration is a piece of written work that involves investigating an area of mathematics.	30	30
Total teaching hours	**150**	**240**

Mathematics: applications and interpretation – course outline

Syllabus component	Teaching hours	
	SL	HL
Topic 1 - Number and algebra	16	29
Topic 2 – Functions	31	42
Topic 3 - Geometry and trigonometry	18	46
Topic 4 - Statistics and probability	36	52
Topic 5 - Calculus	19	41
The "toolkit" and Mathematical exploration Investigative, problem-solving and modelling skills development leading to an individual exploration. The exploration is a piece of written work that involves investigating an area of mathematics.	30	30
Total teaching hours	**150**	**240**

How will the courses be assessed?

SL students will complete two externally assessed written papers and the internal assessment, HL students will complete three externally assessed written papers and the internal assessment.

Mathematics: analysis and approaches

SL assessment outline

Assessment component	Weighting
External assessment (3 hours) **Paper 1 (90 minutes)** No technology allowed. (80 marks) *Section A* Compulsory short-response questions based on the syllabus. *Section B* Compulsory extended-response questions based on the syllabus. **Paper 2 (90 minutes)** Technology required. (80 marks) *Section A* Compulsory short-response questions based on the syllabus. *Section B* Compulsory extended-response questions based on the syllabus.	**80%** 40% 40%
Internal assessment This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. **Mathematical exploration** Internal assessment in mathematics is an individual exploration. This is a piece of written work that involves investigating an area of mathematics. (20 marks)	**20%**

Mathematics: analysis and approaches

HL assessment outline

Assessment component	Weighting
External assessment (5 hours)	**80%**
Paper 1 (120 minutes) No technology allowed. (110 marks) *Section A* Compulsory short-response questions based on the syllabus. *Section B* Compulsory extended-response questions based on the syllabus.	30%
Paper 2 (120 minutes) Technology required. (110 marks) *Section A* Compulsory short-response questions based on the syllabus. *Section B* Compulsory extended-response questions based on the syllabus.	30%
Paper 3 (60 minutes) Technology required. (55 marks) Two compulsory extended-response problem-solving questions.	20%
Internal assessment This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. **Mathematical exploration** Internal assessment in mathematics is an individual exploration. This is a piece of written work that involves investigating an area of mathematics. (20 marks)	**20%**

Mathematics: applications and interpretation

SL assessment outline

Assessment component	Weighting
External assessment (3 hours)	**80%**
Paper 1 (90 minutes) Technology required. (80 marks) Compulsory short-response questions based on the syllabus.	40%
Paper 2 (90 minutes) Technology required. (80 marks) Compulsory extended-response questions based on the syllabus.	40%
Internal assessment This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. **Mathematical exploration** Internal assessment in mathematics is an individual exploration. This is a piece of written work that involves investigating an area of mathematics. (20 marks)	**20%**

Mathematics: applications and interpretation

HL assessment outline

Assessment component	Weighting
External assessment (5 hours)	**80%**
Paper 1 (120 minutes) Technology required. (110 marks) Compulsory short-response questions based on the syllabus.	30%
Paper 2 (120 minutes) Technology required. (110 marks) Compulsory extended-response questions based on the syllabus.	30%
Paper 3 (60 minutes) Technology required. (55 marks) Two compulsory extended-response problem-solving questions.	20%
Internal assessment This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. **Mathematical exploration** Internal assessment in mathematics is an individual exploration. This is a piece of written work that involves investigating an area of mathematics. (20 marks)	**20%**

DP Subject Information

Group 6: The Arts

- Music HL/SL
- Visual Arts HL/SL
- Free elective (another subject from IB Groups 3 or 4)

IB music higher level subject brief

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

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

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

Overview of the music higher level course and curriculum model

I. Course description and aims

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

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

II. Curriculum model overview

Music higher level

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

III. Assessment model

Assessment for music higher level

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

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

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

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

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

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

Assessment for music higher level (continued)

The listening paper is based on musical perception—analysis, examination, comparing and contrasting of pieces of music. Section A relates to two prescribed works and section B to music from different times and places, encompassing jazz/pop, western art music and world music. 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**
Listening paper	Seven musical perception questions	3	30
Musical links investigation	A written media script of 2,000 words or less, investigating the significant musical links between two or more pieces from distinct musical cultures		20
Internal			**50**
Creating and performing	**Creating:** three pieces of coursework with recordings and written work		25
	Solo performing: A recording selected from pieces presented during one or more public performances		25

IV. Sample questions

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

Listening paper section A
Sample: ***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.

IB music standard level subject brief

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

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

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

Overview of the music standard level course and curriculum model

I. Course description and aims

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

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

II. Curriculum model overview

Music standard level

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

III. Assessment model

Assessment for music standard level

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

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

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

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

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

Assessment for music standard level (continued)

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

The listening paper is based on musical perception—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**
Listening Paper	Five musical perception questions	2.25	30
Musical links investigation	A written media script of 2,000 words or less, investigating the significant musical links between two or more pieces from distinct musical cultures		20
Internal			**50**
Creating or performing	Students choose one of the three options. **Creating:** Two pieces of coursework with recordings and written work **Solo performing:** A recording selected from pieces presented during one or more public performances **Group performing:** A recording selected from pieces presented during two or more public performances		

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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

International Baccalaureate Diploma Programme Subject Brief

The arts:
Visual arts—Higher level

First assessments 2016 – Last assessments 2022

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

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

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

I. Course description and aims

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

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

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

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

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

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

II. Curriculum model overview

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

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

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

III. Assessment model

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

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

Assessment at a glance

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

International Baccalaureate Diploma Programme Subject Brief

The arts:

Visual arts—Standard level

First assessments 2016 – Last assessments 2022

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

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

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

I. Course description and aims

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

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

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

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

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

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

II. Curriculum model overview

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

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

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

III. Assessment model

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

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

Assessment at a glance

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

DP Subject Information

Core

- TOK
- Extended Essay
- CAS

International Baccalaureate Diploma Programme Subject Brief

Diploma Programme core: Theory of knowledge

First assessments 2015 – Last assessments 2021

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

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.

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

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

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?

International Baccalaureate Diploma Programme Subject Brief

Diploma Programme Core:
Extended essay, including the world studies option

First assessment 2018

The IB Diploma Programme (DP) is a rigorous, academically challenging and balanced programme of education designed to prepare students aged 16 to 19 for success at university and life beyond. The DP aims to encourage students to be knowledgeable, inquiring, caring and compassionate, and to develop intercultural understanding, open-mindedness and the attitudes necessary to respect and evaluate a range of viewpoints. Approaches to teaching and learning (ATL) 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 six courses from six distinct groups:
1) studies in language and literature; 2) language acquisition; 3) individuals and societies; 4) sciences; 5) mathematics; 6) the arts. Students may choose to replace the arts course with a second course from one of the other five groups. At least three, and not more than four, subjects are taken at higher level (240 recommended teaching hours), while the remaining are taken at standard level (150 recommended teaching hours). In addition, three core elements—the extended essay, theory of knowledge, and creativity, activity, service—are compulsory and central to the philosophy of the programme.

These DP subject briefs illustrate four key course components.
I. Course description and aims
II. Overview of the extended essay process
III. Assessment model
IV. Sample extended essay topics

I. Course description and aims

The extended essay is a compulsory, externally assessed piece of independent research into a topic chosen by the student and presented as a formal piece of academic writing. The extended essay is intended to promote high-level research and writing skills, intellectual discovery and creativity while engaging students in personal research. This leads to a major piece of formally presented, structured writing of up to 4,000 words in which ideas and findings are communicated in a reasoned, coherent and appropriate manner.

Students are guided through the process of research and writing by an assigned supervisor (a teacher in the school). All students undertake three mandatory reflection sessions with their supervisor, including a short interview, or viva voce, following the completion of the extended essay.

Extended essay topics may be chosen from a list of approved DP subjects—normally one of the student's six chosen subjects for the IB diploma or the world studies option. World studies provides students with the opportunity to carry out an in-depth interdisciplinary study of an issue of contemporary global significance, using two IB disciplines.

The aims of the extended essay are to provide students with the opportunity to:

- engage in independent research with intellectual initiative and rigour
- develop research, thinking, self-management and communication skills
- reflect on what has been learned throughout the research and writing process.

II. Overview of the extended essay process

The extended essay process

The research process

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

Writing and formal presentation

The required elements of the final work to be submitted are as follows.

- Title page
- Contents page
- Introduction
- Body of the essay
- Conclusion
- References and bibliography

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

Reflection process

As part of the supervision process, students undertake three mandatory reflection sessions with their supervisor. These sessions form part of the formal assessment of the extended essay and research process. The purpose of these sessions is to provide an opportunity for students to reflect on their engagement with the research process and is intended to help students consider the effectiveness of their choices, re-examine their ideas and decide on whether changes are needed. The final reflection session is the viva voce.

The viva voce is a short interview (10–15 minutes) between the student and the supervisor, and is a mandatory 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 and is interpreted in ways appropriate to each subject. Students are expected to:

- provide a logical and coherent rationale for their choice of topic
- review what has already been written about the topic
- formulate a clear research question
- offer a concrete description of the methods used to investigate the question
- generate reasoned interpretations and conclusions based on their reading and independent research in order to answer the question
- reflect on what has been learned throughout the research and writing process.

Assessment at a glance

Assessment criteria	Description
Focus and method	The topic, the research question and the methodology are clearly stated.
Knowledge and understanding	The research relates to the subject area/discipline used to explore the research question, and knowledge and understanding is demonstrated through the use of appropriate terminology and concepts.
Critical thinking	Critical-thinking skills have been used to analyse and evaluate the research undertaken.
Presentation	The presentation follows the standard format expected for academic writing.
Engagement	The student's engagement with their research focus and the research process.

The extended essay contributes to the student's overall score for the diploma 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

- What is the relationship between the length of an exhaust pipe and the frequency of the sound it emits?
- How far was the Christian Democrat victory in the Italian elections of 1948 influenced by Cold War tensions?
- How effective is Friedrich Dürrenmatt's use of colour to convey his message in the play *Der Besuch der alten Dame*?

International Baccalaureate Diploma Programme Subject Brief

Creativity, activity, service

For students graduating in 2017 and after

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

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

These DP subject briefs illustrate four key course components.
I. Description and aims
II. Programme overview
III. Learning outcomes
IV. Sample projects

I. Description and aims

Creativity, activity, service (CAS) is at the heart of the DP. With its holistic approach, CAS is designed to strengthen and extend students' personal and interpersonal learning from the Primary Years Programme (PYP) and Middle Years Programme (MYP).

CAS is organized around the three strands of creativity, activity and service defined as follows.

- Creativity—exploring and extending ideas leading to an original or interpretive product or performance.
- Activity—physical exertion contributing to a healthy lifestyle.
- Service—collaborative and reciprocal engagement with the community in response to an authentic need.

CAS aims to develop students who:

- enjoy and find significance in a range of CAS experiences
- purposefully reflect upon their experiences
- identify goals, develop strategies and determine 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 they are members of local and global communities with responsibilities towards each other and the environment.

A CAS experience is a specific event in which the student engages with one or more of the three CAS strands. It can be a single event or an extended series of events. A CAS project is a collaborative series of sequential CAS experiences lasting at least one month. Typically, a student's CAS programme combines planned/unplanned singular and ongoing experiences. All are valuable and may lead to personal development. However, a meaningful CAS programme must be more than just a series of unplanned/singular experiences. Students must be involved in at least one CAS project during the programme.

II. Programme overview

The CAS programme formally begins at the start of the DP and continues regularly for at least 18 months with a reasonable balance between creativity, activity and service.

A CAS experience must:

- fit within one or more of the CAS strands
- be based on a personal interest, skill, talent or opportunity for growth
- provide opportunities to develop the attributes of the IB learner profile
- not be used or included in the student's DP course requirements.

CAS students have guidance at the school level through a variety of resources including the school's CAS handbook, information sessions and meetings. In addition, students have three formal interviews with the school's CAS coordinator/adviser.

Typically, students' service experiences involve the following stages.

- Investigation, preparation and action that meets an identified need.
- Reflection on significant experiences throughout to inform problem-solving and choices.
- Demonstration allowing for sharing of what has taken place.

All CAS students are expected to maintain and complete a CAS portfolio as evidence of their engagement with CAS. The CAS portfolio is a collection of evidence that showcases CAS experiences and student reflections; it is not formally assessed.

A school's CAS programme is evaluated as part of the school's regular programme evaluation and self-study process that assesses the overall implementation of the DP.

III. Learning outcomes

Completion of CAS is based on student achievement of the seven CAS learning outcomes. Through their CAS portfolio, students provide the school with evidence demonstrating achievement of each learning outcome. Some learning outcomes may be achieved many times, while others may be achieved less frequently. In their CAS portfolio, students provide the school with evidence of having achieved each learning outcome at least once through their CAS programme.

Learning outcome	Descriptor
Identify own strengths and develop areas for growth.	Students are able to see themselves as individuals with various abilities and skills, of which some are more developed than others.
Demonstrate that challenges have been undertaken, developing new skills in the process.	A new challenge may be an unfamiliar experience or an extension of an existing one. The newly acquired or developed skills may be shown through new experiences or through increased expertise in an established area.
Demonstrate how to initiate and plan a CAS experience.	Students can articulate the stages from conceiving an idea to executing a plan for individual or collaborative CAS experiences. Students may show their knowledge and awareness by building on a previous experience or by launching a new idea or process.
Show commitment to, and perseverance in, CAS experiences.	Students demonstrate regular involvement and active engagement in CAS.
Demonstrate the skills and recognize the benefits of working collaboratively.	Students are able to identify, demonstrate and critically discuss the benefits and challenges of collaboration gained through CAS experiences.
Demonstrate engagement with issues of global significance.	Students are able to identify and demonstrate their understanding of global issues, make responsible decisions and take appropriate action in response to the issue either locally, nationally or internationally.
Recognize and consider the ethics of choices and actions.	Students show awareness of the consequences of choices and actions in planning and carrying out CAS experiences.

IV. Sample projects

- Creativity: A student group plans, designs and creates a mural.
- Activity: Students organize and participate in a sports team including training sessions and matches against other teams.
- Service: Students set up and conduct tutoring for people in need.
- Service and activity: Students plan and participate in the planting and maintenance of a garden with members of the local community.
- Creativity, activity and service: Students rehearse and perform a dance production for a community retirement home.

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

For further information on the IB Diploma Programme, visit: ***www.ibo.org/en/programmes/diploma-programme/****.*

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/en/university-admission*** *or email:* ***recognition@ibo.org****.*

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