

IBDP COURSE DESCRIPTIONS

2024 - 2025



INTERNATIONAL SCHOOL OF
FLORENCE



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.

<p>The International School of Florence International Baccalaureate Diploma Programme (IBDP) Course Descriptions 2024 - 2025</p>

The International Baccalaureate (IB) Diploma Programme is a rigorous pre-university course of study, leading to examinations, that meets the needs of the highly motivated and academically inclined secondary school student. Designed as a comprehensive curriculum that allows its graduates to fulfill requirements of the various national systems of education, the IB is based on the pattern of no single country. It provides students of different linguistic, cultural, and educational backgrounds with the intellectual, social, and critical perspectives necessary for the adult world that lies ahead of them.

The IBDP Curriculum at ISF

Group 1	Language A (Studies in Language and Literature)	
	English A: Language & Literature	HL/SL
	English A: Literature	HL/SL
	Italian A: Language & Literature	HL/SL
Group 2	Language Acquisition	
	English B	HL/SL
	French B	HL/SL
	Italian B	HL/SL
	Italian ab initio	SL only
	Spanish B	HL/SL
Group 3	Individuals and Societies	
	Business Management	HL/SL
	Global Politics	HL/SL
	History	HL/SL
Group 4	Experimental Sciences	
	Biology	HL/SL
	Chemistry	HL/SL
	Physics	HL/SL
Group 5	Mathematics	
	Mathematics: Analysis and Approaches	HL/SL
	Mathematics: Applications and Interpretation	SL only
Group 6	Arts and Electives	
	Visual Arts	HL/SL
	or a <i>second</i> course from Group 2 or Group 3 or Group 4	HL/SL
Interdisciplinary course		
	Environmental Systems & Societies (ESS)	SL only
	(may be offered as either a Group 3 or Group 4 option)	

One subject from *each* of the above Groups must be chosen for the two years of the Diploma Programme (N.B. Students may opt to take **two** Language A/Group 1 courses *rather than* one Language A/Group 1 and one Language B/Group 2 course). At least three and not more than four subjects must be taken at

Higher Level (HL) and the others at Standard Level (SL) for students pursuing a full IB Diploma. Please note that HL courses represent 240 teaching hours while SL courses represent 150 teaching hours.

Before making a final decision on which classes to take, students *must* consult “Selecting Correct Classes for Specific University Programmes” at the end of this manual, as well as the IB Diploma Programme Handbook.

For those students pursuing only the ISF US High School Diploma and not the full IB Diploma, it should be noted that *all* 11th and 12th Grade classes are IB classes at ISF.

The school strives to satisfy as far as possible the requirements of its student body, which changes each year, but lack of numbers and other timetabling restrictions may further limit the proposed choices (including offering the HL version of a class) that are illustrated above.

It is also important to note that subject choices are binding and a subject or level change may be made only on college counsellor or teacher recommendation, provided that there is space available in the new subject/level and that such a change is made in a timely manner (usually in the first weeks of 11th Grade).

In addition to completing the six subjects, each Diploma candidate must meet the following requirements (see the “The IBDP Core” section for more detail):

Extended Essay

A substantial piece of independent work/research

Theory of Knowledge (ToK)

A course in the Theory of Knowledge

Creativity, Activity, and Service (CAS)

Activities that broadly cover the above mentioned areas

GROUP 1 – STUDIES IN LANGUAGE AND LITERATURE

English A: Language and Literature

Aims

In the language A: literature course students will learn about the complex and dynamic nature of language and explore both its practical and aesthetic dimensions. They will explore the crucial role language plays in communication, reflecting experience and shaping the world. Students will also learn about their own roles as producers of language and develop their productive skills. Throughout the course, students will explore the various ways in which language choices, text types and literary forms and contextual elements all effect meaning. Through close analysis of various text types and literary forms, students will consider their own interpretations, as well as the critical perspectives of others, to explore how such positions are shaped by cultural belief systems and to negotiate meanings for texts.

Course Outline

At Higher Level, six works will be studied, containing all four genres: poetry, drama, fiction, and non-fiction. Three historical periods, four regions and two continents will be represented. At Standard Level, four works will be studied, containing three of the four genres, and representing three periods, three regions, and two continents.

Texts may include:

The Underground Railroad by Colson Whitehead
Between the World and Me by Ta-Nehisi Coates
Sweat by Lynn Nottage
Shadow of the Wind by Carlos Ruiz Zafon
Drive Your Plow Over the Bones of the Dead by Olga Tokarczuk
Selected Poems by Oodgeroo Noonucal
Oedipus Rex by Sophocles

ISF Assessment

ISF assessment is based on written responses, oral presentations, essays and the new Learner Portfolio, a mandatory and central element of the new course.

IB Assessment

External assessment includes Paper 1- Guided Textual Analysis for 35% based on one text for standard level, and two texts at higher level. Paper 2 Comparative Essay in response to one question, based on two of the works studied. For standard level 35% and at higher level 25%. For higher level only there is a Higher Level Essay worth 20% based on coursework or one literary work. The final component is the individual oral assessed at 30% for standard level and 20% at higher level based on two extracts already studied.

English A: Literature

Aims

English A: Literature is concerned with our conception, interpretation and experience of the world, and we study novels, plays, poems and non-fiction to explore how they can represent the complex pursuits, anxieties, joys, and fears to which human beings are exposed in their daily lives.

Writing is one of the more enduring fields of human creativity, and this course encourages students to engage in independent, original, critical and clear thinking. It also promotes respect for the imagination and a critical approach to the understanding and interpretation of literary works.

Students will make comparisons and connections between texts, and the ways various literary forms and the conventions of genres explore ideas.

We will also consider the relationship between a text, its author and its readership; crucially, we will discover how literary works generate meaning, and how literature relates to the real world. We will consider perspectives from the personal to the global, and how the cultural context of literature is tied to its meaning.

Course Outline

At Higher Level, thirteen works will be studied, containing all four genres (poetry, drama, fiction and nonfiction). Three historical periods, four regions and two continents will be represented. At Standard Level, nine works will be studied, containing three of the four genres, and representing three periods, three regions and two continents.

Texts may include:

Sherwood Anderson **Winesburg, Ohio**
Margaret Atwood Selected Poetry and/or **The Handmaid's Tale**
Italo Calvino **The Path to the Spiders' Nests**
Robert Frost Selected Poems
Ernest Hemingway **The Sun Also Rises**
Rodoreda Merce **In Diamond Square**
Pablo Neruda **20 Love Poems and A Song of Despair**
Mary Oliver Selected Poems
George Orwell **Down and Out in Paris and London**
Marjane Satrapi **Persepolis**
Mary Shelley **Frankenstein**
Wisława Szymborska **View with a Grain of Sand**

William Shakespeare As You Like It

Voltaire Candide

Kurt Vonnegut Slaughterhouse Five

David Foster Wallace Consider the Lobster and Other Essays

Evelyn Waugh A Handful of Dust

ISF Assessment

ISF assessment is based on written responses, oral presentations, essays, and written commentaries on unseen and previously studied passages.

IB Assessment

External assessment includes Paper 1- Guided Textual Analysis for 35% based on one text for SL, and two texts at HL. Paper 2 Comparative Essay in response to one question, based on two of the works studied. For standard level 35% and at higher level 25%. For HL only there is a Higher Level Essay worth 20% based on one literary work. The final component is the individual oral assessed at 30% for SL and 20% at SL based on two extracts already studied.

Italian A: Language and Literature

Gli obiettivi del corso Italian A: Language and Literature sono:

1. Esporre gli studenti ad una ampia varietà di testi, diversi per periodo, stile e cultura e provenienti da diverse fonti
2. Sviluppare le capacità espressive, di ascolto, lettura, scrittura, visione, presentazione e esecuzione
3. Sviluppare abilità nell'interpretazione, l'analisi e la valutazione dei testi
4. Sviluppare la sensibilità per le qualità formali ed estetiche dei testi ed un apprezzamento per come essi contribuiscono alle diverse risposte e si aprono a significati multipli
5. Sviluppare una comprensione delle relazioni esistenti tra testi e varietà di prospettive, contesti culturali, problematiche locali e globali e un apprezzamento di come questi contribuiscono a risposte diverse e si aprono a significati multipli
6. Sviluppare una comprensione delle relazioni tra studi della lingua e della letteratura ed altre discipline
7. Comunicare e collaborare in modo sicuro e creativo
8. Promuovere un duraturo interesse e piacere per gli studi di lingua e letteratura

Contenuti

Nel percorso verranno letti testi non letterari di varie tipologie attraverso i quali verranno esplorate alcune tematiche centrali per il corso:

- Lettori, scrittori e testi
- Spazio e tempo
- Intertestualità: connettere testi

Verrà inoltre affrontata la lettura di opere letterarie dei seguenti testi e autori:

- A. Tabucchi, "Sostiene Pereira"
- Allende, "La casa degli spiriti"
- G. Ungaretti, "Il porto sepolto"
- G. Bassani, "IL giardino dei Finzi-Contini"
- C. Goldoni, "La locandiera"
- E. Ibsen, "Casa di bambola"

La valutazione degli studenti durante i due anni si baserà su:

- Discussioni: viene fortemente incoraggiata la partecipazione in discussioni di classe
- Commenti scritti su passi non previamente conosciuti
- Commenti orali e scritti su passaggi estratti da opere studiate in classe letterarie e non letterarie

- Saggi comparativi letterari
- Presentazioni creative su opere letterarie, che possono richiedere lavoro di gruppo
- Portfolio personale, in cui gli studenti dovranno raccogliere tutti i loro lavori e le loro riflessioni personali sul percorso.

IB Assessment

HL

External Assessment 70%:

Paper 1: Analisi del testo guidata (2 ore 15 minuti) 35%

Paper 2: Saggio comparativo (1 ora 45 minuti) 25%

HL essay 20%

Internal Assessment:

Individual oral (15 minuti) 20%

SL

External Assessment 70%:

Paper 1: Guided textual analysis (1 ora 15 minuti) 35%

Paper 2: Saggio comparativo (1 ora 45 minuti) 35%

Internal Assessment 30%:

Individual oral (15 minuti) 30%

GROUP 2 – LANGUAGE ACQUISITION

English B/French B/Italian B/Spanish B

Aims

Students in Language B will be able to:

1. Communicate clearly and effectively in a range of situations, demonstrating linguistic competence and intercultural understanding
2. Use language appropriate to a range of interpersonal and/or cultural contexts
3. Understand and use language to express and respond to a range of ideas with accuracy and fluency
4. Organize ideas on a range of topics, in a clear, coherent and convincing manner
5. Understand, analyze and respond to a range of written and spoken texts
6. Understand and use works of literature written in the target language of study (HL only)

Course Outline

SL and HL are differentiated by the depth of syllabus coverage, the study of literature at HL, and the level of difficulty and demands of assessment and assessment criteria.

Five prescribed themes are common to the syllabuses of language B. The themes provide relevant contexts for study at all levels of language acquisition in the DP, and opportunities for students to communicate about matters of personal, local or national, and global interest.

The five prescribed themes are:

- identities
- experiences
- human ingenuity
- social organization
- sharing the planet

The themes allow students to compare the target language and culture(s) to other languages and cultures with which they are familiar. The themes also provide opportunities for students to make connections to other disciplinary areas in the DP.

Also, at HL, students read **two** works of literature:

In English B:

- Nic Stone **Dear Martin**
- Morton Rhue **The Wave**
(*additional texts*)
 - Kevin Morley **Oxford IB Prepared English B**
 - Kawther Saa'd Aldin & Kevin Morley **English B Course Companion**

In French B:

- Albert Camus **L'étranger**
- Eric-Emmanuel Schmitt **Mr Ibrahim et les Fleurs du Coran**

In Italian B:

- Michela Tilli **Ogni giorno come fossi bambina**
- A selection of Italian poems

In Spanish B:

- Gabriel Garcia Marquez **Crònica de una muerte anunciada**
- Laura Esquivel **Como agua para chocolate**

ISF Assessment

All assessment follows the Language B criteria. Students will be assessed on the four skills: reading, writing, listening, and speaking.

IB Assessment

Higher Level

External assessment (3 hours 30 minutes) 75%

Paper 1 (1 hour 30 minutes) 25% Productive skills - writing (30 marks)

One writing task of 450-600 words from a choice of three, each from a different theme, choosing a text type from among those listed in the examination instructions

Paper 2 (2 hours) 50% Receptive skills – separate sections for listening and reading (65 marks)

Listening comprehension (1 hour) (25 marks)

Reading Comprehension (1 hour) (40 marks)

Comprehension exercises on three audio passages and three written texts, drawn from all five themes.

Internal assessment 25% This component is internally assessed by the teacher and externally moderated by the IB at the end of the course.

Individual oral assessment

A conversation with the teacher, based on an extract from one of the literary works studied in class, followed by a discussion based on one or more of the themes from the syllabus. (30 marks)

Standard Level

External assessment (3 hours) 75%

Paper 1 (1 hour 15 minutes) 25% Productive skills - writing (30 marks)

One writing task of 250-400 words from a choice of three, each from a different theme, choosing a text type from among those listed in the examination instructions

Paper 2 (1 hour 45 minutes) 50% Receptive skills – separate sections for listening and reading (65 marks)

Listening comprehension (45 minutes) (25 marks)

Reading Comprehension (1 hour) (40 marks)

Comprehension exercises on three audio passages and three written texts, drawn from all five themes.

Internal assessment 25% This component is internally assessed by the teacher and externally moderated by the IB at the end of the course.

Individual oral assessment

A conversation with the teacher, based on a visual stimulus, followed by a discussion based on an additional

theme. (30 marks)

Italian ab initio

The ab initio programme is aimed at students that have had no previous experience of learning the target language and is available as a Standard Level (SL) course only. It must be studied over two years.

Aims

The aims of the ab initio programme are to:

- develop students' ability to communicate in speech and in writing in order to enable them to deal adequately with familiar and practical needs
- introduce students to the culture of the country or the countries where the language is spoken through the study of the target language
- provide students with a foundation for the further study of the target language
- provide enjoyment and intellectual stimulation
- encourage positive attitudes to the learning of the other languages and to their speakers and countries

Objectives

Candidates should be able to:

- understand and respond appropriately to the spoken language (for example, in announcements, instructions, requests, in the form of monologues or dialogues)
- engage in conversation in order to deal with everyday situations
- understand short written passages on the defined topics; recognize essential notices (for example, signs, menus, timetables, advertisements) and to be able to extract specific information from texts such as brochures, guides, letters
- carry out writing tasks such as short messages (for example, postcards, lists, notes); a letter; instructions; short compositions
- show an awareness of the culture of the target language
- compare the target culture with the own culture and be able to understand the differences

Course Outline

Five prescribed themes are common to the syllabuses of language ab initio. The themes provide relevant contexts for study at all levels of language acquisition in the DP, and opportunities for students to communicate about matters of personal, local or national, and global interest.

The five prescribed themes are:

- identities
- experiences
- human ingenuity
- social organization
- sharing the planet

The themes allow students to compare the target language and culture(s) to other languages and cultures with which they are familiar. The themes also provide opportunities for students to make connections to other disciplinary areas in the DP.

Text used: For the first year: **Dimmi**, published by Guerra.

During the second year only "real-world" texts in Italian are used.

ISF Assessment

The trimester grades will be based on tests and activities that are assessed using the IB scheme of assessment.

IB Assessment

External assessment (2 hours 45 minutes) 75%

Paper 1 (1 hour) 25% Productive skills - writing (30 marks)

Two written tasks, each from a choice of three

Paper 2 (1hour 45 minutes) 50% Receptive skills – separate sections for listening and reading (65 marks)

Listening comprehension (45 minutes) (25 marks)

Reading Comprehension (1 hour) (40 marks)

Comprehension exercises on three audio passages and three written texts, drawn from all five themes.

Internal assessment 25% This component is internally assessed by the teacher and externally moderated by the IB at the end of the course.

Individual oral assessment

A conversation with the teacher, based on a visual stimulus relevant to one (or more) of the themes of the course. (30 marks)

GROUP 3 – INDIVIDUALS AND SOCIETIES

Business Management

Aims

The aims of the IB Business Management programme are to:

- Demonstrate knowledge and understanding of business terminology, concepts and principles.
- Promote the importance of exploring business issues from different cultural perspectives.
- Identify social and cultural factors, and ethical considerations, in the actions of organizations.
- Assess the impact of the actions of organizations on the internal and external environment, thus encouraging a holistic view of the world of business.
- Enable the student to appreciate the pace, nature and significance of change.
- Demonstrate competence in problem solving by identifying the problem, collecting, selecting, assessing and interpreting data using appropriate analytical tools, and recommending solutions by evaluating their quantitative and qualitative implications.
- Demonstrate their ability to apply theory to real-life situations, evaluate information in order to distinguish between fact and opinion, think critically and make decisions.

Course Outline

Higher Level

1. Business Organizations and the External Environment
2. Human Resources
3. Accounts and Finance
4. Marketing
5. Operations management
6. Business Toolkit

Standard Level

1. Introduction to Organization and the External Environment
2. Human Resources
3. Accounts and Finance
4. Marketing
5. Operations management
6. Business Toolkit

Textbooks:

Business Studies 5th Edition, Hoang P.
BusinessStudiesOnline
Kognity Online course materials

ISF Assessment

Students will be assessed on a range of in-class and homework tasks, comprising case studies, business reports, presentations, tests and exams.

IB Assessment

Higher Level
Paper 1: 30%

Paper 2: 25%
Paper 3: 25%
Internal Assessment research project: 20%

Standard Level

Paper 1: 40%
Paper 2: 35%
Internal Assessment research project: 25%

Global Politics

Aims

The aims of the IB Global Politics programme 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.

Course Outline

Standard Level and Higher Level

Core units: people, power and politics (Prescribed Subject)

The four compulsory units are:

1. Power, sovereignty and international relations
2. Human rights
3. Development
4. Peace and conflict

Engagement Activity

This individual project is internally assessed by the teacher and externally moderated by the IB. Students will work in class and individually to identify a topic, complete research, engage with individuals and organizations, and draw and present conclusions in a 2,000-word written report.

Higher Level only

HL extension: global political challenges

Students are tasked with selecting issues in two of the following six global challenges. For each of the two topics chosen students must undertake a detailed case study, culminating in a 10-minute video recorded oral presentation.

1. Environment
2. Poverty
3. Health
4. Identity
5. Borders
6. Security

Skills and concepts:

Emphasis will be placed on the theoretical foundations of global politics and how political issues, loosely defined as any event or action that is in the arena of state power and its maintenance, affect individuals and the society. It is a central element of the global politics course that the key political concepts and contemporary political issues are studied at a number of levels: global, international, regional, national, local and community. These levels help students to appreciate that what may initially appear to be a global issue actually has many local implications and vice versa, and that decision-making on the same phenomenon may look quite different depending on whether it is analysed on a systemic or sub-systemic level.

Students are asked to demonstrate knowledge and understanding of key political concepts and contemporary issues in global politics; identify and analyze relevant material and supporting examples; use political concepts and examples to formulate, present and sustain an argument; compare, contrast, synthesize and evaluate evidence from a variety of sources and perspectives; and evaluate political beliefs, biases, and prejudices and determine their origins.

Textbooks

Murphy, R. **Global Politics**

Kirsch, M. **Global Politics**

ISF Assessment

Students will be assessed on source evaluation exercises, essay writing (in class and for homework), presentations, an end-of-year exam (IBDP 1) and the mock exams (IBDP 2).

IB Assessment

Standard Level

Paper 1 (four short-answer/structured questions based on a topic from one of the four core units) 30%

Paper 2 (two essays from a choice of eight, each selected from a different core unit) 45%

Engagement activity (a 2,000 word report on a issue explored through engagement and research) 25%

Higher Level

Paper 1 (four short-answer/structured questions based on a topic from one of the four core units) 20%

Paper 2 (two essays from a choice of eight, each selected from a different core unit) 40%

Engagement activity (a 2,000 word report on a issue explored through engagement and research) 20%

HL extension (two 10-minute video recorded oral presentations chosen from two different HL topics) 20%

History

Aims

The aims of the IB History programme are to promote:

- The acquisition and understanding of historical knowledge in breadth and in depth, and across different cultures
- A developing appreciation and understanding of history as a discipline, including the nature and diversity of its sources, methods and interpretations
- International awareness and understanding by promoting the achievement of empathy with, and understanding of people living in diverse places and at different times
- A better understanding of the present through an understanding of the past
- An appreciation of the historical dimension of the human condition
- An ability to use and communicate historical knowledge and understanding
- A lasting interest in history

Course Outline

Content for the two year course will be selected from among the following topics:

Standard Level and Higher Level

Historical Investigation: this is an individual project that is the internally assessed part of the IB grade, worth 20% for HL students and 25% for SL students. Students will work by themselves on a topic of their own choosing, both in class and out of class, formulating a historical question, doing research, evaluating sources, analyzing evidence and drawing conclusions.

Paper 1 (Prescribed Subject) Rights and Protest

Two case studies, each from a different region: USA and South Africa.

Paper 2 (World History Topics)

Independence movements (1800-2000)

- Gandhi and India
- Ho Chi Minh and Vietnam
- De Valera and Ireland.

Authoritarian States (20th century)

- Castro and Cuba
- Mao and China
- Mussolini and Italy

Higher Level only

Paper 3

Depth Studies of History of Africa and the Middle East.

Skills and concepts:

Emphasis will be placed on the concepts of similarity and difference, cause and consequence, change and continuity, and empathy, and the skills of essay writing (formulating a clear argument based on evidence) and use and evaluation of historical sources.

Exam practice: use and evaluation of historical sources, and test essays written under timed conditions.

Textbooks

Habibi, M. History of Europe and the Middle East

Rogers, M. Rights and Protest

Todd, A. History for the IB Diploma. Paper 2. Authoritarian States (20th Century)

Todd, A. History for the IB Diploma. Paper 2. Independence movements (1800-2000)

ISF Assessment

Students will be assessed on source evaluation exercises, essay writing (in class, and for homework), presentations, end-of-year exam (IBDP 1) and the mock exams (IBDP 2).

IB Assessment

Standard Level

Paper 1 (use and evaluation of sources) 30%

Paper 2 (two essays on World History) 45%

Historical investigation 25%

Higher Level

Paper 1 (use and evaluation of sources) 20%

Paper 2 (two essays on World History) 25%

Paper 3 (three essays on History of Africa and the Middle East) 35%

Historical investigation 20%

GROUP 4 – SCIENCES

Aims

Through studying Biology, Chemistry, or 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 these subjects.

The aims enable students, through the overarching theme of the Nature of science, 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.

Objectives

The assessment objectives for Biology, Chemistry, and Physics reflect those parts of the aims that will be formally assessed either internally or externally. These assessments will center upon the nature of science. It is the intention of these courses that students are able to fulfill the following assessment objectives:

The assessment objectives for physics reflect those parts of the aims that will be formally assessed either internally or externally. It is the intention of this course that students are able to fulfill the following assessment objectives.

1. Demonstrate knowledge of:
 - a. terminology, facts and concepts
 - b. skills, techniques and methodologies.
2. Understand and apply knowledge of:
 - a. terminology and concepts
 - b. skills, techniques and methodologies.
3. Analyze, evaluate, and synthesize:
 - a. experimental procedures
 - b. primary and secondary data
 - c. trends, patterns and predictions.
4. Demonstrate the application of skills necessary to carry out insightful and ethical investigations.

Difference between HL and SL in all Group 4 Courses (excluding ESS)

While the skills and activities of group 4 science subjects are common to students at both SL and HL, students at HL are required to study some topics in greater depth, in the additional higher level (AHL) material and in the common options. The distinction between SL and HL is one of breadth and depth.

IB Assessment in all Group 4 Courses (excluding ESS)

Standard Level

Paper 1

Duration: 1 hour 30 minutes; Weighting: 36%; Marks: 45

Paper 2

Duration: 1 hour 30 minutes; Weighting: 44%; Marks: 55

Higher Level

Paper 1

Duration: 2 hours 30 minutes; Weighting: 36%; Marks: 60

Paper 2

Duration: 2 hours 15 minutes; Weighting: 44%; Marks: 90

All students will do an individual investigation that will account for 20% of their overall grade. This is often referred to as the Internal Assessment component. All students must also take part in a group project referred to as the Collaborative Science Project.

ISF Assessment in all Group 4 Courses

This will be based on a combination of tests and practical assessments. The proportion of each will vary according to the stage of the course and the content being covered.

Biology

By its very nature, Biology lends itself to an experimental approach; this will be reflected throughout the course. Students will also be expected to do a variety of tasks at home using their textbook and Internet resources.

Text: Allott A., Mindorff D. **Biology** Oxford University Press, 2023; access to an etext version is included.

Course Content

The four Core topics are:

1. Molecular biology
2. Cell biology
3. Organismal biology
4. Ecosystems

These topics are learned via four themes:

- A. Unity and diversity
- B. Form and function
- C. Interaction and interdependence
- D. Continuity and change

Chemistry

The IB Chemistry course aims to develop an understanding of the natural world by exploring structures and properties of materials, chemical reactions, and the many relationships between these.

Since Chemistry is an experimental science, students will participate in various forms of practical (lab) work.

Text: Catrin Brown, Mike Ford et al, **Higher Level Chemistry**, 3rd edition, Pearson.

Course Content

The Chemistry course is divided into two strands: Structure and Reactivity.

Structure:

1. Models of the particulate nature of matter
2. Models of bonding and structure
3. Classification of matter

Reactivity:

1. What drives chemical reactions
2. How much, how fast and how far?
3. What are the mechanisms of chemical change?

Physics

By its very nature, Physics lends itself to an experimental approach; this will be reflected throughout the course. Students will also be expected to do a variety of tasks at home using their textbook and Internet resources.

Text: **Higher Level Physics** 3rd edition, Hamper, Pearson 2023; access to an etext version is included.

Course Content

All students will study the Core, HL students will study the AHL material for each section.

Core

- A. Space, time and motion
- B. The particulate nature of matter
- C. Wave behaviour
- D. Fields
- E. Nuclear and quantum physics

Environmental Systems and Societies (ESS)

(Please note that ESS may be offered as a Group 3 or as Group 4 subject, depending on interest)

The IB Environmental Systems and Societies course is an *interdisciplinary* course in which students are guided into a multi-faceted scientific exploration of a wide range of ecosystems, and into the exploration of how societies impact their environment - and vice versa.

The teaching is supplemented with practical investigative work in the lab and in the field, interactive web simulations, demonstrations, all culminating in an individual investigation (IA).

Text: **Standard Level Environmental Systems and Societies**, 2nd edition by Andrew Davis and Garrett Nagle, Pearson Baccalaureate, incl e-text.

Course Content

1. Foundations of environmental systems and societies
2. Ecosystems and ecology
3. Biodiversity and conservation
4. Water and aquatic food production systems and societies
5. Soil systems and terrestrial food production systems and societies
6. Atmospheric systems and societies
7. Climate change and energy production
8. Human systems and resource use

At the moment, the ESS course is offered at ISF only as a Standard Level course.

ISF Assessment

During the course students will be formally assessed on tests, case studies, reports on practical work (i.e. field-work and lab-work), their individual investigation and the Group 4 project.

IB Assessment

The four assessment objectives of the course are to:

1. Demonstrate knowledge and understanding;
2. Apply knowledge and understanding;
3. Evaluate, justify and synthesize material covered by the syllabus;
4. Engage with investigations of environmental and societal issues at the local and global level.

The IB exams consist of a Paper 1 with open-ended questions based on a case study, and a Paper 2 with short-answer database questions and two long structured essay questions. The diploma grade is based on a weighted average of Paper 1 (25%), Paper 2 (50%) and the Internal Assessment (25%).

GROUP 5 – MATHEMATICS

In Mathematics students can choose between two courses: **Analysis and Approaches** and **Applications and Interpretation**. Both courses can be studied at Standard Level and **Analysis and Approaches** can be studied at Higher Level.

In the **Analysis and Approaches** course, the emphasis is on algebraic methods, and both real and abstract mathematical problem-solving. It is designed for students interested in studying Mathematics, Physical Sciences, Engineering and some Economics.

In the **Applications and Interpretation** course, the emphasis is on statistics, modelling and solving practical problems using the power of technology. It is designed for students interested in studying Natural Sciences, Social Sciences, Medicine, Statistics, Business, some Economics, Psychology and Design.

Mathematics entry requirements for the same course at different universities may not be the same. Students are encouraged to check in detail on the university website or contact the College Counselor.

ALL STUDENTS REQUIRE A GRAPHICAL CALCULATOR (TI-84 Plus CE satisfies minimum requirements)

Aims

(for *all* IB mathematics courses)

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

- Appreciate the multicultural and historical perspectives of all group 5 courses.
- Enjoy the courses and develop an appreciation of the elegance, power and usefulness of Mathematics.
- Develop logical, critical, and creative thinking.
- Develop an understanding of the principles and nature of Mathematics.
- Employ and refine their powers of abstraction and generalization.
- Develop patience and persistence in problem solving.
- Appreciate the consequences arising from technological developments.
- Transfer skills to alternative situations and to future developments.
- Communicate clearly and confidently in a variety of contexts.

Mathematics: Analysis and Approaches SL and HL

Course Outline

All students will study the Standard Level topics. Higher Level students will have additional topics and will sit an extra paper.

Standard Level:

1. NUMBER and ALGEBRA: Sequences, Series, Financial Mathematics, Basic Proofs, Logarithms and Binomial Expansion
2. FUNCTIONS: Quadratics, Properties and Graph of Functions (Linear, Polynomials, Rational, Exponentials, Logarithmic and Trigonometric), Transformations of Graphs
3. GEOMETRY: 2D and 3D Shapes, Radians, Trigonometry and Trigonometric Identities and Equations
4. STATISTICS: Data Analysis and Presentation, Correlation and Regression
5. PROBABILITY: Probability Laws; Discrete, Binomial and Normal Distributions
6. CALCULUS: Differentiation and Integration of main Functions, Differentiation Rules, Tangents and Normals, Optimization, Integration by Inspection, Area under a curve,

Kinematics.

Additional Higher Level:

1. NUMBER and ALGEBRA: Complex Numbers, Combinatorics, Proofs by Induction and Contradiction, Systems of Linear Equations
2. FUNCTIONS: Further Functions, Absolute Values, Polynomials Theorems, Inequalities.
3. GEOMETRY: Inverse and Reciprocal Trig Ratios, Compound Angle Identities, Vectors, Equation of Lines and Planes in 3D
4. PROBABILITY: Conditional Probability and Bayes' Theorem, Continuous Random Variables
5. CALCULUS: Implicit Differentiation, Related Rates of Change, Further Integration Techniques and Applications, First Order Differential Equations, Maclaurin series, Theorems of Calculus

Textbooks: **Mathematics for the IB Diploma: Analysis and Approaches SL** by P. Fannon et al. (Hodder Education) and **Mathematics for the IB Diploma: Analysis and Approaches HL** by P. Fannon et al. (Hodder Education). HL students will use both textbooks.

ISF Assessment

Student assessment will be based on:

- A Mathematical Investigation
- Unit tests, End of Grade 11 Exam, Grade 12 Mock
- Homework assignments

IB Assessment

Standard Level

Paper 1 – No Calculator

Duration: 1 hour 30 minutes; Weighting: 40%; Marks: 80

Paper 2

Duration: 1 hour 30 minutes; Weighting: 40%; Marks: 80

Higher Level

Paper 1 – No Calculator

Duration: 2 hours; Weighting: 30%; Marks: 110

Paper 2

Duration: 2 hours; Weighting: 30%; Marks: 110

Paper 3

Duration: 1 hour; Weighting: 20%; Marks: 55

All students will also have to complete an individual investigation (Internal Assessment), which will account for 20% of their final grade, on a mathematical topic of their choice. The exploration is internally assessed by the teacher and externally moderated by the IBO.

Mathematics: Applications and Interpretation SL
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Course Outline

All students will study the Standard Level topics.

Standard Level:

1. NUMBER and ALGEBRA: Sequences, Series, Financial Mathematics including Annuities and Amortization, Systems of Linear Equations
2. FUNCTIONS: Properties and Graph of Functions (Linear, Quadratic, Cubic, Direct/Inverse, Exponentials and Trigonometric). Modelling using Functions.
3. GEOMETRY: 2D and 3D Shapes, Trigonometry, Voronoi Diagrams.

4. STATISTICS: Data Analysis and Presentation, Correlation and Regression, Spearman's rank, Chi-Squared tests, *t*-test
5. PROBABILITY: Probability Laws; Discrete, Binomial and Normal Distributions
6. CALCULUS: Differentiation and Integration of polynomials, Tangents and Normals, Optimization. Area under a Curve, Trapezoidal Rule for Integration.

Textbook: **Mathematics for the IB Diploma: Applications and Interpretation SL** by P. Fannon et al. (Hodder Education)

ISF Assessment

Student assessment will be based on:

- A Mathematical Investigation
- Chapter tests
- Homework assignments
- Final exam

IB Assessment

A Graphical Calculator is required for all papers of this course.

Standard Level

Paper 1

Duration: 1 hour 30 minutes; Weighting: 40%; Marks: 80

Paper 2

Duration: 1 hour 30 minutes; Weighting: 40%; Marks: 80

Higher Level

Paper 1

Duration: 2 hours; Weighting: 30%; Marks: 110

Paper 2

Duration: 2 hours; Weighting: 30%; Marks: 110

Paper 3

Duration: 1 hour; Weighting: 20%; Marks: 55

All students will also have to complete an individual investigation (Internal Assessment), which will account for 20% of their final grade, on a mathematical topic of their choice. The exploration is internally assessed by the teacher and externally moderated by the IBO.

GROUP 6 – ARTS AND ELECTIVES

Visual Arts

Aims

The program aims to build students' capacity 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 the ability to respond visually and creatively to personal and cultural experiences

Course Outline

IB Visual Arts is a unique and powerful discipline where students are given the opportunity to build, and taught to recognize and value, the multi-modal, creative, and divergent thinking and approaches to problems and opportunities that are invaluable not just in both producing art, but also to thrive as life-long learners and "artists of life".

In the spirit of the IB Learner Profile and ISF vision, visual arts students are supported to grow into curious, present, collaborative members of the studio classroom lab who engage multiple ways of knowing (TOK) to become caring, reflective, principled makers who recognize and value the power of art to create meaning and beauty -- understanding both as a core part of knowing how to live life fully.

IB Visual Arts is a two-year course offered at both standard and higher level where students explore the power of the arts to engage with the world and themselves in an integrated 4-part process of:

- **create:** *hands-on experiences with a range of art media, approaches, and techniques
- **reflect:** *make observations and communicate about the art processes and its products and purposes
- **explore:** *art's interdisciplinary roots-connections, and its conceptual and communication power/links
- **investigate:** *active inquiry & engagement with art's historical, TOK and diverse cultural context connections

Being a hands-on discipline, DP Visual Arts provides an invaluable, unique, as well as demanding curriculum best suited for the learner who is prepared to dedicate significant studio time outside the classroom in order to fulfill the assessment requirements for completed exhibit work at the end of the program.

Students experience making art through a process of investigation, experimentation and building of techniques and skills including critical thinking and visual communication, engaging with artists and interdisciplinary inspirations to support and inspire students to build their own repertoire of art-making strategies and ideas to produce a body of artwork, with the support of instructors and in-class peer feedback and collaboration, that is presented in an exhibit at the end of the program.

ISF Assessment

Assessment is based on mid-trimester and end-of-trimester portfolio reviews, in-class critiques, and Visual Art Journal evaluation following IB descriptors, as well as assessment in approaches to learning based on the ATL of the IB.

IB Assessment

There are three assessment types in the Visual Arts - The first focuses on linking students' understanding of their own art to a wider cultural context (comparative study); the second focuses on their own artistic/technique/materials explorations, experiments, risks, failures, and development (Process Portfolio); and the third is the concrete product of these explorations, culminating in an exhibit of their artwork including an artist's statement articulating their intentions and concepts (Exhibition).

1. **A comparative study:** SL: 9-18 screens/pages; HL: 13-18 screens/pages (20% of the final grade) - Externally Assessed
Students will compare and contrast the work of (at least 2) different artists, different techniques for making art and theory behind the work (HL students will also include a reflection of how this relates to their own work). SL: 9-18 screens/pages; HL: 13-18 submitted
2. **A process portfolio:** SL: 9-18 pages using two different types of art media; HL: 13-25 pages using three different types of art media (40% of the final grade) - Externally Assessed
This is a documentation of the students' journey of art-making, their engagement with different media, techniques, and processes involved in making their own body of works. (Completed works, works in progress, experiments, process and investigations).
3. **An exhibition** with a written artist's statement/rationale: SL: 4-7 artworks/ HL: 8-11 art works (40% of the final grade) - Internally Assessed by Teacher

Students create an exhibit to share with the community and/or the general public, choosing the works and their presentation based on their artistic intentions as written in their artist's statement, including reflections on the process of creation, rationale for their decisions regarding the selection of pieces for exhibition, and considerations they made about their intended purpose/impact/audience.

THE IBDP CORE

Theory of Knowledge (ToK)

Aims

Theory of Knowledge provides students with an awareness and an understanding of their own beliefs, an analysis of how beliefs and knowledge are acquired, and the stimulus to be open-minded to accepting the beliefs of others. A significant aim of the course is to explore the means by which knowledge is gained through the core theme of Knowledge and the Knower, and two of the five optional themes: Knowledge and Technology, Knowledge and Politics, Knowledge and Language, Knowledge and Indigenous Societies, and Knowledge and Religion. The course also attempts to classify knowledge into subject areas: arts, mathematics, natural sciences, human sciences, and history. The special characteristics and constraints of these areas of knowledge, and the approaches employed in each, are compared and contrasted. In this way, Theory of Knowledge serves as a framework for the various elements of the IB Diploma Programme. In addition, a strong emphasis is placed on each student's development of him- or herself as a "knower;" the focus here is on the knower's relationship with the facts, events, and processes that comprise the outside world.

By the end of the course students should be able to:

- develop judgment based on gathered information;
- compare and contrast knowledge claims across the various subject areas;
- recognize where their beliefs come from;
- acknowledge the necessity of justifying their beliefs;
- develop a unification of their knowledge so that they are able to reflect on their acquired knowledge and put into perspective what they already know.

Course Outline

In achieving these goals, Theory of Knowledge largely makes use of the body of knowledge that students have accumulated and are still accumulating in their previous and current school courses. In addition, many of the topics for class discussions come from short newspaper and magazine articles culled from recent editions of sources such as *The New York Times* and *The Economist*. Videos and films are also used. The range of additional sources used depends to a great degree on the interests of the students. Sources used in the past have included Bacon, Chomsky, Pinker, Carr, Ramachandran, Wiesel, Sagan, Warhol, the Dalai Lama, and Quinn. Guest speakers from the local community are occasionally invited to class to discuss different problems and questions with the students.

ISF Assessment

Throughout the course, which runs from September of grade 11 to March of grade 12, ToK students are assessed in a variety of ways:

- essays based on assigned readings, class discussions, and/or outside research;
- oral presentations approved by the instructors;
- essays on prescribed titles.

IB Assessment

Theory of Knowledge is assessed, but not in the form of an exam. Instead, there are two parts of the assessment: an essay on a prescribed title and, new to this specification, the "TOK exhibition." The essay is marked externally and is worth 67% of the marks. The exhibition is marked internally (but moderated externally) and worth 33% of the marks. The essay is based on the areas of knowledge. The exhibition is on how TOK manifests itself in the world around us.

Creativity, Activity, and Service (CAS)

CAS is an exciting Program at the core of the International Baccalaureate Diploma Program! Participation in **Creativity**, in **Activity**, and in **Service** encourages students to share their energy and special talents while developing awareness, concern and the ability to work cooperatively with others. Students are encouraged to initiate their own projects individually or collectively with their fellow students. CAS is holistic and many activities and projects overlap between creativity, activity and service. The CAS program will challenge students, help them to acquire new skills and interests, develop a spirit of discovery and self-reliance, and foster awareness of themselves and of others. The IB aims for balance; students are asked not just to serve others but to nurture themselves as well as follow their passion for art and music, develop new skills in sports, and explore their personal boundaries.

CAS will inspire students to:

- Actively discover their passion by exploring a range of new CAS experiences
- Set goals and strive for excellence
- Learn and work collaboratively
- Increase self-awareness through reflection
- Improve the world around them through local and international service projects
- Understand the links between CAS and their subjects

Student completion of CAS is based on the achievement of the seven CAS learning outcomes realized through the student's commitment of his or her CAS program over a period of 18 months. Students will have:

1. Identified own strengths and develop areas for growth.
2. Demonstrated that challenges have been undertaken, developing new skills in the process.
3. Demonstrated how to initiate and plan a CAS experience.
4. Shown commitment to and perseverance in CAS experiences.
5. Demonstrated the skills and recognize the benefits of working collaboratively.
6. Demonstrated engagement with issues of global significance.
7. Recognized and consider the ethics of choices and actions.

(Information is taken from the Creativity, Activity, Service guide for students graduating in 2017 and thereafter, published March 2015, International Baccalaureate Organisation.)

Extended Essay (EE)

The Extended Essay is a substantial piece of independent work of no more than 4,000 words in an area that interests the student and in one of the subjects of the IB curriculum. Generally speaking, the Extended Essay is started in December of the 11th Grade and is completed by November of the 12th Grade.

Selecting Correct Classes for Specific University Programmes

In Grade 10 students need to make informed choices about their future IB subjects as this can have a direct effect on the choice of university/college degree programme. This is even *more* important if students are choosing to go to university in the UK. It is strongly advised, therefore, to research several universities to check their general entrance requirements for specific subjects.

Students can check with the College Counsellor for degree course descriptions and entrance requirements and students can also check the site <http://www.ucas.com> for exact requirements at specific universities in the UK.

Those classes listed below are generally **requirements** for UK universities and are also *highly recommended* for the USA.

For the rest of the world, including France, Italy, and the Netherlands, the universities tend to be autonomous and parents/students need to check specific IB requirements by contacting the universities directly.

The courses and classes listed below are a *guide only* – students and parents are strongly advised to check with the College Counsellor and the universities/colleges of their choice to confirm admission requirements.

GENERAL RULE	If you wish to take a subject you are studying at school at university level, you should take that subject at HL.
Architecture	Art and Math and/or Physics at HL
Bio-Technology/Engineering	Biology HL and another science at HL; usually Math at SL
Business Management	<i>Some</i> may require Math at HL
Chemical Engineering	Usually require Chemistry at HL with Math and Physics at HL
Economics	Math HL
Environmental Science	At least one Science at HL, usually Chemistry
Law/Politics/Philosophy	History HL
Mechanical/Electrical/Aeronautical/ Automobile Engineering	Math and Physics at HL
Medicine/Dentistry	Chemistry HL and another Science at HL, usually Biology; Math at HL or SL
Modern Languages (French, Italian, Spanish)	Usually require Language B HL if you want to study that specific language at university
New language (Arabic, Russian, Greek, Japanese, Mandarin)	Check with the university but usually require a Modern Language at HL
Physiotherapy/Nursing	Usually require Biology at HL with some universities also needing Chemistry at SL
PPE (Philosophy, Politics, Economics)	History HL advisable; Math HL preferred
Psychology	May require Biology or Chemistry at HL; <i>some</i> may require Math HL
Veterinary Science	Biology and Chemistry at HL; Math at HL or SL