

DISV IB DIPLOMA HANDBOOK

Graduating class of 2019





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INTRODUCTION

This curriculum handbook is intended to provide you with an understanding of the IB Diploma Years Programme (IB DP) and how it is uniquely implemented at DISV.

At Danube we strive to create a culture that encourages students to discover their individual gifts and talents. The school endeavors to nurture and support each student to reach their full potential. The school's family atmosphere is grounded in respect, trust, compassion and the ideal of community service.

In addition to high academic standards, the international education that we offer focuses on three fundamental concepts of holistic learning, intercultural awareness, and communication. We guide students to develop their skills to become independent learners and leaders in the global community. We also provide a wide range of activities and experiences that will not only prepare our students for the future but also make their school and personal life more enjoyable and rewarding.

Danube International School Vienna is a true community. We invite you to visit us in person and experience our very special school.

Chloë Pollack
IB DP Leader



THE IB LEARNER PROFILE

The IB learner profile is the IB mission statement translated into a set of learning outcomes for the 21st century. The learner profile provides a long-term vision of education. It is a set of ideals that can inspire, motivate and focus the work of schools and teachers, uniting them in a common purpose.

IB learners strive to be:

Inquirers: They develop their natural curiosity. They acquire the skills necessary to conduct inquiry and research and show independence in learning. They actively enjoy learning and this love of learning will be sustained throughout their lives.

Knowledgeable: They explore concepts, ideas and issues that have local and global significance. In so doing, they acquire in-depth knowledge and develop understanding across a broad and balanced range of disciplines.

Thinkers: They exercise initiative in applying thinking skills critically and creatively to recognize and approach complex problems, and make reasoned, ethical decisions.

Communicators: They understand and express ideas and information confidently and creatively in more than one language and in a variety of modes of communication. They work effectively and willingly in collaboration with others.

Principled: They act with integrity and honesty, with a strong sense of fairness, justice and respect for the dignity of the individual, groups and communities. They take responsibility for their own actions and the consequences that accompany them.

Open-minded: They understand and appreciate their own cultures and personal histories, and are open to the perspectives, values and traditions of other individuals and communities. They are accustomed to seeking and evaluating a range of points of view, and are willing to grow from the experience.

Caring: They show empathy, compassion and respect towards the needs and feelings of others. They have a personal commitment to service, and act to make a positive difference to the lives of others and to the environment.

Risk-takers: They approach unfamiliar situations and uncertainty with courage and forethought, and have the independence of spirit to explore new roles, ideas and strategies. They are brave and articulate in defending their beliefs.

Balanced: They understand the importance of intellectual, physical and emotional balance to achieve personal well-being for themselves and others.

Reflective: They give thoughtful consideration to their own learning and experience. They are able to assess and understand their strengths and limitations in order to support their learning and personal development.

IB DIPLOMA GUIDING PRINCIPALS

The IB Diploma Programme (IB DP) is an academically challenging and balanced programme of education with final examinations 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. The programme, has gained recognition and respect from the world's leading universities.



The Diploma Programme prepares students for effective participation in a rapidly evolving and increasingly global society as they:

- ◆ develop physically, intellectually, emotionally and ethically
- ◆ acquire breadth and depth of knowledge and understanding, studying courses from 6 subject groups
- ◆ develop the skills and a positive attitude toward learning that will prepare them for higher education
- ◆ study at least two languages and increase understanding of cultures, including their own
- ◆ make connections across traditional academic disciplines and explore the nature of knowledge through the programme's unique theory of knowledge course
- ◆ undertake in-depth research into an area of interest through the lens of one or more academic disciplines in the extended essay
- ◆ enhance their personal and interpersonal development through creativity, action and service

IB DIPLOMA CURRICULUM FRAMEWORK

The **IB Diploma** curriculum contains **six subject groups** together with 3 core components: the **Extended Essay, Theory of Knowledge** and **Creativity, Action and Service**.

Students study six subjects selected from the subject groups. Diploma students must take **3 subjects at Higher Level** (courses representing 240 teaching hours), and **3 subjects at Standard Level** (courses representing 150 teaching hours).

Students and parents will also develop an understanding of the IB learner profile. The ten aspirational qualities of the learner profile inspire and motivate the work of teachers, students and schools. It provides a statement of the aims and values of the IB and a definition of what is meant by "international-mindedness".

The IB DP Curriculum Model



To gain the IB Diploma all candidates must:

- ◆ take one subject from each group (However, Group 6 is one exception. A group 6 subject may be replaced by an additional subject from Group 2, 3 or 4. Another exception is that a student may choose an additional group 1 subject instead of group 2)
- ◆ take at least three and not more than four of the six subjects at Higher Level (HL) and other subjects at Standard Level (SL)
- ◆ Submit an Extended Essay in one of the IB subjects
- ◆ Follow a course in Theory of Knowledge (ToK).
- ◆ Complete the requirements for Creativity, Action and Service (CAS)

Distinction between Higher Level and Standard Level Subjects

Given the above-mentioned requirements for achieving the IB Diploma, it is important that students select the appropriate Standard Level (SL) and Higher Level (HL) courses of study.

While details vary from subject to subject, many subjects have a common core of the

syllabus for both SL and HL students. Typically, HL students then study extra options, and are assessed using more demanding criteria. Essentially, students should take their strongest subjects at HL to maximise their potential for meeting the Diploma award requirements. They should also consider which HL subjects may be required for possible future university courses.

At DISV HL subjects require 240 hours total teaching time over the 2 years of the course. SL subjects require 150 hours.

The Bilingual Diploma

A bilingual diploma will be awarded to a successful candidate who fulfils one of the following criteria:

- ✓ two Language and Literature courses (in groups 1 and 2, or groups 1 and 6)
- ✓ takes examinations in at least one of the subjects from group 3 or group 4 in a language that is not the same language as his or her Language and Literature course nominated for group 1
- ✓ submits an extended essay in a group 3 or group 4 subject written in a language that is not the same language as his or her language A nominated for group 1.

A Non-regular Diploma

If the conditions of entry into an institution of higher education require a candidate to offer a choice of subjects different from that specified in the regulations for the Diploma Programme, the candidate may be allowed to make a reasonable substitution on presentation to the IB of the appropriate documentary evidence. This may affect for example candidates proposing to study medicine, veterinary science or engineering.

Core Units

In addition to the 6 subjects, Diploma students must complete 3 core units in order to fulfill the Diploma requirements. The Diploma will not be awarded if these three core units are not satisfied. These are:

- **The Extended Essay (EE)**
- **Theory of knowledge (ToK)**
- **Creativity, Action & Service (CAS)**

ASSESSMENT

Assessment is criterion-related, so students around the world are measured against pre-specified criteria for each subject group. At the end of the two-year programme, students are assessed both internally and externally in ways that measure individual performance against stated objectives for each subject.

Internal assessment

In nearly all subjects at least some of the assessment is carried out internally by teachers, who mark individual pieces of work produced as part of the course of study. Samples of internally assessed work are sent for moderation to the IB. Examples of internal

assessment include oral activities in language subjects, projects, practical laboratory work, mathematical investigations and art workbooks.

External assessment

Some assessment tasks are conducted and overseen by teachers without the restrictions of examination conditions, but are then marked externally by examiners. Examples include written assignments for language A1, essays for theory of knowledge and extended essays.

Because of the greater degree of objectivity and reliability provided by the standard examination environment, externally marked examinations form between 75% and 80% of the assessment for each subject (except in Theatre and Visual Arts).

How is the IB Score Calculated?

A student may achieve a **maximum of 7 points in each subject. Plus** a maximum of **3 bonus points** can be achieved for the Extended Essay and Theory of Knowledge.

The score is then composed of: 6 subjects x 7 points = maximum **42 points** + **3 bonus points** = **maximum total of 45 Diploma points**

Alternatively, Grade 11 & 12 students can take the **IB Courses Programme**, which is recognised by some, but not all universities. Courses students may take up to 6 subjects (often all at standard level) and are not required to complete the Extended Essay or Theory of Knowledge. However, as IB students they are still required to complete the CAS programme. Please note that the school does not normally accept applications from new students for the IB Courses programme.

At the end of the 2 year programme, students are issued with an IB Certificate with the marks achieved for each subject taken (they do not receive an IB score).

The IB Grading Scheme is as follows:

1 = very poor	2 = poor	3 = mediocre	4 = satisfactory
5 = good	6 = very good	7 = excellent	

The IB **Diploma is awarded** to students who earn **at least 24 points** and no failing conditions. These include receiving a 1 in any subject, receiving a 2 in a HL subject (unless the student has 28 points or more), or receiving an E for the Extended Essay or ToK.

SUBJECT GROUPS

In addition to subject areas in the Diploma curriculum model and described below we also deliver a Personal Social Education (PSE) curriculum. Please note that once the Grade 10 students have made their initial choices if only a small number of students opt for a particular option, this course may be cancelled. It may be possible for the Group 1 and Group 2 courses to be studied as a private option with an additional fee paid.

Group 1: Studies in language and literature

Language A: Literature offered in German

Language A: Language and Literature offered in English and German

Students are strongly encouraged to learn their mother tongue to maintain their language skills and cultural identity. DISV has a strong mother tongue programme with teachers of a large number of languages who have experience of teaching the Diploma programme. The PTL Coordinator may be able to set up courses in the languages indicated below: others may be available on request. Since these classes are very small (sometimes only 1 student) they are only available through private tuition (an additional fee).

Albanian, Bulgarian, Chinese, Croatian, Dutch, Finnish, French, Hebrew, Hungarian, Italian, Japanese, Korean, Polish, Portuguese, Romanian, Russian, Serbian, Slovak, Slovene, Spanish, Swedish and Turkish.

Group 2: Language acquisition

English B, German B, German Ab-initio, PTL

Group 3: Individuals & Societies

Business Management, Economics, Geography, History, Psychology

Group 4: Experimental Sciences

Biology, Chemistry, Environmental Systems and Societies, Physics

Group 5: Mathematics

Mathematical Studies, Mathematics

Group 6: The Arts

Theatre, Visual Arts

PSE:

This additional course ensures that students have time to explore personal and social issues that affect young adults and the choices that they need to make.

IB DIPLOMA SUBJECTS AND TEACHING PERIODS (40 MINUTES)

Subjects Taught	(Number of Teaching Periods Per Week)	
	Higher Level	Standard Level
English A or German A	6	4
English B, German B, French B or Spanish B	6	4
German ab initio		4
Mathematics	6	5
Math Studies		5
Biology, Chemistry, Physics	6	4
Environmental Systems and Societies		4
Business and Management, Economics, Geography, History, Psychology	6	4
Visual Art, Theatre Arts	6	4
Theory of Knowledge	3	

PSE

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SUBJECT OVERVIEWS

Group 1: Studies in language and literature

Language A: Literature

In the language A: literature course, focus is directed towards developing an understanding of the techniques involved in literary criticism.

Syllabus

The course includes works of literature read in translation, as well as literature from the country (or countries) where the language is spoken. The programme includes works from different eras of literature (e.g. Classical, Romantic, Modern), as well as works of different genres (e.g. novels, plays, poetry). Teachers choose the works studied from the Prescribed List of Authors for that language and the list of Prescribed Literature in Translation provided by the IB. Ten works of literature are studied at SL, thirteen at HL.

Privately Taught Language A (PTL)

It is possible to follow the language A course in a range of languages by having lessons with a private tutor. The school can help to find a suitable tutor, and has a PTL Coordinator who can advise tutors on the requirements of the Diploma course. Tutors are paid privately by the parents.

The school-supported self-taught language A: literature course is only available in cases where it is impossible to find a suitable teacher. In this case the student studies the programme independently (or sometimes with the help of e-mail contact with a teacher living in another country), under the supervision of the PTL Coordinator.

Assessment

In addition to the exam papers, all students write a written assignment, which is an analytical, literary essay of 1,200-1,500 words based on one of the works of literature in translation. Internal assessment in the literature course is made up of 2 oral assessments: a presentation of an aspect of a work in part 4, and a detailed literary commentary of an extract from one of the works studied in part 2.

Required skills

Students intending to take Language A: Literature require the ability to analyse literature. They need to understand the message of the author, grasp the hidden meanings of a work and explain the literary devices used. The best students in this subject are therefore not always native speakers, and being a native speaker doesn't guarantee you success!

Language A: Language and Literature

The Language and Literature programme involves the study of both literary and non-literary texts. Students develop an understanding of how language works to create meanings in a culture, as well as in particular texts. They learn how the form, content, purpose and audience influence our understanding of texts, as well as the social, historical, cultural and workplace contexts that produce and value them.

Syllabus**Part 1: Language in cultural context**

Texts are chosen from a variety of sources, genres and media.

Part 2: Language and mass communication

Texts are chosen from a variety of sources, genres and media.

Part 3: Literature—texts and contexts

SL: Two texts, one of which is a text in translation from the prescribed literature in translation list and one, written in the language A studied, from the prescribed list of authors for the language A studied, or chosen freely.

HL: Three texts, one of which is a text in translation chosen from the prescribed literature in translation list and one from the prescribed list of authors for the language A studied. The other may be chosen freely.

Part 4: Literature—critical study

SL: Two texts, both of which are chosen from the prescribed list of authors.

HL: Three texts, all of which are chosen from the prescribed list of authors.

Assessment

There are 2 exam papers: At SL in Paper 1 students write an analysis of a non-literary text; at HL they write a comparative analysis of two of texts. Paper 2: Essay based on the literary texts studied in part 3. Students are also required to produce written tasks of 800 to 1,000 words in length based on material studied in the course (at least 3 at SL, 4 at HL). Internal assessment is based on oral assessments: a commentary on an extract from a literary text studied in part 4 and the mark of an oral assessment on the work in part 1 or 2.

Required skills

This course involves the study of fewer works of literature than the pure literature course, but you still need to be a native speaker or have an equivalent knowledge of the language.

Group 2: Language B**Language B**

Language B is a foreign language learning course designed for students with some previous experience of the language. The main focus of the course is on language acquisition and intercultural understanding. These skills are developed through the study of themes, as well as the study of 2 works of literature at HL.

Syllabus**Core topics** (HL and SL)

- Communication and Media
- Global issues
- Social relationships

Options (HL and SL chose 2 of 5 themes)

- Cultural diversity
- Customs and traditions
- Health
- Leisure
- Science and technology

2 works of literature (HL only)**Assessment**

The final exams test students' understanding of texts, and their ability to write in the foreign language. Students also produce a written task: at SL a 300 to 400 word task based

on a number of texts on the core themes; at HL a piece of creative writing of 500 to 600 words, based on one of the 2 literary texts read. The internal assessment consists of oral activities: three class oral activities and an individual oral conducted with the teacher towards the end of the grade 12 course.

Required skills

Students who intend to take a language B at standard level should be able to understand and communicate in speaking and writing at a basic level. Students who are in ESL or an MYP language B standard level class in grade 10 would normally take the language B diploma course at standard level. Students intending to take higher level should be able to communicate with ease, read full-length books and have a sound knowledge of basic grammar. They would normally be in an MYP advanced level class in grade 10.

Language Ab Initio

The language ab initio course is a language learning courses for beginners, designed to be followed over two years by students who have **no previous experience** of learning the target language. The main focus of the course is on the acquisition of language required for purposes and situations usual in everyday social interaction. Language ab initio courses are only available at standard level.

Syllabus

Students learn to respond and interact appropriately in a defined range of everyday situations.

Prescribed Topics		
Individuals and Society	Leisure and Work	Urban and Rural Environment
Daily routines	Employment	Environmental concerns
Education	Entertainment	Global issues
Food and drink	Holidays	Neighbourhood
Personal details, appearance and character	Media	Physical geography
Physical health	Sport	Town and services
Relationships	Technology	Weather
Shopping	Transport	

Internal assessment

The final exams test students' understanding of basic texts, and their ability to write comparatively simple texts in the foreign language. Students also produce a written task of 200-300 words under supervised conditions in class. The internal assessment is an individual oral conducted with the teacher towards the end of the grade 12 course.

Required skills

Although no previous knowledge of the language is required, students who choose a Language Ab Initio course (usually German) need to be good linguists, since the course progresses rapidly and students are expected to achieve a reasonable level of competence in just 2 years.

Group 3: Individuals & Societies

Business Management

The Diploma Programme 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 socio-cultural and economic contexts in which those organizations operate.

Syllabus

The syllabus is essentially the same for higher and standard level. However, higher level students study the topics in more depth, and are set more demanding exam questions. The core syllabus is divided into 5 compulsory sections, and higher level students do a 6th extension topic.

Business organization and environment

- Introduction to business management
- Types of organizations
- Organizational objectives
- Stakeholders
- External environment
- Growth and evolution
- Organizational planning tools (HL only)

Human resources management

- Functions and evolution of human resource management
- Organizational structure
- Leadership and management
- Motivation
- Organizational (corporate) culture (HL only)
- Industrial/employee relations (HL only)

Finance and accounts

- Sources of finance
- Costs and revenues
- Break-even analysis
- Financial accounts
- Profitability and liquidity ratio analysis
- Efficiency ratio analysis (HL only)
- Cash flow
- Investment appraisal (some HL only)
- Budgets (HL only)

Marketing

- The role of marketing
- Marketing planning (including introduction to the four Ps)
- Market research
- The four Ps (product, price, promotion, place)
- The extended marketing mix of seven Ps (HL only)
- International marketing (HL only)
- E-commerce

Operations management

- The role of operations management
- Production methods
- Lean production and quality management (HL only)
- Location
- Production planning (HL only)
- Research and development (HL only)
- Crisis management and contingency planning (HL only)

Internal Assessment

Higher level students do a research project, consisting of a proposal and action and a report that addresses an issue facing an organization or analyses a decision to be made by an organization (maximum 2,000 words). Standard level students write a written commentary based on three to five supporting documents about a real issue or problem facing a particular organization (maximum 1,500 words).

Required skills

They need to feel comfortable with numbers so that they can analyse data and manipulate figures, diagrams and graphs. They also require the English skills to understand authentic financial texts, write structured written responses and acquire specialised vocabulary.

Economics

The study of economics is essentially about the concept of scarcity and the problem of resource allocation. Although economics involves the formulation of theory, it is not a purely theoretical subject: economic theories can be applied to real-world examples.

The scientific approach characterizes the standard methodology of economics. This methodology can be summarized as a progression from problem identification, through hypothesis formulation and testing, arriving finally at a conclusion. Alongside the empirical observations of positive economics, students of the subject are asked to formulate normative questions. Encouraging students to explore such questions forms the central focus of the economics course.

Syllabus

The syllabus is very similar for higher and standard level. However, higher level students study the topics in more depth, and are set more demanding exam questions. The syllabus is divided into 5 compulsory sections:

Introduction to economics

Microeconomics

- Competitive markets: demand and supply
- Elasticity
- Government intervention
- Market failure
- Theory of the firm and market structures (HL only)

Macroeconomics

- The level of overall economic activity
- Aggregate demand and aggregate supply
- Macroeconomic objectives
- Fiscal policy
- Monetary policy
- Supply-side policies

International economics

- International trade
- Exchange rates
- The balance of payments
- Economic integration
- Terms of trade (HL only)

Development economics

- Economic development
- Measuring development
- The role of domestic factors
- The roles of foreign aid and multilateral development assistance
- The role of international debt

- | | |
|--|--|
| <ul style="list-style-type: none"> • The role of international trade • The role of foreign direct investment (FDI) | <ul style="list-style-type: none"> • The balance between markets and intervention |
|--|--|

Internal Assessment

Students produce a portfolio of three commentaries, each a maximum of 750 words, based on a news media extract, linking economic theory to a real-world situation.

Required skills

They need to feel comfortable with numbers so that they can analyse data and manipulate figures, diagrams and graphs. They also require the English skills to understand authentic financial texts, write structured written responses and acquire specialized vocabulary.

Geography

Geography 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. It also investigates the way that people adapt and respond to change and evaluates management strategies associated with such change. The Diploma Programme geography course integrates both physical and human geography, and ensures that students acquire elements of both scientific and socio-economic methodologies.

Geography Syllabus outline

Diploma Programme geography—SL and HL curriculum	SL assessment (first assessment May 2019)	HL assessment (first assessment May 2019)
Geographic themes—seven options (Two options are studied at SL, and three at HL) <ul style="list-style-type: none"> • Freshwater—drainage basin • Oceans and coastal margin • Extreme environment • Geophysical hazards • Leisure, tourism and sport • Food and health • Urban environments 	Paper 1 SL weight 35% 45 minutes per option question Total 1 hour 30 minutes Each option has a structured question and one extended answer question from a choice of two. 20 (10 + 10) marks per option Total 40 marks	Paper 1 HL weight 35% 45 minutes per option question Total 2 hours 15 minutes Each option has a structured question and one extended answer question from a choice of two. 20 (10 + 10) marks per option Total 60 marks
SL and HL core <ul style="list-style-type: none"> • Geographic perspectives—global change 	Paper 2 SL weight 40% Total 1 hour 15 minutes	Paper 2 HL weight 25% Total 1 hour 15 minutes

<ul style="list-style-type: none"> • Population distribution—changing population • Global climate—vulnerability and resilience • Global resource consumption and security 	<p>Paper 2 Section A Three structured questions, based on each SL/HL core unit 30 marks</p> <p>Paper 2 Section B Infographic or visual stimulus, with structured questions 10 marks</p> <p>Paper 2 Section C One extended answer question from a choice of two 10 marks Total 50 marks</p>	<p>Paper 2 Section A Three structured questions, based on each SL/HL core unit 30 marks</p> <p>Paper 2 Section B Infographic or visual stimulus, with structured questions 10 marks</p> <p>Paper 2 Section C One extended answer question from a choice of two 10 marks Total 50 marks</p>
<p>HL only Geographic perspectives—global interactions</p> <ul style="list-style-type: none"> • Power, places and networks • Human development and diversity • Global risks and resilience 		<p>Paper 3 HL weight 20% Total 1 hour Choice of three extended answer questions, with two parts, based on each HL core unit 28 marks Part A—12 marks Part B—16 marks</p>
<p>SL and HL Fieldwork Fieldwork, leading to one written report based on a fieldwork question, information collection and analysis with evaluation</p>	<p>Internal assessment SL weight 25% Fieldwork question to be based on any suitable topic from the syllabus Total 25 marks</p>	<p>Internal assessment HL weight 20% Fieldwork question to be based on any suitable topic from the syllabus Total 25 marks</p>

Internal Assessment

Students write a report of 2500 words maximum based on a fieldwork question, involving information collection and analysis with evaluation.

Required skills

This course involves the writing of analytical essays, so critical thinking skills and a good level of English are essential. Students intending to take Geography also require an ability to analyse and present data, and to work with maps and diagrams.

History

The IB Diploma Programme 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.

Syllabus
<p>Prescribed subjects (one of the following, based on two case studies):</p> <ul style="list-style-type: none"> • Military leaders • Conquest and its impact • The move to global war • Rights and protest • Conflict and intervention
<p>World history topics (two of the following):</p> <ul style="list-style-type: none"> • Society and economy (750–1400) • Causes and effects of medieval wars (750–1500) • Dynasties and rulers (750–1500) • Societies in transition (1400–1700) • Early Modern states (1450–1789) • Causes and effects of Early Modern wars (1500–1750) • Origins, development and impact of industrialization (1750–2005) • Independence movements (1800–2000) • Evolution and development of democratic states (1848–2000) • Authoritarian states (20th century) • Causes and effects of 20th-century wars • The Cold War: Superpower tensions and rivalries (20th century)
<p>HL options: Depth studies</p> <p>The option studied at DISV is:</p> <ul style="list-style-type: none"> • History of Europe

Internal Assessment

Students conduct an investigation into a historical topic that interests them and produce a paper of 1500-2000 words.

Required skills

A lot of reading is required in the study of History and effective argumentation in written essays, so students need a strong command of English. They will also need the reasoning skills to evaluate and discuss differing historical explanations.

Psychology

Psychology is the rigorous and systematic study of mental processes and behaviour. It is a complex subject which draws on concepts, methods and understandings from a number of different disciplines. There is no single approach that would describe or explain mental processes and behaviour on its own as human beings are complex animals, with highly developed frontal lobes, cognitive abilities, involved social structures and cultures. The study of behaviour and mental processes requires a multidisciplinary approach and the use of a variety of research techniques.

Syllabus component	Teaching hours	
	SL	HL
Core Biological approach to understanding behaviour Cognitive approach to understanding behaviour Sociocultural approach to understanding behaviour	90	120
Approaches to researching behaviour	20	60
Options Abnormal psychology Developmental psychology Health psychology Psychology of human relationships	20	40
Internal assessment Experimental study	20	20

Internal Assessment

Students will investigate a published study, theory or model relevant to their learning in psychology by conducting an experimental investigation and reporting the findings. Students plan, undertake and write a report (1,800- 2,200 words) on a replication of a simple experimental study.

Group 4: Experimental Sciences

The format of the courses in Biology, Chemistry and Physics is the same. All 3 sciences involve the study of core and option topics, the internal assessment requirements are the same, and the group 4 project is undertaken by students of all science subjects working together.

Group 4 Project

This is a compulsory part of the course in Biology, Chemistry and Physics. For 2 days all students, no matter which science subject they have chosen, work together researching and investigating different aspects of a common topic.

Practical work and internal assessment

Students in Biology, Chemistry and Physics complete a practical scheme of work consisting of a mixture of short and long-term investigations (e.g. short labs or projects extending over several weeks, computer simulations, using databases for secondary data, developing and using models, data-gathering exercises such as questionnaires, user trials and surveys, data-analysis exercises, and fieldwork). The internal assessment consists of one individual investigation. The total time spent on practical work for standard level is 40 hours; for higher level it is 60 hours. These times include 10 hours for the group 4 project and 10 hours for the internal assessment investigation.

Required skills

Students require experience of experimental technique: students from other schools who have previous theoretical knowledge of a science but little experience of practical work in the laboratory usually find this aspect of the course challenging. Students who choose Chemistry or Physics need a sound knowledge base in the subject, since the courses are challenging and certain areas are studied in considerable detail.

Students intending to take ESS require an awareness of local and global environmental concerns, as well as a good understanding of the scientific method, and problem-solving skills in both practical and theoretical work.

Biology

Biologists have accumulated huge amounts of information about living organisms, and it would be easy to confuse students by teaching large numbers of seemingly unrelated facts. In this course, it is hoped that students will acquire a limited body of facts and, at the same time, develop a broad, general understanding of the subject principles.

<p>Core</p> <ul style="list-style-type: none"> • Cell biology • Molecular biology • Genetics • Ecology • Evolution and biodiversity • Human physiology 	<p>Core</p> <ul style="list-style-type: none"> • <i>Standard Level Core</i> • Nucleic acids • Metabolism, cell respiration and photosynthesis • Plant biology • Genetics and evolution • Animal physiology
<p>Option (1 of the following):</p> <ul style="list-style-type: none"> • Neurobiology and behaviour • Biotechnology and bioinformatics • Ecology and conservation • Human physiology 	

Chemistry

Chemistry is an experimental science that combines academic study with the acquisition of practical and investigational skills. It is called the central science, as chemical principles

underpin both the physical environment in which we live and all biological systems. Apart from being a subject worthy of study in its own right, chemistry is a prerequisite for many other courses in higher education, such as medicine, biological science and environmental science, and serves as useful preparation for employment.

Chemistry	
Core <ul style="list-style-type: none"> • Stoichiometric relationships • Atomic structure • Periodicity • Chemical bonding and structure • Energetics/thermochemistry • Chemical kinetics • Equilibrium • Acids and bases • Redox processes • Organic chemistry • Measurement and data processing 	Core <ul style="list-style-type: none"> • <i>Standard Level Core</i> • Atomic structure • The periodic table- the transition metals • Chemical bonding and structure • Energetics/thermochemistry • Chemical kinetics • Equilibrium • Acids and bases • Redox processes • Organic chemistry • Measurement and analysis
Option (1 of the following): <ul style="list-style-type: none"> • Materials • Biochemistry • Energy • Medicinal chemistry 	

Physics

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. The Physics course is relevant to university courses in Physics, Engineering or Electronics, and would be useful to anyone wishing to study Mathematics or Science at a Higher Level.

Physics	
Core <ul style="list-style-type: none"> • Measurements and uncertainties • Mechanics • Thermal physics • Waves • Electricity and magnetism • Circular motion and gravitation • Atomic, nuclear and particle physics • Energy production 	Core <ul style="list-style-type: none"> • <i>Standard Level Core</i> • Wave phenomena • Fields • Electromagnetic induction • Quantum and nuclear physics
Options (1 of the following): <ul style="list-style-type: none"> • Relativity • Engineering physics • Imaging • Astrophysics 	

Environmental Systems and Societies (ESS)

ESS is a trans-disciplinary subject which satisfies the requirements of group 3 and group 4. (Please note that this subject is only available at standard level.) The prime intent of this course is to provide students with a coherent perspective on the environment; one that is essentially scientific and that enables them to adopt an informed and responsible stance on the wide range of pressing environmental issues that they will inevitably come to face.

It is intended that students develop a profound understanding of the environment, rooted firmly in the underlying principles of science, rather than a purely journalistic appreciation of environmental issues. The course consequently acknowledges the value of empirical, quantitative and objective data in describing and analysing environmental systems.

The course also requires moral and political responses from the students. Their attention is drawn to their own relationship with their environment and the significance of choices and decisions they make in their own lives.

Syllabus for standard level

The course consists of the study of compulsory 4 core topics, and 2 options (Analysing ecosystems and one other).

Core

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

Practical scheme of work

Practical activities

Individual investigation

Group 5: Mathematics

Three courses of Mathematics are offered: Mathematical Studies SL, Mathematics SL and Mathematics HL. In order to decide which is the most appropriate course, students should consider what level of Mathematics they might need in their future career, as well as the level of ability in the subject. Students at DISV in grade 10 will be advised by their Mathematics teacher of the most appropriate level. New students will be advised on the level of their performance in the entrance test.

Mathematical studies SL

This course is available at SL only. It caters for students with varied backgrounds and abilities. More specifically, it is designed to build confidence and encourage an appreciation

of mathematics in students who do not anticipate a need for mathematics in their future studies. Students taking this course need to be already equipped with fundamental skills and a rudimentary knowledge of basic processes.

Syllabus

The course consists of the study of 7 topics. All topics are compulsory.

- Number and algebra
- Descriptive statistics
- Logic, sets and probability
- Statistical applications
- Geometry and trigonometry
- Mathematical models
- Introduction to differential calculus

Internal Assessment

The project: an individual piece of work involving the collection of information or the generation of measurements, and the analysis and evaluation of the information or measurements.

Mathematics SL

This course caters for students who already possess knowledge of basic mathematical concepts, and who are equipped with the skills needed to apply simple mathematical techniques correctly. The majority of these students will expect to need a sound mathematical background as they prepare for future studies in subjects such as chemistry, medicine, economics and business administration.

Syllabus

The course consists of the study of 6 topics. All topics are compulsory.

- Algebra
- Functions and equations
- Circular functions and trigonometry
- Vectors
- Statistics and probability
- Calculus

Internal Assessment

Internal assessment in mathematics SL is an individual exploration. This is a piece of written work that involves investigating an area of mathematics.

Mathematics HL

This course caters for students with a good background in mathematics who are competent in a range of analytical and technical skills. The majority of these students will be expecting to include mathematics as a major component of their university studies, either as a subject in its own right or within courses such as physics, engineering and technology. Others may take this subject because they have a strong interest in mathematics and enjoy meeting its challenges and engaging with its problems.

Syllabus

The course consists of the study of 6 compulsory core topics, and 1 option topic.

Core syllabus:

- Algebra
- Functions and equations
- Circular functions and trigonometry
- Vectors
- Statistics and probability
- Calculus

Option syllabus:

The option chosen for study at DISV is usually:

- Statistics and probability

Internal Assessment

Mathematical exploration: Internal assessment in mathematics HL is an individual exploration. This is a piece of written work that involves investigating an area of mathematics.

Required skills

Skill in mathematical reasoning and hard work. Students who opt for HL Mathematics are strongly encouraged to choose 4 higher level subjects. The HL course is particularly challenging, and it is difficult to know in advance whether a student might be successful at this level.

Group 6: The Arts

Theatre

The Diploma Programme theatre course is a multifaceted theatre-making course of study. It gives students the opportunity to make theatre as creators, designers, directors and performers. It emphasizes the importance of working both individually and collaboratively as part of an ensemble. It offers the opportunity to engage actively in the creative process, transforming ideas into action as inquisitive and productive artists.

Syllabus

The course is made up of 4 core syllabus areas:

- Creating theatre based on theatre theory (HL only)
At HL, students research and examine the various contexts of at least one theatre theorist.
- Working with play texts. Students research and examine the various contexts of at least one published play text and reflect on live theatre moments they have experienced as spectators.
- Examining world theatre traditions. Students research and examine the various contexts of at least one world theatre tradition.
- Collaboratively creating original theatre. Students reflect on their own personal approaches, interests and skills in theatre. They research and examine at least one starting point and the approaches employed by one appropriate professional theatre company, and consider how this might influence their own personal approaches.

Assessment

There are no final written exams for Theatre.

Theatre	
External assessment	
Task 1: Solo theatre piece (HL only)	Students at HL research a theatre theorist they have not previously studied, identify an aspect(s) of their theory and create and present a solo theatre piece (4–8 minutes) based on this aspect(s) of theory.

Task 2: Director's notebook	Students at SL and HL choose a published play text they have not previously studied and develop ideas regarding how it could be staged for an audience.
Task 3: Research presentation	Students at SL and HL plan and deliver an individual presentation (15 minutes maximum) to their peers in which they outline and physically demonstrate their research into a convention of a theatre tradition they have not previously studied.
Internal assessment	
Task 4: Collaborative project	Students at SL and HL collaboratively create and present an original piece of theatre (lasting 13–15 minutes) for and to a specified target audience, created from a starting point of their choice.

Required skills

As is evident from the assessment tasks above students have to write a number of long written assignments in Theatre, so a good level of written English is required, as is the ability to analyse and reflect upon theatre traditions and practices. Interest in theatre and attending performances are essential; acting skills are an advantage, but students can also participate in performances behind the scenes e.g. doing stage management, lighting or direction.

Visual Arts

The 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.

Syllabus

The visual arts core syllabus consists of three areas:

Visual arts in context

The visual arts in context part of the syllabus provides a lens through which students are encouraged to explore perspectives, theories and cultures that inform and influence visual arts practice. Students should be able to research, understand and appreciate a variety of contexts and traditions and be able to identify links between them.

Visual arts methods

The visual arts methods part of the syllabus addresses ways of making artwork through the exploration and acquisition of skills, techniques and processes, and through engagement with a variety of media and methods.

Communicating visual arts

The communicating visual arts part of the syllabus involves students investigating, understanding and applying the processes involved in selecting work for exhibition and public display. It engages students in making decisions about the selection of their own work.

Assessment

There are no final written exams for Art.

External assessment
<p>Part 1: Comparative study Students analyse and compare different artworks by different artists. This independent critical and contextual investigation explores artworks, objects and artefacts from differing cultural contexts</p> <p>Part 2: Process portfolio Students submit carefully selected materials which evidence their experimentation, exploration, manipulation and refinement of a variety of visual arts activities during the two-year course.</p>
Internal assessment
<p>Part 3: exhibition (SL 4-7 artworks; HL 8-11 artworks) Students submit for assessment a selection of resolved artworks from their exhibition. The selected pieces should show evidence of their technical accomplishment during the visual arts course and an understanding of the use of materials, ideas and practices appropriate to visual communication.</p>

Required skills

Technical and creative skills are important in Art. These are not limited to painting and drawing, but can include other media like sculpture, pottery and photography. The focus in Art is more on the process than the finished product, so students should be prepared to do historical and cultural research, and reflect on their work at every stage of the process.

THEORY OF KNOWLEDGE

Diploma candidates must follow a theory of knowledge (TOK) course, which is taken as a scheduled lesson of 3 periods per week (120 minutes) in Grade 11, and 2 periods per week (80 minutes) in Grade 12.

Theory of Knowledge (TOK) challenges students to question the bases of knowledge, to be aware of subjective and ideological biases and to develop the ability to analyse evidence that is expressed in rational argument. Based in the six subjects that the students study, it compares and contrasts them, allowing students to develop a more mature view of them, in preparation for deeper study. TOK seeks to develop, for example, the abilities to distinguish between good and poor reasoning; to spot intentional or accidental bias (in oneself and in others), and to spot inconsistencies. The application of these skills varies according to subject, and students might examine, for example, how reasoning in Mathematics is similar to, and different from, that in the Natural Sciences, or the emotional and/or rational bases for ethical decision making.

In addition to this *critical thinking* aspect, the course recognises that intellectual tools are double-edged, and encourage certain *dispositions* such as a willingness to challenge one's own deeply-held convictions, a willingness to hold ourselves to the same standards to which we hold others, and a willingness to entertain opposing views charitably. In this way

the course encourages an openness, intellectual honesty and where appropriate, an intellectual humility.

To meet the Theory of Knowledge assessment requirements students must prepare and present an oral presentation as well as submit an essay from a prescribed list of titles.

Examples of previous prescribed essay titles:

- “There are only two ways in which humankind can produce knowledge: through passive observation or through active experiment.” To what extent do you agree with this statement?
- “There is no reason why we cannot link facts and theories across disciplines and create a common groundwork of explanation.” To what extent do you agree with this statement?
- “Ways of knowing are a check on our instinctive judgments.” To what extent do you agree with this statement?

** Students at DISV registered in the IB Courses programme are not required to take the Theory of Knowledge course.

C&S is a requirement for the DISV MYP Certificate and is continued in the Diploma Programme as CAS. If a student does not show sufficient evidence of a commitment to C&S then no Certificate will be awarded and the student will not be permitted to participate in the full IB Diploma Programme.

CREATIVITY, ACTIVITY AND SERVICE (CAS)

CAS is a compulsory part of the Diploma programme for both candidates taking the full Diploma and those following the certificates programme. Through CAS activities students should develop greater awareness of themselves, concern for others, and the ability to work cooperatively with other people. Students are encouraged towards group and team activities, and undertaking new roles.

What is CAS?

CAS stands for Creativity, Activity and Service. Creativity means the arts and other experiences that involve creative thinking. Activity is physical exertion contributing to a healthy lifestyle, complementing academic work elsewhere in the Diploma Programme. Service is an unpaid and voluntary exchange that has a learning benefit for the student.

CAS activities should continue on a regular basis for as long as possible throughout the 2 year programme, and certainly for at least 18 months. The guideline for the minimum amount of CAS activity is approximately the equivalent of half a day per school week, with a reasonable balance between creativity, Activity and service. “Hour counting” is not encouraged, and CAS is not about “ticking off hours” just to say it is done. All CAS activities must involve:

- Real, purposeful activities, with significant outcomes
- Personal challenge—tasks must extend the student and be achievable in scope

- Thoughtful consideration, such as planning, reviewing progress, and reporting
- Reflection on outcomes and personal learning

Completing the requirements of the CAS programme

In order to complete the CAS requirement students must provide evidence that they have met all 8 of the learning outcomes below. Some may be demonstrated many times, in a variety of activities, but completion requires only that there is *some* evidence for every outcome. It is the *quality* of the activity (its contribution to the student's development) that is of most importance.

Learning Outcomes

Students must demonstrate that they have:

- Increased their awareness of their own strengths and areas for growth: They are able to see themselves as individuals with various skills and abilities, some more developed than others, and understand that they can make choices about how they wish to move forward.
- Undertaken new challenges: A new challenge may be an unfamiliar activity, or an extension of an existing one.
- Planned and initiated activities: Planning and initiation will often be in collaboration with others. It can be shown in activities that are part of larger projects, for example, ongoing school activities in the local community, as well as in small student-led activities.
- Worked collaboratively with others: Collaboration can be shown in many different activities, such as team sports, playing music in a band, or helping in a kindergarten. At least *one* project involving collaboration and the integration of at least two of creativity, activity and service *is required*.
- Shown perseverance and commitment to their activities: At a minimum, this implies attending regularly and accepting a share of the responsibility for dealing with problems that arise in the course of activities.
- Engaged with issues of global importance: Students may be involved in international projects but there are many global issues that can be acted upon locally or nationally (for example, environmental concerns, caring for the elderly).
- Considered the ethical implications of their actions: Ethical decisions arise in almost any CAS activity (for example on the sports field, in musical composition, in relationships with others involved in service activities). Evidence of thinking about ethical issues can be shown in various ways, including journal entries and conversations with CAS advisors.
- Developed new skills: As with new challenges, new skills may be shown in activities that the student has not previously undertaken, or in increased expertise in an established area.

EXTENDED ESSAY

Diploma candidates must complete and submit an extended essay, which is a substantial piece of independent research of up to 4,000 words. Work on the extended essay is expected to occupy approximately 40 hours.

The work for an extended essay must be done under the direct supervision of an appropriate teacher at the school.

Students will be introduced to the extended essay in Grade 11 and provided with full details regarding the requirements, criteria, support from supervisors.

** Students at DISV registered in the IB Courses programme are not required to submit the Extended Essay.

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