The Heritage School

Schooling for Tomorrow, Schooling from Tradition

An ISO 9001:2008 & ISO 22000 : 2005 Certified Institution

The International Baccalaureate Diploma Programme Handbook

Diploma Programme

Table of Contents

The International Baccalaureate Diploma Programme (IBDP)

Introduction

The International Baccalaureate Organisation (IBO) offers high quality programmes of international education to a worldwide community of schools. The IB diploma programme is an academically challenging and balanced programme of education that prepares students for success at the university and life beyond. It is a 2-year pre-university course for students of ages 16 to 19 years and is valued by all the leading universities around the world. There are more than 718,000 IB students at 2,634 schools in 140 countries.

IB mission statement

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

The aim of the IB Diploma programme 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.
The IB learners strive to be:

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

Effective oral and written communication is focused on throughout the course. In each field of study, students are expected to carry out investigations and they are introduced to the elements of research. It is a balanced course which emphasizes the development of the child as a whole individual. It prepares children to take social and moral challenges that occur in a complex world.

Curriculum Model–Diploma Program

The International Baccalaureate (IB) Diploma Programme is a challenging two-year curriculum, primarily aimed at students aged 16 to 19. It leads to a qualification that is widely recognized by the world's leading universities.

The IBDP curriculum is made up of the DP core and six subject groups.
Made up of the three required components, the DP core aims to broaden students' educational experience and challenge them to apply their knowledge and skills.

The three core elements are:

- **Theory of knowledge**,**(TOK)** in which students reflect on the nature of knowledge and on how we know what we claim to know.
- **Extended Essay**, **(EE)** which is an independent, self-directed piece of research, finishing with a 4,000-word paper.
- **Creativity, Activity, Service**,**(CAS)** in which students complete a project related to those three concepts.

The six subject groups are: 1. Studies in language and literature 2. Language acquisition 3. Individuals and societies 4. Sciences 5. Mathematics 6. The arts.

Students must select at least 1 subject from each of the above group 1-5 and the 6th subject can be either from group 6 or a second subject from group 3 or 4

Students must take at least 3 subjects and not more than 4 at higher level (HL) and 3 at standard level (SL). HL and SL courses differ in scope but are measured according to the same grade descriptors. HL subjects comprise 240 teaching hours and SL 150 teaching hours.

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The following subjects are offered at the Heritage

Group I Language A :	
English Language and Literature	HL and SL
Group II Second Language: Language Acquisition	Language B: Hindi HL and SL, French SL ab initio, French SL, German ab initio,Chinese HL & SL
Group III Individuals and Societies:	History (HL & SL), Economics (HL & SL), Business & Management (HL & SL), Psychology (HL & SL) ITGS (HL & SL) Global Politics HL & SL
Group IV Experimental Sciences:	Physics (HL& SL), Chemistry (HL & SL), Biology (HL& SL), Environmental Systems and Societies (SL),Computer Science (HL & SL).
Group V Mathematics:	Mathematics HL, Mathematics SL, Mathematical Studies SL
Group VI Arts:	Visual Arts (HL & SL)

Students must study six subjects concurrently. These include two languages, one subject from individuals and societies (group 3), one experimental science (group 4), one mathematics subject (group 5), and one subject from the arts (group 6), or another subject from group 3 or 4.

GROUP 1 : LANGUAGE A - English Language and Literature

To fulfill the requirements of the Diploma Programme, all students must study a group 1 subject. Group 1 courses are designed to support future academic study by developing a high social, aesthetic and cultural literacy, as well as effective communication skills.. Language A is studied in the first language of the student. This helps to develop linguistic and literary understanding and skills through the study of a broad range of genres and world literature, as well as language learning in context.

Language A: language and literature course aims to develop in students skills of textual analysis and the understanding that texts, both literary and non-literary, can be seen as autonomous yet simultaneously related to culturally determined reading practices. The course is designed to be flexible and hence it can be constructed in a way that reflects the interests and concerns that are relevant to the students while developing in students a range of transferable skills. An understanding of the ways in which formal elements are used to create meaning in a text is combined with an exploration of how that meaning is affected by reading practices that are culturally defined and by the circumstances of production and reception.

In view of the international nature of the IB and its commitment to intercultural understanding, the language A: language and literature course does not limit the study of texts to the products of one culture or of the cultures covered by any one language. The study of literature in translation from other cultures is especially important to IB Diploma Programme students because it contributes to a global perspective, thereby promoting an insight into, and understanding of, the different ways in which cultures influence and shape the experiences of life common to all humanity.

DIFFERENCE BETWEEN HL & SL

In the literature sections the number of texts prescribed is greater at HL than at SL. In the language sections students are generally expected to cover many more texts of all kinds at HL than at SL.

Two of the assessment tasks at SL are significantly easier than the comparable tasks at HL. The first is the paper 1 textual analysis, where SL students address and analyse only one passage, while HL students make a comparative analysis of two passages. The second is the written tasks, where HL students must produce four tasks, rather than the three produced by SL students. Two of these tasks are submitted for external assessment at HL, while only one is submitted at SL. One of the assessed tasks submitted at HL must be a critical response that addresses one of six set questions and requires students to explore the values, attitudes and beliefs that are implied in the texts they select for this task.

The distinction between SL and HL is summarized below. In paper 2 there are common questions for both SL and HL, and differentiation is achieved through the use of different assessment criteria. Internal assessment tasks and criteria are the same at SL and at HL.

THE COURSE

This course comprises four parts – two relate to the study of language and two to the study of literature. The key aim of the course is to develop in students an understanding of how language, culture and context determine the ways in which meaning is constructed in texts. It also aims at encouraging students to think critically about the different interactions between text, audience and purpose. The Higher Level students study six literary works. The Standard Level students study four literary works.

Part 1 Language in Cultural Context: Texts are chosen from a variety of sources, genres and media. In this part of the course students are given the opportunity to explore how language develops in specific cultural contexts, how it impacts on the world, and how language shapes both individual and group identity. Students studying this part of the course should pay particular attention to the role of language in relation to the many areas involved in the construction of meaning and understanding of particular issues in the world.

Part 2 Language and Mass Communication: Texts are chosen from a variety of sources, genres and media. In this part students consider the way language is used in the media like newspapers, magazines, television,the internet (for example, social networking), mobile telephony, radio and film. This section also addresses the issue of how the production and reception of texts is influenced by the medium through which they are delivered.

Part 3 Literature : **Texts and Contexts**- The SL students study 2 literary texts and the HL study 3 literary texts in this part of the course. Through the close reading of literary texts, students are able to consider the relationship between literature and issues at large, such as gender, power and identity. Students are encouraged to consider how texts build upon and transform the inherited literary and cultural traditions. The compulsory study of translated texts encourages students to reflect on their own cultural assumptions through an examination of work produced in other languages and cultures.

Part 4 Literature : **Critical Study**- The SL students study 2 literary texts and the HL study 3 literary texts in this part of the course. By looking closely at the detail of literary texts, students develop awareness of their rich complexities and the intricacies of their construction.

SYLLABUS BREAK UP- HOUR WISE

Syllabus component	Teaching Hours	
	SL	HL
Part 1: Language in cultural context Texts are chosen from a variety of sources, genres and media.	40	60
Part 2: Language and mass communication Texts are chosen from a variety of sources, genres and media.	40	60
Part 3: Literature— texts and contexts SL: Two texts, one of which is a text in translation from the prescribed literature in translation (PLT) list and one, written in the language A studied, from the prescribed list of authors (PLA) 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 (PLT) list and one from the prescribed list of authors (PLA) for the language A studied. The other may be chosen freely.	40	70
Part 4: Literature—critical study SL: Two texts, both of which are chosen from the prescribed list of authors (PLA) for the language A studied. HL: Three texts, all of which are chosen from the prescribed list of authors (PLA) for the language A studied.	30	50
Total teaching hours	150	240

SYLLABUS CONTENT

Part 1: Language in Cultural context:

Analysis of texts chosen from various sources, genres and media.

Part 2: Language and Communication:

Analysis of texts chosen from various sources, genres and media.

Part 3: Literature: Texts and Contexts:

Things Fall Apart - Chinua Achebe, Novel, Africa, C20 **(HL& SL)**
Chronicle of Death Foretold - G G Marquez, Novel, Spanish 1981 **(HL& SL) Arms and the Man**- G B Shaw, Drama, Europe C19/C20 **(HL only)**

Part 4: Literature: Critical Study

War poems of Wilfred Owen, Poetry, Europe C20 **(HL& SL)**
Macbeth- William Shakespeare, Drama, Europe C16/17 **(HL& SL) The Guide –** R K Narayan **(HL only)**

Paper 1- Unseen text analysis

SL-analysis of one non-fiction text.
HL- Comparative analysis of 1 non-fiction and 1 fiction text (prose/poetry)

ASSESSMENT

Assessment is an integral part of teaching and learning. The most important aims of assessment in the Diploma Programme are that it should support curricular goals and encourage appropriate student learning. Both external and internal assessment are used in the Diploma Programme. IB examiners mark work produced for external assessment, while work produced for internal assessment is marked by teachers and externally moderated by the IB.

The approach to assessment used by the IB is criterion-related, not norm-referenced. This approach to assessment judges students' work by their performance in relation to identified levels of attainment, and not in relation to the work of other students.

ASSESSMENT OUTLINE SL

Assessment component	Weightage
External assessment (3 hours) Paper 1: Textual analysis (1 hour 30 minutes) The paper consists of two unseen texts. Students write an analysis of one of these texts. (20 marks)	70% 25%
Paper 2: Essay (1 hour 30 minutes) In response to one of six questions students write an essay based on both the literary texts studied in part 3. The questions are the same at HL but the assessment criteria are different. (25 marks)	25%
Written task Students produce at least three written tasks based on material studied in the course. Students submit one written task for external assessment. (20 marks) This task must be 800–1,000 words in length plus a rationale of 200–300 words.	20%
Internal assessment This component is internally assessed by the teacher and externally moderated by the IB at the end of the course.	30%
Individual oral commentary Students comment on an extract from a literary text studied in part 4 of the course. (30 marks) Students are given two guiding questions.	15%
Further oral activity Students complete at least two further oral activities, one based on part 1 and one based on part 2 of the course. The mark of one further oral activity is submitted for final assessment. (30 marks)	15%

ASSESSMENT OUTLINE HL

Assessment component	Weightage
External assessment (4 hours)	70%
Paper 1: Comparative textual analysis (2 hours) The paper consists of two pairs of unseen texts. Students write a comparative analysis of one pair of texts. (20 marks)	25%
Paper 2: Essay (2 hours) In response to one of six questions students write an essay based on at least two of the literary texts studied in part 3. The questions are the same at SL but the assessment criteria are different. (25 marks)	25%
Written tasks Students produce at least four written tasks based on material studied in the course. Students submit two of these tasks for external assessment. (20 marks for each task) One of the tasks submitted must be a critical response to one of the prescribed questions for the HL additional study. Each task must be 800–1,000 words in length; task 1 should be accompanied by a rationale of 200–300 words, while task 2 should be accompanied by a short outline.	20%
Internal assessment This component is internally assessed by the teacher and externally moderated by the IB at the end of the course.	30%
Individual oral commentary Students comment on an extract from a literary text studied in part 4 of the course. (30 marks) Students are given two guiding questions.	15%
Further oral activity Students complete at least two further oral activities, one based on part 1 and one based on part 2 of the course. The mark of one further oral activity is submitted for final assessment. (30 marks)	15%

EXTERNAL ASSESSMENT CRITERIA OVERVIEW:

PAPER 1 (TEXTUAL/ COMPARATIVE ANALYSIS)

(There are 4 assessment criteria in SL & HL)

Criterion A	Understanding of the text	5 marks
Criterion B	Understanding of the use and effect of stylistic features	5 marks
Criterion C	Organisation & development	5 marks
Criterion D	Language	5 marks
	Total	20 marks

PAPER 2 (ESSAY):

(There are 5 assessment criteria in SL & HL)

Criterion A	Knowledge & Understanding	5 marks
Criterion B	Response to the Question	5 marks
Criterion C	Organisation & development	5 marks
Criterion D	Understanding of the use and effect of stylistic features	5 marks
Criterion E	Language	5 marks
	Total	25 marks

WRITTEN TASK

(There are 4 assessment criteria in SL)

Criterion A	Rationale	5 marks
Criterion B	Task & Content	5 marks
Criterion C	Organisation	5 marks
Criterion D	Language & Style	5 marks
	Total	20 marks

WRITTEN TASK 1
(There are 4 assessment criteria in HL)

Criterion A	Rationale	5 marks
Criterion B	Task & Content	5 marks
Criterion C	Organisation	5 marks
Criterion D	Language & Style	5 marks
	Total	20 marks

WRITTEN TASK 2
(There are 4 assessment criteria in HL)

Criterion A	Outline	5 marks
Criterion B	Response to the Question	5 marks
Criterion C	Organisation & argument	5 marks
Criterion D	Language & Style	5 marks
	Total	20 marks

INTERNAL ASSESSMENT CRITERIA OVERVIEW – SL & HL

INDIVIDUAL ORAL COMMENTARY

(There are 4 assessment criteria at HL & SL)

Criterion A	Knowledge & Understanding of the text or extract	10 marks
Criterion B	Understanding of the use & effect of literary features	10 marks
Criterion C	Organisation	5 marks
Criterion D	Language	5 marks
	Total	30 marks

FURTHER ORAL ACTIVITY

(There are 4 assessment criteria at HL & SL)

Criterion A	Knowledge & Understanding of the text, subject matter or extract	10 marks
Criterion B	Understanding of how language is used	10 marks
Criterion C	Organisation	5 marks
Criterion D	Language	5 marks
	Total	30 marks

IN-HOUSE ASSESSMENT:

Formative assessment- Day-to-day assignments, presentations, debates, performance- 20% taken into account.

Summative assessment- Semester examinations- 80% taken into account.

Group 2: Language Acquisition

Group 2 consists of two modern language courses—language ab initio and language B that are offered in a number of languages. The language acquisition courses designed to provide students with the necessary skills and intercultural understanding to enable them communicate successfully in an environment where the language studied is spoken. This process encourages the learner to go beyond the confines of the classroom, expanding an awareness of the world and fostering respect for cultural diversity. The languages offered at the Heritage are Hindi, French and German in the following levels:-

Hindi – HL & SL

French – ab initio SL & SL
German – ab initio SL

Group 2 aims

Group 2 consists of three language courses accommodating the different levels of linguistic proficiency that students have when they begin. There is a single set of group 2 aims, which are common to all the courses, but the assessment objectives are differentiated according to what the students are expected to be to able to demonstrate at the end of each course.

The aims of group 2 are to:

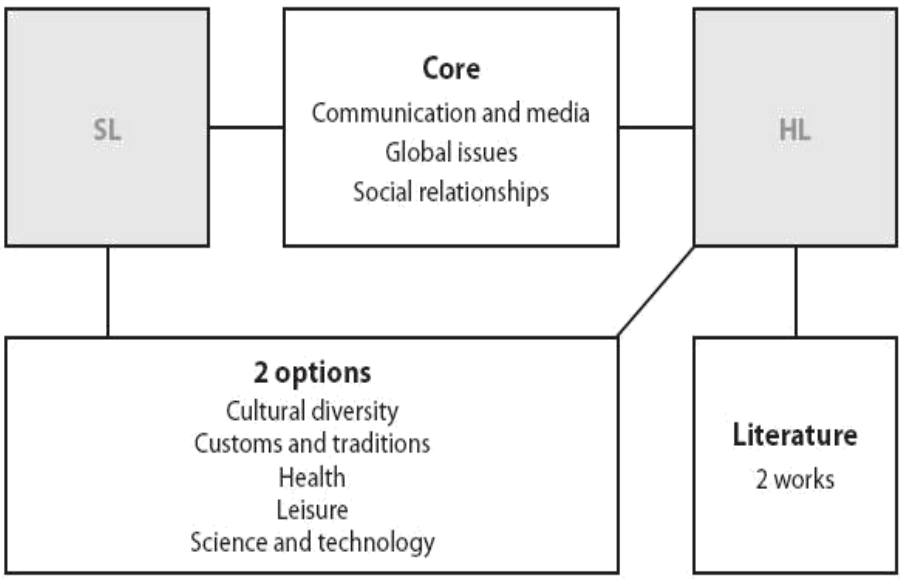
- Develop students' intercultural understanding
- Enable students to understand and use the language they have studied in a range of contexts and for a variety of purposes
- Encourage, through the study of texts and through social interaction, an awareness and appreciation of the different perspectives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

Language B

Language B is an additional language-learning course designed for students with some previous learning of that language. It may be studied at either SL or HL. The main focus of the course is on language acquisition and development of language skills. These language skills should be developed through the study and use of a range of written and spoken material. Such material will extend from everyday oral exchanges to literary texts, and should be related to the culture(s) concerned.

Objectives of Language B

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, analyse 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).



The core-with topics common to both levels-is divided into three areas and is a required area of study.

- Communication and media
- Global issues
- Social relationships

In addition, at both SL and HL, teachers select two from the following five options.

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

Language B HL Assessments

Assessment component	Weighting
External assessment	**70%**
Paper 1 (1 hour 30 minutes): Receptive skills Text-handling exercises on five written texts, based on the core.	**25%**
Paper 2 (1 hour 30 minutes): Written productive skills Two compulsory writing exercises. Section A: One task of 250–400 words, based on the options, to be selected from a choice of five. Section B: Response of 150–250 words to a stimulus text, based on the core.	**25%**
Written assignment: Receptive and written productive skills Creative writing of 500–600 words plus a 150-word rationale, based on one of the literary texts read.	**20%**
Internal assessment Internally assessed by the teacher and externally moderated by the IB.	**30%**
Individual oral (8–10 minutes) Based on the options: 15 minutes' preparation time and a 10-minute (maximum) presentation and discussion with the teacher.	**20%**
Interactive oral activity Based on the core: Three classroom activities assessed by the teacher.	**10%**

Language B SL Assessments

Assessment component	Weighting
External assessment	**70%**
Paper 1 (1 hour 30 minutes): Receptive skills Text-handling exercises on four written texts, based on the core.	**25%**
Paper 2 (1 hour 30 minutes): Written productive skills One writing exercise of 250–400 words from a choice of five, based on the options.	**25%**
Written assignment: Receptive and written productive skills Intertextual reading followed by a written exercise of 300–400 words plus a 100-word rationale, based on the core.	**20%**
Internal assessment Internally assessed by the teacher and externally moderated by the IB.	**30%**
Individual oral (8–10 minutes) Based on the options: 15 minutes' preparation time and a 10-minute (maximum) presentation and discussion with the teacher.	**20%**
Interactive oral activity Based on the core: Three classroom activities assessed by the teacher.	**10%**

Distinction between SL and HL

Hindi, French and Chinese are taught as language B subjects at the Heritage and are available at SL and HL. The courses give students the possibility of reaching a high degree of competence in an additional language while exploring the culture(s) where that language is spoken. The courses aim to develop the students' linguistic competence and intercultural understanding. There is a common syllabus at SL and HL (with literature as an additional component of the HL course). The differences between levels are determined by the assessment objectives, the depth and breadth of syllabus coverage, the assessment details, the assessment criteria, literature coverage and suggested teaching hours.HL requires minimum 240 contact hours while SL requires 150.

External assessment criteria-HL- Overview

Paper 1

Mark schemes are used to assess paper 1, which is worth 25% of the overall mark.

Paper 2

Assessment criteria are used to assess paper 2, which is worth 25% of the overall mark.

Section A

There are three assessment criteria.

Criterion A	Language	10 marks
Criterion B	Message	10 marks
Criterion C	Format	5 marks
	Total	**25 marks**

Section B

There are two assessment criteria.

Criterion A	Language	10 marks
Criterion B	Argument	10 marks
	Total	**20 marks**

Written assignment

Assessment criteria are used to assess the written assignment, which is worth 20% of the overall mark.

There are three assessment criteria.

Criterion A	Rationale and task	10 marks
Criterion B	Organization and development	6 marks
Criterion C	Language	8 marks
	Total	**24 marks**

External assessment criteria—SL Overview

Paper 1

Mark schemes are used to assess paper 1, which is worth 25% of the overall mark.

Paper 2

Assessment criteria are used to assess paper 2, which is worth 25% of the overall mark.

There are three assessment criteria.

Criterion A	Language	10 marks
Criterion B	Message	10 marks
Criterion C	Format	5 marks
	Total	**25 marks**

Written assignment

Assessment criteria are used to assess the written assignment, which is worth 20% of the overall mark.

There are three assessment criteria.

Criterion A	Rationale and task	10 marks
Criterion B	Organization and development	6 marks
Criterion C	Language	8 marks
	Total	**24 marks**

Interactive oral activity

Weighting: 10%

This component is based on the core: communication and media, global issues, social relationships.

Three interactive activities will be carried out in the classroom during the course and assessed by the teacher, of which one must be based on a listening activity.

The highest of the three marks will be submitted as the final mark for the interactive oral.

Where there is only one student in the class, these activities should be carried out with the teacher.

Internal assessment criteria—HL

Overview

Internal assessment is worth 30% of the overall mark.

Individual oral

Assessment criteria are used to assess the individual oral, which is awarded a total of 20 marks.

There are two assessment criteria.

Criterion A	Productive skills	10 marks
Criterion B	Interactive and receptive skills	10 marks
	Total	**20 marks**

LANGUAGE B-SL/HL
SYLLABUS BREAK UP

Through the study of the core and the options at SL students build the necessary skills to reach the assessment objectives of the language B course through the expansion of their receptive, productive and interactive skills. The core, with topics common to both levels, is divided into **three** areas :-

1. Communication and media 2. Global issues 3. Social relationships

These three topics are **compulsory** at **SL**. Students are required to study at least two aspects from each core topic.

Communication and media

How people interact, transmit and gather data for the purposes of information and entertainment. Possible aspects to cover:

- advertising
- bias in media
- censorship
- internet
- mail
- press

- radio and television
- sensationalism in media
- telephone.

Global issues

Current matters and future scenarios that have an impact at a regional, national and/or international level, bearing in mind that they need to be addressed from the perspective of the target language's culture(s).

Possible aspects to cover:

- drugs
- energy reserves
- food and water
- global warming, climate change, natural disasters
- globalization
- international economy
- migration (rural–urban, or international)
- poverty and famine
- racism, prejudice, discrimination
- the effect of man on nature
- the environment and sustainability.

Social relationships

How people interrelate and behave—as members of a community, individually and in groups. Possible aspects to cover:

- celebrations, social and religious events
- educational system
- language and cultural identity, or self-identity
- linguistic dominance
- minorities
- multilingualism
- nationalism, patriotism, fanaticism
- relationships (friendship, work, family)
- social and/or political structures
- social behaviours and stances
- taboos versus what is socially acceptable

In addition, at HL/SL , teachers select **two** from the following **five** options.

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

Cultural diversity

This deals with ethnic, gender, racial, ideological and socio-economic varieties within a community of the target language. Possible aspects to cover:

- beliefs, values and norms
- culinary heritage
- how culture is learned
- intercultural assimilation
- interlinguistic influence
- language diversity
- migration
- population diversity
- subcultures
- the concepts of human beauty
- verbal and non-verbal communication.

Customs and traditions

The current and past practices, representations, expressions and knowledge that belong to a community of the target language. Possible aspects to cover:

- celebrations, social and religious events
- dress codes, uniforms
- etiquette and protocols
- fashion
- food
- historical events
- national

Health

Physical, mental and social well-being, as well as matters related to illnesses.

Possible aspects to cover:

- concepts of beauty and health
- diet and nutrition
- drug abuse
- epidemics
- health services
- hygiene
- illnesses, symptoms of good/ill health
- mental health
- physical exercise
- surgery
- traditional and alternative medicine.

Leisure

The variety of activities performed for enjoyment.

Possible aspects to cover:

- entertainment
- exhibitions and shows
- games
- hobbies
- recreation
- social interaction through leisure
- sports
- travelling.

Science and technology

The relationship between science and technology, and their impact on a community of the target language. Possible aspects to cover:

- entertainment
- ethics and science
- ethics and technology
- impact of information technology on society
- natural sciences
- renewable energy

Deadlines for submission

As the written assignment is conducted in year II so students need to work on drafts which will be conducted in the year 2016-17.

Whereas for IO / IOA (INDIVIDUAL ORAL / INTERACTIVE ORAL ACTIVITY) the dates are as follows:-

10th & 16th July , 2017 IA (1)

10th &11th November, 2017 IOA(1)

4th & 5th February 2018 IOA (2)

11th & 12th February 2018 IA (2)

In Hindi HL, students also read **two** works of literature.

1) Aap ka Banti by Manu Bandari 2) Samkaleen Hindi Sahitya ke Satrangi Bimb: On line

Books for French SL

1) French companion B
2) Important links:-

- www.le pointdufle.net
- www.bonjourdefrance

Book for Chinese

"无怨的青春" (**wú yuàn de qīngchūn)**

Group 3: Individuals & Societies

Aims

The aims of all subjects in **group 3, individuals and societies** are to:

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

Economics SL/HL

Economics is a dynamic social science, forming part of group 3—individuals and societies. The economics course requires no specific prior learning. No particular background in terms of specific subjects studied for national or international qualifications is expected or required. The specific skills of the economics course are developed within the context of the course itself. The ability to understand and explain abstract concepts and the ability to write in a logically structured manner are distinct advantages in economics.

Economics aims

In addition, the aims of the **economics** syllabus at SL and HL are to enable students to:

1. develop an understanding of microeconomic and macroeconomic theories and concepts and their real-world application
2. develop an appreciation of the impact on individuals and societies of economic interactions between nations
3. develop an awareness of development issues facing nations as they undergo the process of change.

Syllabus to be taught (Year-wise break up)/ Semester Overview (HL/ SL)

Year	**Section**	**Topics**
Year 1	Section 1:Microeconomics	1.1 Competitive markets: Demand and supply 1.2 Elasticity 1.3 Government intervention 1.4 Market failure 1.5 Theory of the firm and market structures (HL only)
Year 1	Section 2: Macroeconomics	2.1 The level of overall economic activity 2.2 Aggregate demand and aggregate supply 2.3 Macroeconomic objectives 2.4 Fiscal policy 2.5 Monetary policy 2.6 Supply-side policies
Year 2	Section 3: International Economics	3.1 International trade 3.2 Exchange rates 3.3 The balance of payments 3.4 Economic integration 3.5 Terms of trade (HL only)
Year 2	Section 4: Development Economics	4.1 Economic development 4.2 Measuring development 4.3 The role of domestic factors 4.4 The role of international trade 4.5 The role of foreign direct investment FDI) 4.6 The roles of foreign aid and multilateral development assistance 4.7 The role of international debt 4.8 The balance between markets and intervention

Resources used in the course:

Textbook:

Economics- Sean Maley, Jason Welker
Pearson Baccalaureate
ISBN: 978-0- 435- 08998-6

Other useful links:

1. **Asian Development Bank** - http://www.adb.org/

   Economics and statistics resources of the multilateral, Asian-oriented development finance institution that promotes economic and social progress

2. **Bank of England** - http://www.bankofengland.co.uk/Pages/home.aspx

   The website of the Bank of England, the UK's Central Bank

3. **CIA World Factbook** -https://www.cia.gov/library/publications/the-world-factbook/

   An online resource on the history, people, government, and economies of every country in the world.

4. **Economic Commission for Latin America and the Caribbean –**

   http://www.cepal.org/en

   The UN's Economic Commission for Latin America and the Caribbean.

5. **Federal Reserve** – http://www.federalreserve.gov/econresdata/default.htm

   The website of the US Federal Reserve, the central bank of the United States

6. **Goldman Sachs' Global Economic Outlook –**

   http://www.goldmansachs.com/our-thinking/

   Global economic research put out by one of the leading investment banks, Goldman Sachs

7. **Hong Kong Monetary Authority –**

   http://www.hkma.gov.hk/eng/index.shtml

8. International Monetary Fund –

http://www.hkma.gov.hk/eng/index.shtml

The website of the International Monetary Fund - the —central banker‘s central bank‖

9. Latin Focus –

http://www.latin-focus.com/

A website dedicated to Latin American economic news

10. The Economist –

http://www.economist.com/

Arguably the most influential and important publication in the world

11. UK National Statistics –

http://www.ons.gov.uk/ons/index.html

Site of UK‘s official statistics, reflecting Britain's economy, population and society at national and local level.

12. UN human Development Reports – http://hdr.undp.org/en/humandev

The website of the UN‘s Development Program

13. World Bank – http://www.worldbank.org/

The website of the World Bank, the world‘s pre-eminent development bank

14. World Trade Organization – https://www.wto.org/

The World Trade Organization‘s website, containing a wealth of economics research and information

Assessment Outline- SL level

Assessment Component	Weightage
External assessment (3 hours) **Paper 1 (1 hour and 30 minutes)** An extended response paper (50 marks) Assessment objectives 1, 2, 3, 4 **Section A** Syllabus content: section 1—microeconomics Students answer one question from a choice of two. (25 marks) **Section B** Syllabus content: section 2—macroeconomics Students answer one question from a choice of two. (25 marks)	**80%** **40%**
Paper 2 (1 hour and 30 minutes) A data response paper (40 marks) Assessment objectives 1, 2, 3, 4 **Section A** Syllabus content: section 3—international economics Students answer one question from a choice of two. (20 marks) **Section B** Syllabus content: section 4—development economics Students answer one question from a choice of two. (20 marks)	**40%**
Internal assessment (20 teaching hours) This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. **Students produce a portfolio of three commentaries, based on different sections of the syllabus and on published extracts from the news media.** Maximum 750 words x 3 (45 marks)	**20%**

Assessment Outline- HL Level

Assessment Component	Weightage
External assessment (3 hours) **Paper 1 (1 hour and 30 minutes)** An extended response paper (50 marks) Assessment objectives 1, 2, 3, 4 **Section A** Syllabus content: section 1—microeconomics Students answer one question from a choice of two. (25 marks) **Section B** Syllabus content: section 2—macroeconomics Students answer one question from a choice of two. (25 marks)	**80%** **30%**
Paper 2 (1 hour and 30 minutes) A data response paper (40 marks) Assessment objectives 1, 2, 3, 4 **Section A** Syllabus content: section 3—international economics Students answer one question from a choice of two. (20 marks) **Section B** Syllabus content: section 4—development economics Students answer one question from a choice of two. (20 marks)	**20%**
Paper 3 (1 hour) HL extension paper (50 marks) Assessment objectives 1, 2 and 4 Syllabus content, including HL extension material: sections 1 to 4— microeconomics, macroeconomics, international economics, development economics Students answer two questions from a choice of three. (25 marks per question)	
Internal assessment (20 teaching hours) This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. **Students produce a portfolio of three commentaries, based on different sections of the syllabus and on published extracts from the news media.** Maximum 750 words x 3 (45 marks)	**20%**

Internal Asssessment (IA) Deadlines (HL/ SL)

	Topic submission	First draft submission	Final draft submission
First Commentary- IA 1	**5th October 2016**	**3rd November 2016**	**8th January 2017**
Second Commentary- IA 2	**June 2017**	**July 2017**	**August 2017**
Third Commentary- IA 3	**October 2017**	**November 2017**	**January 2018**

History HL & SL

Aims

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

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

History is a dynamic, contested, evidence-based discipline that involves an exciting engagement with the past. It is a rigorous intellectual discipline, focused around key historical concepts such as change, causation and significance.

History is an exploratory subject that fosters a sense of inquiry. It is also an interpretive discipline, allowing opportunity for engagement with multiple perspectives and a plurality of opinions. Studying history develops an understanding of the past, which leads to a deeper understanding of the nature of humans and of the world today.

The IB Diploma Programme (DP) history course is a world history course based on a comparative and multiperspective 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.

There are **six key concepts** that have particular prominence throughout the DP history course.

- Change
- Perspectives
- Consequence
- Significance Causation
- Continuity

HISTORY SYLLABUS

PAPER I(SL/HL)

The move to global war

Case studies Material for detailed study

Case study 1:
Japanese expansion in East Asia (1931–1941)
Causes of expansion
• The impact of Japanese nationalism and militarism on foreign policy
• Japanese domestic issues: political and economic issues, and their impact on foreign relations
• Political instability in China
Events
• Japanese invasion of Manchuria and northern China (1931)
• Sino-Japanese War (1937–1941)
• The Three Power/Tripartite Pact; the outbreak of war; Pearl Harbor (1941)
Responses
• League of Nations and the Lytton report
• Political developments within China—the Second United Front
• International response, including US initiatives and increasing tensions betweenthe US and Japan

Case study 2:
German and Italian expansion (1933–1940)
Causes of expansion
• Impact of fascism and Nazism on the foreign policies of Italy and Germany
• Impact of domestic economic issues on the foreign policies of Italy and Germany
• Changing diplomatic alignments in Europe; the end of collective security; appeasement

Events
• German challenges to the post-war settlements (1933–1938)
• Italian expansion: Abyssinia (1935–1936); Albania; entry into the Second World War
• German expansion (1938–1939); Pact of Steel, Nazi–Soviet Pact and the outbreak of war
Responses
• Internationalresponse to German aggression (1933–1938)
• International response to Italian aggression (1935–1936)
• International response to German and Italian aggression (1940)

PAPER II (SL/HL)

TOPIC 1: Authoritarian states (20th century)

Emergence of authoritarian states

- Conditions in which authoritarian states emerged: economic factors; social division; impact of war; weakness of political system
- Methods used to establish authoritarian states: persuasion and coercion; the role of leaders; ideology; the use of force; propaganda

Consolidation and maintenance of power

- Use of legal methods; use of force; charismatic leadership; dissemination of propaganda
- Nature, extent and treatment of opposition
- The impact of the success and/or failure of foreign policy on the maintenance of power

Aims and results of policies

- Aims and impact of domestic economic, political, cultural and social policies
- The impact of policies on women and minorities
- Authoritarian control and the extent to which it was achieved

Suggested examples

Africa and the Middle East: Tanzania—Nyerere; Egypt—Nasser; Iraq—Saddam Hussein; Kenya— Kenyatta; Uganda—Amin

The Americas: Argentina—Perón; Cuba—Castro; Chile—Pinochet; Haiti—Duvalier; Nicaragua—Somoza

Asia and Oceania: China— Mao; Indonesia—Sukarno; Pakistan—Zia ul Haq; Cambodia—Pol Pot

Europe: Germany—Hitler; USSR—Stalin; Italy—Mussolini; Spain—Franco; Poland—Pilsudski

TOPIC 2: Causes and effects of 20th century wars

Causes of war

- Economic, ideological, political, territorial and other causes
- Short- and long-term causes

Practices of war and their impact on the outcome

- Types of war: civil wars; wars between states; guerrilla wars
- Technological developments; theatres of war—air, land and sea
- The extent of the mobilization of human and economic resources
- The influence and/or involvement of foreign powers

Effects of war

- The successes and failures of peacemaking
- Territorial changes
- Political repercussions
- Economic, social and demographic impact; changes in the role and status of Women.

Suggested examples

Africa and the Middle East: Algerian War (1954–1962); Nigerian Civil War (1967–1970); Iran–Iraq War (1980–1988); North Yemen Civil War (1962–1970); First Gulf War (1990–1991)

The Americas: Chaco War (1932–1935); Falklands/Malvinas War (1982); Mexican Revolution (1910 –1920); Contra War Asia and Oceania: Chinese Civil War (1927–1937 and/or 1946–1949); Vietnam (1946–1954 and/or 1964–1975); Indo-Pakistan Wars (1947–1949 and/or 1965 and/or 1971)

Europe: Spanish Civil War (1936–1939); the Balkan Wars (1990s); Russian Civil War (1917–1922); Irish War of Independence (1919–1921)

Cross-regional wars: First World War (1914–1918); Second World War (1939–1945);Russo-JapaneseWar (1904–1905)

PAPER III (HL)

History of Europe

Europe and the First World War (1871–1918)

European diplomacy and the changing balance of power after 1871; imperial expansion in Africa and Asia, and its impact on European diplomacy; the Congress of Berlin and European Alliance system

- Foreign policy of Kaiser Wilhelm II: domestic conditions that impacted on German foreign policy; impact/influence on other countries, including Britain, France, Russia and Austria-Hungary
- Causes of the First World War: short- and long-term causes; relative importance of causes; the Alliance system; the decline of the Ottoman Empire; German foreign policy; Austria-Hungary, Russia and Balkan nationalism; the arms race and diplomatic crises; the July Crisis of 1914
- Impact of the First World War on civilian populations of **two** countries from the region between 1914 and 1918
- Factors leading to the defeat of Germany and the other Central Powers, and to the victory of the Entente Powers: strategic errors; economic factors; entry and role of the US; domestic instability in the Central Powers

European states in the inter-war years (1918–1939)

- Weimar Germany: constitutional, political, economic/financial and social issues (1918–1933); initial challenges (1918–1923); —Golden Era‖ under Stresemann (1924–1929); the crisis years and the rise of Hitler (1929–1933)
- Hitler's Germany (1933–1939): consolidation of power; Hitler's pre-war domestic policies, including economic, social and political policies; nature of the Nazi state; the extent of resistance to the Nazis
- Italy (1918–1939): rise of Mussolini; consolidation of power; Mussolini's pre-war domestic policies, including economic, social and political policies; nature of the fascist state
- Spain (1918–1939): political, social and economic conditions in Spain; the Primo de Rivera regime; polarization and political parties under the Second Republic; Azaña and Gil Robles; causes of the Civil War; foreign involvement; reasons for nationalist victory under Franco
- Case study of domestic political, economic and social developments in **one** European country (other than Germany, Italy or Spain) in the inter-war years.

Versailles to Berlin: Diplomacy in Europe (1919–1945)

- Peace settlements (1919–1923): Versailles; Neuilly; Trianon; St Germain; and Sèvres/Lausanne—aims, issues and responses
- The League of Nations and Europe: successes and failures; the search for collective security; developments in the successor states of central and eastern Europe
- Italian and German foreign policies (1919–1941): aims, issues and extent of success
- Collective security and appeasement (1919–1941): aims, issues and extent of success; role of British, French and Russian/Soviet foreign policies (1919–1941); Chamberlain and the Munich Crisis
- Causes of the Second World War and the development of European conflict (1939–1941); the wartime alliance (1941–1945); reasons for Axis defeat in 1945 and for Allied victory; role of economic, strategic and other factors
- Impact of the Second World War on civilian populations in any **two** countries between 1939–1945

ASSESSMENT OBJECTIVES

Assessment objective 1: Knowledge and understanding

- Demonstrate detailed, relevant and accurate historical knowledge.
- Demonstrate understanding of historical concepts and context.
- Demonstrate understanding of historical sources. (Internal assessment and paper 1)

Assessment objective 2: Application and analysis

- Formulate clear and coherent arguments.
- Use relevant historical knowledge to effectively support analysis.
- Analyse and interpret a variety of sources. (Internal assessment and paper 1)

Assessment objective 3: Synthesis and evaluation

- Integrate evidence and analysis to produce a coherent response.
- Evaluate different perspectives on historical issues and events, and integrate this evaluation effectively into a response.
- Evaluate sources as historical evidence, recognizing their value and limitations. (IA and paper 1)
- Synthesize information from a selection of relevant sources. (IA and paper 1)

Assessment objective 4: Use and application of appropriate skills

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

HISTORICAL INVESTIGATION DEADLINES

a.	Submission of Question	12.02.17
b.	Submission of Section A	22.04.17
c.	Submission of Section B	29.07.17
d.	Submission of Section C	26.08.17
e.	Submission of Section D	30.09.17
f.	Submission of Section E	21.10.17
g.	First complete draft(A-E)	16.12.17
h.	Final complete draft(A-E)	27.01.18
i.	UPLOADING DOCUMENT	10.02.18

Business & Management HL and SL

Business management is a rigorous, challenging and dynamic discipline in the individuals and societies subject group. The role of businesses, as distinct from other organizations and actors in a society, is to produce and sell goods and services that meet human needs and wants by organizing resources. Profit-making, risk-taking and operating in a competitive environment characterize most business organizations.

Business management studies business functions, management processes and decision-making in contemporary contexts of strategic uncertainty. It examines how business decisions are influenced by factors internal and external to an organization, and how these decisions impact upon its stakeholders, both internally and externally. Business management also explores how individuals and groups interact within an organization, how they may be successfully managed and how they can ethically optimize the use of resources in a world with increasing scarcity and concern for sustainability. Business management is, therefore, perfectly placed within the individuals and societies subject area: aiming to develop in students an appreciation both for our individuality and our collective purposes.

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 operateand this Integration promotes a holistic overview of business activity. The course also integrates social and ethical objectives with the key functions of the business.

Emphasis is placed on strategic decision-making and the operational business functions of human resource management, finance and accounts, marketing and operations management. Links between the topics are central to the course, as this integration promotes a holistic overview of business management. Through the exploration of six concepts underpinning the subject (change, culture, ethics, globalization, innovation and strategy), the business management course allows students to develop their understanding of interdisciplinary concepts from a business management perspective.

B & M (syllabus break-up) Year 1

Unit 1: Business organization and environment

1.1 Introduction to business management

1.2 Types of organizations

1.3 Organizational objectives

1.4 Stakeholders

1.5 External environment

1.6 Growth and evolution

1.7 Organizational planning tools (HL only)

Unit 3: Finance and accounts

3.1 Sources of finance

3.2 Costs and revenues

3.3 Break-even analysis

3.7 Cash flow

3.9 Budgets (HL only)

Unit 4: Marketing

4.1 The role of marketing

4.2 Marketing planning (including introduction to the four Ps)

4.3 Sales forecasting (HL only)

4.4 Market research

4.5 The four Ps (product, price, promotion, place)

4.6 The extended marketing mix of seven Ps (HL only)

4.7 International marketing (HL only)

4.8 E-commerce

B & M (syllabus break-up) Year 2

Unit 3: Finance and accounts

3.4 Final accounts (some HL only)

3.5 Profitability and liquidity ratio analysis

3.6 Efficiency ratio analysis (HL only)

3.8 Investment appraisal (some HL only)

Unit 2: Human resource management

2.1 Functions and evolution of human resource management

2.2 Organizational structure

2.3 Leadership and management

2.4 Motivation

2.5 Organizational (corporate) culture (HL only)

2.6 Industrial/employee relations (HL only)

Unit 5: Operations management

5.1 The role of operations management

5.2 Production methods

5.3 Lean production and quality management (HL only)

5.4 Location

5.5 Production planning (HL only)

5.6 Research and development (HL only)

5.7 Crisis management and contingency planning (HL only)

Assessment outline—SL

Assessment component	Weighting
External assessment (3 hours)	**75%**
Paper 1 (1 hour and 15 minutes) Based on a case study issued in advance, with additional unseen material for section B. Assessment objectives 1, 2, 3, 4 (40 marks) *Section A* Syllabus content: Units 1–5 Students answer two of three structured questions based on the pre-seen case study. (10 marks per question) *Section B* Syllabus content: Units 1–5 Students answer one compulsory structured question primarily based on the additional stimulus material. (20 marks)	**30%**
Paper 2 (1 hour and 45 minutes) Assessment objectives 1, 2, 3, 4 (50 marks) *Section A* Syllabus content: Units 1–5 Students answer one of two structured questions based on stimulus material with a	**45%**

quantitative focus. (10 marks) *Section B* Syllabus content: Units 1–5 Students answer one of three structured questions based on stimulus material. (20 marks) *Section C* Syllabus content: Units 1–5 Students answer one of three extended response questions primarily based on two concepts that underpin the course. (20 marks).	
Internal assessment (15 teaching hours) This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. **Written commentary** Students produce a written commentary based on three to five supporting documents about a real issue or problem facing a particular organization. Maximum 1500 words. (25 marks)	**25%**

Assessment outline—HL

Assessment component	Weighting
External assessment (4 hours and 30 minutes)	**75%**
Paper 1 (2 hour and 15 minutes)	**35%**
Based on a case study issued in advance, with additional unseen material for sections B and C.	
Assessment objectives 1, 2, 3, 4 (60 marks)	
Section A	
Syllabus content: Units 1–5 including HL extension topics	
Students answer two of three structured questions based on the pre-seen case study. (10 marks per question)	
Section B	
Syllabus content: Units 1–5 including HL extension topics	
Students answer one compulsory structured question primarily based on the additional stimulus material. (20 marks)	
Section C	
Syllabus content: Units 1–5 including HL extension topics	**40%**
Students answer one compulsory extended response question primarily based on the additional stimulus material. (20 marks)	
Paper 2 (2 hour and 15 minutes)	
Assessment objectives 1, 2, 3, 4 (70 marks)	
Section A	
Syllabus content: Units 1–5 including HL extension topics	
Students answer one of two structured questions based on stimulus material with a quantitative focus. (10 marks)	
Section B	
Syllabus content: Units 1–5 including HL extension topics	
Students answer two of three structured questions based on stimulus material. (20 marks per question)	
Section C	
Syllabus content: Units 1–5 including HL extension topics Students answer one of three extended response questions primarily based on two concepts that Underpin the course. (20 marks)	

Internal assessment (30 teaching hours) - 25%

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

Research project
Students research and repor t on an issue facing an organization or a decision to be made by an organization (or several organizations). Maximum 2000 words. (25 marks)

The SL internal assessment is a written commentary that allows students to demonstrate the application of business management tools, techniques and theories to a business issue or problem.

Requirements

SL students are required to:

- select a real business issue or problem for their written commentary that must relate to the SL syllabus.
- refer directly to a single business organization, but may consider industry-wide issues that impact on that organization.
- base their written commentary on secondary research, selected for its suitability, depth and breadth. Primary research may be used as support.
- provide a title for the commentary that, to give focus and direction, must be framed as a question.
- produce a written commentary that does not exceed 1,500 words.
- attach to the commentary three to five supporting documents from which the majority of the information for the commentary has been obtained.
- fully reference all supporting documents and additional sources and include them in a bibliography.

Word count

The written commentary must not exceed 1,500 words. A word count must be included as part of the commentary. If the word limit is exceeded, the teacher's assessment must be based on the first 1,500 words.

Note: Moderators will not read beyond 1,500 words for the commentary.

The following are **not** included in the word count:

acknowledgments

contents page

tables of statistical data

diagrams or figures

equations, formulae and calculations

citations (which, if used, must be in the body of the commentary)

references (which, if used, must be in the footnotes/endnotes)

bibliography.

Please note that footnotes/endnotes may be used for references only. Definitions of business management terms and quotations, if used, must be in the body of the work and are included in the word count. Please note that citation is a shorthand method of making a reference in the body of the commentary, which is then linked to the full reference in the bibliography.

Internal assessment details—HL

Research project

Duration: 30 hours

Weighting: 25%

Introduction

The HL internal assessment is a research project that allows students to demonstrate the application of their skills and knowledge to business issues or decision-making.

Requirements

HL students are required to:

- design and undertake research that **either** addresses an issue facing a business organization or a range of organizations **or** analyses a decision to be made by a business organization or range of organizations
- select a real business organization or a range of organizations and a real issue or decision under investigation

- base their research project on primary research they gather from the organization investigated (secondary research may be used as support)
- provide a title for the research project that, to give focus and direction, must be framed as a question
- produce a research proposal (of maximum 500 words), including an action plan, to be used as the primary planning document
- produce a written report that does not exceed 2,000 words
- write the report in a style and format of a useful working document for management.

Choice of research topic and organization

Students should, with the teacher's guidance, choose their own topic and organization that they find interesting and motivating.

The teacher should approve each topic before work is started, and ensure that it complies with the requirements for internal assessment.

The research question should be forward-looking, targeted at an issue or a decision still relevant for the business organization(s) rather than descriptive of something already finished, and should require the student to make recommendations for further action. Guidance from the teacher in formulating an appropriate research question is important.

For a variety of reasons not apparent at the start of the project, such as confidentiality, some organizations fail to provide data, which will undermine the quality of the final report. Students must therefore confirm before starting their investigations that they will be able to obtain the necessary data from the chosen organization.

Students must be aware of ethical considerations when undertaking any research. There is a need for tact, sensitivity to other people and respect for confidentiality.

If more than one student chooses the same organization for their research, it is the responsibility of the teacher to ensure that the written commentaries reflect the students' own individual research, interpretation and analysis. If a student also writes an extended essay in business management, it is the responsibility of the teachers to ensure that students do not build their internal assessment and extended essay in business management on the same syllabus content. Also, given different requirements and assessment criteria, students should choose different organizations for these different tasks.

Subject Group	Subject Component to be submitted	Date
YR-1	IA :HL B&M Research Question Submission	Jan 5th 2017
	Commentary :SL B&M Res Question Submission	Jan 12th 2017
	IA :HLB&M Research Proposal Submission	March 1st 2017
	Commentary :SL B&M Supporting Doc Submission	March 8th 2017
	IA:HL B&M Primary Data Refined Submission	May 9th 2017
	Commentary :SL B&M Introduction: Submission	May 11th 2017
YR-2	IA:HL B&M First Draft Submission	June 30th 2017
	Commentary :SL B&M First Draft Submission	July 1st 2017
	IA :HL B&M 2nd Draft Submission	Sept 15th 2017
	Commentary :SL B&M 2nd Draft Submission	Sept 19th 2017
	IA :HL B&M Final Draft Submission	December 7th 2017
	Commentary :SL B&M Final Draft Submission	December 17th 2017

PSYCHOLOGY HL and SL

1. Psychology aims

   The aims of the **psychology** course at SL and at HL are to:

   a)develop an awareness of how psychological research can be applied for the benefit of human beings
   b)ensure that ethical practices are upheld in psychological inquiry

   c)develop an understanding of the biological, cognitive and sociocultural influences on human behavior
   d)develop an understanding of alternative explanations of behavior

   e)understand and use diverse methods of psychological inquiry

2. Syllabus to be taught - Break up year wise

YEAR 1

Part 1: Core (SL/HL)

- The biological level of analysis
- The cognitive level of analysis
- The sociocultural level of analysis

Part 3: Qualitative research methodology (HL only)

- Qualitative research in psychology

YEAR 2

Part 2: Options (SL/HL)

- Abnormal psychology
- Developmental psychology
- Health psychology

Part 4: Simple experimental study (SL/HL) IA

- Introduction to experimental research methodology

Book &Links

Crane & Hannibal; Willerton&Lawton; Skinner; Alan Law & Christos Halkiopoulos; Robert Baron; Morgan & King; Hannibal; Catherine A Sanderson; DeLamater & Myers; Baron Byrne & Branscombe

http://www.simplypsychology.org/

http://www.spring.org.uk/2008/02/implanting-false-memories-lost-in-mall.php

http://psychtutor.weebly.com/loftus-and-pickrell---lost-in-the-mall.html

http://penta.ufrgs.br/edu/telelab/2/war-of-t.html

3. Assessment components with Marks distribution (IA & External Assessment)

External assessment (3 hours) HL/SL

i)Paper 1 (2 hours)

Section A: **Three** compulsory questions on part 1 of the syllabus.

Section B: **Three** questions on part 1 of the syllabus. Students choose **one** question to answer in essay form. (46 marks)

ii)Paper 2 (2 hours for HL/1 hour for SL) HL/SL

Three questions on each option of part 2 of the syllabus. SL Students choose **one** question to answer and HL students to choose to two questions in essay form. (44 marks for HL/22 marks for SL) **iii)Paper 3 (1 hour)HL only**

Three compulsory questions based on an unseen text, covering part 3 of the syllabus.(30 marks)

Internal assessment

A report of a simple experimental study conducted by the student. (28 marksfor HL/20 marks for SL)

Nature of IAs: A report of a simple experimental study conducted by the student

One experimental study has to be chosen by the student and replicated. The student is expected to start look for

a study of his /her choice in Yr 1, study it, research on it, and complete it and then do the reporting in Yr 2.

4. Deadlines for submission of each component (during the 2 year period- 2015-2016)

- 7^{th}, 8^{th}, 9^{th} & 10^{th} Sept.2016: Yr 1 to observe and help Yr 2 in data collection
- 8^{th} Feb 2017: IA proposal to be submitted
- 7^{th} April 2017: IA report to be submitted
- Sept. 2017: Data collection
- 28^{th} Oct. 2017: Analysis of the data collected
- 26^{th} Nov.2017: Submission of the 1^{st} draft of the report
- 6^{th} Jan.2018: Submission of the final report.

INFORMATION TECHNOLOGY IN GLOBAL SOCIETIES HL & SL

The IB Diploma Programme Information technology in a global society (ITGS) course is the study and evaluation of the impacts of information technology (IT) on individuals and societ y. It explores the advantages and disadvantages of the access and use of digitized information at the local and global level. ITGS provides a framework for the student to make informed judgments and decisions about the use of IT within social contexts. Although ITGS shares methods of critical investigation and analysis with other social sciences, it also considers social and ethical considerations that are common to other subjects in group 3. Students come into contact with IT on a daily basis because it is so pervasive in the world in which we live. This increasingly widespread use of IT inevitably raises important questions with regard to the social and ethical considerations that shape our society today. ITGS offers an opportunity for a systematic study of these considerations, whose range is such that they fall outside the scope of any other single discipline. ITGS has links with subjects not included in group 3, notably computer science, but it should be noted that there are clear differences between the subjects.

Aims

1.enable the student to evaluate social and ethical considerations arising from the widespread use of IT by individuals, families, communities, organizations and societies at the local and global level 2. develop the student's understanding of the capabilities of current and emerging IT systems and to evaluate their impact on a range of stakeholders. 3. enable students to apply their knowledge of existing IT systems to various scenarios and to make informed judgments about the effects of IT developments on them 4. encourage students to use their knowledge of IT systems and practical IT skills to justify IT solutions for a specified client or end-user.

HL /SL Components

Syllabus component	Suggested teaching hours	
	SL	HL
Strand 1: Social and ethical significance		
SL/HL core	40	40
Social and ethical considerations linked to specified IT developments.		
Students must study the following 12 issues.		
1.1Reliability and integrity		
1.2Security		
1.3Privacy and anonymity		
1.4Intellectual property		
1.5Authenticity		
1.6The digital divide and equality of access		
1.7Surveillance		
1.8Globalization and cultural diversity		
1.9Policies		
1.10Standards and protocols		
1.11People and machines		
1.12Digital citizenship		
HL extension	—	20
Social and ethical considerations linked to the two HL extension topics and the issues raised by the annually issued case study.		
Strand 2: Application to specified scenarios		
SL/HL core	40	40
Scenarios based on real-life situations must be used when addressing specified IT developments.		

Students must study the following 6 themes.		
2.1Business and employment		
2.2Education and training		
2.3Environment		
2.4Health		
2.5Home and leisure		
2.6Politics and government		
HL extension		
Scenarios based on real-life situations must be used when addressing specified IT developments in the two HL extension topics and the annually issued case study.	—	35
Strand 3: IT systems		
SL/HL core		
The terminology, concepts and tools relating to specified IT developments.		
Students must study the following 9 topics.		
3.1Hardware		
3.2Software		
3.3Networks	40	40
3.4Internet		
3.5Personal and public communications		
3.6Multimedia/digital media		
3.7Databases		
3.8Spreadsheets, modelling and simulations		
3.9Introduction to project management		
HL extension		
Students must study the following topics.		
3.10IT systems in organizations	—	35
3.11Robotics, artificial intelligence and expert systems		
3.12Information systems specific to the annually issued case study		
The project (practical application of IT skills)		
The application of skills and knowledge to develop an original IT product for a specified client.	30	30
Total teaching hours	**150**	**240**

GLOBAL POLITICS

Nature of the subject: The 21st century is characterized by rapid change and increasing interconnectedness, impacting individuals and societies in unprecedented ways and creating complex global political challenges. Global politics is an exciting, dynamic subject that draws on a variety of disciplines in the social sciences and humanities, reflecting the complex nature of many contemporary political issues. The study of global politics enables students to critically engage with different and new perspectives and approaches to politics in order to comprehend the challenges of the changing world and become aware of their role in it as active global citizens.
The Diploma Programme global politics course explores fundamental political concepts such as power, equality, sustainability and peace in a range of contexts. It allows students to develop an understanding of the local, national, international and global dimensions of political activity and processes, as well as to explore political issues affecting their own lives. The course helps students to understand abstract political concepts by grounding them in real-world examples and case studies. It also invites comparison between such examples and case studies to ensure a wider and transnational perspective.

Distinction between SL and HL:
Students of global politics at SL and HL are presented with a syllabus that has a common core. This common core consists of four compulsory units under the central unifying theme of "people, power and politics". All SL and HL students are also required to undertake an engagement activity. In addition, HL students are also required, through a case studies approach, to explore two HL extension topics (global political challenges).

Aims
The aims of the global politics course at SL and HL 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

Syllabus outline

SYLLABUS COMPONENT	SL (hrs)	HL (hrs)
Core units: people, power and politics	130	130
Four compulsory units:		
Power, sovereignty and international relations		
Human rights		
Development		
Peace and conflict		
Engagement activity	20	20
An engagement on a political issue of personal interest, complemented with research		
HL extension: global political challenges	-	90
Political issues in **two** of the following six global political challenges researched and presented through a case study approach Environment, Poverty, Health, Identity, Borders, security		
Total teaching hours	**150**	**240**

Core units

The common core for SL and HL students consists of four units. The first unit can be perceived as the foundational unit for the other units, and some treatment of it is likely to be desirable at the start of the course.

<table>
<tr><td colspan="3">Foundational unit: power, sovereignty and international relations
Recommended teaching time: 40–55 hours
Key concepts: power, sovereignty, legitimacy, interdependence

Learning outcomes:
• Nature of power
• Operation of state power in global politics
• Function and impact of international organizations and non-state actors in global politics
• Nature and extent of interactions in global politics</td></tr>
<tr><td>Human rights unit</td><td>Development unit</td><td>Peace and conflict unit</td></tr>
<tr><td>Recommended teaching time: 25–30 hours</td><td>Recommended teaching time: 25–30 hours</td><td>Recommended teaching time: 25–30 hours</td></tr>
<tr><td>Key concepts: human rights, justice, liberty, equality</td><td>Key concepts: development, globalization, inequality, sustainability</td><td>Key concepts: peace, conflict, violence, non-violence</td></tr>
<tr><td>Learning outcomes:

Nature and evolution of human rights
Codification, protection and monitoring of human rights
Practice of human rights
Debates surrounding human rights and their application: differing interpretations of justice, liberty and equality</td><td>Learning outcomes:

Contested meanings of development
Factors that may promote or inhibit development
Pathways towards development
Debates surrounding development: challenges of globalization, inequality and sustainability</td><td>Learning outcomes:

Contested meanings of peace, conflict and violence
Causes and parties to conflict
Evolution of conflict
Conflict resolution and post-conflict transformation</td></tr>
</table>

Engagement activity

The task aims at active and reflective engagement. The engagement activity work culminates in a 2,000-word written report. There are three parts to the engagement activity work: undertaking an engagement, doing complementary research and writing a report. Although the written report is the assessed component of the engagement activity, students' planning, actions, further reading and discussion are interconnected; all are required for a good end result. Moreover, students can expect to go back and forth between the different elements of the work: for example, they should do some preliminary research on the context of their activities before they engage, and while writing their report, they may discover areas for which additional research is needed to balance the perspectives acquired through the engagement. Students should choose an engagement that helps them gain an experiential perspective on a political issue that they are genuinely interested in. he engagement allows students to experience the dynamics of real world politics and do so in a participatory way; the political issue focused upon affects a community or a society that the student has some stake and experiences in; the engagement involves contact with others who are also interested in, or have a stake in, the political issue

Complementary research

The role of research in the engagement activity is to complement what students learn through their engagement, including their own evolving beliefs and perspectives. A helpful way of thinking about research is to ask: in addition to the experiential learning students gain and on which they critically reflect, what else do they need to know and understand to be able to write a good, evaluative analysis of their selected political issue? Often, background information on actors, organizations, events etc is required for understanding the context in which the engagement takes place. Some additional reading to establish links between their activities, chosen political issue and the key concepts, theories and ideas studied in the core units of the course is called for. Also, the perspectives students gain through their engagement are partial and limited. Research is needed to establish which other perspectives on the political issue and the organization(s) with which students have been engaging are possible, and what the strengths and limitations of various perspectives are.

Written report

The written report is an opportunity for students to bring together the lessons they have learned about their chosen political issue through their engagement and complementary research. As for many other larger writing projects, it is likely to be highly helpful for students to formulate a question, tightly linked to the political issue, which they attempt to answer through their experiences and reading, and refine this question throughout the engagement activity process.

In their reports, students must identify a political issue they decided to explore through the engagement and explain their reasons why they wanted to get involved with this specific engagement and issue. If the engagement is large and multi-faceted—perhaps consisting of several tasks or with the student having several roles in the course of the engagement—they need to focus their report on aspects of the engagement that are most relevant for their treatment of the political issue. Instead of describing at length what they did, the key aspect about the engagement in the written report is what it taught students about their selected political issue. The lessons from experiential learning, combined with insights from research, inform students' analysis of the political issue. They are expected to synthesise their insights and evaluate the political issue from multiple perspectives.

There is no specific format required of the written report, but is it expected that the report is a structured piece of well-presented writing.

Word count

The written report must not exceed 2,000 words. Work which falls significantly below 2,000 words is unlikely to fully meet the stated requirements of the task, and is likely to receive low marks. A word count must be included as part of the report. If the word limit is exceeded the teacher's assessment must be based on the first 2,000 words.

HL extension: global political challenges

The HL extension gives students the opportunity to explore important global political challenges through a case studies approach. HL students must study two of the following six topics.

GROUP IV – EXPERIMENTAL SCIENCE & COMPUTER SCIENCE

The Experimental Sciences programme at THS focuses on a practical approach through experimental work that distinguishes the subject from other disciplines. It provides opportunities for scientific study and creativity within a global context that stimulates the curiosity of student and encourages them to learn through personal exploration.

Under the able guidance of experienced faculty who are IB examiners, the students develop an ability to analyze, evaluate and synthesize scientific information. We offer Physics, Chemistry, Biology and Computer Science at standard and higher level. We also have Environmental Science and Societies offered at standard level.

There is a common model of internal assessment for all group 4 subjects that consists of an interdisciplinary group project and a mixture of short-term and/or long- term investigations (such as laboratory work or practical and projects). This is termed as the **Group-4 project.**

PHYSICS HL and SL

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 sciences are taught practically. Students have opportunities to design investigations, collect data, develop manipulative skills, analyse results, collaborate with peers and evaluate and communicate their findings. The investigations may be laboratory based or they may make use of simulations and data bases. Students develop the skills to work independently on their own design.

Key features of the curriculum

- Available at standard (SL) and higher levels (HL)
- The minimum prescribed number of hours is 150 for SL and 240 for HL
- Students are assessed both externally and internally
- Physics students at SL and HL undertake a common core syllabus and a common internal assessment (IA) scheme.
- Students at HL are required to study some topics in greater depth, to study additional topics and to study extension material of a more demanding nature in the options. The distinction between SL and HL is one of breadth and depth.

Syllabus break-up-

Year 1

CORE	ADDITIONAL HIGHER LEVEL
Topic 1- Measurements and uncertainties	
Topic 2- Mechanics	
Topic 3- Thermal physics , Option: B2	
Topic 4- Waves	Topic 9- Wave phenomena
Topic 5- Electricity and magnetism	Topic 11- Electromagnetic induction
Topic 6- Circular motion and gravitation	Topic 10- Fields

Year 2

CORE	ADDITIONAL HIGHER LEVEL
Topic 7- Atom, nuclear and particle physics	Topic 12- Quantum and nuclear physics
Topic 8- Energy production	
Option B : Engineering physics B1	Option extension : Engineering physics B3,B4

Books and links-

1. IB Physics Course Book 2014 edition: Oxford IB Diploma Programme
2. Physics for the IB Diploma: K A Tsokos 6th edition Cambridge University Press

http://hyperphysics.phy-astr.gsu.edu

http://www.physicsclassroom.com

www.khanacademy.org

Assessment outline-

(a) External assessment-

The external assessment of physics consists of three written papers. In paper 1 there are 30 (at SL) or 40 (at HL) multiple-choice questions. Paper 2 contains short-answer and extended-response questions on the core (and Additional Higher Level (AHL) material at HL). Paper 3 has two sections; Section A contains one data-based question and several short-answer questions on experimental work on the core (and AHL material at HL). Section B contains short-answer and extended-response questions from each of the four options.

Standard Level-

Component	Overall weighting (%)	Duration (hours)	Marks
Paper 1	20	¾	30
Paper 2	40	1 ¼	50
Paper 3	20	1	35
Internal Assessment	20	10	24

Higher Level-

Component	Overall weighting (%)	Duration (hours)	Marks
Paper 1	20	1	40
Paper 2	36	2 ¼	95
Paper 3	24	1 ¼	45
Internal Assessment	20	10	24

(a) Internal Assessment

Internal assessment accounts for 20% of the final assessment and this is assessed through a single individual investigation. This investigation may involve a hands-on approach, use of data-bases, modelling, simulation or a hybrid. Student work is internally assessed by the teacher and externally moderated by the IB.

The writeup is of about 6 to 12 pages long. Investigations exceeding this length are penalized in the communications criterion as lacking in conciseness.

Internal assessment criteria-

Personal engagement	Exploration	Analysis	Evaluation	Communication	Total
2 (8%)	6 (25%)	6 (25%)	6 (25%)	4 (17%)	24 (100%)

Practical scheme of work (PSOW)-

The list of practicals are as follows:

Topic 2 Determining the acceleration of free-fall

Topic 3 Applying the calorimetric techniques of specific heat capacity or specific latent heat
Topic 3 Investigating at least one gas law

Topic 4 Investigating the speed of sound
Topic 4 Determining refractive index

Topic 5 Investigating one or more of the factors that affect resistance
Topic 5 Determining internal resistance

Topic 7 Investigating half-life

Topic 9 Investigating Young's double-slit (HL only)

Topic 11 Investigating a diode bridge rectification (HL only)

Group 4 project

The group 4 project is a 10 hour collaborative activity where students from different group 4 subjects work together on a scientific or technological topic, allowing54 for concepts and perceptions from across the disciplines to be shared in line to —develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge‖.

The group 4 project allows students to appreciate the environmental, social and ethical implications of science and technology. It may also allow them to understand the limitations of scientific study.

The choice of scientific or technological topic is open but the project should clearly address aims 7, 8 and 10 mentioned above.

There are three stages of the project-

(a) Planning- 2 hours
- Selection of topic
- Activities to be carried out must be clearly defined

(b) Action- 6 hours
- Students investigate the topic in mixed-subject groups or single-subject groups.
- There should be collaboration during the action stage; findings of investigations should be shared with other students within the mixed/single-subject group. During this stage, in any practically-based activity, it is important to pay attention to safety, ethical and environmental considerations.

(c) Evaluation – 2 hours
- Students share their findings, both successes and failures in the form of presentation

A reflective statement is written by each student on their involvement in the group 4 project.

Deadlines:

TASK	SUBMISSION/DEADLINE
PSOW Yr1	10th August 2016
PSOW Yr 1	11th-12th November 2016
Group 4 project discussion Yr1	15th December 2016
Group 4 project execution	13th-15th January 2017
Group 4 project presentation Yr1	1st-2nd February 2017
Exploration 1st draft Yr 1	20th-21st April 2017
Exploration 2nd draft Yr 1	7th-8th October 2017
FINAL PSOW Yr2	11th-12th November 2017
Exploration Final draft Yr 1	17th December 2017

CHEMISTRY HL & SL

Chemistry is an experimental science that combines academic study with the acquisition of practical and investigational skills. It is often 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 serves as useful preparation for employment.

The Diploma Programme Chemistry course includes the essential principles of the subject but also, through selection of an option, allows teachers some flexibility to tailor the course to meet the needs of their students. The course is available at both standard level (SL) and higher level (HL) , and therefore accommodates students who wish to study chemistry as their major subject in higher education and those who do not.

Key Features of the Curriculum

- Available at standard (SL) and higher levels (HL)
- The minimum prescribed number of hours is 150 for SL and 240 for HL
- Students are assessed both externally and internally
- Chemistry students at SL and HL undertake a common core syllabus and a common internal assessment (IA) scheme.
- Students at HL are required to study some topics in greater depth, to study additional topics and to study extension material of a more demanding nature in the options. The distinction between SL and HL is one of breadth and depth.
- A practical approach to the course delivery is emphasised through the interdisciplinary group 4 project and a mixture of both short-term and long-term experiments and investigations.

Syllabus break-up-

Year 1

CORE	ADDITIONAL HIGHER LEVEL
Topic 1- Stoichiometric relationships	
Topic 2- Atomic structurs	Topic 12- Atomic structurs
Topic 3- Periodicity	Topic 13- The periodic table-the transition metals
Topic 4- Chemical bonding and structure	Topic 14- Chemical bonding and structure
Topic 5- Energetics/Thermochemistry	Topic 15- Energetics/Thermochemistry
Topic10-Organic Chemistry	Topic 20- Organic Chemistry
Topic 11-measurement and data processing	Topic 21- Measurement and analysis

Year 2

CORE	ADDITIONAL HIGHER LEVEL
Topic 6- Chemical kinetics	Topic 16- Chemical kinetics
Topic 7- Equilibrium	Topic 17- Equilibrium
Topic 8- Acids and bases	Topic 18- Acids and bases
Topic 9- Redox processes	Topic 19- Redox processes
Option B- Biochemistry B1,B2,B3, B4, B5, B6	Option B-: Biochemistry B7, B8, B9, B10

Books and links-

- *Pearson Baccalaureate Chemistry [Cartin Brown & Mike Ford]*
- *IB Diploma Chemistry Course Companion [Geoffrey Neuss]*
- *Chemistry for the IB Diploma [Steve Owen]*

Topic 2 & 12: http://www.avogadro.co.uk/light/bohr/spectra.htm

http://www.shodor.org/chemviz/ionization/students/background.htm

Topic 3 & 13: **http://www.chemguide.co.uk/inorganic/complexions/colour.html**

http://www.chemguide.co.uk/physical/catalysis/introduction.html

Topic 4 & 14: lawrencekok.blogspot.com/.../**ib**-chemistry-on-**energetics**-enthalpy.ht...

Topic 5 &15: lawrencekok.blogspot.com/.../**ib**-chemistry-on-**energetics**-enthalpy.ht...

Topic 6 &16, Topic 7 & 17, Topic 8 & 18 : **http://www.chemguide.co.uk**

Topic 9 & 19 : lawrencekok.blogspot.com/.../**ib**-chemistry-on-**energetics**-enthalpy.ht...

Topic 10 & 20 : lawrencekok.blogspot.com/.../**ib**-chemistry-on-**energetics**-enthalpy.ht...

http://www.chemguide.co.uk

Assessment objectives :

These assessments will centre upon the nature of science. It is the intention of these courses that students are able to fulfill the following assessment objectives:

1. Demonstrate knowledge and understanding of:

a. facts, concepts and terminology
b. methodologies and techniques
c. communicating scientific information

2. Apply :

a. facts, concepts and terminology
b. methodologies and techniques
c. communicating scientific information

3. Formulate, analyse and evaluate :

a. hypotheses, research questions and predictions
b. methodologies and techniques
c. primary and secondary data
d. scientific explanations.

4. Demonstrate the appropriate research, experimental and personal skills necessary to carry out insightful and ethical investigations.

Assessment outline- SL

Component	Marks	Overall weighting(%)	Approximate weighting of objectives (%)		Duration (hours)
			1+2	3	
Paper 1	30	20	10	10	¼
Paper 2	50	40	20	20	1¼
Paper 3	35	20	10	10	1
Internal assessment	24	20	Covers objectives 1,2,3 and 4		10

Assessment outline- HL

Component	Marks	Overall weighting(%)	Approximate weighting of objectives (%)		Duration (hours)
			1+2	3	
Paper 1	40	20	10	10	1
Paper 2	95	36	18	18	2¼
Paper 3	45	24	12	12	1¼
Internal assessment	24	20	Covers objectives 1,2,3 and 4		10

Internal Assessment Criteria

It is based in individual investigation on one particular topic . this assessment covers assessment objectives 1,2,3 and 4.

The investigation should cover a topic that is commensurate with the level of the course study.

Student work is internally assessed by the teacher and externally moderated by the IB. The performance in internal assessment at both SL and HL is marked against common assessment criteria , with a total mark out of 100. The write-up for the investigation should be about 6 to 12 pages long. Investigations exceeding this length will be penalized in the communication criteria as lacking in conciseness.

The new assessment model uses five criteria to assess the final report of the individual investigation with the following raw marks and weightings assigned :

Personal engagement	Exploration	Analysis	Evaluation	Communication	Total
2 (8%)	6 (25%)	6 (8%)	6 (8%)	4 (17%)	24 (100%)

Practical Scheme of work

The practical scheme of work (PSOW) is the practical course planned by the teacher and acts as a summary of all thye investigative activities carried out by a student. Students at SL and HL may carry out some of the same investigations.

List of PSOW s are as follows :

Topic 1. Determination of percentage of water in hydrated salts and thereby determining the molecular formula of the hydrated salt.

Topic 2. Determination of vitamin C content in packed fruit juices by volumetric titration using starch and iodine solution

Topic 3. Determination of enthalpy change in the hydration of anhydrous magnesium sulphate applying Hess's law.

Topic 4. Determination of enthalpy of neutralization of phosphoric acid.

Topic 5. To study the effect of change in various factors on the rate of a chemical reaction.

Topic 6. Determination of equilibrium constant for the reaction between ferric ion and thiocyanate ion.

Topic 7. Drawing pH titration curve for the titration of a strong acid with a strong base.

Topic 8. To investigate a factor affecting the electrode potential of a voltaic cell.

Group 4 project

The group 4 project is a 10 hour collaborative activity where students from different group 4 subjects work together on a scientific or technological topic, allowing for concepts and perceptions from across the disciplines to be shared in line to —develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge‖.

The group 4 project allows students to appreciate the environmental, social and ethical implications of science and technology. It may also allow them to understand the limitations of scientific study.

The choice of scientific or technological topic is open but the project should clearly address aims 7, 8 and 10 mentioned above.

There are three stages of the project-

(a)Planning- 2 hours

- Selection of topic
- Activities to be carried out must be clearly defined

(b)Action- 6 hours

- Students investigate the topic in mixed-subject groups or single-subject groups.
- There should be collaboration during the action stage; findings of investigations should be shared with other students within the mixed/single-subject group. During this stage, in any practically-based activity, it is important to pay attention to safety, ethical and environmental considerations.

(c)Evaluation – 2 hours

- Students share their findings, both successes and failures in the form of presentation A

reflective statement is written by each student on their involvement in the group 4 project.

IB DP BATCH 2016-18 -DEADLINES

TASK	SUBMISSION/DEADLINE
PSOW Yr1	10th August 2016
PSOW Yr 1	11th-12th November 2016
Group 4 project discussion Yr1	15th December 2016
Group 4 project execution	13th-15th January 2017
Group 4 project presentation Yr1	1st-2nd February 2017
Exploration 1st draft Yr 1	20th-21st April 2017
Exploration 2nd draft Yr 1	7th-8th October 2017
FINAL PSOW Yr2	11th-12th November 2017
Exploration Final draft Yr 1	17th December 2017

BIOLOGY SL & HL

Biologists attempt to understand the living world at all levels using many different approaches and techniques. At one end of the scale is the cell, its molecular construction and complex metabolic reactions. At the other end of the scale biologists investigate the interactions that make whole ecosystems function.

There are a variety of approaches to the teaching of biology. By its very nature, biology lends itself to an experimental approach, and it is expected that this will be reflected throughout the course.

Aims

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.

Syllabus outline:

Higher level (240 hours)

- Internal assessment (individual investigation): 20%
- External assessment: 80%

Standard level (150 hours)

- Internal assessment (individual investigation): 20%
- External assessment: 80%

Syllabus break up IBDP Yr 1

Topic No.	Topic from SL	Topic from HL	Month
4	Ecology		July 2016
Option C	Ecology and Conservation	Ecology and Conservation	July2016
1 and 9	Cell Biology - Introduction to cells Ultra structure of cells Membrane structure	Plant Biology - Transport in the Xylem of plants. Transport in the Phloem of plants.	August 2016
6 and 11	Human Physiology - The Blood System Digestion and absorption Gas Exchange Homeostasis	Human Physiology- Movement The Kidney and osmoregulation	September 2016 October 2016 November 2016
2	Molecular biology- Molecules to metabolism Water		December 2016
2	Carbohydrates and Lipids Proteins Enzymes		January 2017
2 and 8	Cell Respiration Photosynthesis	Cell Respiration Photosynthesis	February 2017
1 and 3	Cell Biology- The origin of cells Cell Division Genetics- Genes Chromosomes Meiosis Inheritance Genetic modification and biotechnology	 Meiosis Inheritance Gene pool and Speciation	March 2017 April –May 2017
9		Plant Biology- Growth in Plants Reproduction in Plants	June 2017

Syllabus break up IBDP Yr 2

Topic No.	Topic from SL	Topic from HL	Month
2 and 7	Molecular Biology - Structure of DNA and RNA DNA replication Transcription and Translation	Nucleic Acids- DNA structure Replication Transcription and gene expression Translation	July – August 2017
5	Evolution and Biodiversity		September-October 2017
6 and 11	Human Physiology – Neurons and Synapses Hormones Reproduction Defense against infectious diseases	Animal Physiology - Sexual reproduction Antibody production and Vaccination	 November 2017 December 2017 January 2018
	Revision		February 2018

Practical Work

Introduction

Practical work is a vital and integral part of group 4 science courses, providing students with experience of investigative and experimental activities within and outside the classroom. It enables them to develop a wide range of skills such as investigation, design, manipulative skills, data processing and analysis, evaluation, teamwork and communication. The opportunity to undertake investigations and hands-on experimentation allows them to engage in many of the processes encountered by scientists, and to appreciate the nature of scientific thought and investigation.

Teachers will develop a **practical scheme of work (PSOW)** for each class that will be recorded on Form 4: PSOW. For an SL only class or an HL only class, only one 4/PSOW is required, but for a mixed SL/HL class, separate 4/PSOW forms are required for SL and HL. **This will provide a record of all practical work completed, including prescribed practicals, the group 4 project, internal assessment work and all other activities that cover the breadth of the programme, including the options.** Teachers will be required to indicate on the form where the ICT skills have been used in the PSOW and also record the time allocated to the practical work done.

Prescribed practicals

Included in the ―Applications and skills‖ sections of the guide are a series of practicals that students must cover either in a laboratory environment or as a simulation. The skills and general techniques associated with these common practicals may be assessed as part of the external assessment. The list of required practicals for biology is shown in the table below:

Topic 1.1	Use of a light microscope to investigate the structure of cells and tissues, with drawing of cells. Calculation of the magnification of drawings and the actual size of structures and ultrastructures shown in drawings or micrographs. (Practical 1)
Topic 1.4	Estimation of osmolarity in tissues by bathing samples in hypotonic and hypertonic solutions. (Practical 2)
Topic 2.5	Experimental investigation of a factor affecting enzyme activity. (Practical 3)
Topic 2.9	Separation of photosynthetic pigments by chromatograph. (Practical 4)
Topic 4.1	Setting up sealed mesocosms to try to establish sustainability. (Practical 5)
Topic 6.4	Monitoring of ventilation in humans at rest and after mild and vigorous exercise. (Practical 6)
Topic 9.1	Measurement of transpiration rates using potometers. (Practical 7- HL)

The table shows that each of the prescribed practicals covers an area of investigative work that can be approached in a variety of ways, depending on individual circumstances and needs. For example, practical 3, enzyme activity could look at the effect of enzyme or substrate concentration, temperature, pH or inhibitors on enzyme action. There are also several different methods for assessing enzyme action with different enzymes or substrates. As such, the prescribed programme contains a degree of flexibility that allows for the local circumstances or constraints.

Additional practical work

The entire practical programme of work will take a **minimum of 40 hours for SL courses, and 60 hours for HL. Included in this time allocation are 10 hours for the group 4 project and 10 hours for the completion of the internal assessment task, as well as the prescribed practicals and other practical activities.**

As part of an inquiry-based learning programme, teachers will be able to incorporate other practical tasks that enhance learning into their teaching. These might include simulations, computer-based modelling and investigations, as well as more traditional types of activities such as demonstrations.

List of other practical works to be carried out during the course of study for two years as per the corresponding chapters. The report for each work to be submitted over the corresponding weekend when the practical is conducted in the class.

Internal assessment details

Duration: 10 hours
Weighting: 20%

External assessment details—SL

Paper 1

Duration: ¾ hour
Weighting: 20%
Marks: 30
- 30 multiple-choice questions on core material, about 15 of which are common with HL.
- No marks are deducted for incorrect answers.

Paper 2

Duration: 1¼ hours
Weighting: 40%
Marks: 50
- Data-based question.
- Short-answer and extended-response questions on core material.
- One out of two extended response questions to be attempted by candidates.

Paper 3

Duration: 1 hour
Weighting: 20%
Marks: 35
- This paper will have questions on core and SL option material.
- Section A: candidates answer all questions, two to three short-answer questions based on experimental skills and techniques, analysis and evaluation, using unseen data linked to the core and AHL material.
- Section B: short-answer and extended-response questions from one option.

External assessment details—HL

Paper 1

Duration: 1 hour
Weighting: 20%
Marks: 40
- 40 multiple-choice questions on core and AHL material, about 15 of which are common with SL.
- No marks are deducted for incorrect answers.

Paper 2

Duration: 2¼ hours
Weighting: 36%
Marks: 72
- Data-based question.
- Short-answer and extended-response questions on core and AHL material.
- Two out of three extended response questions to be attempted by candidates.

Paper 3

Duration: 1¼ hours
Weighting: 24%
Marks: 45
• Section A: candidates answer all questions, two to three short-answer questions based on experimental skills and techniques, analysis and evaluation, using unseen data linked to the core material.
• Section B: short-answer and extended-response questions from one option.

Resources

Books –

- Biology for the IB Diploma (second edition) – Brenda Walpol
- Pearson Baccalaureate: Higher Level Biology for the IB Diploma (Pearson International Baccalaureate Diploma: International Editions) Paperback –
  by William Ward (Author), Randy McGonegal (Author), Patricia Tosto (Author), Alan Damon (Author)
- IB Biology Course Book: 2014 Edition: Oxford IB Diploma Program Paperback – April 1, 2014
  by Andrew Allott (Author), David Mindorff (Author)
- IB Biology: Study Guide: For the IB diploma (IB Diploma Program) Paperback –
  by Andrew Allott (Author)
- IB Biology – by C.J.Clegg

Websites –

http://ibcb.ca/eereportexemplar.php

http://www.nbchs.lskysd.ca/node/628

http://www.saburchill.com/IBbiology/chapters01/001.html

http://commackibbio.blogspot.in/

http://ibbiologyhelp.com/MainPage/index.html

http://www.nuffieldfoundation.org

ENVIRONMENTAL SYSTEMS AND SOCIETIES SL

Environmental Systems and Societies, a transdisciplinary subject, is intended to combine the techniques and knowledge associated with group 4 with those of group 3.

The course begins with an introduction to the systems' approach, which describes the various models of systems in our environment. A detailed study of ecosystems and biomes is taken up next. The other concepts that are elaborated on include population dynamics and resource use, conservation and biodiversity, and pollution management.

The issue of global warming and other environmental value systems are also included in detail. At THS, we focus on various case studies and their relevance to the local environment. Field work is considered an integral part of the course.

Assessment includes written examinations with short answers and data-based question. Students are presented with a range of data in a variety of forms related to a specific case study. Students make reasoned and balanced judgements by analyzing the data. Students also do practical work and fieldwork.

This subject provides students with a logical perception of the interrelationships between environmental systems and societies, which enables them to take on an informed approach to confront the wide range of environmental issues that they come to face in real life. It is intended that students develop a sound understanding of the interrelationships between environmental systems and societies, rather than a simple appreciation of environmental issues.

YEAR 1

1.Topic 1 : Foundation of Environmental Systems and Societies	**July-August**	**1.Prey-predator relationship 2.Visit to West Bengal Pollution Control Board.**	**1. 1.2 2. 1.5**
2.Topic 2 : Ecosystems and Ecology	September-October-November	1. Study of succession by simulation on bread. 2. Lincoln Index 3. Quadrat	1. 2.4 2. 2.5 3. 2.5
3.Topic 3 : Biodiversity and Conservation	1st half December, January	1.Simpson's Diversity Index	1. 2.5 and 3
4.Topic 4 : Water and aquatic food production systems and societies	February-March	1.Water samples testing from various sources	1. 4.4
REVISION AND PSOW LAB REPORTS FINAL SUBMISSION	April-May-June		
All the PSOW Lab Reports have to be submitted 1week after the Lab work. Some more PSOWs might be added later.			

YEAR 2:-

Syllabus to be covered	Time	Respective PSOWs to be completed	Subtopics covered by the PSOWs
1. Topic 5 : Soil systems and terrestrial food production systems and societies. **2.ESS Exploration work (IA)**	July-August	1. Soil analysis from different sources	1. 5.3
2.Topic 6 : Atmospheric systems and societies	September-October	1. Air pollution test 2. Acid rain experiment	1. 6.1,6.2,6.3 2. 6.4
3.Topic 7 : Climate change and energy production	November-1st half of December	1. Global warming 2. Factory visit or Energy audit	1. 7.2
4.Topic 8 : Human systems and resource Use	January-February	1. Human Population Dynamics 2. Waste audit 3. Ecological footprint	1. 8.1 2. 8.3 3. 8.4
REVISION	2nd Half of March		1.
All the PSOW Lab Reports have to be submitted 1week after the Lab work **ESS exploration work begins by April 2016** **IA First draft submission by October 2016** **IA Final draft submission by December 2016**			

BOOKS TO BE REFERRED:-

1. Pearson Environmental Systems and Societies by Andrew Davis and Garrett Nagle.
2. Cambridge IB Environmental Systems and Societies
3. Environmental Systems and Societies Course Companion: Jill Rutherford
4. IB Environmental Systems & Societies: Oxford IB Diploma Program

LINKS:-

1. Slideshare
2. TES
3. OCC Website
4. Youtube
5. https://sites.google.com/a/ccsd.edu/ib-environmental/home/assignments/resources
6. http://envirohome.wikispaces.com/IB+ESS+EXAM+NOTES
7. http://sciencebitz.com/
8. http://shefferlyscience.yolasite.com/sr-notes.php
9. https://sites.google.com/a/ccsd.edu/ib-environmental/home/assignments/resources

SYLLABUS CONTENT

Syllabus component	Recommended teaching hours
Core content	**120**
Topic 1—Foundations of environmental systems and societies	16
Topic 2—Ecosystems and ecology	25
Topic 3—Biodiversity and conservation	13
Topic 4—Water and aquatic food production systems and societies	15
Topic 5—Soil systems and terrestrial food production systems and societies	12
Topic 6—Atmospheric systems and societies	10
Topic 7—Climate change and energy production	13
Topic 8—Human systems and resource use	16
Practical scheme of work	**30**
Practical activities	20
Individual investigation	10
Total teaching hours	**150**

Syllabus component
Topic 1: Foundations of environmental systems and societies
1.1 Environmental value systems
1.2 Systems and models
1.3 Energy and equilibria
1.4 Sustainability
1.5 Humans and pollution
Topic 2: Ecosystems and ecology
2.1 Species and populations
2.2 Communities and ecosystems
2.3 Flows of energy and matter
2.4 Biomes, zonation and succession
2.5 Investigating ecosystems
Topic 3: Biodiversity and conservation
3.1 An introduction to biodiversity
3.2 Origins of biodiversity
3.3 Threats to biodiversity
3.4 Conservation of biodiversity
Topic 4: Water and aquatic food production systems and societies
4.1 Introduction to water systems
4.2 Access to fresh water
4.3 Aquatic food production systems
4.4 Water pollution
Topic 5: Soil systems and terrestrial food production systems and societies
5.1 Introduction to soil systems
5.2 Terrestrial food production systems and food choices
5.3 Soil degradation and conservation
Topic 6: Atmospheric systems and societies
6.1 Introduction to the atmosphere
6.2 Stratospheric ozone
6.3 Photochemical smog
6.4 Acid deposition

ASSESSMENT OUTLINE

Assessment component	Weighting (%)	Approximate weighting of objectives in each component (%)		Duration (hours)
		1 and 2	3	
Paper 1 (case study)	25	50	50	1
Paper 2 (short answers and structured essays)	50	50	50	2
Internal assessment (individual investigation)	25	Covers objectives 1, 2, 3 and 4		10

COMPUTER SCIENCE HL & SL

2. Aims of the Subject :

Diploma Programme computer science students should become aware of how computer scientists work and communicate with each other and with other stakeholders in the successful development and implementation of IT solutions. While the methodology used to solve problems in computer science may take a wide variety of forms, the group 4 computer science course emphasizes the need for both a theoretical and practical approach.

3. Syllabus to be taught – Breakup year wise

Month: JULY 1ST YEAR	No. Of week : 3 wks (12 hours) 6 hours
Topic 2 : Computer Organization	
Sub Unit1 : **Computer Architecture**	Hours
Block diagram of CPU,input unit, Output unit,ALU,CU, storage, Relationship with above units, Working of MDR (Memory Data register), Working of MAR (Memory Address register), Primary Memory, Cache Memory, Machine Instruction Cycle, RAM, ROM, How an instruction is processed.	
Sub Unit2 : **Secondary Memory**	Hours
Need for persistent storage, How a non-volatile device work, HDD, FDD, Pendrive functioning	
Sub Unit3 : **Operating systems and application systems**	Hours
Features of operating system, Functions of Operating systems, Outline use of Application softwares, Identify common features of applications, Toolbars,menus,dialogue boxes, GUI	
Sub Unit4 : **Binary representation**	Hours
Bit, bite, binary, decimal, hexadecimal, Data Representation, Show how it happens with Strings,integers,characters, colours, ASCII, ISCII, Unicode, 2's Complement Representation	
Sub Unit5 : **Simple Logic Gates**	Hours
Define the Boolean operators: AND, OR, NOT, NAND, NOR and XOR, truth tables	
Month: August- December 1ST YEAR	No. Of week : 12 wks (48 hours) 45 hours
Topic 4 : Computational thinking, problem-solving and programming (45 hours)	
Sub Unit1 : **Use of programming languages (1)**	Hours
Define the terms: variable, constant, operator, object. Define the operators =, ≠, <, <=, >, >=,mod, div. use of variables, constants and operators in algorithms. using loops,branching.	
Sub Unit2 : **Use of programming languages (2)**	Hours
using loops,branching.	
Sub Unit3 : **Use of programming languages (3)**	Hours
Class and objects , functions. using predefined sub-programmes	

Sub Unit4 : **Use of programming languages (4)**	hours
one dimensional arrays and/or collections Searching (Linear and sequential), Sorting	
Month: January- February1ST YEAR	No. Of week : 8 wks (32 hours) 23 hours
Topic 5—Abstract data structures	
Sub Unit1 : **Thinking recursively**	hours
Recursive function, Object creation inside class.	
Sub Unit2 : **Abstract data structures**	hours
Two dimensional Array Stack, queue, enqueue, dequeue	
Sub Unit3 : **Linked list**	hours
features and characteristics of a dynamic data structure. linked lists (single, double and circular).	
Sub Unit4 : **Trees**	hours
Students are not expected to construct tree algorithms using pseudocode Definition the terms: parent, left-child,right-child, subtree, root and leaf. The result of inorder, postorder and preorder tree traversal. Sketch binary tree. Definition of dynamic data structure. Compare the use of static and dynamic data structures.	
Month: March April 1st YEAR	No. Of week : 12 wks (48 hours) 45 hours
Topic D—Object-oriented programming	
Sub Unit1 : **Objects as a programming concept**	6 hours
An object as an abstract entity and its components—data and actions. Distinguish between an object (definition, template or class) and instantiation. Construct unified modelling language (UML) diagrams to represent object designs. Interpret UML diagrams. The relationships (*dependency(—uses‖), aggregation (—has a‖) and inheritance (—is a‖)*) between objects for a given problem. Concept of data types (integer, real, string and Boolean only). Parameters (pass by-value only) for one of the above four types. Actions may return at most one data item.	
Sub Unit2 : **Features of OOP**	4 hours
Encapsulation, Inheritance, Polymorphism. Advantages of modularity in program development. Use of programming teams. Advantages of libraries of objects (*For example, sorts and other complex algorithms and processes do not have to be —re-invented‖.*) The disadvantages of OOP(*For example, increased complexity for small problems; unsuited to particular classes of problem*)	
Sub Unit3 : **Program development**	20 hours
Definition of class, identifier,primitive, instance variable, parameter,variable, local variable. Definition of method, accessor,mutator, constructor, signature, return value. Definition of private, protected,public, extends, static. uses of the primitive datatypes and the reference class string. Selection statements (simple and compound if … else constructs.)	

Repetition statements (for, while or do … while loops) Static arrays Use of UNICODE character sets Ethical and moral obligations of programmers JLETS to be consulted	
Month: JUNE-AUGUST 2ND YEAR	No. Of week : 6 wks (20 hours) 24 hours
Topic 1.1—System fundamentals (20 hours)	
Sub Unit1 : Planning and system installation	hours
Organizational issues related to the installation of new systems such as user roles, underlying technologies. Describe the need for change management. factors that need to be managed to ensure change is successful. Issues of software compatibility and language differences including legacy systems or business mergers The benefits and drawbacks of SaaS (Software-as-a-Service). Client's hardware with hosting systems remotely. Effects on end-users when the remote host is in a different time zone. Evaluate alternative installation processes. Parallel running, pilot running, direct changeover and phased conversion. Training issues may require organizations to restructure their workforce. Discuss problems that may arise as a part of data migration. These include incompatible file formats, data structures, validation rules, incomplete data transfer and international conventions on dates,currencies and character sets. Suggest various types of testing. Types of testing can include: user acceptance testing, debugging, beta testing. Testing process and reducing costs.	
Sub Unit2 : User Focus	hours
importance of user documentation. Different methods of providing user documentation. Include methods such as: help files, online support and printed manuals. How documentation can affect the rate of implementation of the new system? Evaluate different methods of delivering user training (include self instruction, formal classes, remote/online training.	
Sub Unit3 : System backup	hours
Causes of data loss. Include malicious activities and natural disasters. Consequences of data loss in a specified situation like medical records,cancellation of a hotel reservation. methods used to prevent data loss include failover systems, redundancy, removable media, offsite/online storage.	
Sub Unit3 : Software Deployment	hours
Describe strategies for managing releases and updates. variety of ways in which updates and patches are made available and deployed. This includes automatic updates received on a regular basis online.	
Month: JUNE-AUGUST 2ND YEAR	No. Of week : 3 wks (10 hours) 12 hours
Topic 1.2—System design basics (10 hours)	
Sub Unit1 : Components of a computer system	hours

Define the terms: hardware, software, peripheral, network, human resources. Describe the roles that a computer can take in a networked world. Discuss the social and ethical issues associated with a networked world.

Sub Unit2 : System design and analysis	Hours
Relevant stakeholders when planning a new system, methods of obtaining requirements from stakeholders(including surveys, interviews, direct observations), techniques for gathering the information needed to arrive at a workable solution (Examining current systems,competing products, organizational capabilities, literature searches), representations to illustrate system requirements (include system flow charts, data flow diagrams, structure chart), importance of iteration during the design process (Design cycle), possible consequences of failing to involve the end-user in the design process, social and ethical issues associated with the introduction of new IT systems.	

Sub Unit2 : Human interaction with the system	hours
Define the term usability (includes ergonomics and accessibility)- usability problems with commonly used digital devices (including PCs, digital cameras,cell phones, games consoles, MP3 players)- improve the accessibility of systems (include touch screen,voice recognition, text-to-speech,Braille keyboard)- usability problems that can occur in a system (include ticketing,online payroll, scheduling, voice recognition, systems that provide feedback)- the moral, ethical, social,economic and environmental implications of the interaction between humans and machines.	

Month: Sept 2nd YEAR	No. Of week : 3 wks (12 hours) 9 hours
Topic 3 : Networks	

Sub Unit1 : **Network fundamentals**	Hours
Construction of standard network, hardware software (Compatibility). Identify different types of networks, (LAN), (VLAN), (WAN),(SAN), (WLAN), internet,extranet, (VPN),(PAN),(P2P). OSI seven layer model (Awareness only functioning not required.) The use of a VPN has led to changes in working patterns. Evaluate use of VPN, Technology required to provide VPN	

Sub Unit2 : **Data Transmission**	Hours
Terms: protocol, data packet, necessity of protocol, data integrity, flow control, deadlock, congestion, error checking. speed of data transmission across a network, Data compression and transmission, characteristics of different transmission media (include: speed, reliability, cost and security) Transmission media include: metal conductor, fibre optic, wireless. transmitted by packet switching.	

Sub Unit3 : **Wireless networking**	Hours
Advantages and disadvantages of wireless networks (changes in working patterns, social activities and raised health issues), hardware and software components of a wireless network. Describe the characteristics of wireless networks. (WiFi; Worldwide Interoperability for Microwave Access (WiMAX); 3G mobile; future networks. Describe the different methods of network security. encryption types, userID, trusted media access control (MAC) addresses. Evaluate the advantages and	

disadvantages of each method of network security.	
Month: Oct-2nd YEAR	No. Of week : 2 wks (8 hours) 8 hours
Topic 6—Resource management	
Sub Unit1 : **System resources**	hours
Resources that need to be managed within a computer system. Primary memory, secondary storage,processor speed, bandwidth, screen, resolution, disk storage, sound processor, graphics processor,cache, network connectivity. *Evaluate the resources available in a variety of computer systems*. mainframes, servers, PCs, sub-laptops, as well as personal digital devices such as cell phones, PDAs and digital cameras *Describe the possible problems resulting from the limitations in the resources in a computer system*.	
Sub Unit2 : **Role of the operating system**	hours
The role of the operating system in terms of managing memory, peripherals and hardware interfaces, scheduling, policies,multitasking, virtual memory, paging, interrupt, polling.	
Month: Nov-2nd YEAR	No. Of week : 4 wks (16 hours) 14 hours
Topic 7—Control	
Sub Unit1 : **Centralized control systems**	hours
Control Systems to be discussed: Automatic doors, heating systems, taxi meters, elevators, washing machines, process control, device drivers, domestic robots, GPS systems, traffic lights. *Technical knowledge of specific systems is not expected* Uses of microprocessors and sensor input in control systems. Evaluate different input devices for the collection of data. Relationship between a sensor, the processor and an output transducer. *Technical hardware details are not expected* Social impacts and ethical considerations associated with the use of embedded systems. tagging prisoners,surveillance, CCTV, improved safety systems.	
Sub Unit1 : **Distributed systems**	hours
Compare a centrally controlled system with a distributed system. Role of autonomous agents acting within a larger system.	

4. Books to be referred & imp links – Computer Science Java Enabled – by Andrew Meyenn and Richard Jones

5. Assessment Components :

COMPUTER SCIENCE SL

Assessment component	Weighting
External assessment (2 hours 30 minutes) **Paper 1 (1 hour 30 minutes)** Paper 1 is an examination paper consisting of **two compulsory sections**. • Section A (30 minutes approximately) consists of several **compulsory** short answer questions. The maximum mark for this section is 25. • Section B (60 minutes approximately) consists of three **compulsory** structured questions. The maximum mark for this section is 45. (70 marks) **Paper 2 (1 hour)** Paper 2 is an examination paper linked to the option studied. The paper consists of between two and five **compulsory** questions. (45 marks) **Calculators:** The use of calculators is **not** permitted in any computer science examination.	70% 45% 25%
Internal assessment (40 hours) This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. **Solution (30 hours)** The development of a computational solution. Students must produce: • a cover page that follows the prescribed format • a product • supporting documentation (word limit 2,000 words). (34 marks) **Group 4 project (10 hours)** To be assessed using the criterion Personal skills. (6 marks) (total 40 marks)	30%

COMPUTER SCIENCE HL

Assessment component	Weighting
External assessment (4 hours 30 minutes) **Paper 1 (2 hours 10 minutes)** Paper 1 is an examination paper consisting of **two compulsory sections**. • Section A (30 minutes approximately) consists of several **compulsory** short answer questions. The maximum mark for this section is 25. • Section B (100 minutes approximately) consists of five **compulsory** structured questions. The maximum mark for this section is 75. (100 marks) **Paper 2 (1 hour 20 minutes)** Paper 2 is an examination paper linked to the option studied. The paper consists of between three and seven **compulsory** questions. The SL/HL core questions are common and worth 45 marks, HL extension is worth 20 marks. (65 marks) **Paper 3 (1 hour)** Paper 3 is an examination paper of **1 hour** consisting of **four compulsory** questions based on a pre-seen case study. (30 marks) **Calculators:** The use of calculators is **not** permitted in any computer science examination.	**80%** **40%** **20%** **20%**

Assessment component	Weighting
Internal assessment (40 hours) This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. **Solution (30 hours)** The development of a computational solution. Students must produce: • a cover page that follows the prescribed format • a product • supporting documentation (word limit 2,000 words). (34 marks) **Group 4 project (10 hours)** To be assessed using the criterion Personal skills. (6 marks) (total 40 marks)	**20%**

6. Nature of IA

Internal assessment is an integral part of the course and is compulsory for both SL and HL students. It enables students to demonstrate the application of their skills and knowledge, and to pursue their personal interests, without the time limitations and other constraints that are associated with written examinations. The internal assessment should, as far as possible, be woven into normal classroom teaching and not be a separate activity conducted after a course has been taught.

The internal assessment requirements at SL and at HL are the same. However, these requirements contribute to a different percentage of the overall mark. Students are required to produce a solution that consists of a cover page, the product and the documentation. The focus of the solution is on providing either an original product or additional functionality to an existing product for a client.

The internal assessment component (solution), as well as being practical and productive, forms an important part of the assessment of the computer science course. It is imperative, therefore, that the teacher provides appropriate guidance to students.

7. No. of IA to be conducted in Year 1: None

8. No. of IA to be conducted in Year 2: One

9. Group 4 Project Details

The group 4 project is a collaborative activity where students from different group 4 subjects work together on a scientific or technological topic, allowing for concepts and perceptions from across the disciplines to be shared. This is to encourage an understanding of the relationships between scientific disciplines and the overarching nature of the scientific method. The project can be practically or theoretically based. Collaboration between schools in different regions is encouraged.

The group 4 project allows students to appreciate the environmental, social and ethical implications of science and technology. It may also allow them to understand the limitations of scientific study, for example, the shortage of appropriate data and/or the lack of resources. The emphasis is on interdisciplinary cooperation and the processes involved in scientific investigation, rather than the products of such investigation.

The choice of scientific or technological topic is open but the project should clearly address the group 4 aims 7, 8 and 10 of the computer science subject guide.

Ideally, the project should involve students collaborating with those from other group 4 subjects at all stages. To this end, it is not necessary for the topic chosen to have clearly identifiable separate subject components. However, for logistical reasons some schools may prefer a separate subject “action” phase (see the following “Project stages” section).

10. Deadlines

First draft of IA : Oct 2017 for May 2018 batch

Final IA & Group 4 projects : Dec 2017 for May 2018 batch

Group V – Mathematics

Mathematics in IBDP Mathematics aims to enable students to develop an appreciation for the elegance and power of the subject. The subject also helps to develop logical, critical and creative thinking, and hone their patience and persistence in problem solving.

Mathematics is a compulsory subject in IBDP and we offer three different levels of rigour in preparing the student for their University education. Over the two-year period, the student is able to explore the subject in depth or at a broader level. Although students initially opt for the level required, we test their knowledge in the subject and allot the appropriate level so that learning is not only challenging but also enjoyable.

Mathematics HL

Math HL caters for students with a good background in mathematics who are competent in a range of analytical and technical skills. The main components and topic covered in this program with the maximum time allotted is as follows:

Algebra (30 Hrs), Function and equations (22 Hrs), Circular functions and trigonometry (22 Hrs), Vectors (24 Hrs), Statistics and probability (36 Hrs), Calculus (48 Hrs).

Along with the above mentioned topics students must study all the sub-topics in one of the following options: (time allotted for each option is 48 Hrs)

- Statistics and probability,
- Sets, relations and groups,
- Calculus,
- Discrete mathematics

Exploration: (10 Hrs)

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

Assessment details (IA and EA):

Option time is increased to 48 hours, core time reduced by 8 hours.
The examination papers contain assessment of inquiry and modeling approaches.
For the internal assessment component, students undertake a single exploration.

Assessment Criteria:

External assessment (EA) - Weightage 80%

Core paper 1 (2 Hours)- No Calculator permitted	(Weightage-30%)
Core paper 2 (2 Hours)- Graphic Display Calculator permitted	(Weightage-30%)
Option paper 3 (1 Hours)- Graphic Display Calculator permitted	(Weightage-20%)

Internal assessment (IA) - Weightage 20%

IA-Exploration: (10 Hrs)

In exploration a student should develop his or her own focus with the teacher providing feedback via, for example, discussion, interview and drafting. It should allow the students to develop an area of interest for them without a time constraint as in an examination, and allow all to experience a feeling of success.

The exploration is also intended to provide students with opportunities to increase their understanding of mathematical concepts and processes, and develop a wider appreciation of mathematics. By doing the exploration, students benefit from the mathematical activities undertaken and find them both stimulating and rewarding. It will enable the development of learners who match the IB learner profile.

Mathematics SL

Math SL 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 expect to need a sound mathematical background as they prepare for future studied in subjects such as chemistry, economics, psychology and business administration.

The internally assessed component, the exploration, offers students the opportunity for developing independence in their mathematical learning. Students are encouraged to take a considered approach to various mathematical activities and to explore different mathematical ideas. The exploration allows students to develop the skills they need for communicating mathematical ideas.

SUBJECT OUTLINE:

A. Algebra
B. Functions and equations
C. Circular functions and trigonometry
D. Vectors
E. Statistics & Probability

SYLLABUS BREAK UP YEAR WISE:

YEAR 1:

A) Algebra:

i) Arithmetic sequence and series, sum of finite series, geometric Sequence and series, sum of finite and infinite geometric series, sigma notation .

ii) Elementary treatment of exponents and logarithms. Laws of logarithms. Change of base rule.

iii) Binomial theorem: Expansion of $(a+b)^n, n \in N$. Calculation of binomial coeff using Pascal's triangle and $\binom{n}{r}$.

B) Functions and Equations:

i)Concept of function, its domain, range, image values. Composite functions, Identity function and inverse of a function.

ii)Graph of a function y= f(x) , graph of inverse functions as the reflection in the line y=x

iii) Transformation of graphs: Translations. Reflections, vertical shift, vertical stretch, horizontal shift, horizontal stretch, composite transformations.

iv) Quadratic function: its graph, axis of symmetry, y- intercept, different forms of quadratic functions.

v) reciprocal functions and its graph and self inverse nature. The rational functions and its graph, vertical and horizontal asymptotes.

vi) Exponential functions and their graphs, logarithmic functions and their graphs. Relations between these functions.

vii) solving equations both graphically and analytically. Use of technology to solve a variety of equations including those where there is no proper analytic approach, Solving quadratic equation by various methods, nature of roots, solving exponential and logarithmic equations.

viii)Application of graphing skills and solving equations that relate to real life situations.

C) Statistics and probability:

i)Concept of population, sample, random sample, discrete and continuous data, presentation of data, box and whisker plot, outliers,grouped data.

ii)Statistical measures and their interpretations, central tendency, dispersion, effect of constant changes to the original data, and their applications.

iii) Cumulative frequency graphs and their interpretations

iv) Linear correlation of bivariate data. Pearson's product – moment correlation coefficient. Scatter diagram, line of best fit, equation of regression line y on x. Use of equation for prediction purpose, Mathematical and contextual Interpretation.

v) Concept of trial, outcome , equally likely outcomes, sample space, event. Probability of an event, complementary events, use of venn diagrams, tree Diagrams and tables of outcomes.

vi) combined events, mutually exclusive events, conditional probability, independent events, probabilities with and without replacement.

vii) Concept of random variables and their probability distributions, expected values for discrete data. Applications.

vii) Binomial distributions, mean and variance of the binomial distributions.

D) Circular functions and trigonometry:

i) The circle, radian measures of the angles, length of an arc, area of a sector.

ii) Definition of $\cos\theta, \sin\theta$ in terms of unit circle. Definition of $\tan\theta = \frac{\sin\theta}{\cos\theta}$. Exact values of trigonometric ratios of $0, \frac{\pi}{6}, \frac{\pi}{4}, \frac{\pi}{3}, \frac{\pi}{2}$ and their multiples.

iii) Pythagorean identity $\sin^2\theta + \cos^2\theta = 1$. Double angle identities for sine and cosine. Relationship between trigonometric ratios.

iv)The circular functions sin x, cosx , tanx, their domains and ranges , periodic nature, amplitude, and their graph. Composite trigonometric functions and their transformations and applications.

Year2:

v) Solving trigonometric equations in a finite interval, both graphically and analytically Equations leading to a quadratic equations in sinx, cosx, or tanx.

vi) Solutions of triangles. Cosine rile, sine rule including ambiguous case. Area of triangle and their applications.

E) Vectors:

i) Vectors as displacement in the plane and in 3D. Components of a vector, Column representation, sum and difference of two vectors, zero vector, Negative vector, multiplication by a scalar, parallel vectors, magnitude of a Vector, unit vectors, base vectors, position vectors and theiroperations.

ii) The scalar product of two vectors, perpendicular vectors, parallel vectors. Angle between two vectors.

iii) Vector equations of a line in two and three dimensions. The angle between two lines.

iv) Distinguishing between coincident and parallel lines. Finding the points of intersection of two lines. Determining whether two lines intersect.

F) Calculus:

i)Informal ideas of limit and convergence. Limit notation, definition of Derivative by first principle, derivative interpreted as gradient function and as rate of change. Tangents and normals and their equations.

ii)Derivatives of various types of functions. Differentiation of a sum and a real multiple of these functions. The chain rule for composite functions. Product rule and quotient rule. The second derivative. Extension of higher derivative.

iii) Local maxima and local minima point. Testing for maximum or a minimum .Points of inflexion with zero or non zero gradient. Graphical behavior of Functions, including the relationship between the graphs of their derivatives, Optimization, applications.

iv) Indefinite integration as anti-derivatives. Indefinite integrals of different types of functions. Composite of any of these with linear function ax+b. Integration by inspection , or substitution of various forms.

v) Anti-differentiation with a boundary condition to determine the constant term. Definite integral , both analytically and using technology. Areas under the curves, areas between the curves. Volumes of revolution about the x-axis.

vi) Kinematic problems involving displacement, velocity and acceleration. Total distance travelled.

c) Probability: ix) Normal distributions and curves. Standardization of normal variables. Properties of normal distribution.

ASSESSMENT

EXTERNAL ASSESSMENT:

Paper1:max.marks-90(1 hour 30 minutes): weightage-40%
Paper2:max.marks-90(1 hour 30 minutes): weightage-40%
Both papers are calculator based.

INTERNAL ASSESSMENT:

Exploration- 20 marks:weightage-
20% (25 hours)

TEXT BOOKS FOR REFERENCE:

1. Mathematics standard level by Haese and Harris.
2. IB Mathematics Standard level (Oxford publications)
3. Mathematics Standard level (Cambridge publications)
4. Mathematics Standard level (Pearsons Publications)

Links: Videos from Khan Academy.

Softwares: graph matica, geogebra, spread sheet

1. www.wolframalpha.com
2. www.python.org
3. www.fooplot.com
4. www.geogebra.org

MATHEMATICAL STUDIES SL

Aims of the Subject : To provide comprehensive subject knowledge on topics given in the syllabus, which will help a student to apply mathematics in daily life , interpret different mathematical results and also analysis of data for specific use in various field.

All topics are compulsory. Students must study all the sub-topics in each of the topics in the syllabus as listed in the Mathematical studies SL guide. Students are also required to be familiar with the topics listed as prior learning.

Topic 1—Number and algebra
Topic 2—Descriptive statistics
Topic 3—Logic, sets and probability
Topic 4—Statistical applications
Topic 5—Geometry and trigonometry
Topic 6—Mathematical models
Topic 7—Introduction to differential calculus

External assessment:

Paper1:max.marks-90(1 hour 30 minutes): weightage-40%
Paper2:max.marks-90(1 hour 30 minutes): weightage-40%
Both papers are calculator based.

Internal assessment(IA): Project-20 marks:weightage-20%
The project is 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.(25 hours)

Book to be referred & imp links :

Oxford , problems from past papers and question bank will be given after completion of an unit or topic.

Nature of IAs : Original work based on any topic but mathematical tools need to be used as per criteria. 2 simple methods and at least 1further mathematics should be used in the IA. List of simple and further mathematical process will be discussed during IA classes.

No. of IAs to be conducted in year 1 with topics: A student of mathematical studies need to complete one IA during the two year course.

Deadlines for submission of each component (during the 2 year period- 2016-2018) : the deadlines for the submission of IA,s draft as well as final submission of the IA will be given in IB planner for the students ready reference.

GROUP SIX: VISUAL ARTS (SL & HL)

What is Visual Arts at IB?

The IB 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.

Course content

The course is very flexible, allowing it to be tailored to the needs and interests of the group. Year 1 begins with tightly taught units to ensure all students are able to analyse their own and others' work, make effective use of their journals, understand how to use a variety of materials and manipulate the basic artistic elements to communicate meaning. As these skills are consolidated, students are expected to work with more and more independence in choosing their themes and selecting the most appropriate methods to achieve their aims.

By Year 2 students will be working completely independently, in terms of their themes and visual exploration, but will continue to receive taught lessons and one to one tutorials to ensure that their core skills continue to develop in sophistication.

The department can support work in a wide variety of media. Beyond the usual range of art materials, there are expertise and facilities for ceramics, oil painting, a wide range of print techniques, ceramics and even some textiles.

Assessment

There are three main aspects to the IB visual Arts studies; comparative study (20%), process portfolio (40%) and exhibition (40%). Although these three aspects are marked separately, they are very closely linked. You will use your journal (sketchbook) to explore themes, ideas, artists, techniques, etc. The artists for the comparative study will be chosen from those explored in the journal. The studio pieces, used for the exhibition, will be developed in the journal. The work selected for the process portfolio will mainly come from the journal.

Future Studies and Careers

The course is an excellent base from which to apply for further and higher education courses in Art and Design but, more importantly, it enables all students to strengthen qualities such as curiosity, divergent thinking, making connections, learning from others, visualization, conceptual thinking, risk taking and determination. No matter what your chosen future career path, these qualities will help you become a more adaptable person able to take a creative approach to problem solving.

Ceramic - Ceramics is a course designed to provide experience in generating original ideas and artwork for ceramic art. Problem-solving and critical thinking skills will be stressed. A variety of media techniques and styles will be explored. Artwork from a variety of artists, cultures, and time periods will be examined and critiqued. Students will be encouraged to develop a personal, creative style. Students will supply some materials.

GRAPHIC DESIGN - Graphic Design class includes exploration of various art processes such as printmaking, illustration, collage, and mixed media. Students will have opportunities to work with a variety of media to enable them to create personally expressive art such as posters, t-shirt, collages, and social commentary pieces. They will be

encouraged to do research in order to develop ideas to express in their work. Students will gain knowledge of artists and related topics including how art history, criticism, and aesthetics impacts the world of art. Students will supply some materials.

SCULPTURE - Sculpture is a course designed to provide experience in generating original ideas for three dimensional works of art. Problem-solving and critical thinking skills will be stressed. A variety of media techniques and styles will be explored. Artwork from a variety of artists, cultures, and time periods will be critiqued and examined. Students will be encouraged to develop a personal, creative style. Students will supply some materials.

PHOTOGRAPHY - Photography is designed to provide a visual experience through black and white film photography. This experience is based upon approaches to subject matter, themes, history of photography, criticism, and aesthetics. Students will apply these to their work through the use of composition, design, and darkroom techniques. Students must have a 35mm film camera with adjustable aperture, shutter, and focus. Students will supply some materials.

PAINTING - Painting is designed to provide visual experience in painting that is broad in scope and that will challenge the student's creative potential. The course will encourage a personal approach and interpretation to painting as well as develop related skills and techniques of painting, art history, criticism, and aesthetics. Students will supply some materials.

DRAWING - Drawing will provide the students with guided opportunities to develop their drawing skills as work is completed in various media. Drawing from life is a requirement. Related course work in art history, criticism, and aesthetics will also be provided. Students will supply some materials.

Art-making forms

Throughout the course students are expected to experience working with a variety of different art-making and conceptual forms. SL students should, as a minimum, experience working with at least two art-making forms, each selected from separate columns of the table below. HL students should, as a minimum, experience working with at least three art-making forms, selected from a minimum of two columns of the table below. The examples given are for guidance only and are not intended to represent a definitive list.

Two-dimensional forms	Three-dimensional forms	Lens-based, electronic and screen-based forms
.Drawing: such as charcoal, pencil, ink • **Painting**: such as acrylic, oil, Watercolour • **Graphics**: such as illustration and design	**.Sculpture**: such as ceramics, clay modelling, wood, assemblage **.Designed objects**: such as architectural, vessels .**Site specific**/**ephemeral**: such as land art, installation, mural	**Time-based and sequential art**: such as animation, graphic novel, storyboard .**Lens media**: such as still, moving, montage . (Photography-still & video) **.Digital/screen based**: such as vector graphics, software generated

Assessment outline—SL	
Assessment tasks	Weighting
External assessment **Part 1: Comparative study** Students at SL analyse and compare different artworks by different artists. This independent critical and contextual investigation explores artworks, objects and artifacts from differing cultural contexts. SL students submit **10–15** screens which examine and compare at least three artworks, at least two of which should be by different artists. The work selected for comparison and analysis should come from contrasting contexts (local, national, international and/or intercultural). SL students submit a list of sources used.	**20%**
Part 2: Process portfolio Students at SL submit carefully selected materials which evidence their experimentation, exploration, manipulation and refinement of a variety of visual arts activities during the two - year course. SL students submit **9–18** screens which evidence their sustained experimentation, exploration, manipulation and refinement of a variety of art-making activities. For SL students the submitted work must be in at least **two** art-making forms, each from separate columns of the art-making forms table.	**40%**
Internal assessment This task is internally assessed by the teacher and externally moderated by the IB at the end of the course. **Part 3: Exhibition** Students at SL 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. SL students submit a **curatorial rationale** that does not exceed **400** words. SL students submit **4–7** artworks. SL students submit exhibition text (stating the title, medium, size and intention) for each selected artwork. SL students may submit two photographs of their overall exhibition. These exhibition photographs provide an understanding of the context of the exhibition and the size and scope of the works. While the photographs will not be used to assess individual artworks, they may give the moderator insight into how a candidate has considered the overall experience of the viewer in their exhibition .	**40%**

Assessment outline—HL	
Assessment tasks	Weighting
External assessment **Part 1: Comparative study** Students at HL analyse and compare different artworks by different artists. This independent critical and contextual investigation explores artworks, objects and artefacts from differing cultural contexts. . HL students submit **10–15** screens which examine and compare at least three artworks, at least two of which need to be by different artists. The works selected for comparison and analysis should come from contrasting contexts (local, national, international and/or intercultural). . HL students submit **3–5** screens which analyse the extent to which their work and practices have been influenced by the art and artists examined. . HL students submit a list of sources used.	**20%**
Part 2: Process portfolio Students at HL submit carefully selected materials which evidence their experimentation, exploration, manipulation and refinement of a variety of visual arts activities during the two-year course. HL students submit **13–25** screens which evidence their sustained experimentation, exploration, manipulation and refinement of a variety of art-making activities. For HL students the submitted work must have been created in at least **three** art-making forms, selected from a minimum of two columns of the art-making forms table.	**40%**
Internal assessment This task is internally assessed by the teacher and externally moderated by the IB at the end of the course. **Part 3: Exhibition** Students at HL 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. HL students submit a curatorial rationale that does not exceed 700 words. HL students submit **8–11** artworks. HL students submit exhibition text (stating the title, medium, size and intention) for each selected artwork. HL students may submit two photographs of their overall exhibition. These exhibition photographs provide an understanding of the context of the exhibition and the size and scope of the works. While the photographs will not be used to assess individual artworks, they may give the moderator insight into how a candidate has considered the overall experience of the viewer in their exhibition.	**40%**

The core

The Extended Essay

The extended essay is an in-depth study of a focused topic chosen from the list of available Diploma Programme subjects for the session in question. This is normally one of the student's six chosen subjects for those taking the IB diploma. It is intended to promote academic research and writing skills, providing students with an opportunity to engage in personal research on a topic of their own choice, under the guidance of a supervisor. This leads to a major piece of formally presented, structured writing, in which ideas and findings are communicated in a reasoned and coherent manner, appropriate to the subject chosen. The extended essay is assessed against common criteria, interpreted in ways appropriate to each subject.

At THS, students choose their subjects and EE supervisors are allocated during the second term of year 1. Students start meeting their supervisors regularly to discuss the topics of their research. Students are expected to frame a research question and then start gathering data. During the summer they complete the first draft of their essay. The final essay is completed during the first term of year 2.

Every good extended essay should have three essential visible elements in it, which should be discernible by the examiner: an introduction, a body and development of the research, and a conclusion. A formal presentation of the extended essay should include an abstract, a page of contents, chapters with tables/illustrations, conclusion, appendices etc. Any work that is not the candidate's own work has to be footnoted and referenced in the standard format. A bibliography has to be mentioned at the end of the essay.

The extended essay is externally assessed and, in combination with the grade for theory of knowledge, contributes up to three points to the total score for the IB diploma. It is a piece of independent research/investigation on a topic chosen by the student in cooperation with a supervisor in the school and under constant guidance of the EE Coordinator. The extended essay is presented as a formal piece of scholarship containing no more than 4,000 words and is the result of approximately 40 hours of work by the student. This is concluded with a short interview, or viva voce, with the supervising teacher and the EE Coordinator.

Key features of the extended essay

- The extended essay is compulsory for all students taking the Diploma Programme .
- A student must achieve a D grade or higher to be awarded the Diploma.
- The extended essay is externally assessed and, in combination with the grade for theory of knowledge, contributes up to three points to the total score for the IB Diploma.
- The extended essay process helps prepare students for success at university and in other pathways beyond the Diploma Programme.
- When choosing a subject for the extended essay, students must consult the list of available Diploma Programme subjects published in the *Handbook of procedures for the Diploma Programme* for the session in question.
- The extended essay is a piece of independent research on a topic chosen by the student in consultation with a supervisor in the school.
- It is presented as a formal piece of sustained academic writing containing no more than 4,000 words accompanied by a reflection form of no more than 500 words.
- It is the result of approximately 40 hours of work by the student.
- Students are supported by a supervision process recommended to be 3–5 hours, which includes three mandatory reflection sessions.
- The third and final mandatory reflection session is the *viva voce*, which is a concluding interview with the supervising teacher.

Theory of Knowledge

Theory of Knowledge is an integral part of the International Baccalaureate Diploma Programme and constitutes the core or the heart of the curriculum. The approaches to teaching-learning revolve round it. TOK is a subject aimed to foster critical thinking in learners. TOK together with Extended essay contribute 3 points to a student's maximum grade points of 45.

TOK is a course about critical thinking and inquiring into the process of knowing, rather than about learning a specific body of knowledge. All schools are required to devote at least 100 hours of class time. TOK and the Diploma Programme subjects should support each other in the sense that they reference each other and share some common goals. The TOK course examines how we know what we claim to know. It does this by encouraging students to analyse **knowledge claims** and explore **knowledge questions**.

The raw material of TOK is knowledge itself. Students think about how knowledge is arrived at in the various disciplines, what the disciplines have in common and the differences between them. The fundamental question of TOK is —how do we know what we claim to know? How far can we rely on the knowledge that we acquire from different sources? The answer might depend on the discipline and the purpose to which the knowledge is put. TOK explores methods of inquiry and tries to establish what it is about these methods that make them effective as knowledge tools. In this sense, TOK is concerned with knowing about knowing.

The individual knower has to try to make sense of the world and understand his or her relationship to it. He or she has at his or her disposal the resources of the areas of knowledge, for example, the academic disciplines studied in the Diploma Programme. He or she also has access to ways of knowing such as language, memory, intuition, reason, emotion, sense perception, imagination and faith that help them navigate their way in a complex world.

Knowledge questions play a pivotal role in TOK essay and presentation. Some examples are :

- what counts as evidence for X?
- what makes a good explanation in subject Y?
- how do we judge which is the best model of Z?
- how can we be sure of W?
- what does theory T mean in the real world?
- how do we know whether it is right to do S?

Assessment

There are two assessment tasks in the TOK course: an essay and a presentation. The essay is externally assessed by the IB, and must be on any one of the six prescribed titles issued by the IB for each examination session. The maximum word limit for the essay is 1,600 words.

The presentation can be done individually or in a group, with a maximum group size of three. Approximately 10 minutes per presenter is allowed, up to a maximum of approximately 30 minutes per group. Before the presentation each student must complete and submit a presentation planning document (TK/PPD) available in the *Handbook of procedures for the Diploma Programme*. The TK/PPD is internally assessed alongside the presentation itself, and the form is used for external moderation.

Creativity, Activity and Service [CAS]

Creativity, Action, Service (CAS) is at the very heart of the Diploma Programme. It focuses on the importance of life outside the world of scholarship and is one of the three essential elements in every student‟s Diploma Programme experience. It enables students to extend what they have learnt in the classroom and apply that knowledge to service activities for other people while improving the living conditions for a person or an entire community. CAS encompasses an interesting range of activities that students find intrinsically worthwhile and rewarding and which are mutually beneficial to students and their communities. Students learn by doing real tasks that have real consequences and then reflect on these experiences over time. While students are required to earn 150 hours of CAS activities during the duration of the Diploma Programme (DP), it is not a mere —hour logging‖ exercise. The activities should represent a balanced mix of creativity, action, and service and must be done gradually over the course of the Diploma Programme, keeping in mind the student‟s aptitudes and interests.
The three strands of CAS, which are often interwoven with particular activities, are characterized as follows:-

Creativity is interpreted as imaginatively as possible to cover a wide range of arts (dance, theatre, music, art), including creative thinking in the design and carrying out of service projects. This covers the performances of music, playing an instrument, dance, choir, theatre, debate, the creation of art, and activities that may include creative planning or design. An ideal CAS project is one that a student creates, designs or plans. Creative experience must involve creative thinking. One could make a documentary on issues like global warming, environmental pollution or on the lives of the slum children to generate awareness in the community. Students may also be creative in coming up with their own ideas for creativity while designing their own CAS programme.

Activity includes activities involving physical exertion such as hikes, individual and team sports, or the work involved in carrying out creative and service projects. This can include school and community clean-up drives, tree planting programmes, rendering service in an old age home. Other examples include team sports and community matches (organizing them as well) like football, cricket, volley ball etc.

Service activities involve doing things for others in school, locality or community as well as socially relevant participation in national or international projects. It must involve interaction with others. Service does not mean exclusively social service, but can include environmental issues too. It involves actions on the part of the student that benefit others and improve their existing situation. Other examples include rendering voluntary service like teaching the underprivileged children, putting up a street play for a social cause, making something for sale to raise funds to help the poor etc.It is an unpaid and voluntary exchange that has a learning benefit for the student. The rights, dignity and autonomy of all those involved are respected.

CAS ACTIVITIES OFFERED AT THE HERITAGE

Creativity includes 1.Art (also includes oil painting) 2. Sculpture 3. Theatre 4. Mime 5. Indian instrumental music (Sitar, Sarod &Violin) 6. Recycling 8. Creative Craft (Candle Making, artifacts making) 9. Indian Classical Dance (Kathak & Bharatnatyam) 10. Western Music (making your own band) 11.Woodcraft 12. Lacwork (making objects using clay, lac and colour) 12. Pottery 13. Textile weaving, dyeing & Printing 14. Photography & Film Making 15. Web Designing 16. Tabla (Indian percussion instrument) 17. Aeromodelling

Action includes 1.Cricket 2. Football 3. Volley Ball 4. Basket Ball 5. Tennis 6. Rock Climbing 7. Martial Arts 8. Archery 9. Swimming 10. Trekking & Adventure trips 11. Badminton 12. Table Tennis 13. Rifle Shooting 14. Skating

Service includes 1.Teaching in Surya Kiran, the in-house evening school for the underprivileged. 2. Teaching creative activities to students of the local municipal free school 3. Visiting old –age homes / orphanages and rendering meaningful service (organizing & celebrating special days with them) 4. Adopting a village (helping the underprivileged with finding means of generating an alternative source of income to improve standard of living or providing tips on health & hygiene) 5. Working on any social issues like women empowerment, child labour etc . 6. A project of student‟s choice.

Apart from the above, students can also participate in the following that encompass two or more strands of CAS

1. International Award for Young people (IAYP) 2. Model U.N. Session (M.U.N) 3. Writing for School Magazine, newspapers, school news letters 4. Teacher‟s Day programme 5. Special Day celebrations 6. Inter-house & inter- school events 7. Foundation Day celebrations 8. School concert 9. School fete _ Kolaahal‟ 10. Any other event selected or organized by the students.

Academic Honesty Guide for students

Every piece of written and oral work submitted must be one's own authentic work.
An authentic piece of work is based on your individual and original ideas with the ideas of others fully acknowledged.
Plagiarism is theft of someone else's intellectual property.

Some key terms:

Plagiarism: presenting the ideas or work of another person as if they are your own.
Collusion: allowing your own work to be copied or submitted for assessment by another student
Duplication: presenting the same work for different assessment components (for example, for internal assessment and the extended essay)
The penalties for these offences can lead to loss of IB diploma and expulsion.

Using other people's words and ideas is acceptable so long as they are placed in quotation marks and acknowledged in a footnote.

- Regardless of the nature of the source of the words or ideas, all borrowing must be acknowledged. The internet must be treated in the same way as books and articles.

Other forbidden practices include:

- paraphrasing other people's ideas with our acknowledging the sources fabricating (making up) quotations or data
- Teachers are forbidden from providing an improper amount of assistance in the production of any piece of assessed work, oral or written.

Teachers must:

- Declare in writing that each piece of assessed work that they have handled is authentic (the student's own work)
- Provide good advice to students on the subject of academic honesty at all times
- Students must:
- Adhere to the rules on academic honesty
- Adhere to all deadlines.

Teachers will always investigate essays using turnitin software for detection of plagiarism.
The International Baccalaureate Organization randomly checks student's work for plagiarism using the most sophisticated technology available.
THS has a ZERO TOLERANCE policy with regard to intellectual dishonesty.

Q. What is the proper way of making notes?
A. The first thing you should do in the research process is to record the following details before you start making notes:

Author
Title
Place of Publication
Publisher
Date of Publication
Page numbers

You should record quotations word for word and always note the page number.

FAQs

Q. Once I've finished my research note, how do I decide which notes to use and which ones to ignore?
This all depends on the nature of your project, but a good rules is to use only the notes which helps to advance your ideas and never to use notes which contradict your argument unless you are prepared to show why you are right and the other person is wrong.

Q.What is the proper way to acknowledge a source in any essay?
A. Firstly, put all quotations in quotation marks:
EXAMPLE: John Milton's project in Paradise Lost was "to justify the ways of god to men".
Secondly, provide a footnote or endnote which will tell the reader where the quotation came from. This footnote or endnote is signaled by a superscript number placed just after the quotation, which refers the reader to a footnote at the bottom of the page.

EXAMPLE; John Milton's project in Paradise Lost was to "justify the ways of God to men".
If you want to provide footnotes, provide a solid line at the foot of the page and place the note below it in the following format:
1 Moliere, School for Wives, Trans.Eric m.Steel (New York: Barron's Educational Series, Inc, 1971),16
EXAMPLE:
'John Milton, Paradise Lost (San Francisco: Limited Edition Club,1936), p 4(Book 1,line 36). All subsequent references to this poem will be to this edition, which will hereafter be referred to ibid

Q. How does a footnote differ from an endnote?
A. Quite simply, footnotes appear at the bottom of the page, whereas endnotes appear at the end of your essay. In all other respects the format of your notes would be the same. Some writers prefer endnotes because they are simpler to arrange then footnotes, since with endnotes you simply type all of the notes(in numerical order) on a page or pages at the end of the essay, whereas with footnotes you need to lay out each page of your essay quite carefully to leave room for the footnotes.

Q.What is a bibliography and why do I need it?
A. It is an alphabetical list of all of the sources that you have consulted during your research, whether or not you actually quoted from them. A bibliography appears at the very end of your essay and is essential because the reader will want to see the range of reading that you have done in preparation for your esssay.During your research you must therefore record the details of all sources which you have consulted so that you can complete an impressive bibliography. The format is very similar to the footnote, only the author's surname precedes their first name in a bibliography so that you can create a proper alphabetical list:
EXAMPLE;

Milton', John. Paradise Lost. San Francisco: Limited Editions Club,1936.
Shakespeare, William. Hamlet. London: The folio society, 1997.
You can see that the punctuation of the bibliography entry differs from that of the footnote. Whereas the footnote or endnote is one sentence, the usual bibliography entry contains three sentences- one for the author, one for the title, and for the publication details.

These reference methodologies are from the MLA Handbook.
It is hoped the this guide will provide you with what you need to acknowledge properly your sources. Should you have further questions your subject teachers will always be ready to help.

COLLEGE COUNSELLING

THS has a college guidance counsellor to help students with their college admission.

We try to ensure that students get accepted into universities of their choice. Activity begins as soon as the school re-opens after the summer break. A session is conducted on how personal statements and essays are to be written and how students should enroll through Common apps or UCAS. Students are told how to use their tracking number to check their status on UCAS website.

Students performing consistently well and desiring to seek admission in a specific university may apply through early decision. This is both advantageous and binding as their application will be processed before others.

A career fair is held every year in September where various colleges from the country as well as overseas come and interact with students. Apart from this, delegation of universities from U.K., U.S. ,Canada & Australia come to speak to students on admission.

The initial online process of the application is done by the students, but we help with recommendation letters, transcripts, attested certificates and school profile.

Towards the end of November, Canadian and Australian applications start. UCAS applications start **end August-first week of September**. U.S. Applications can start in September too. Singapore and Indian universities applications happen much later, after the final results come out. For Indian Universities, we help with the conversion of the IB points.

It is advisable that students take all SAT/ACT examination in the first year itself. This should be complete by December of Year 1.

The college essays are to be written by the students but the English teachers go through these and give suggestions for improvement

The Heritage School
IBDP Subject selection Form – Appendix 1

The IBDP curriculum offers a study of 6 subjects , 3 at higher level and 3 at Standard level. A student must choose one subject from each groups 1 to 5 and can choose either the 6th subject from Group 6 or Group 3 or Group 4. The subjects offered at the Heritage are given below. Please choose your preferred subject and place a tick mark in the adjacent box.

Group	**Subjects Offered**	**Tick your choice**
Group 1	English Language & Literature HL/SL	
Group 2 :	French ab initio SL,French SL	
	German ab initio	
	Hindi HL/ SL	
Group 3:	Economics HL/SL	
	Business Management HL/SL (BNM)	
	History HL/SL	
	Psychology HL/ SL	
	ITGS HL/SL	
Group 4:	Physics HL/SL	
	Chemistry HL/SL	
	Biology HL/ SL	
	Environmental Systems & Societies SL	
	Computer Science SL/ HL	
Group 5	Math SL	
	Math HL	
	Math Studies SL	
Group 6	Visual Arts SL / HL	

Please ensure that out of the following subject band, only one is chosen . These are as follows:-
1. B&M, Bio, History 2. ESS, Computer Science 3 Economics, Psychology, Physics 4. Visual Arts, Chem & Global Politics
Please note that no subject change will be entertained after December of the commencement year.

Name of Student :
Mail id of parent :
Contact Number of parent ;

Signature of Student Signature of Parent
Signature of DPC

Acknowledgements:

Language A: language and literature guide. Published February 2011. Updated November 2011, August 2012 and August 2013. International Baccalaureate Organization

Language B guide (first exams 2015) IBO; Published March 2011Updated August 2013; Updated August 2014. International Baccalaureate Organization

Language ab initio guide (first exams 2015) Published March 2011; Updated August 2013; Updated August 2014. International Baccalaureate Organization

Business & Management Guide. International Baccalaureate Organization

Economics guide. International Baccalaureate Organization

Psychology Guide. International Baccalaureate Organization

Global Politics guide. International Baccalaureate Organization

ITGS guide. International Baccalaureate Organization

Computer Science guide. International Baccalaureate Organization

Physics guide. International Baccalaureate Organization.

Chemistry guide. International Baccalaureate Organization

Biology Guide. International Baccalaureate Organization

Mathematics Hl guide. International Baccalaureate Organization

Mathematics SL Guide. International Baccalaureate Organization

Math Studies SL Guide. International Baccalaureate Organization

Environmental Systems & Societies Guide. International Baccalaureate Organization

Visual Arts guide. International Baccalaureate Organization

TISB student Handbook 2015