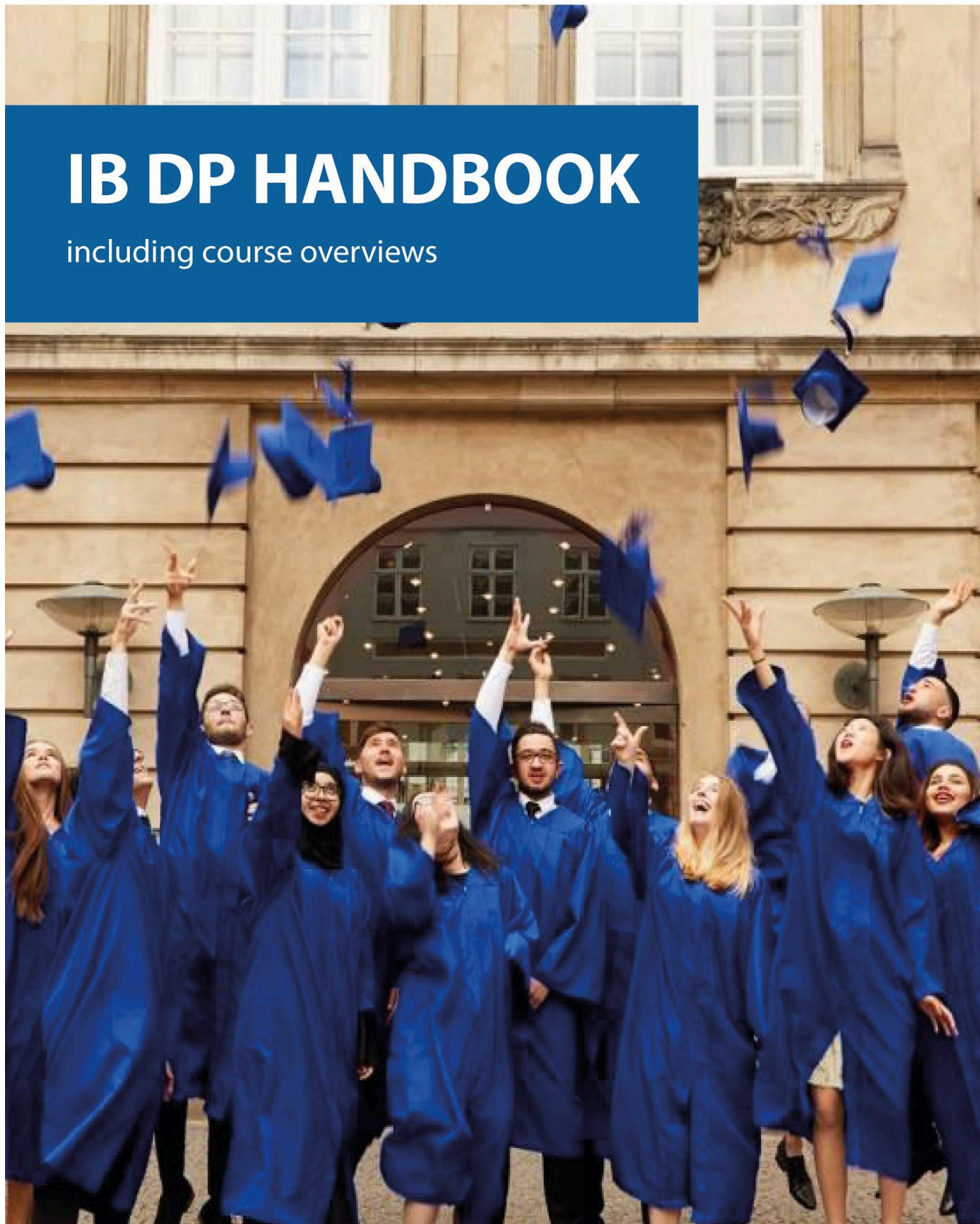


IB DP HANDBOOK

including course overviews



International School
of Hellerup



Diploma
Programme

Dear Prospective Students and Parents,

Welcome to the International Baccalaureate Diploma Programme at ISH. This handbook is designed to support you in making informed decisions about your IB DP course selections. Inside, you'll find an overview of each subject offered at our school.

For more detailed information, we encourage you to visit www.ish.dk, where you can access the official course syllabi. We also recommend speaking directly with subject teachers, the college counselor, or the DP Coordinator to gain further insights and guidance.

If you have any questions or need assistance, please feel free to reach out to me directly.

Warm regards,
Sofia Cano
IB DP Coordinator

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ISH School Mission

It is our mission to provide the highest quality education to internationally minded students in an inquiring and supportive environment. We seek to inspire students and to provide them with the academic and social skills that will enable them to fulfill their human potential as responsible global citizens.

Our commitment at ISH is to create and maintain a safe, happy and child-centered environment in which children are inspired to become purposeful life-long learners.

IB Mission Statement

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

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

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

Course Selection Guidance

This is your future – both in high school, and in post-secondary education.

Think carefully and consider your options

When considering your options, ensure that you are taking into account courses that you might need as prerequisites (requirements) for subjects you might like to study in University. For instance, in Denmark, if you are going to take a humanities related course, then History is a course you should take, as it is often a requirement.

Make sure that you do this research before you make your selections, as afterwards it will be very hard to make changes. Changes become impossible after three weeks from the start of a course. By then you will already have missed too much information.

Make sure you consider yourself and your future when you make your selections.

IB Requirements

You need to take 3 courses at HL level – Higher level.

You need to take 3 courses at SL level – Standard Level.

You need to take one subject from each “group” [with the exception that except: Arts can be replaced by an elective].

Some subjects are only taught at the Standard Level (SL) by design, be aware if a subject is not listed here as having an HL option – then it doesn't. You need to make your selections work around based on the possibilities that exist.

In addition to the selected courses, you will have to complete the IB core requirements. The Theory of Knowledge (TOK) class will be scheduled for you. And, early on in the DP1 year you will choose a teacher to guide you through the Extended Essay (EE) process. The Creativity Activity and Service (CAS) Coordinator will also be talking to you at specified times to ensure that you are completing your CAS goals adequately, too.

There is an official IB formula for figuring out if you complete all your requirements to the standards necessary for earning your IB Diploma. However if you keep in mind that you need to earn at least one point for your TOK and EE efforts, and that you need to earn at least a 5 out of 7 in your HL classes and a 4 out of 7 in your SL classes, then you will be able to meet the graduation requirements. The IB Diploma is awarded to students who gain at least 24 points. You want to strive to have 28 or more total points as you earn your IB Diploma.

Your DP coordinator will be following up with you on a regular basis, especially if your teachers note that you are falling behind. However, if you feel that you are having difficulty

meeting the requirements outlined above, it is best if you tell your Advisory teacher, the DP coordinator, or the counselor about your concerns as soon as possible ASAP so that we can focus on helping you; that is what we are here for.

Course Selection Process

Having read the previous sections, you should be aware that there are several steps in the course selection process.

First you need to carefully consider your course choices, your interests, and what you think you might want to study in university.

Second, you need to figure out what prerequisites these courses are going to require, and make sure that you take or have these. Also, think about in which or what country you might want to study for your University education - universities in different countries have different prerequisites for similar courses.

Third, you need to talk with your parents about your choices. See if they agree with your plans. What support might you need in order to attend the university of your choice? You and your parents may want to meet with either the DP Coordinator and/or the careers counselor to get further advice on your decisions.

Fourth, you need to think about your report cards to date – what are your strongest subjects in school? Do your interests mirror these strengths and future plans? Be realistic.

Fifth, you will be given a paper form with all course choices listed.

Once you have made the choices in consultation with your teachers, college counselor, DP Coordinator and principal, the form needs to be signed by both parents and students, and returned to the DP Coordinator by the deadline provided. Until your form is signed and returned you will not be considered officially interested in that course.

The completed, signed course options form will be submitted to the DP Coordinator, and will be kept for future reference.

Please note: The school will do its utmost to ensure that as many course options as possible are available for all students, however, we cannot guarantee that all course choice options selected will be possible given the school's schedule. Courses with limited student interest (less than 5 students) interest will not be possible to offer, but an online version of some courses may make up for this limitation.

Pre-Requisites

DP Courses have prerequisites – things you must do in order to be allowed to enroll in the DP subject. On this page the academic prerequisites for students coming from a number of different academic systems are listed.

Course specific prerequisites are listed with the course information. These are general prerequisites.

MYP 5 Prerequisites

(For those coming from an IB system)

- 6 or higher earned in the corresponding subject for HL course enrollment
- 4 or higher earned in the corresponding subject for SL course enrollment

IGCSE, GCSE, O Level Prerequisites

(For those coming from the British system)

- A*, A, B, earned in the corresponding subject for HL course enrollment
- C or above earned in the corresponding subject for SL course enrollment

Danish Prerequisites

(For those coming from the Danish system)

- 10 or higher earned in the corresponding subject for HL course enrollment (12 point scale)
- 7 or higher earned in the corresponding subject for SL course enrollment

International Prerequisites

(For those coming from other systems)

- Prerequisites for students coming from other systems will vary depending on the system. Please ask the DP Coordinator what will be required from your system.

In general, students will need to prove that they have been students in good standing with their last school. Grade reports for the equivalent of the MYP 4 and 5 years (the two years directly before the start of the DP) will need to be provided. This should be accompanied by a document that explains the grades reported, such as what the top grade for a subject is.

A letter of recommendation from an English and Mathematics teacher may also be required, depending on the system you are coming from.

Online Courses

In order to expand our course options for students, and to support 21st century learning ideas, ISH is happy to be working in conjunction with Pamoja Education, the only IBDP authorized company to offer DP courses online. Pamoja courses undergo the same careful planning and screening by the IB as those offered by 'live' teachers in classrooms here at ISH. For more information on Pamoja, please visit www.pamojaeducation.com.

In the course options listed in the coming pages, the ones noted as being offered "online" will be complete through Pamoja.

What this means is that students, although based here at ISH, will be completing course work with a cohort of students who are regionally linked, though not physically in the same location. Teachers too are regionally linked. Students will complete all their coursework

online, as well as meet with their teachers at set times, via Skype and other online services.

Expectations for these courses will be as rigorous as any here on campus.

- No student will be allowed to enroll in more than two online courses.
- There will be an at school coordinator who will be following up with students on a regular basis regarding their online studies.
- Parents will need to be more aware of online course expectations, and be willing to help more closely to ensure that online course expectations are being met at home as well as at school.
- They bring additional costs.

Online Course Fees

There is an additional fee for taking Pamoja courses. Pamoja charges approximately \$1200 US per year to take a course through them resulting in a total cost of . This is a total of approximately \$3000 US (VAT [tax] might also apply) per over two- year courses for early registrants.

This fee will be charged to the student.

Please be aware of these fees when choosing a course noted as “Online.” The school will bill this fee to families early, in order to take advantage of Pamoja’s “early registration” lower costs.

Course Options

These are the course options available for the coming school year. You will need to choose 3 courses at HL and 3 courses at SL level. After this page, each of the course options are explained in more detail. All courses require a minimum no. of students registered to run.

Group 1 – Studies in Language and Literature

English A Language and Literature (SL/HL)
Danish A Literature (SL/HL)
Self Study Literature A from another language (tutor required) (SL only)

Group 2 – Language Acquisition

English B (SL/HL)
Danish B (SL/HL)
Spanish B (SL only)
French B (SL only)
Spanish *ab initio* (SL only) Online
French *ab initio* (SL only) Online
Mandarin *ab initio* (SL only) Online

Group 3 – Individuals and Societies

Business Management (SL/HL)
History (SL/HL)
Environmental systems and societies (ESS) (SL only)
Economics (HL/SL) Online
Information Technology in a Global Society (HL/SL) Online
Philosophy (SL) Online
Psychology (SL only)

Group 4 – Sciences

Physics (SL/HL)
Chemistry (SL/HL)
Biology (SL/HL)
ESS (SL only)

Group 5 – Mathematics

Mathematics Applications and Interpretations (SL/HL)
Mathematics Analysis and Approaches (SL/HL)

Group 6 – The Arts or Electives*

Visual Art (SL/HL)

*Electives can be chosen from the Group 3 subjects (Humanities) Group 4 (Sciences) or another Language.

Course Information

Further course information can be found on the school's website. On the school homepage, navigate to Academics > Diploma Programme. From there the course information is arranged by DP Group.

HL Courses consist of 240 hours of teaching time. SL courses consist of 150 hours of teaching time.

Please Note: *Some courses mentioned in this booklet may not run if there are not enough students to make up a full course. If this happens, you will be required to choose a different course option. We cannot guarantee that all courses described here will run. Our intention is to run as many as possible to best serve our students and their families.*

The Two Pathways to Graduation

Full IB Diploma Programme	IB Course Certificates
Complete six DP subjects; 3 at Higher Level and 3 at Standard Level.	Complete any number of DP subjects. Subjects may be taken at either Higher or Standard Level.
All subjects are externally examined in April/May of DP2	All DP subjects for which a candidate is registered are externally examined in April/May of DP2
The Theory of Knowledge course is mandatory.	The Theory of Knowledge course is optional.
The Extended Essay is mandatory.	The Extended Essay is optional. It can be submitted to the IB for external assessment and an official IB grade..
The CAS Programme is mandatory.	The CAS Programme is not mandatory.
In addition to exams, submit coursework for external marking/moderation in all six courses.	In addition to exams, submit coursework for external marking/moderation in all registered DP subjects.
Maintain a points total, across all six courses and TOK/EE, of not less than 24 points, with 12 points in Higher Level subjects. Further conditions apply.	There is no "passing grade" for IB Course certificates from the IB, though universities may require a minimum grade in certain subjects.
All full IB Diploma candidates will receive an IB Diploma issued by the IB, Geneva, Switzerland.	All IB Course candidates will receive an IB Course certificate issued by the IB, Geneva, Switzerland.

How to Choose your Courses

You must choose one subject from each group.

There are some exceptions to this rule:

- Students wanting to take two Group 1 languages do not need to take a Group 2 language. Doing this will qualify a student for a Bilingual diploma.
- Group 6 courses - you are allowed to either select Visual Arts which includes fine arts, design and media studies, or select another course from a different group to be your sixth course.

Remember, you must choose three higher-level courses, and three standard level courses.

Not all courses are offered at both the HL and SL levels.

IB Subject Fees

The IB charges a total of 160 USD per student for registration. They charge a further 800 USD per student for course examinations. This is a total of 960 USD per student. This amount is subject to change by the IB, and does not include possible taxes. We will inform parents if changes are made.

These student and exam fees will be charged to families for each student enrolled in the IB DP. This will be visible in your monthly invoices.

IB Subject Choices

Group 1 – Studies in Language and Literature

Student's language choices for group 1 need to match levels studied in MYP 5. For more information on this, please talk with the Coordinator, or the language teacher.

Courses will only be offered if sufficient student interest exists. (6 or more students creates sufficient interest)

English Language and Literature

Nature of the Subject/Philosophy

In this course, students study a wide range of literary and non-literary texts in a variety of media. By examining communicative acts across literary form and textual type alongside appropriate secondary readings, students will investigate the nature of language itself and the ways in which it shapes and is influenced by identity and culture. Approaches to study in the course are meant to be wide ranging and can include literary theory, sociolinguistics, media studies and critical discourse analysis among others.

The course consists of three Areas of Exploration: Readers, writers and text, Time and space and Intertextuality: connecting texts. These parts of the course focus on various forms of technical writing, and the ability to thoughtfully analyze literature related to genres as well as on a close study of English literature from a variety of English speaking places around the world. Students will study a variety of literature, looking at it for its technical details, as well as how it represents English culture. Additionally, the students work with non-literary bodies of works which focus on how language is used for a variety of purposes, both technical and social.

At the SL level, students will study four works of literature over the two-year course.
At the HL level, students will study six works of literature over the two-year course.

Course Outline

Area of Exploration – Readers, writers and text

Non-literary texts and literary works are chosen from a variety of sources and media to represent as wide a range of text types as possible, and works are chosen from a variety of literary forms. The study of non-literary texts and literary works focuses on the nature of language and communication and the nature of literature and its study. This study includes the investigation of how texts themselves operate as well as the contexts and complexities of

production and reception. Focus is on the development of personal and critical responses to the particulars of communication.

Area of Exploration – Time and space

Non-literary texts and literary works are chosen from a variety of sources, literary forms and media that reflect a range of historical and/or cultural perspectives. Their study focuses on the contexts of language use and the variety of ways literary and non-literary texts might both reflect and shape society at large. The focus is on the consideration of personal and cultural perspectives, the development of broader perspectives, and an awareness of the ways in which context is tied to meaning.

Area of Exploration – Intertextuality: connecting texts

Non-literary texts and literary works are chosen from a variety of sources, literary forms and media in a way that allows students an opportunity to extend their study and make fruitful comparisons. Their study focuses on intertextual relationships with possibilities to explore various topics, thematic concerns, generic conventions, modes or literary traditions that have been introduced throughout the course. The focus is on the development of critical response grounded in an understanding of the complex relationships among texts.

Assessment

External Assessment

Paper 1 – A commentary on a non-literary previously unseen text SL - 35%

Two commentaries on two previously unseen texts HL – 35%

Paper 2 – An answer to a question comparing and contrasting two of the studied texts – SL 35%, HL 25%

Internal Assessment

Individual Oral – A presentation on a literary and non-literary text focusing on the global issue – SL 30%, HL 20% HL

HL Essay - Students submit a 1500 word essay on one non-literary text or a collection of non-literary texts by one same author, or a literary text or work studied during the course – HL 20%.

Prior Learning/Prerequisites

To study English Language and Literature A HL, students will need to have achieved a 6 or more in MYP in a Language and Literature or Language Acquisition Phase 5 or 6. To study English Language and Literature A at SL, students would have achieved a 4 in MYP in a Language and Literature or Language Acquisition Phase 5 or 6.

Danish Literature A

Nature of the subject

Language A Danish: Literature A is a demanding and rigorous course which is built on the notion of conceptual learning. This means that the course is organized around concepts, or big ideas, which makes it easier to form connections between subjects and between parts of a course. Concepts are important as they are applicable and transferable to real-life situations. In this course, the central concepts are culture, communication, transformation, perspective, creativity, representation and identity.

Over the course of two years, students are expected to read 9 works (SL 4 works and HL 5 works) selected from the available list PRL.

The course consists of three Areas of Exploration: Readers, writers and text, Time and space and Intertextuality: connecting texts. These parts of the course focus on various forms of technical writing, and the ability to thoughtfully analyze literature related to genres as well as on a close study of Danish literature from different time periods. Students will study a variety of literature, looking at it for its technical details, as well as how it represents Danish identity and culture.

Approaches to study in the course are meant to be wide ranging and can include literary theory, sociolinguistics, media studies and critical discourse analysis among others.

The model for language A: literature is the same at SL and HL but there are significant quantitative and qualitative differences between the levels:

SL students are required to study 9 works over the two-year course.

HL students are required to study 13 works over the two-year course.

Course outline

Area of Exploration – Readers, writers and text

This part of the course is an introduction to literature. You will look at the ways in which texts are produced, read, interpreted, responded to and performed, and reflect on the role of literature. You will focus on the words on the page, their literal meaning, the type of literary text being read, the plot, character, setting, word choice and stylistic features.

In this part of the course you will develop the skills and approaches required to successfully engage with texts. You will also be introduced to the process of assessing texts through critical reflection.

Area of Exploration – Time and space

All literary texts are written by authors who are real people living in the real world. Though this may seem obvious, it is important to remember that texts are affected by a wide variety of contexts such as the life of the author, the times in which they lived, historical conditions reflected in the text and many other real- world factors. In this area of the course you will study texts that allow you to consider how history, culture, geography and many other external factors are all important to fully understand a literary text.

While still attentive to the features of literary texts, in this area you will look at how the works you are reading represent, reflect and become part of life and culture.

Area of Exploration – Intertextuality: connecting texts

The study in this part of the course focuses on the connections between and among diverse literary texts, traditions, creators and ideas. You will explore further aspects of meaning, literary form, approach and chronological development. This section focuses on the comparative study of literary texts to gain a deeper understanding of unique characteristics of individual texts and interesting connections between different texts.

Connections between literary texts can be established in a variety of ways, such as through the study of a group of texts from the same literary form—for example, fiction, the sonnet, a tragedy; an exploration of a topic or concept as represented across literary texts—for example, power, heroism, gender; or an investigation into one of the seven concepts in studies in language and literature, such as representation or perspective.

Assessment SL

Paper 1:

The exam paper will consist of two extracts or texts from different literary forms, each accompanied by a guiding question. You will have to choose one of them and develop a response that demonstrates an awareness of how meaning is created. The guiding question will suggest a point of entry into the extracts or texts that allows you to focus on a stylistic or technical element. You are free to pursue a different line of inquiry. You should bear in mind that what is expected in this component is not an exhaustive discussion of all the aspects of the extracts or texts, but rather a reading of it that focuses on one of its prominent stylistic features.

35 % of the overall grade.

Paper

2:

Paper 2 is an externally-assessed component requiring an essay in response to a given question concerning a comparative critical discussion of two works studied during your course.

There will be four questions presented in the paper 2 exam, one of which should be chosen for your essay. You must refer to two works you have studied and focus closely on the topic in the question. You should compare and contrast the two works in the light of the question, analysing their formal and stylistic features as well as the way these features contribute to the creation of meaning in the texts. You will need to think carefully about which of the works you have studied can be best explored in relation to the question and which of the questions will enable you to best demonstrate your understanding of the works you have studied.

35% of the overall grade.

Individual Oral (IO)

IO means speaking for 15 minutes focusing on the prompt: Examine the ways in which the global issue of your choice is presented through the content and form of two of the works that you have studied. It is recorded at school and externally assessed.

30% of the overall grade.

Assessment HL

Paper 1:

The exam paper will consist of two extracts or texts from different literary forms, each accompanied by a guiding question. You will have to choose one of them and develop a response that demonstrates an awareness of how meaning is created. The guiding question will suggest a point of entry into the extracts or texts that allows you to focus on a stylistic or technical element. You are free to pursue a different line of inquiry. You should bear in mind that what is expected in this component is not an exhaustive discussion of all the aspects of the extracts or texts, but rather a reading of it that focuses on one of its prominent stylistic features.

35 % of the overall grade.

Paper 2:

Paper 2 is an externally-assessed component requiring an essay in response to a given question concerning a comparative critical discussion of two works studied during your course.

There will be four questions presented in the paper 2 exam, one of which should be chosen for your essay.

You must refer to two works you have studied and focus closely on the topic in the question. You should compare and contrast the two works in the light of the question, analysing their formal and stylistic features as well as the way these features contribute to the creation of meaning in the texts. You will need to think carefully about which of the works you have studied can be best explored in relation to the question and which of the questions will enable you to best demonstrate your understanding of the works you have studied.

25% of the overall grade.

Individual Oral (IO)

IO means speaking for 15 minutes focusing on the prompt: Examine the ways in which the global issue of your choice is presented through the content and form of two of the works that you have studied. It is recorded at school and externally assessed.

20% of the overall grade.

Higher Level Essay (HL Essay)

Students submit an essay on one literary text or work studied during the course. (20 marks)

The essay must be 1,200–1,500 words in length.

20% of the overall grade.

Prior learning/Prerequisites

To study Danish Literature A HL, students would have to achieve a 6 or more in MYP in a Language and Literature or Language Acquisition Phase 5 or 6. To study Danish Literature A at SL, students would have achieved a 4 in MYP in a Language and Literature or Language Acquisition Phase 5 or 6.

Self-Taught Literature (home languages) (tutor required) (SL)

Nature of the Subject/Philosophy

Self-taught Language A is a rigorous course, but allows students to explore their home language and reflect their full language profile.

Language A: literature SSST is similar to the taught course, which is built on the notion of conceptual learning. This means that the course is organized around concepts, or big ideas, which makes it easier to form connections between subjects and between parts of a course. Concepts are important as they are applicable and transferable to real-life situations. In this course, the central concepts are culture, communication, transformation, perspective, creativity, representation and identity. The course is organized into three Areas of Exploration: Readers, writers and texts, Time and space and Intertextuality: connecting texts.

Over the course of two years, students are expected to read 9 works selected from the IB's [Prescribed Reading List](#).

The subject is designed as a self-taught course and therefore students must be able to study independently. This involves reading the required texts, maintaining their learning portfolio, and working on the assessments. As a school we expect students to take mock exams. The course is designed for students who have good self-management skills, are motivated and know how to work independently. Students are expected to have both written and oral native level command of the language.

At ISH, a Self-Taught Language Coordinator meets with students on a weekly basis to guide them and support them in their studies. The school also requires a language tutor who will support the student's language development. The tutor is not hired by the school, and students decide on the frequency of the meetings and form they take. Students are welcome to use the school's premises to arrange the meetings and use the school's resources. Each semester, ISH will ask the tutors to grade a mock exam according to the IB rubric.

Course Outline

Area of Exploration – Readers, writers and text

This part of the course is an introduction to literature. You will look at the ways in which texts are produced, read, interpreted, responded to and performed, and reflect on the role of literature. You will focus on the words on the page, their literal meaning, the type of literary text being read, the plot, character, setting, word choice and stylistic features.

In this part of the course you will develop the skills and approaches required to successfully engage with texts. You will also be introduced to the process of assessing texts through critical reflection.

Area of Exploration – Time and space

All literary texts are written by authors who are real people living in the real world. Though this may seem obvious, it is important to remember that texts are affected by a wide variety of contexts such as the life of the author, the times in which they lived, historical conditions reflected in the text and many other real- world factors. In this area of the course you will study texts that allow you to consider how history, culture, geography and many other external factors are all important to fully understand a literary text.

While still attentive to the features of literary texts, in this area you will look at how the works you are reading represent, reflect and become part of life and culture.

Area of Exploration – Intertextuality: connecting texts

The study in this part of the course focuses on the connections between and among diverse literary texts, traditions, creators and ideas. You will explore further aspects of meaning, literary form, approach and chronological development. This section focuses on the comparative study of literary texts to gain a deeper understanding of unique characteristics of individual texts and interesting connections between different texts.

Connections between literary texts can be established in a variety of ways, such as through the study of a group of texts from the same literary form—for example, fiction, the sonnet, a tragedy; an exploration of a topic or concept as represented across literary texts—for example, power, heroism, gender; or an investigation into one of the seven concepts in studies in language and literature, such as representation or perspective.

Assessment

Paper 1:

The exam paper will consist of two extracts or texts from different literary forms, each accompanied by a guiding question. You will have to choose one of them and develop a response that demonstrates an awareness of how meaning is created. The guiding question will suggest a point of entry into the extracts or texts that allows you to focus on a stylistic or technical element. You are free to pursue a different line of inquiry. You should bear in mind that what is expected in this component is not an exhaustive discussion of all the aspects of the extracts or texts, but rather a reading of it that focuses on one of its prominent stylistic features - 35 %

Paper 2:

Paper 2 is an externally-assessed component requiring an essay in response to a given question concerning a comparative critical discussion of two works studied during your course.

There will be four questions presented in the paper 2 exam, one of which should be chosen for your essay.

You must refer to two works you have studied and focus closely on the topic in the question. You should compare and contrast the two works in the light of the question, analysing their formal and stylistic features as well as the way these features contribute to the creation of

meaning in the texts. You will need to think carefully about which of the works you have studied can be best explored in relation to the question and which of the questions will enable you to best demonstrate your understanding of the works you have studied – 35%

Individual Oral (IO)

IO means speaking for 15 minutes focusing on the prompt: Examine the ways in which the global issue of your choice is presented through the content and form of two of the works that you have studied. It is recorded at school and externally assessed - 30%

Prior Learning/Pre- requisites

To study Self-taught Language A, students should have a native like competence in the language. They should have received at least 8 years of formal education in the literature of the language.

Group 2 – Language B and *Ab Initio*

Languages Offered

- Danish SL/HL
- English SL/HL
- French SL
- Spanish SL

Nature of the Subject

Language acquisition consists of two modern language courses—language *ab initio* and language B—that are offered in a number of languages. These language acquisition courses are designed to provide students with the necessary skills and intercultural understanding to enable them to communicate successfully in an environment where the language studied is spoken.

Language *ab initio* and Language B develop students' linguistic abilities through the development of receptive, productive and interactive skills.

Course Outline

Themes

The five prescribed themes are:

- Identities: Explore the nature of the self and what it is to be human.
- Experiences: Explore and tell the stories of the events, experiences and journeys that shape our lives.
- Human ingenuity: Explore the ways in which human creativity and innovation affect our world.
- Social organization: Explore the ways in which groups of people organize themselves, or are organized, through common systems or interests.
- Sharing the planet: Explore the challenges and opportunities faced by individuals and communities in the modern world.

Assessment

External Assessment

Paper 1 - A written task based on a theme and text type- 25% SL/HL

Paper 2 - A reading and listening assessment - 50% SL/HL

Internal Assessment

Individual Oral Assessment- 25% SL/HL

Prior Learning/Prerequisites

Language B

SL

- MYP 5 Language Acquisition Phase 3 or 4
- Students have to achieve a 5 or more in MYP
- Previous study of language as a “second” language for two or three years
- Teacher interview

HL

- MYP 5 Language Acquisition Phase 4 or 5
- Previous study of language as a “Second” language for 3-5 years
- Students have to achieve a 6 or more in MYP
- Teacher recommendation

Ab Initio

- No previous experience with the language, beyond an interest in that language and culture.

Group 3 – Individuals and Societies

Courses will only be offered if sufficient student interest exists (5 or more students creates sufficient interest)

Business Management

Nature of the Subject/Philosophy

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.

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.

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.

The course encourages the appreciation of ethical concerns, as well as issues of corporate social responsibility (CSR), at both a local and global level.

Course Outline

Introduction to Business

In this first introductory unit, business management is set in context: students learn to analyze organizations' internal environment (for example, stakeholders, strategic objectives and CSR) and external environment (for example, the impact of technological change and globalization).

Human Resources

In this unit, students explore how businesses recruit, organize, develop and lead their arguably most important resource—their people. In unit 2, students also learn what motivates individuals to perform well at work.

Finance

Irrespective of their size, scope and sector, all organizations need robust accounting systems, making finance a core business function. In unit 3, students examine finance and accounts through both quantitative and qualitative methods

Marketing

Marketing is an essential business function: it creates a bridge between an organization and its customers. In our everyday speech, the word *marketing* is often associated with advertisements and finding innovative ways of getting people to buy a product or service. However, unit 4 shows students that marketing is much more than that.

Operations Management

In this unit, students return to the fundamental rationale of business management: to make goods and services that meet consumers' needs and wants. Without efficient operations leading to products and experiences customers are satisfied with, success in the other business functions is unsustainable.

Assessment

External Assessment

Paper 1: 35% of the total grade based on a pre-published case study

Paper 2: 40% of the total grade based on small cases

Internal Assessment 25%

Individual research based on secondary research

Prior Learning/Prerequisites

There is no particular background in terms of specific subjects for national or international qualifications expected or required, and no prior knowledge of business management is necessary for students to undertake a course of study based on this specification.

To study Business at HL, students would normally have achieved a 6 or more in MYP in an I&S course. To study Business at SL, students would normally have achieved a 4 in MYP in an I&S course.

At the SL level students learn about all areas of the course, but do not cover as many strands under each topic as HL students. They are also required to complete a Written Commentary.

History

Nature of the Subject/Philosophy

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 multi-perspective approach to history. It involves the study of a variety of types of history, including political, economic, social and cultural, and provides a balance of structure and flexibility. The course emphasizes the importance of encouraging students to think historically and to develop historical skills as well as gaining factual knowledge. It puts a premium on developing critical thinking skills, 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.

Course Outline

History (SL)

The topics in SL class are:

- Conflict and Intervention (Rwanda & Kosovo) - Paper 1
- Causes and effects of 20th century wars - Paper 2
- Cold War: superpower tensions and rivalries - Paper 2

History (HL)

HL students study the HL topics on top of all the work required in the SL course.

The additional topics for HL students are:

- Versailles to Berlin: Diplomacy in Europe (1919-1945) - Paper 3
- The Soviet Union and post-Soviet Russia (1924-2000) - Paper 3
- Post-war central and eastern Europe (1945-2000) - Paper 3

Assessment

External

Assessment in History takes place in three papers and an Internal Assessment.

Paper 1: 1 hour assessment of source analysis

Paper 2: 1,5 hour exam of two essay questions

Paper 3 (HL students only): 2,5 hour exam of three essay questions

Internal Assessment

2200 words essay in topic of own choice

Prior Learning/Prerequisites

To study History SL, students should have achieved a 4 or more in the MYP Individuals and Societies class. To study History HL, students would have achieved a 6 or more in the MYP Individuals and Societies class. On top of this, a recommendation from the Individuals and Societies teacher is needed.

In the HL course students study “Extension topics” that offer more depth and breadth of learning experiences to the course.

Psychology

Nature of the Subject/Philosophy

Psychology is the rigorous and systematic study of mental processes and behaviour. It is a complex subject which draws on concepts, methods and understandings from a number of different disciplines. There is no single approach that would describe or explain mental processes and behaviour on its own as human beings are complex animals, with highly developed frontal lobes, cognitive abilities, involved social structures and cultures. The study of behaviour and mental processes requires a multidisciplinary approach and the use of a variety of research techniques whilst recognising that behaviour is not a static phenomenon, it is adaptive, and as the world, societies and challenges facing societies change, so does behaviour.

Course Outline

Core

At the core of the DP psychology course is an introduction to three different approaches to understanding behaviour:

- biological approach to understanding behaviour
- cognitive approach to understanding behaviour
- sociocultural approach to understanding behaviour

The knowledge, concepts, theories and research that have developed the understanding in these fields will be studied and critically evaluated to answer some of the questions being asked by psychologists today. Furthermore, the interaction of these approaches to studying psychology will form the basis of a holistic and integrated approach to understanding mental processes and behaviour as a complex, dynamic phenomenon, allowing students to appreciate the diversity as well as the commonality between their own behaviour and that of others.

Options

The contribution and the interaction of the three approaches can be best understood through the options. There are four options in the course. They focus on areas of applied psychology:

- abnormal psychology
- developmental psychology
- health psychology

- psychology of human relationships.

The options provide an opportunity to take what is learned from the study of the approaches to psychology and put it into the context of specific lines of inquiry, broaden students' experience of the discipline and develop the students' critical inquiry skills.

Surrounding the approaches and the options are the overarching themes of research and ethics. A consideration of both is paramount to the nature of the subject.

Psychologists employ a range of research methods, both qualitative and quantitative, in order to test their observations and hypotheses. As a part of the core syllabus, DP psychology promotes an understanding of the various approaches to research and how they have been used in order to critically reflect on the evidence as well as assist in the design, implementation, analysis and evaluation of the students' own investigations.

Psychology studies human beings and as such it is paramount that the ethical implications in any line of investigation, and at all points in the course, are fully explored and understood to ensure that ethical guidelines are followed at all times.

Distinction between Standard Level (SL) and Higher Level (HL)

There are three main distinctions between this course at SL and at HL.

1. The following extensions to the core approaches are studied at HL only.
 - The role of animal research in understanding human behaviour
 - Cognitive processing in a technological (digital/modern) world
 - The influence of globalization on individual behaviour

This differentiation is reflected in paper 1 section B of the external assessment.

2. SL students are required to study one option while HL students study two options. This differentiation is reflected in paper 2 of the external assessment.
3. Both SL and HL students will be expected to show their understanding of approaches to research in the internal assessment and for criterion D (critical thinking) in paper 1 section B and paper 2 responses. Additionally, HL students will be directly assessed on their understanding of approaches to research in paper 3 of the external assessment. This will cover both qualitative and quantitative research methods.

Assessment

External - Standard Level (3 hours - 75% of final grade)

Paper 1 (2 hours)

Section A: Three short-answer questions on the core approaches to psychology (27 marks)

Section B: One essay from a choice of three on the biological, cognitive and sociocultural approaches to behaviour (22 marks)

(Total 49 marks)

Paper 2 (1 hour)

One question from a choice of three on one option (22 marks)

External - Higher Level (5 hours - 80% of final grade)

Paper 1 (2 hours)

Section A: Three short-answer questions on the core approaches to psychology (27 marks)

Section B: One essay from a choice of three on the biological, cognitive and sociocultural approaches to behaviour. One, two or all of the essays will reference the additional HL topic (22 marks)

(Total 49 marks)

Paper 2 (2 hours)

Two questions; one from a choice of three on each of two options (Total 44 marks)

Paper 3 (1 hour)

Three short-answer questions from a list of six static questions (published in this guide) on approaches to research (24 marks)

Internal Assessment (25% of final grade in SL and 20% in HL)

A report (1800-2200 words) on an experimental study undertaken by the student. Students are required to work as part of a group to plan and conduct the investigation. The research method, subjects and materials, as well as the operationalization of the Independent and Dependent Variables, will be the result of the group working together. Once the data has been generated the collaboration is complete. Each student will write up the report independently of other group members. The data will be analysed and conclusions drawn independently.

Prior Learning/Prerequisites

No prior study of psychology is expected. No particular background in terms of specific subjects studied for national or international qualifications is expected or required of students. However, it is recommended that the students are familiar with basic statistical methods for data analysis (linear regression, hypothesis testing etc.)

Environmental Systems & Societies (ESS)

Nature of the Subject/Philosophy

ESS is based in both a scientific exploration of the structure and function of environmental systems and in the exploration of a myriad of interactions of societies with the environment. As a result of studying this course, students will develop the ability to recognize and evaluate the impact of our complex system of societies on global ecosystems. Because it is an interdisciplinary course, students can study ESS and have it count as either a group 3 or a group 4 course, or as both. If students choose the latter option, this leaves the opportunity to study an additional subject from any other group, including an additional group 3 or group 4 subject.

Course Outline

Topic 1 – Foundations of ESS <ul style="list-style-type: none">● Environmental Value Systems● Systems & Models● Energy & Equilibria● Sustainability● Humans & Pollution	Topic 5 – Soil Systems & Society <ul style="list-style-type: none">● Introduction to Soil Systems● Terrestrial Food Production Systems & Food Choices.● Soil Degradation & Conservation
Topic 2 – Ecosystems & Ecology <ul style="list-style-type: none">● Species & Populations● Communities & Ecosystems● Flows of Energy & Succession● Investigating Ecosystems – Practical Work.	Topic 6 – Atmospheric Systems & Society <ul style="list-style-type: none">● Introduction to the Atmosphere● Stratospheric Ozone● Photochemical Smog● Acid Deposition
Topic 3 – Biodiversity & Conservation <ul style="list-style-type: none">● An Introduction to Biodiversity● Origins of Biodiversity● Threats to Biodiversity● Conservation of Biodiversity	Topic 7 – Climate Change & Energy Production. <ul style="list-style-type: none">● Energy Choices & Security● Climate Change – Causes & Impacts● Climate Change – Mitigation & Adaptation.
Topic 4 – Water, Food Production Systems & Society <ul style="list-style-type: none">● Introduction to Water Systems● Access to Freshwater● Aquatic Food Production Systems● Water Pollution	Topic 8 – Human Systems & Resource Use <ul style="list-style-type: none">● Human Population Dynamics● Resource Use in Society● Solid Domestic Waste● Human Systems & Resource Use

Assessment

External (75% of final mark)

Paper 1: 1 Hour / 40 Marks

- Students will be provided with a range of data in a variety of forms relating to a specific, previously unseen case study.
- Questions will be based on the analysis and evaluation of the data in the case study

Paper 2: 2 Hours / 65 Marks

- Paper 2 consists of two sections, A and B.
- Section A (25 marks) is made up of short-answer and data-based questions.
- Section B (40 marks) requires students to answer two structured essay questions from a choice of four. Each question is worth 20 marks.
- The final part of each essay in section B (9 marks) will be marked using markbands.

Internal Assessment (25% of final mark)

- Students perform an independent investigation in an attempt to answer a research question based on course content, as described in the course syllabus. A final report is then submitted to the IB and a grade out of 30 is awarded.

Prior Learning/Prerequisites

Students should have previous experience in either environmental science or integrated science, in MYP.

Group 4 – Sciences

Courses will only be offered if sufficient student interest exists .(6 or more students creates sufficient interest)

Environmental Systems & Societies (ESS)

ESS is a transdisciplinary subject; it can count either as a Group 3 (Individuals and societies) or Group 4 (Sciences) DP Subject.

For the course description of ESS, please kindly refer to the previous section in Group 3, pp. 24-25 (directly above); thank you.

Physics

Nature of the Subject/Philosophy

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

Students will learn the key concepts, ideas and tools that provide the basis for a modern understanding of the natural world. They will also learn the practical approach to gathering knowledge through experiments and modelling.

Students will learn to appreciate how an apple falling to the ground holds a clue to understanding how the moon goes around the earth. They will also learn how to measure the temperature of the Sun by knowing how to measure the temperature of a lighted bulb. Practical work will include, for example, construction of a motor from the bare minimum components and explaining why it turns the way it does. Students will also know how to calculate the tremendous amount of energy stored at the core of an atom and compare it with the amount of energy delivered by a wind turbine.

By arming the students with the most basic concepts and ideas of how the natural world works, students will know how to change and control this very same world.

Course Outline

<p>Topic 1 – Measurements and uncertainties</p> <p>Students study the following in this topic:</p> <ul style="list-style-type: none"> • Measurements in physics • Uncertainties and errors • Vectors and scalars 	<p>Topic 2 – Mechanics</p> <p>Students study the following in this topic:</p> <ul style="list-style-type: none"> • Motion • Forces • Work • Energy, and power • Momentum and impulse
<p>Topic 3 – Thermal physics</p> <p>Students study the following in this topic:</p> <ul style="list-style-type: none"> • Thermal concepts • Modelling a gas 	<p>Topic 4 – Waves</p> <p>Students study the following in this topic:</p> <ul style="list-style-type: none"> • Oscillations • Travelling waves • Wave characteristics and behaviour • Standing waves
<p>Topic 5 – Electricity and magnetism</p> <p>Students study the following in this topic:</p> <ul style="list-style-type: none"> • Electric fields • Heating effect of electric currents • Electric cells • Magnetic effects of electric currents 	<p>Topic 6 – Circular motion and gravitation</p> <p>Students study the following in this topic:</p> <ul style="list-style-type: none"> • Circular motion • Newton's law of gravitation
<p>Topic 7 – Atomic, nuclear and particle physics</p> <p>Students study the following in this topic:</p> <ul style="list-style-type: none"> • Discrete energy and radioactivity • Nuclear reactions, the structure of matter 	<p>Topic 8 – Energy production</p> <p>Students study the following in this topic:</p> <ul style="list-style-type: none"> • Energy sources • Thermal energy transfer

(Additional Higher Level Topics)

<p>Topic 9 – Wave phenomena</p> <p>Students study the following in this topic:</p> <ul style="list-style-type: none"> • Simple harmonic motion • Single-slit diffraction • Interference • Resolution • Doppler effect 	<p>Topic 10 – Fields</p> <p>Students study the following in this topic:</p> <ul style="list-style-type: none"> • Describing fields • Fields at work
<p>Topic 11 – Electromagnetic induction</p> <p>Students study the following in this topic:</p> <ul style="list-style-type: none"> • Electromagnetic induction • Power generation and transmission • Capacitance 	<p>Topic 12 – Quantum and nuclear physics</p> <p>Students study the following in this topic:</p> <ul style="list-style-type: none"> • The interaction of matter with radiation • Nuclear physics

Options:

- A. Relativity
- B. Engineering physics
- C. Imaging
- D. Astrophysics

DP Physics students must study at least ONE of the above options.

Assessment

External (80% of final mark)

Paper 1: Multiple-choice questions, SL 45 minutes, 30 items; HL 1 hour, 40 items

Paper 2: Short-answer and extended-response question, SL 1 hour 15 minutes; HL 2 hours 15 minutes

Paper 3: Paper will have questions on core and SL or HL option material, SL 1 hour, HL 1 hour 15 minutes

Internal Assessment (20% of final mark)

The internal assessment requirements at SL and at HL are the same.

Prior Learning/Prerequisites

Students will be able to study a group 4 science subject at SL successfully with no background in, or previous knowledge of, science. Their approach to learning, characterized by the IB learner profile attributes, will be significant here.

However, for most students considering the study of a group 4 subject at HL, while there is no intention to restrict access to group 4 subjects, some previous exposure to formal science education would be necessary. Specific topic details are not specified but students who have undertaken the IB Middle Years Programme (MYP) or studied an equivalent national science qualification or a school-based science course would be well prepared for an HL subject.

Chemistry

Nature of the Subject/Philosophy

Chemistry is known as the central science, as it is the study of matter and energy, both of which underpin the physical universe and the biological systems found in all living things. Diploma Chemistry combines the in-depth study of theoretical concepts as well as placing emphasis on the acquisition of laboratory skills through hands-on experimentation. Diploma Chemistry is a prerequisite for many other courses in higher education, such as medicine, biological science and environmental science, and serves as excellent preparation for any career in the fields of science and engineering.

Course Outline

Topic 1 – Stoichiometric Relationships

In the first topic, students learn about the relationship between mass, the concept of the mole and Avogadro's number. Students learn how to calculate the various quantities of products formed as a result of chemical reactions

Topic 2 – Atomic Structure

In this topic, students gain insight into the structure of the atom at the subatomic level.

Topic 3 – Periodicity

The arrangement of elements in the periodic table helps to predict their electro configuration. The focus of this topic is in examining how the properties of elements correspond to their position in the periodic table.

Topic 4 – Chemical bonding and structure

The main concept of this topic is that atoms are held together by different types of bonds. The type of bond is dependent on the chemical properties of the atoms present in the bond.

Topic 5 – Energetics

In topic 5, students will learn about how energy can be absorbed or released in a chemical reaction, thus changing the internal energy (enthalpy) of a chemical.

Topic 6 – Kinetics

Students will learn about the various factors that affect the rates at which chemical reactions proceed.

Topic 7 – Equilibrium

Chemical reactions can proceed in both the forward and reverse directions. Students will enquire into how factors such as temperature, can influence a reaction to proceed in the forward or reverse direction.

Topic 8 – Acids and Base

Students will learn about the similarities and differences between acids and bases. The relationship between pH and dissociation constants will be examined.

Topic 9 – Redox Reaction

Almost all reactions involve the removal of electrons (oxidation) or acceptance of electrons (reduction). Students will investigate how the flow of electrons can be used as a source of power.

Topic 10 – Organic Chemistry

Organic chemistry is the chemistry of carbon. Students will learn about the different classifications of organic compounds and the roles they play in society.

Topic 11 – Data Processing & Uncertainties

Collecting and processing data is necessary in all aspects of science, including chemistry. Students will learn how to graph data as well as calculating the uncertainties associated with different types of measurement.

Optional Topic

Students can choose one topic from a list of topics depending on their personal interests. Topics include 'Materials', 'Biochemistry', 'Energy' & 'Medicinal Chemistry'.

Assessment

External Assessment

These take the form of three exams written at the end of the course. The three exams are worth 80% of each student's final grade. Paper 1 (20%), paper 2 (36%) and paper 3 (24%).

Internal Assessment

The internal assessment constitutes the remaining 20% of each student's grade and requires students to design, perform and analyse a scientific investigation.

Prior Learning/Prerequisites

Students should have previous experience in either chemistry or integrated science. In order to study Chemistry at HL, students will have needed to have obtained a minimum grade of 6 in MYP5 science.

Biology

Nature of the Subject/Philosophy

Biology is the study of life. The first organisms appeared on the planet over 3 billion years ago and, through reproduction and natural selection, have given rise to the 8 million or so different species alive today. Estimates vary, but over the course of evolution 4 billion species could have been produced.

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.

Many areas of research in biology are extremely challenging and many discoveries remain to be made. Biology is still a young science and great progress is expected in the 21st century. This progress is sorely needed at a time when the growing human population is placing ever greater pressure on food supplies and on the habitats of other species, and is threatening the very planet we occupy.

The course is available at both standard level (SL) and higher level (HL), and therefore accommodates students who wish to study Biological Sciences as their major subject in higher education and those who do not.

(Diploma Biology Curriculum guide, 2014)

Course Outline

Core Topics

Topic 1 – Cell Biology

Students study the following in this topic:

- Introduction to cells
- Membrane Transport
- Ultrastructure of cells
- The origin of cells
- Membrane structure
- Cell division

Topic 2 – Molecular Biology

Students study the following in this topic:

- Molecules to metabolism
- Structure of DNA and RNA
- Water
- DNA replication, transcription and translation
- Carbohydrates and lipids
- Cell respiration
- Proteins
- Photosynthesis
- Enzymes

Topic 3 – Genetics

Students study the following in this topic:

- Genes
- Inheritance
- Chromosomes
- Genetic modification and biotechnology
- Meiosis

Topic 4 – Ecology

Students study the following in this topic:

- Species, communities and ecosystems
- Carbon cycling
- Energy flow
- Climate change

Topic 5 – Evolution and Biodiversity

Students study the following in this topic:

- Evidence for evolution
- Classification and biodiversity
- Natural selection
- Cladistics

Topic 6 – Human Physiology

Students study the following in this topic:

- Digestion and absorption
- The blood system
- Defence against infectious disease
- Gas exchange
- Neurones and synapses
- Hormones, homeostasis and reproduction

(Additional Higher Level Topics)

Topic 7 – Nucleic Acids

Students study the following in this topic:

- DNA structure and replication
- Transcription and gene expression
- Translation

Topic 8 – Cellular Metabolism

Students study the following in this topic:

- Metabolism
- Cell respiration
- Photosynthesis

Topic 9 – Plant Biology

Students study the following in this topic:

- Transport in the xylem of plants
- Transport in the phloem of plants
- Growth in plants
- Reproduction in plants

Topic 10 – Genetics and Evolution

Students study the following in this topic:

- Meiosis
- Inheritance
- Gene pool and speciation

Topic 11 – Animal Physiology

Students study the following in this topic:

- Antibody production and vaccination
- Movement
- The kidney and osmoregulation
- Sexual reproduction

Options:

- Neurobiology and behaviour
- Biotechnology and bioinformatics
- Ecology and conservation
- Human physiology

DP Biology students must study at least ONE of the above options.

Assessment

External Assessment (80% of final mark)

Paper 1: Multiple Choice Questions only. HL paper = 40 Questions SL paper 30 Questions

Paper 2: Data analysis, factual recall and extended response questions

Paper 3: Section A- Questions based on the compulsory key skills (practicals)

Section B- Questions based on the option studied (Option A, B, C and D)

Internal Assessment (20% of final mark)

Individual Scientific Investigation

Prior Learning/ Prerequisites

Students should have previous experience in either Biology or Integrated Science. In order to study Biology at HL, students will have needed to have obtained a minimum grade of 6 in MYP5 Science.

Group 5 – Mathematics

Courses will only be offered if sufficient student interest exists. (6 or more students creates sufficient interest)

Prior Learning/Prerequisites

In order to study Mathematics at HL, students will need to have obtained a minimum grade of 6 in MYP5 Maths Extended in Criterion A or a grade of 7 in MYP5 Maths Standard in Criterion A. New students coming from IGCSE should have B or above or equivalent.

Mathematics: Analysis and Approaches (AA) (SL/HL)

Nature of the Subject

This course recognizes the need for analytical expertise in a world where innovation is increasingly dependent on a deep understanding of mathematics. This course includes topics that are both traditionally part of a pre-university mathematics course (for example, functions, trigonometry, calculus) as well as topics that are amenable to investigation, conjecture and proof, for instance the study of sequences and series at both SL and HL, and proof by induction at HL.

The course allows the use of technology, as fluency in relevant mathematical software and hand-held technology is important regardless of choice of course. However, Mathematics: analysis and approaches has a strong emphasis on the ability to construct, communicate and justify correct mathematical arguments.

Course Outline

Distinction between SL and HL

Students who choose Mathematics: analysis and approaches at SL or HL should be comfortable in the manipulation of algebraic expressions and enjoy the recognition of patterns and understand the mathematical generalization of these patterns. Students who wish to take Mathematics: analysis and approaches at the higher level will have strong algebraic skills and the ability to understand simple proof. They will be students who enjoy spending time with problems and get pleasure and satisfaction from solving challenging problems.

Both SL courses are taught as a subset of lessons of their respective HL courses.

Topic 1 – Number and Algebra

The aim of the **SL content** of the number and algebra topic is to introduce students to numerical concepts and techniques which, combined with an introduction to arithmetic and geometric sequences and series, can be used for financial and other applications. Students will also be introduced to the formal concept of proof.

The aim of the **HL content** in the number and algebra topic is to extend and build upon the aims, concepts and skills from the SL content. It introduces students to some important techniques for expansion, simplification and solution of equations. Complex numbers are introduced and students will extend their knowledge of formal proof to proof by mathematical induction, proof by contradiction and proof by counterexample.

Topic 2 – Functions

The aim of the **SL content** in the functions topic is to introduce students to the important unifying theme of a function in mathematics and to apply functional methods to a variety of mathematical situations.

Throughout this topic students should be given the opportunity to use technology, such as graphing packages and graphing calculators to develop and apply their knowledge of functions, rather than using elaborate analytic techniques.

The aim of the **HL functions** topic is to extend and build upon the aims, concepts and skills from the SL content. It introduces students to useful techniques for finding and using roots of polynomials, graphing and interpreting rational functions, additional ways to classify functions, solving inequations and solving equations involving modulus notation.

Topic 3 – Geometry and trigonometry

The aim of the **SL content** of the geometry and trigonometry topic is to introduce students to geometry in three dimensions and to non right-angled trigonometry. Students will explore the circular functions and use properties and identities to solve problems in abstract and real-life contexts.

Throughout this topic students will be given the opportunity to use technology such as graphing packages, graphing calculators and dynamic geometry software to develop and apply their knowledge of geometry and trigonometry.

The aim of the **HL content** in the geometry and trigonometry topic is to extend and build upon the aims, concepts and skills from the SL content. It further explores the circular functions, introduces some important trigonometric identities, and introduces vectors in two and three dimensions. This will facilitate problem-solving involving points, lines and planes.

Topic 4 – Statistics and probability

The aim of the **SL content** in the statistics and probability topic is to introduce students to the important concepts, techniques and representations used in statistics and probability. Students should be given the opportunity to approach this topic in a practical way, to understand why certain techniques are used and to interpret the results. The use of technology such as simulations, spreadsheets, statistics software and statistics apps can greatly enhance this topic.

It is expected that most of the calculations required will be carried out using technology, but explanations of calculations by hand may enhance understanding. The emphasis is on understanding and interpreting the results obtained, in context.

In examinations students should be familiar with how to use the statistics functionality of allowed technology.

The aim of the **HL content** in the statistics and probability topic is to extend and build upon the aims, concepts and skills from the SL content. Students are introduced to further conditional probability theory in the form of Bayes Theorem and properties of discrete and continuous random variables are further explored.

Topic 5 Calculus

The aim of the **SL content** in the calculus topic is to introduce students to the concepts and techniques of differential and integral calculus and their applications.

Throughout this topic students should be given the opportunity to use technology such as graphing packages and graphing calculators to develop and apply their knowledge of calculus.

The aim of the **HL content** in the calculus topic is to extend and build upon the aims, concepts and skills from the SL content. Further powerful techniques and useful applications of differential and integral calculus are introduced.

Assessment

External assessment SL (3 hours)

Paper 1 (90 minutes) - 40% - No Technology allowed 80 marks

Section A - Compulsory short-response questions based on the syllabus

Section B - Compulsory extended-response questions based on the syllabus.

Paper 2 (90 minutes) - 40% - Technology required. (80 marks)

Section A - Compulsory short-response questions based on the syllabus.

Section B - Compulsory extended-response questions based on the syllabus

Mathematical exploration - 20%

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

(20 marks)

External assessment HL (5 hours)

Paper 1 (120 minutes) - 30% - No Technology allowed. 110 marks

Section A - Compulsory short-response questions based on the syllabus

Section B - Compulsory extended-response questions based on the syllabus.

Paper 2 (120 minutes) - 30% - Technology required. 110 marks

Section A - Compulsory short-response questions based on the syllabus.

Section B - Compulsory extended-response questions based on the syllabus.

Paper 3 (60 minutes) - 20% - Technology required. 55 marks
Two Compulsory extended-response problem-solving questions

Mathematical exploration - 20%

This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. Internal assessment in mathematics is an individual exploration. This is a piece of written work that involves investigating an area of mathematics. (20 marks)

Mathematics: Applications and Interpretation (AI) (SL/HL)

Nature of the Subject

This course recognizes the increasing role that mathematics and technology play in a diverse range of fields in a data-rich world. As such, it emphasizes the meaning of mathematics in context by focusing on topics that are often used as applications or in mathematical modelling. To give this understanding a firm base, this course also includes topics that are traditionally part of a pre-university mathematics course such as calculus and statistics.

The course makes extensive use of technology to allow students to explore and construct mathematical models. Mathematics: applications and interpretation will develop mathematical thinking, often in the context of a practical problem and using technology to justify conjectures.

Course Outline

Distinction between SL and HL

Students who choose Mathematics: applications and interpretation at SL or HL should enjoy seeing mathematics used in real-world contexts and to solve real-world problems. Students who wish to take Mathematics: applications and interpretation at higher level will have good algebraic skills and experience of solving real-world problems. They will be students who get pleasure and satisfaction when exploring challenging problems and who are comfortable to undertake this exploration using technology.

Both SL courses are taught as a subset of lessons of their respective HL courses.

Topic 1 – Number and Algebra

The aim of the **SL content** of the number and algebra topic is to introduce students to numerical concepts and techniques which combined with an introduction to arithmetic and geometric sequences and series can be used for financial and other applications.

The aim of the **HL content** in the number and algebra topic is to extend and build upon the aims, concepts and skills from the standard level content. It introduces students to the laws

of logarithms, the important mathematical concepts of complex numbers and matrices, and their applications.

Topic 2 – Functions

The aim of the **SL content** in the functions topic is to introduce students to the important unifying theme of a function in mathematics and to apply functional methods to a variety of mathematical situations.

Throughout this topic students should be given the opportunity to use technology, such as graphing packages and graphing calculators to develop and apply their knowledge of functions, rather than using elaborate analytic techniques.

The aim of the **HL functions** topic is to extend the aims, concepts and skills from the standard level content. It introduces students to further numerical and graphical techniques and further key functions which can be used to model and interpret practical situations.

Topic 3 – Geometry and trigonometry

The aim of the **SL content** of the geometry and trigonometry topic is to introduce students to appropriate skills and techniques for practical problem solving in two and three dimensions.

Throughout this topic students should be given the opportunity to use technology such as graphing packages, graphing calculators and dynamic geometry software to develop and apply their knowledge of geometry and trigonometry.

The aim of the **HL content** in the geometry and trigonometry topic is to extend and build upon the aims, concepts and skills from the standard level content. It introduces students to an alternative measurement system for angles and some important trigonometric identities, extends the application of matrices to transformations, and introduces students to vectors and their applications in kinematics. Graph theory is introduced to allow students to apply their knowledge of matrices and develop their knowledge of algorithms in practical contexts.

Topic 4 – Statistics and probability

The aim of the **SL content** in the statistics and probability topic is to introduce students to important concepts, techniques and representations used in statistics and probability and their meaningful application in the real world. Students should be given the opportunity to approach this topic in a practical way, to understand why certain techniques are used and to interpret the results. The use of technology such as simulations, spreadsheets, statistics software and statistics apps can greatly enhance this topic.

It is expected that most of the calculations required will be carried out using technology, but explanations of calculations by hand may enhance understanding. The emphasis is on choosing the most appropriate technique, and understanding and interpreting the results obtained in context.

The aim of the **HL content** in the statistics and probability topic is to extend and build upon the aims, concepts and skills from the standard level content. It allows students to develop skills in the design of data collection methods taking consideration of validity and reliability, regression is extended to non-linear situations, concepts involving samples and populations are introduced and students will develop their skills in deciding which tests to use in context. Students will be introduced to transition matrices and establish the links between matrices, probability and eigenvalues.

It is expected that students will be able to choose appropriate techniques and interpret their results. Students are expected to set up a problem mathematically and then calculate the answers using technology. Technology-specific language should not be used within these explanations.

Topic 5 Calculus

The aim of the **SL content** in the calculus topic is to introduce students to the key concepts and techniques of differential and integral calculus and their use to approach practical problems.

Throughout this topic students should be given the opportunity to use technology such as graphing packages and graphing calculators to develop and apply their knowledge of calculus.

The aim of the **HL content** in the calculus topic is to extend and build upon the aims, concepts and skills from the standard level content. Further differential and integral calculus techniques are introduced to enable students to model and interpret practical contexts.

Assessment

External assessment SL (3 hours)

Paper 1 (90 minutes) - 40% - Technology required. (80 marks)

Technology Required. (80 marks)

Compulsory short-response questions based on the syllabus.

Paper 2 (90 minutes) - 40% - Technology required. (80 marks)

Technology required. (80 marks)

Compulsory extended-response questions based on the syllabus.

Mathematical exploration - 20%

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

(20 marks)

External assessment HL (5 hours)

Paper 1 (120 minutes) - 30% - Technology required. 110 marks

Compulsory short-response questions based on the syllabus

Paper 2 (120 minutes) - 30% - Technology required. 110 marks

Compulsory extended-response questions based on the syllabus.

Paper 3 (75 minutes) - 20% - Technology required. 55 marks
Two Compulsory extended-response problem-solving questions

Mathematical exploration - 20%

This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. Internal assessment in mathematics is an individual exploration. This is a piece of written work that involves investigating an area of mathematics. (20 marks)

Group 6 – The Arts

Visual Arts

Nature of the Subject/Philosophy

The course is directed by the interests of the student and can include all elements of Fine Art, Curation, Design, Architecture, Photography, Film or Advertising or Graphics. The unifying factor is the study of visual language: ways of looking and seeing, and lateral thinking are key concepts developed in this visually based course. As a society, we construct opinion and forms for expression. As citizens, the individual must therefore communicate clearly and accurately, have the knowledge and skill to adapt to specified style and develop skill to become independent analytical observers and critics.

This product based course challenges students to initiate and implement their own effective reasoning and argumentation, while sharpening manual, linguistic and visual communicative proficiency. We create a large amount of studio art, and we build personal and cultural identity through presentation and communication.

Course Components

Process Portfolio 40%
Exhibition 40% (Internal Assessment)
Comparative Study 20%

Course Outline

Part 1 – Process and Media

The course starts with short experiments in media and process including primary analysis forms, experimentation, diagram, record keeping, technical competence, and a foundation in drawing, painting, print, sculpture and photography.

Part 2 – Critical Thinking

The course discusses our ways of knowing in terms of visual analysis, critical perspectives. Students learn techniques for referencing arts' historical contexts as well as contemporary contexts and explore the deeper experience of human relationship to art in a continuum of

contemporary reference. Analysis, documentation, experimentation are all in focus as we develop Process Portfolio technique. Students work with historical painting techniques.

Part 3 – Journey and Thread

Students prepare for their first exhibition with focus on developing skills in personal voice, curation, evaluation of their own resources, communication of idea and intention, and audience.

The work includes working with cultural significance in relation to human artifact production, why we create, the identification of personal meaning. Frames of reference include analysis models, artist communication of intention: visual language and symbol, and the audience role in the creative process. We explore aspects of interactive work including temporal art, performance art, photography, video and installation

Part 4 – Focus

After completing their first exhibition DP 1 students focus their attention on the production of work for their exit exhibition, in one year's time. They focus on art production with the critical thinking basis they have developed. The work should compare and connect, explore personal techniques, styles, themes and influences. Students evaluate their position as artists, inventors, creators and work all three aspects of referencing, product development and process. We focus on Critical Investigation for the Process Portfolio through printmaking and photography techniques. Students also develop and complete their first Comparative Study.

Part 5 – The Editorial Process

Students return to the studio after summer production and focus immediately on the direction of own their own developed work, pinpointing the work to come. All work is by their own initiative, and students develop abilities in presenting self-directed work, layout, artist justification and statement in the use of language and image. The minimum requirement for the exhibition and course is due in December, with the mock exams, with the result that students in HL will have 8 works completed with Process, and SL 4 works.

Part 6 - Cohesion

Students prepare their Exit Exhibition, which takes place over one week in March and is a highlight of our school year. The event is the focus for student presentation, curation, and documentation for the IB as well as their own portfolios for those who intend to continue on in the arts at the next level. Student skill in audience communication, technical skill, presentation, as well as written and visual language come together under the term cohesion, which is the culmination of student portfolio. Students deliver their final Comparative Study to the IB in February and spend the rest of the course time in Exhibition and Process Portfolio documentation.

Assessment

External Assessment

Process Portfolio 40%: This documents the student's personal process and progress over two years of work. HL deliver 20-25 screens; SL 9-18 screens

Comparative Study 20%: This is a comparison of three artworks chosen by the student to relate to personal practice, but is the critical-analytical focus of the course. HL deliver 13-20 screens; SL 10-15 screens

Internal Assessment

Exhibition 40%: This is a cohesive exhibition in the March of year 2 and is the culmination of the student's own product and process. HL students submit 8–11 artworks. SL 4-7 artworks

Prior Learning/Prerequisites

To study Visual Arts, no prior official learning of the arts is required. It is recommended that you ensure an interest in the subject on a private level or that you have experienced a form of any of the arts disciplines or design in a formal setting. Be aware of the written components in the course. All skill components for both writing and art techniques are taught and developed through the course, but there is much call for independent thinking and processing of art. In art, YOU are the person in charge of your learning and the teacher operates as coach and guide to help realize your own vision.

The course will require the following aspects of study:

- Foundation and experimentation: Students are expected to give a trial to a range of media, revisiting former skills, as well as extending to new skills.
- Personal media specialization: Students are able to focus on an area of proficiency, so that they can become more advanced in their media of choice
- Personal media extension: Students are required to take an extension in one or two media which is new to them, and which extends their research
- Journal, research and process development: Students are required to maintain a very active journal, which includes research and development of ideas
- Style/Historical referencing: Students are required to become acquainted with relevant artists and periods, referencing them for development of their own work
- Off campus research and process development: Students are required to visit gallery and museum exhibition, and relate the work to their own development

Core Requirements

The IB DP Core concepts are requirements. All students must complete all three Core requirements adequately in order to be eligible to earn their IB Diploma. More information on these core requirements will be presented to students as they begin the DP, however, it is important to have a general understanding of each of them here.

The IB Diploma Core

Theory of Knowledge

A course that moves beyond the classroom

“All our knowledge begins with the senses, proceeds then to the understanding, and ends with reason. There is nothing higher than reason” (Immanuel Kant).

Quotes like the one above is a way we start discussion in our class in order to learn how we know and learn alongside acknowledging *truths* beyond our own truths. This is an important characteristic of the IB knower who is an *open-minded* and *internationally minded* individual. *Reason* as in the quote above is one vehicle to help the knower to achieve a firmer understanding of the world around us and there are also other key concepts that can enable us to become considerate and understanding individuals such as *critical thinking*, *responsibility*, *objectivity* and many more.

Nature of the TOK course and the connection to IB subjects

TOK is a core aspect of the IB Diploma program (DP) that is a requirement in order to receive the full diploma at the end of two years; in other words, without TOK there is no IB Diploma. The course itself is focusing on building up critical thinking and reflective skills. Students in this course study the *nature of knowledge* and **how** they come to know and learn in their respective subjects. Therefore, critical scrutiny is an essential characteristic of the IB DP students who need to investigate the reliability of their own knowledge by investigating possible biases in their approach and acquisition of new and old knowledge. Through the critical and reflective approach students learn and understand that knowledge changes through experience, reflection, development and research. Students learn, knowledge is dynamic and the areas of knowledge (subject areas) where they acquire and know things can change depending on the culture and context it is developed in. Hence, the TOK course is supporting students in transferring critical thinking and reflective skills into their subjects and studies in IB DP which is a skill they continue using in further education and it is an essential life skill.

Course consent and a brief outline

“Ask the tough questions. Ask to see the evidence. Ask for the part of the story that's not being told. The answers shouldn't be simple, because the brain isn't simple” (Molly Crockett).

Investigating and exploring in TOK is asking questions for deeper elaboration and understanding. We use a lot of time in TOK to help students create questions that search into **how** knowledge is created and acquired; therefore, it is a course that expects a high degree of abstraction and concentration when studying the themes and areas of knowledge in TOK. The course also requires students to be present and active during the classes.

In the TOK course we cover, investigate and explore themes and areas that are highly connected to how knowledge acquisition and creation happens, but we are also connecting

and applying our discussions to the real world through the two assessments, the **essay** and **the exhibition**. There is more on the assessment later in this document but here are the themes and areas we cover during a course of two years:

- **Knowledge and knower** (core theme and will be covered)
- **Areas of knowledge** (All areas will be covered):
 - Art
 - Natural Science
 - Human Science
 - History
 - Mathematics
- **Optional themes** (2 themes has to be studied):
 - Knowledge and politics
 - Knowledge and language
 - Knowledge indeginous societies
 - Knowledge and religion
 - Knowledge and technology
- **The assessments**
 - The Essay (externally assessed)
 - The Exhibition (internally assessed and externally moderated by the IB)

Learning and teaching - The foundation unit in TOK

In our foundation unit we familiarise ourselves with key TOK concepts and ask ourselves the key TOK question: **How do we know?** During this unit students will also be introduced to the knowledge framework, which is an important aspect of the areas of knowledge (AOK), core theme and optional themes. The knowledge framework consists of **scope, perspective, methodology & tools and ethics** which helps us organise the course and focus on important aspects in relation to teaching and learning but also development as a human. Furthermore, during this unit students will understand how these concepts are interrelated and how they work together in the context of the assessment. During this unit students will be writing small written tasks in class in order to familiarize themselves with the main TOK concepts learned.

Areas of knowledge and optional themes

The purpose of this unit is to make an in-depth inquiry into the areas of knowledge and understand the nature of the knowledge framework for each area. During the study of the areas of knowledge students will learn to decode TOK knowledge frameworks and analyze the links and connections between the areas of knowledge and optional themes. Furthermore, the students will also be able to make links and connections between the different areas of knowledge studied in the course. This is our longest unit; therefore, there will be a small oral and written assessment in order to ensure that students understand how to apply the TOK concepts to the real world. Alongside this unit students will be working on their **Exhibition**. See a sample TOK exhibition here.

TOK Essay unit

This is a short but essential unit that will lead them towards working on their formal TOK essays when the IB announces the TOK prescribed titles in September during the 2nd year of the DP.

During this unit we will review and go through the main ideas in the TOK subject in order to recapitulate what we have gone through and make sure that everybody has an understanding of the core requirements while working on the TOK essay. See a sample TOK essay.

Prior Learning/Pre- requisites

An open mind. If not, we will together work on collaboratively becoming more open-minded through critical scrutiny.

Extended Essay (EE)

The Extended Essay gives students the chance to explore in further detail an aspect of knowledge that stems from a DP class.

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

- Pursue independent research on a focused topic
- Develop research and communication skills
- Develop the skills of creative and critical thinking
- Engage in a systematic process of research appropriate to the subject
- Experience the excitement of intellectual discovery. (EE Guide, pg. 6)

The extended essay offers the opportunity for IB students to investigate a topic of special interest, in the form of a 4000-word piece of independent research. The area of research undertaken is chosen from one of the student's six Diploma Programme subjects, and acquaints them with the independent research and writing skills expected at university. 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. It is intended to promote high-level research and writing skills, intellectual discovery and creativity.

An authentic learning experience, it provides students with an opportunity to engage in personal research on a topic of choice, under the guidance of a supervisor. Despite the independent nature of this core task, the student will be expected to adhere to a series of school deadlines to ensure that this task can be completed in a timely manner (EE Guide, pg. 2, 8).

This section of the core is expected to take students approximately 40 hours of work, over two years, to complete.

Creativity, Activity, Service (CAS)

“ . . . if you believe in something, you must not just think or talk or write, but must act.”
(Peterson 2003)

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

As a shining beacon of our values, CAS enables students to demonstrate attributes of the IB learner profile in real and practical ways, to grow as unique individuals and to recognize their role in relation to others. Students should expect that CAS activities at ISH will take approximately 150 hours or more of their time, over two years of the DP programme.

The CAS programme aims to develop students who:

- enjoy and find significance in a range of CAS experiences
- purposefully reflect upon their experiences
- identify goals, develop strategies and determine further actions for personal growth
- explore new possibilities, embrace new challenges and adapt to new roles
- actively participate in planned, sustained, and collaborative CAS projects
- understand they are members of local and global communities with responsibilities towards each other and the environment.

(CAS Pre-publication Guide, pg. 10)

Student completion of CAS is based on the achievement of the seven CAS learning outcomes realized through the student's commitment to his or her CAS programme over a period of 18 months. These learning outcomes articulate what a CAS student is able to do at some point during his or her CAS programme.

Through meaningful and purposeful CAS experiences, students develop the necessary skills, attributes and understandings to achieve the seven CAS learning outcomes.

Some learning outcomes may be achieved many times, while others may be achieved less frequently. Not all CAS experiences lead to a CAS learning outcome. Students provide the school with evidence in their CAS portfolio of having achieved each learning outcome at least once through their CAS programme. The CAS coordinator must reach agreement with the student as to what evidence is necessary to demonstrate achievement of each CAS learning outcome. Commonly, the evidence of achieving the seven CAS learning outcomes is found in students' reflections.

There are seven learning outcomes in CAS:

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