



International Baccalaureate **DIPLOMA PROGRAMME**



**International
School**
Dublin · Ireland





A passion for learning is a passion for life

Mission

Our aim is to help students become proactive global citizens by providing learning experiences which focus on concept-based inquiry and reflection, thus helping them develop intellectually and emotionally, while acquiring a lifelong passion for learning.

SEK-Dublin is an IB World School and is the first school in Ireland authorised by the International Baccalaureate Organisation to deliver both the Middle Years Programme (MYP) and the Diploma Programme (DP), thus completing the IB secondary school continuum, and enabling us to nurture students' lifelong passion for learning.

Diploma students at SEK-Dublin have the opportunity to study in small class sizes with multicultural and internationally minded teachers who are passionate about the IB. Whilst the DP is a challenging and rigorous programme, the tailored support that students receive means that every student has the best opportunity to succeed.

IB Diploma Programme of Study

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

Students learn more than just a body of knowledge. The Diploma Programme prepares students for university and encourages them to:

- Ask challenging questions
- Learn how to learn using the IB Approaches to Learning
- Develop a strong sense of their own identity and culture
- Develop the ability to communicate with and understand people from other countries and cultures
- Flourish physically, intellectually, emotionally and ethically
- Explore the nature of knowledge through the programme's unique theory of knowledge course



10 Reasons



why the IB Diploma Programme (DP) is ideal preparation for university

- ### It increases academic opportunity

Research* shows that DP graduates are much more likely to be enrolled at top higher education institutions than entrants holding other qualifications.
- ### IB students care about more than just results

Through creativity, action, service (CAS) you learn outside the classroom and develop emotionally and ethically as well as intellectually.
- ### It encourages you to become a confident and independent learner

For example, the extended essay requires independent research through an in-depth study.
- ### It's an international qualification

The DP is recognized globally by universities and employers.
- ### Graduates are globally minded

Language classes encourage an international mindset, key for increasingly globalized societies.
- ### The IB encourages critical thinking

Learn how to analyse and evaluate issues, generate ideas and consider new perspectives.
- ### DP students have proven time management skills

Take good study habits and strong time management to further education and the working world.
- ### It assesses more than examination techniques

Learn to understand, not just memorize facts or topics and prepare for exams.
- ### Subjects are not taught in isolation

Theory of knowledge (TOK) classes encourage you to make connections between subjects.
- ### It encourages breadth and depth of learning

You are able to choose courses from six subject groups and study subjects at different levels.





IB learner profile

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

As IB learners we strive to be:

- INQUIRERS**
We nurture our curiosity, developing skills for inquiry and research. We know how to learn independently and with others. We learn with enthusiasm and sustain our love of learning throughout life.
- KNOWLEDGEABLE**
We develop and use conceptual understanding, exploring knowledge across a range of disciplines. We engage with issues and ideas that have local and global significance.
- THINKERS**
We use critical and creative thinking skills to analyse and take responsible action on complex problems. We exercise initiative in making reasoned, ethical decisions.
- COMMUNICATORS**
We express ourselves confidently and creatively in more than one language and in many ways. We collaborate effectively, listening carefully to the perspectives of other individuals and groups.
- PRINCIPLED**
We act with integrity and honesty, with a strong sense of fairness and justice, and with respect for the dignity and rights of people everywhere. We take responsibility for our actions and their consequences.

- OPEN-MINDED**
We critically appreciate our own cultures and personal histories, as well as the values and traditions of others. We seek and evaluate a range of points of view, and we are willing to grow from the experience.
- CARING**
We show empathy, compassion and respect. We have a commitment to service, and we act to make a positive difference in the lives of others and in the world around us.
- RISK-TAKERS**
We approach uncertainty with forethought and determination; we work independently and cooperatively to explore new ideas and innovative strategies. We are resourceful and resilient in the face of challenges and change.
- BALANCED**
We understand the importance of balancing different aspects of our lives—intellectual, physical, and emotional—to achieve well-being for ourselves and others. We recognize our interdependence with other people and with the world in which we live.
- REFLECTIVE**
We thoughtfully consider the world and our own ideas and experience. We work to understand our strengths and weaknesses in order to support our learning and personal development.

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



The curriculum contains six subject groups together with the Diploma Core: creativity, activity, service (CAS); the extended essay (EE); and theory of knowledge (TOK).

Students study one subject from each of the six subject groups to give a balanced and holistic experience. They generally study three subjects at higher level and three at standard level.

All students study two languages and the Diploma Core.

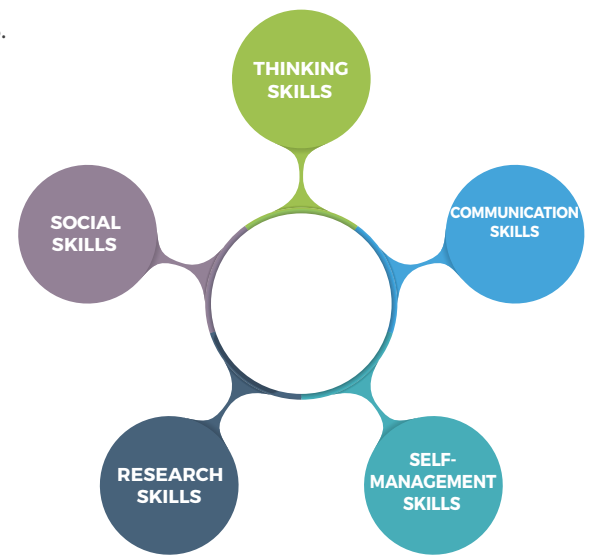
At the centre of the curriculum you can see the IB Learner Profile, which contains the skills and qualities that all subjects foster. Surrounding this are the Approaches to Teaching and Learning which outline the pedagogy at the heart of the IB.



We believe that learning to learn is fundamental. At SEK-Dublin you will grow and develop through the following approaches to teaching:

- Based on inquiry
- Focused on conceptual understanding
- Developed in local and global contexts
- Focused on effective teamwork and collaboration
- Differentiated to meet the needs of all learners
- Informed by formative and summative assessment

And the following approaches to learning:



“What is of paramount importance in the pre-university stage is not what is learned but learning how to learn”

Alec Peterson



The Core

The three elements of the core, theory of knowledge (TOK), creativity, activity, service (CAS) and the extended essay, are an integral part of the Diploma Programme (DP) experience. The core relies on the disciplines to provide enrichment, and the core nourishes understanding of individual subjects.

Theory of Knowledge

TOK plays a special role in the DP and distinguishes it from other pre-university courses. It provides an opportunity for students to reflect on the nature of knowledge, and on how we know what we claim to know. It is assessed via a TOK essay and presentation.

Extended Essay

The Extended Essay is an independent, self-directed piece of research, finishing with a 4000 word paper. Students may choose to do the EE based on any of the subject groups they study. It is a practical preparation for undergraduate research, and participation in this process develops the capacity to analyse, synthesise and evaluate knowledge. Students are supported through the process with a supervisor, who is normally a teacher in the subject area.

Creativity, Activity and Service

CAS aims to develop active students who understand they are members of local and global communities with responsibilities towards each other and the environment. It takes what is learned in the classroom and shows students how it can manifest itself in the real world.

It is organised around the three strands of **creativity, activity** and **service** defined as follows:

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

Subjects offered at SEK-Dublin

To study the full IB Diploma at SEK-Dublin, you need to select:

- 1 subject at least from each of Groups 1, 3, 4 and 5
- Either another language from Group 1 or a language from Group 2
- Either Group 6 Visual Art, or additional Chemistry (alongside Physics or Biology)
- The 'Core elements' of Theory of Knowledge, Extended Essay and Creativity, Activity, Service (CAS) are compulsory for all Diploma students

From the subjects you chose, you must study:

- 3 at Higher Level (5 lessons of 50 minutes per week)
- 3 at Standard Level (4 lessons of 50 minutes per week)

When enrolling in the DP course, the DP Coordinator and counsellor will offer each student advice as to what path they should follow in order to fulfil university entrance requirements, previous study requirements and passion.

GROUP	SUBJECT	LEVEL
1	English A Language and Literature	SL & HL
	Spanish A Language and Literature	SL & HL
2	Spanish Ab Initio	SL
	Spanish B: Acquisition	SL
3	History	SL & HL
	Psychology	SL & HL
	Business Management	SL & HL
4	Biology	SL & HL
	Chemistry	SL & HL
	Physics	SL & HL
5	Mathematics: Applications & Interpretations	SL & HL
	Mathematics: Analysis and Approaches	SL & HL
6	Visual Arts	SL & HL

Language A: English and/or Spanish Language and Literature

The study of languages and literature allows students to encounter and engage a wide range of non-literary, literary and media texts over two years of study.

From poetry and plays to printed and digital media, students will investigate the nature of language itself and the ways in which it shapes and is influenced by identity and culture.

They will be exposed to a range of the *best that had been thought and said* in English and Spanish literature and in doing so, be asked to reflect and comment on writing that has a profound moral, emotional, spiritual and intellectual bearing.

Approaches to study in the course will include literary theory, sociolinguistics, media studies and critical discourse analysis among others.

The aims of all subjects in studies in language and literature are to enable students to:

- Engage with a range of texts, in a variety of media and forms, from different periods, styles and cultures
- Develop skills in interpretation, analysis and evaluation
- Develop sensitivity to the formal and aesthetic qualities of texts and an appreciation of how they contribute to diverse responses and open up multiple meanings
- Develop an understanding of the relationships between texts and a variety of perspectives, cultural contexts, local and global issues
- Communicate and collaborate in a confident and creative way
- Foster a lifelong interest in and enjoyment of language and literature

Course Content

Both courses explore three conceptual areas of study:

Readers, writers and text

This area introduces students to the nature of language and literature and its study. The investigation undertaken involves close attention to the details of texts in a variety of types and literary forms so that students learn about the choices made by creators and the ways in which meaning is communicated through words, image, and sound.

Time and space

Students will investigate ways in which texts may represent, and be understood from, a variety of cultural and historical perspectives. Through this exploration students will recognise the role of relationships among text, self and other, and the ways in which the local and the global connect. Students will consider the intricacies of communication within such a complex societal framework and the implications that language and text take on when produced and read in shifting contexts.

Intertextuality

This area of exploration focuses on the comparative study of texts so that students may gain deeper appreciation of both unique characteristics of individual texts and complex systems of connection. Throughout the course, students will be able to see similarities and differences among diverse texts.

Students will gain an awareness of how texts can provide critical lenses to reading other texts and of how they can support a text's interpretation by expanding on it or questioning it by providing a different point of view.

Texts

A diverse range of non-literary media texts will be studied from advertisements to appeals, from biographies to brochures and from print journalism to digital media and film.

At least six literary texts, covering a range of forms, literary background and origin will also be studied in each Language A course:

ENGLISH LANGUAGE AND LITERATURE		
PROSE	POETRY	DRAMA
<i>A collection of Short stories</i> Jorge Luis Borges	<i>The Word's Wife</i> C.A. Duffy	<i>Dancing at Lughnasa</i> Brian Friel
<i>Dubliners</i> James Joyce	<i>Collection of Sonnets</i> William Shakespeare	<i>Waiting for Godot</i> Samuel Becket

SPANISH LANGUAGE AND LITERATURE		
PROSE	POETRY	DRAMA
<i>El extranjero,</i> Camus, A.	<i>El rayo que no cesa,</i> Miguel Hernández	<i>La casa de Bernarda Alba,</i> García Lorca
<i>La Casa de los Espíritus,</i> Isabel Allende		<i>Casa de muñecas,</i> Henrik Ibsen
<i>El Cartero de Pablo Neruda,</i> Antonio Skármeta		

Standard level assessment

At standard level students are required to study up to six literary works and a number of non-literary texts.

Paper 1: Guided textual analysis (1 hour 15 minutes)

The paper consists of two non-literary passages, from two different text types, each accompanied by a question. Students choose one passage and write an analysis of it.

Paper 2: Comparative essay (1 hour 45 minutes)

The paper consists of four general questions. In response to one question students write a comparative essay based on two works studied in the course.

Individual oral

Supported by an extract from one non-literary text and one from a literary work, students will offer a prepared response of 10 minutes, followed by 5 minutes of questions by the teacher.

Higher level assessment

At higher level students are required to study six literary works and a number of non-literary texts.

Paper 1: Guided textual analysis (2 hours 15 minutes)

The paper consists of two non-literary passages, from two different text types, each accompanied by a question. Students write an analysis of each of the passages.

Paper 2: Comparative essay (1 hour 45 minutes)

The paper consists of four general questions. In response to one question students write a comparative essay based on two works studied in the course.

Individual oral

Supported by an extract from both one non-literary text and one from a literary work, students will offer a prepared response of 10 minutes, followed by 5 minutes of questions by the teacher.

HL essay

Students submit an 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.



Spanish ab initio

Spanish Language ab initio is a language acquisition course designed for students with no prior experience of Spanish, or for those students with very limited previous exposure.

Course Content

In the Spanish ab initio course, students develop the ability to communicate in Spanish through the study of five language themes and texts. In doing so, they also develop conceptual understandings of how language works. Communication is evidenced through receptive, productive and interactive skills across a range of contexts and purposes.

The five prescribed themes are:

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

Assessment

Paper 1 (1 hour) Productive skills—writing

Two written tasks of 70–150 words each from a choice of three tasks, choosing a text type for each task from among those listed in the examination instructions.

Paper 2 (1 hour 45 minutes)

Listening comprehension (45 minutes)
Reading comprehension (1 hour)
Comprehension exercises on three audio passages and three written texts, drawn from all five themes.

Individual oral assessment

A conversation with the teacher, for about 7-10 minutes, based on a visual stimulus and at least one additional course theme.



Spanish B Language Acquisition

Spanish is a true global language, with more native speakers than English, it is a language spoken by some 450 million people as their mother tongue.

From north to south and from east to west Spanish is spoken from the heat of the tropics to the cold of Antarctica, from the high plains of the Andes in Central and South America to West Africa and East Asia. It spans five continents and countless cultures.

This intermediate level Spanish course is designed for those students who have completed a Spanish Ab initio course or the equivalent.

They will have a working knowledge of the language and will be looking to develop it further but are not yet at the stage where they are fluent enough to take a language A course.

- Subject to numbers, **Spanish B** can be taught **in-house** or through an approved **IB online course** with the close support of our Spanish teachers.

Course Aims

- Develop international-mindedness through the study of languages, cultures, and ideas and issues of global significance
- Enable students to communicate in the language they have studied in a range of contexts and for a variety of purposes
- Encourage, through the study of texts and through social interaction, an awareness and appreciation of a variety of perspectives of people from diverse cultures
- Develop students' understanding of the relationship between the languages and cultures with which they are familiar
- Develop students' awareness of the importance of language in relation to other areas of knowledge
- Provide students, through language learning and the process of inquiry, with opportunities for intellectual engagement and the development of critical and creative-thinking skills
- Provide students with a basis for further study, work and leisure through the use of an additional language
- Foster curiosity, creativity and a lifelong enjoyment of language learning

History

In an increasingly smaller world, it is vital to have a grasp of the ideas and events that have shaped peoples' views.

IB Diploma History at SEK-Dublin International School will help students understand more fully some of the major issues facing the world today, such as, international conflicts and peacekeeping, national hatreds, fascism, human rights and the struggle for democracy.

History is a living subject. Students can expect some lively debate and provocative class discussion. They will be required to think, contribute and participate. IB History at SEK-Dublin is not just about memorising lists, tables and dates but about human behaviour. It is about ideas and issues.

The IB History course helps students to gain an understanding of themselves and others in relation to the world, both past and present. Students examine major themes of 20th Century World History through the techniques and frameworks of historical analysis.

Above all, this course promotes international understanding and, inherently, the intercultural awareness necessary to prepare students for global citizenship.

Course Content

PAPER 1	PAPER 2	PAPER 3 (HL ONLY) REGION: EUROPE	INTERNAL ASSESSMENT
The move to global war	Authoritarian States (20th century)	Europe and the First World War (1871-1918)	Historical investigation on a topic of the student's choice
	Causes and effects of 20th century wars	Interwar domestic developments in European States (1918-1939)	
		Diplomacy in Europe (1919-1945)	

Assessment

PAPER 1: (1 HOUR)	Source-based paper on one prescribed subject. Answer four structured questions.	SL HL
PAPER 2: (1HR 30 MINS)	Essay paper based on two world history topics. Answer 2 essay questions.	SL HL
PAPER 3: (2 HRS 30 MINS)	Essay paper based on one region. Answer 3 essay questions.	HL
INTERNAL ASSESSMENT (20 HRS)	Historical Investigation on a topic of the student's choice.	SL HL

Aims of DP History

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

Psychology

For the academic year beginning 2019/20 **Psychology** will be an IB approved online studied course. Psychology is the study of mental processes and behaviour. It is a complex subject which draws on concepts, methods and understandings from a number of different disciplines.

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 just as societies and the challenges facing societies change, so too does behaviour.

Content

Core

- Biological approach to understanding behaviour
- Cognitive approach to understanding behaviour
- Sociocultural approach to understanding behaviour
- Approaches to researching behaviour

Options

- Abnormal psychology
- Developmental psychology
- Health psychology
- Psychology of human relationships

Internal assessment

- Experimental study

Aims of Psychology

- Develop an understanding of the biological, cognitive and sociocultural factors affecting mental processes and behaviour
- Apply an understanding of the biological, cognitive and sociocultural factors affecting mental processes and behaviour to at least one applied area of study
- Understand diverse methods of inquiry
- Understand the importance of ethical practice in psychological research in general and observe ethical practice in their own inquiries
- Ensure that ethical practices are upheld in all psychological inquiry and discussion

- Develop an awareness of how psychological research can be applied to address real-world problems and promote positive change

Subject to numbers, **Psychology** can be taught **in-house** or through an approved **IB online course** with the close support of our appointed supervisor.

Assessment SL

Paper 1 (2 hours)

Section A: Three short-answer questions on the core approaches to psychology.

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

Paper 2 (1 hour)

One question from a choice of three on one option.

Paper 2 (1 hour)

One question from a choice of three on one option.

Experimental study

A report on an experimental study undertaken by the student.

Assessment HL

Paper 1 (2 hours)

Section A: Three short-answer questions on the core approaches to psychology.

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.

Paper 2 (2 hours)

Two questions, one from a choice of three on each of two options.

Paper 3 (1 hour)

Three short-answer questions from a list of six static questions on approaches to research.

Experimental study

A report on an experimental study undertaken by the student.

Business management

Business management for the academic year beginning 2019/20 will be an IB approved **online studied course**.

Businesses function in our society to meet our ever-changing human needs.

Students will study the way business functions, the management processes, the decision making that takes place and the micro and macro influences that can affect it.

The Diploma Programme business management course is designed to develop students' knowledge and understanding of business management theories, as well as their ability to apply a range of tools and techniques.

Students learn to analyse, discuss and evaluate business activities at local, national and international levels.

The course focuses on economic, strategic and ethical resource management. It is a demanding course that asks students to think critically, analyse situations and act with sound strategic and ethical based judgement.

It is taught through six concepts:

- change
- culture
- ethics
- globalisation
- innovation
- strategy



Aims

- Encourage a holistic view of the world of business
- Empower students to think critically and strategically about individual and organisational behaviour
- Promote the importance of exploring business issues from different cultural perspectives
- Enable the student to appreciate the nature and significance of change in a local, regional and global context
- Promote awareness of the importance of environmental, social and ethical factors in the actions of individuals and organisations
- Develop an understanding of the importance of innovation in a business environment

Subject to numbers, **Business management** can be taught **in-house** or through an approved **IB online course** with the close support of our appointed supervisor.

Assessment SL

Paper 1 (1 hour and 15 minutes)

Based on a case study issued in advance, with additional unseen material for section B.

Section A Students answer two of three structured questions based on the pre-seen case study.

Section B Students answer one compulsory structured question primarily based on the additional stimulus material.

Paper 2 (1 hour and 45 minutes)

Section A Students answer one of two structured questions based on stimulus material with a quantitative focus.

Section B Students answer one of three structured questions based on stimulus material.

Section C Students answer one of three extended response questions primarily based on two concepts that underpin the course.

Written commentary

Students produce a written commentary based on three to five supporting documents about a real issue or problem facing a particular organisation. Maximum 1500 words.



Assessment HL

Paper 1 (2 hour and 15 minutes)

Based on a case study issued in advance, with additional unseen material for sections B and C.

Section A students answer two of three structured questions based on the pre-seen case study.

Section B Students answer one compulsory structured question primarily based on the additional stimulus material.

Section C Students answer one compulsory extended response question primarily based on the additional stimulus material.

Paper 2 (2 hour and 15 minutes)

Section A Students answer one of two structured questions based on stimulus material with a quantitative focus.

Section B Students answer two of three structured questions based on stimulus material.

Section C Students answer one of three extended response questions primarily based on two concepts that underpin the course.

Research project

Students research and report on an issue facing an organisation or a decision to be made by an organisation (or several organisations). Maximum 2000 words.

Biology

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 about 8 million different species alive today. Estimates vary, but over the course of evolution 4 billion species could have been produced. Most of these flourished for a period of time and then became extinct as new, better adapted species took their place. There have been at least five periods when very large numbers of species became extinct and biologists are concerned that another mass extinction is under way, caused this time by human activity. Nonetheless, there are more species alive on Earth today than ever before. This diversity makes biology both an endless source of fascination and a considerable challenge.

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.

Aims

- Appreciate scientific study and creativity within a global context through stimulating and challenging opportunities
- Acquire and apply a body of knowledge, methods and techniques that characterise science and technology
- Develop an ability to analyse, evaluate, and synthesise scientific information
- Develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities
- Develop experimental and investigative scientific skills, including the use of current technologies
- Become critically aware, as global citizens, of the ethical implications of using science and technology
- Develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge

Core Topics: Standard and Higher Level

1. Cell biology
2. Molecular biology
3. Genetics
4. Ecology
5. Evolution and biodiversity
6. Human physiology

Additional Higher Level Topics (AHL)

1. Nucleic acids
2. Metabolism, cell respiration and photosynthesis
3. Plant biology
4. Genetics and evolution
5. Animal physiology

Optional Topics: Standard and Higher Level

1. Ecology and Conservation
2. Human Physiology

Practical Scheme of Work

Practical Activities: 20 hours at SL and 40 hours HL
IA: 10 hours
Group 4 Project: 10 hours

Standard Level Assessment

Paper 1: (45 minutes)

This consists of 30 multiple-choice questions on core material, about 15 of which are common with HL.

Paper 2: (1 hour 15 minutes)

These are data-based, short-answer and extended-response questions on core material.

Paper 3: (1 hour)

This paper will have questions linked to the core and SL option material. These short-answer and extended-response questions will cover experimental skills and techniques, analysis and evaluation, using unseen data linked to the core material and from one option.

Individual Investigation (10 hours)

Students have the opportunity to research, design, perform, and write up their own investigation.

Higher Level Assessment

Paper 1: (1 hour)

This consists of 40 multiple-choice questions based on core and AHL, of which about 15 are in common with SL.

Paper 2: (2 hours 15 minutes)

These are data-based, short-answer and extended-response questions on core and AHL material.

Paper 3: (1 hour 15 minutes)

This paper will have questions linked to the core and AHL material. These short-answer and extended-response questions will cover experimental skills and techniques, analysis and evaluation, using unseen data linked to the core material and from one option.

Individual Investigation (10 hours)

Students have the opportunity to research, design, perform, and write up their own investigation.



Chemistry

Chemistry is an experimental science that combines academic study with the acquisition of practical and investigational skills. It is often called the central science, as chemical principles underpin both the physical environment in which we live and all biological systems.

Apart from being a subject worthy of study in its own right, chemistry is a prerequisite for many other courses in higher education, such as medicine, biological science and environmental science, and serves as useful preparation for employment.

The DP chemistry course is available at both standard level (SL) and higher level (HL). The DP chemistry course allows students to develop traditional practical skills and techniques and to increase facility in the use of mathematics, which is the language of science. It also allows students to develop interpersonal skills, and digital technology skills, which are essential in 21st century scientific endeavour and are important life enhancing, transferable skills in their own right.

Course Content

CORE SL & HL	ADDITIONAL TOPICS HL ONLY	OPTION SL & HL	INTERNAL ASSESSMENT SL & HL
Stoichiometric relationships Atomic structure Periodicity Chemical bonding and structure 5. Energetics/thermochemistry 6. Chemical kinetics 7. Equilibrium 8. Acids and bases 9. Redox processes 10. Organic chemistry 11. Measurement and data processing	Atomic structure The periodic table-the transition metals Chemical bonding and structure Energetics/thermochemistry Chemical kinetics Equilibrium Acids and bases Redox processes Organic chemistry Measurement and analysis	Medicinal Chemistry	A scientific investigation based on a topic of the student's interest

Assessment

	PAPER 1	PAPER 2	PAPER 3	INTERNAL ASSESSMENT
SL	30 multiple-choice questions on core	Short-answer and extended-response questions on core materials	Section A: One data-based question and several short-answer questions on experimental work Section B: Short-answer and extended-response questions from one option	A scientific investigation based on a topic of the student's interest
HL	40 multiple-choice questions on core and AHL	Short-answer and extended-response questions on the core and AHL material	Section A: One data-based question and several short-answer questions on experimental work Section B: Short-answer and extended-response questions from one option	A scientific investigation based on a topic of the student's interest

Physics

Physics is a science that attempts to predict the events occurring in the world around us. This ranges from the large scale of the Earth and Universe to the very small scale of atoms and subatomic particles. It has always been a science of theory, evaluation and change. The DP higher level Physics course emphasises both theory and experimental work with a thorough evaluation of these theories or parts of these theories through fundamental research; it is advised that students taking HL Physics should also be taking HL Mathematics: Analysis and Approaches.

Aims of DP Physics

Students will:

- Acquire and apply a body of knowledge, methods and techniques that characterise science and technology
- Develop an ability to analyse, evaluate and synthesise scientific information
- Develop a critical awareness of the need for, and the value of, effective collaboration and communication during scientific activities
- Develop experimental and investigative scientific skills including the use of current technologies
- Become critically aware, as global citizens, of the ethical implications of using science and technology
- Develop an appreciation of the possibilities and limitations of science and technology

Course Content

CORE SL & HL	ADDITIONAL TOPICS HL ONLY	OPTION SL & HL	INTERNAL ASSESSMENT SL & HL
Measurements and uncertainties • Mechanics • Thermal Physics • Waves • Electricity and magnetism • Circular motion and gravitation • Atomic, nuclear and particle physics • Energy production	• Wave phenomena • Fields • Electromagnetic induction • Quantum and nuclear physics	Engineering Physics	A scientific investigation based on a topic of the student's interest

Assessment

	PAPER 1	PAPER 2	PAPER 3	INTERNAL ASSESSMENT
SL	30 multiple-choice questions on core	Short-answer and extended-response questions on core material	Section A: One databased question and several short-answer questions on experimental work Section B: Short-answer and extended-response questions from one option	A scientific investigation based on a topic of the student's interest
HL	40 multiple-choice questions on core and AHL	Short-answer and extended-response questions on the core and AHL material	Section A: One databased question and several short-answer questions on experimental work Section B: Short-answer and extended-response questions from one option	A scientific investigation based on a topic of the student's interest

Mathematics

Mathematics has been described as the study of structure, order and relation that has evolved from the practices of counting, measuring and describing objects. Mathematics provides a unique language to describe, explore and communicate the nature of the world we live in as well as being a constantly building body of knowledge and truth in itself that is distinctive in its certainty.

At SEK-Dublin we offer two maths courses **applications and interpretations** and the more advanced **analysis and approaches**.

Whereas they both follow the same syllabus outline below, they differ markedly in level.

- Number and algebra
- Functions
- Geometry and trigonometry
- Statistics and probability
- Calculus

Mathematics: analysis and approaches is offered subject to demand, either in-house or through an approved **online studied course** with the close support of our mathematics teachers at SEK-Dublin.

Mathematics: applications and interpretations

Mathematics: applications and interpretation is for students who are interested in developing their mathematics for describing our world and solving practical problems. They will also be interested in harnessing the power of technology alongside exploring mathematical models. Students who take Mathematics: applications and interpretation will be those who enjoy mathematics best when seen in a practical context.

As such, it emphasises 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.

Mathematics: analysis and approaches

Mathematics: analysis and approaches is for students who enjoy developing their mathematics to become fluent in the construction of mathematical arguments and develop strong skills in mathematical thinking. They will also be fascinated by exploring real and abstract applications of these ideas, with and without technology. Students who take Mathematics: analysis and approaches will be those who enjoy the thrill of mathematical problem solving and generalisation.

This course recognises 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.

Assessment: applications and interpretations

Standard Level:

Paper 1 (90 minutes)

Technology required
Compulsory short-response questions based on the syllabus.

Paper 2 (90 minutes)

Technology required
Compulsory extended-response questions based on the syllabus.

Mathematical exploration:

This is a piece of written work that involves investigating an area of mathematics.

Higher Level:

Paper 1 (120 minutes) Technology required
Compulsory short-response questions based on the syllabus.

Paper 2 (120 minutes) Technology required
Compulsory extended-response questions based on the syllabus.

Paper 3 (60 minutes) Technology required
Two compulsory extended response problem-solving questions.

Mathematical exploration:

This is a piece of written work that involves investigating an area of mathematics.

Assessment: analysis and approaches

Standard Level:

Paper 1 (90 minutes) No technology allowed
Section A: Compulsory short-response questions based on the syllabus.
Section B: Compulsory extended-response questions based on the syllabus.

Paper 2 (90 minutes) Technology required
Section A: Compulsory short-response questions based on the syllabus.
Section B: Compulsory extended-response questions based on the syllabus.

Mathematical exploration:

This is a piece of written work that involves investigating an area of mathematics.

Higher Level:

Paper 1 (120 minutes) No technology allowed
Section A Compulsory short-response questions based on the syllabus.
Section B Compulsory extended-response questions based on the syllabus.

Paper 2 (120 minutes) Technology required
Section A: Compulsory short-response questions based on the syllabus.
Section B: Compulsory extended-response questions based on the syllabus.

Paper 3 (60 minutes) Technology required
Two compulsory extended response problem-solving questions.

Mathematical exploration:

This is a piece of written work that involves investigating an area of mathematics.



Visual Arts

The arts are an integral part of our human story. They reflect many of the same questions other branches of human endeavour have posed - Who are we? Where have we come from? Why are we here? These are all explored and expressed through art.

The arts exist in many fluid forms. They are practiced in all cultures, and in many ways they define us as human beings.

Students will work and explore through a wide range of materials and technologies gaining artistic knowledge from multiple perspectives. They will also see, through their exploration of visual arts, how art and artists from different cultures and traditions use their skills to develop and convey their ideas.

The course will also give excellent preparation for students who wish to apply for specific college and university courses as well as giving students the opportunity to display and develop their creativity.

Key skills developed

- Students develop and present independent ideas and practice, and explain the connections between these and the work of others
- Students respond to and analyse critically and contextually the function, meaning and artistic qualities of past, present and emerging art, using the specialist vocabulary of visual arts
- Students produce personally relevant works of art that reveal evidence of exploration of ideas that reflect cultural and historical awareness
- Students develop an understanding of the technical, creative, expressive and communicative aspects of the visual arts

Standard level assessment

Part 1: Comparative study

Students submit 10–15 screens, which examine and compare at least three artworks, at least two of which should be by different artists.

Part 2: Process Portfolio

Students submit carefully selected materials, which evidence their experimentation, exploration, manipulation and refinement of a variety of visual arts activities during the two-year course.

SL students submit 9–18 screens, which evidence their sustained experimentation, exploration, manipulation and refinement of a variety of art-making activities.

Part 3: Exhibition

Students submit for assessment a selection of resolved artworks from their exhibition. The selected pieces should show evidence of their technical accomplishment during the visual arts course and an understanding of the use of materials, ideas and practices appropriate to visual communication.

1. SL students submit a curatorial rationale that does not exceed 400 words
2. SL students submit 4–7 artworks
3. SL students submit exhibition text (stating the title, medium, size and intention) for each selected artwork

Higher level assessment

Part 1: Comparative study

Students submit 10–15 screens which examine and compare at least three artworks, at least two of which need to be by different artists.

HL students submit 3–5 screens which analyse the extent to which their work and practices have been influenced by the art and artists examined.

Part 2: Process Portfolio

HL students submit 13–25 screens, which evidence their sustained experimentation, exploration, manipulation and refinement of a variety of art-making activities. For HL students the submitted work must have been created in at least three art-making forms, selected from a minimum of two columns of the art-making forms table.

Part 3: Exhibition

Students at HL submit for assessment a selection of resolved art-works from their exhibition. The selected pieces should show evidence of their technical accomplishment during the visual arts course and an understanding of the use of materials, ideas and practices appropriate to visual communication.

1. HL students submit a curatorial rationale that does not exceed 700 words
2. HL students submit 8–11 artworks
3. HL students submit exhibition text (stating the title, medium, size and intention) for each selected artwork



Course selection, entry requirements and prior learning

At the heart of our admissions policy is the idea that those who would benefit from an IB Diploma course should be able to study it. That said, there are some practical considerations to take into account.

Our DP students come from many diverse international and educational backgrounds. At interview, we will take many things into consideration to be confident that the most suitable course of study is chosen. Entry to the Diploma will therefore be on an individual decision basis, taking into account the following:

Entry Requirements

- The school's predominant language of instruction is English, it is necessary that all students are fluent or near fluent in English.
- For HL subjects it is normally expected that students will have at least an MYP grade 6 in a related area of study, or a good pass in a national/international equivalent system.
- For SL subjects it is expected that students will have at least an MYP grade 4 in a related area of study, or a pass in a national/international equivalent system.

Prior Learning:

Group 1

Subjects in group 1 require fluency or near fluency in the chosen language. All students are expected to study at least English A from this group.

Group 4

Past experience shows that students will be able to study a group 4 science subject at SL successfully if they have a background in, or previous knowledge of, the chosen science. Students considering the study of a group 4 subject at HL require a more detailed formal exposure to the chosen science.

Group 5

It is expected that most students embarking on a DP mathematics course will have studied mathematics for at least 10 years. There will be a great variety of topics studied, and differing approaches to teaching and learning. Most will have some background in arithmetic, algebra, geometry, trigonometry, probability and statistics. Mathematics: analysis and approaches requires a very high standard in mathematics at HL whereas, Mathematics: applications and interpretations at SL is the most accessible course. We would normally expect a very good pass or working grade in mathematics to access Mathematics: analysis and approaches. A more detailed list of some of the prior learning required for Mathematics: analysis and approaches is available on request, or at interview.

Subject choices

Groups 1 and 2: all students are expected to study English A from group 1. Students can select Spanish A as a second language choice or select another language from group 2. Spanish B is offered subject to demand either in-house or online.

Group 3: select one subject. Psychology and Business management are offered subject to demand either in-house or online.

Group 4: students select either Biology or Physics.

Group 5: select one subject. Mathematics: analysis and approaches is offered subject to demand either in-house or online.

Group 6: students can select visual arts from this group or choose another subject from group 3 or Chemistry from group 4.

GROUP	SUBJECT	LEVEL
1	English A Language and Literature	SL & HL
	Spanish A Language and Literature	SL & HL
2	Spanish Ab Initio	SL
	Spanish B: Acquisition	SL
3	History	SL & HL
	Psychology	SL & HL
	Business Management	SL & HL
4	Biology	SL & HL
	Chemistry	SL & HL
	Physics	SL & HL
5	Mathematics: Applications & Interpretations	SL & HL
	Mathematics: Analysis and Approaches	SL & HL
6	Visual Arts	SL & HL





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