Schloss Krumbach
International School

Diploma Programme

Written Curriculums

Group 1 Language A

English A: Language and Literature HL Course

Course Duration: 2 years (Grades 11–12)
Teacher: Ms. Elvira Palffy and Mr. Cian Walshe

Course Aims:
- Develop students' ability to analyse a wide range of literary and non-literary texts.
- Encourage appreciation of cultural contexts and perspectives in communication.
- Build advanced reading, writing, speaking, and critical thinking skills in English.

WHO IS THIS COURSE FOR?
In the IB Diploma Programme, students must choose a Language A course in either their mother tongue or their language of education. Students with English as their mother tongue or strongest academic language must take English A Lang Lit at SL or HL.

Course Duration: 2 years (Grades 11–12)
Teachers: Ms. Elvira Palffy and Mr. Cian Walshe

Course Aims:
- Develop students' ability to understand and analyse a wide range of literary and non-literary texts.
- Encourage appreciation of cultural contexts and perspectives in communication.
- Build advanced reading, writing, speaking, and critical thinking skills in English.

The Language A Literature and Language course is a pre-university study of how literature and language is shaped and reflected by the world. One of the main objectives of the course is to "explore the various ways in which language choices, text types, literary forms and contextual elements all effect meaning" while examining how both personal and critical experiences and perspectives inform our interpretations (Language A: Language and Literature Guide 2021). Emphasis is placed on analysing, discussing, and producing literary and non-literary texts from a variety of cultures and languages, literary periods, and literary forms. Additionally, the course includes artistic and more socially nuanced methods of human expression that continue to shape our global neighbourhood. The course encourages students to think independently and critically, question their own and others' viewpoints, and reflect upon differing voices as you explore how various communicative forms create meaning.

Students will be introduced to a range of texts (50% literary and 50% non-literary) from different periods, styles and genres, with the aim of the course being that they develop their ability to analyse individual texts in detail and make relevant connections between them.

Our study of language and literature spans seven conceptual approaches, five fields of inquiry, and the following three areas of exploration:
1. Readers, Writers, and Texts—a study of structural, rhetorical, and stylistic elements of texts and the ways in which the authors and artists craft their selections for their audiences.
2. Time and Space—a study of how language and literature adapt and change across time and space as well as within a variety of cultural contexts. We study the complexities of the societal frameworks that influence authors and audiences alike.
3. Intertextuality—a study of the connections between and among media, text, and audience as a way to understand how the reading of one text can influence and/or support the understanding of another.

Finally, it is paramount that students learn to develop their own power of expression, both in oral and written communication, furthering a lasting joy of and interest in literature, language, and composition.

Assessment Overview:

- **External Assessments:**
  - ***Paper 1:*** **Guided textual analysis (35%)**
    - Duration: 2 hours 15 minutes
    - Paper 1 contains two previously unseen non-literary passages and students are instructed to write a separate guided analysis of each of these passages. A guided analysis in this context refers to an exploration of the passage supported by a guiding question which asks the students to consider a technical or formal aspect of the passage. Each of the passages will be from a different text type. The passages for analysis may be either a complete piece of writing or an extract from a longer piece. One guiding question will be provided for each passage on a central technical or formal element that may provide an interesting point of entry into the text. Although it is not compulsory to answer this question, students should be aware that it is expected that the analysis will be focused on a particular aspect of the text. Students may propose an alternative point of entry about any other technical or formal element of the text they feel important in order to provide such a focus. 20 marks will be allotted to each answer. The maximum mark for paper 1 is 40.
  - **The learner portfolio and paper 1**

    The learner portfolio is not specifically assessed but it is an important tool in helping students prepare for formal assessment. It provides a place for students to practise and develop the skills necessary for performing successfully in paper 1. In relation to the preparation of paper 1, the learner portfolio provides an opportunity for students to:

    • record responses to a passage or text read for the first time

    • formulate guiding questions for different passages, using them as a lens through which to view those passages

    • assess which of the skills involved in paper 1 they feel less confident in and use the portfolio to track their progress in the development of those skills

    • keep a record of the text types covered in their practice of paper 1 skills, make sure that they have covered as many text types as possible from those that might appear in paper 1, and assess how much of a challenge each one presents to them.

    • compare their successive practices of paper 1 to the first one they have done and monitor the evolution of their overall performance in the paper.
  - ***Paper 2:*** **Comparative essay (25%)**
    - Duration: 1 hour 45 minutes
    - Paper 2 contains four questions of a general nature which require students to write a comparative essay referring to two literary works studied during the course. Students are required to answer **one** question only.
    - The essay is written under examination conditions, without access to the studied works. Students will be expected to compare and contrast two of the works studied in relation to the question chosen. Attention should be paid to the relevance of the argument to the question chosen and to the

appropriateness of the works selected by the student to address the question. Students are expected to make detailed reference to the works in their answer, but they are not expected to include quotations from them.

- Under no circumstances can students use for paper 2 a work that has been already used for another assessment component, be it the internal assessment for both SL and HL, or the HL essay for HL.
- The paper is assessed according to the assessment criteria published in the subject guide updated in 2025.
- The maximum mark for paper 2 is 25.

- **The learner portfolio and paper 2**
  The learner portfolio is not specifically assessed but it is an important tool in helping students prepare for formal assessment. It provides a place for students to practise and develop the skills necessary for performing successfully in paper 2. In relation to the preparation of paper 2, the learner portfolio provides an opportunity for students to:
  • group the works studied according to a common theme or issue and explore their similarities and differences
  • develop an awareness of the differences between literary forms, and of the bearing these differences may have on how different works approach one theme or issue
  • consider which combinations of works might be the most productive ones to address the variety of questions they might encounter in the actual paper
  • inquire into the connections between the works studied and the areas of exploration of the course to gain an awareness of the multiplicity of lenses that can be used when studying a work and the essay questions that these might potentially lead to
  • compare their successive practices of paper 2 to the first one they have done and monitor the evolution of their overall performance in the paper.

- ***HL Essay:*** **Independent written analysis (20%)**

The nature of the task

At HL, students are required to write a 1,200 –1,500-word formal essay which develops a particular line of inquiry of their own choice in connection with a non-literary body of work or a literary work studied during the course.

The HL essay offers students an opportunity to develop as independent, critical and creative readers, thinkers and writers by exploring a literary or language line of inquiry over an extended period of time, refining their ideas by means of a process of planning, drafting and re-drafting. The essay requires students to construct a focused, analytical argument examining the work from a broad literary or linguistic perspective. It also requires them to adhere to the formal framework of an academic essay, using citations and references.

Explanation of the task

The HL essay is based on the exploration the student has carried out in the learner portfolio. During this exploration process, the student will have investigated a number of texts from a variety of different perspectives. In the lead-up to the drafting of the essay, the student must decide which work or body of work to focus on for further investigation, and which line of inquiry to write about in connection with it. In choosing the line of inquiry, the student can consult the course's seven central concepts. Any work or body of work previously studied in class may be selected, with the exception of the texts used for the internal assessment and the works the student plans to use in paper 2.

The learner portfolio and the higher-level essay

The learner portfolio is not specifically assessed but it is an important tool in helping students prepare for formal assessment. It provides a platform for students to develop independent thinking when studying texts, reflecting on the ways their texts and responses explore cultural values, identities, relationships, and issues across a variety of topics. In relation to the preparation of the HL essay, the learner portfolio provides an opportunity for students to:

• reflect on the ways in which each text they read relates to the seven central concepts of the course 45 Language A: language and literature guide External assessment

• keep an ongoing record of themes and issues they find interesting in relation to each of the texts they read

• explore how key passages in the texts they have studied are significant in relation to those themes and issues • trace the evolution of their thinking and planning in connection with their chosen line of inquiry

• record references for, and ideas and quotations from, secondary sources they might want to mention in their essay

• reflect on the challenges that the HL essay poses for them as individual learners.

Guidance and authenticity

Teachers are expected to guide students throughout the HL essay; from choice of line of inquiry to submission of the essay, monitoring and advising them on the process, giving feedback on plans, and helping them to stay on task by setting timelines and stages for the essay's development. Help, guidance and support at the beginning of this process cannot be emphasized enough.

At the same time, the student must have autonomy throughout; teachers should not assign works or lines of inquiry, but should give advice on the appropriateness of ideas, question students to clarify them and make suggestions for avenues which could be explored or ways in which they might adjust their approach.

Teachers are expected to ensure that essays are students' own work and address any academic integrity issues arising before submission of the assessment. It is the teachers' responsibility to make sure that all students understand the importance of academic integrity, in particular in relation to the authenticity of their work and the need to acknowledge other people's ideas. Teachers must ensure students understand that the essay they submit for this externally assessed component must be entirely their own work.

While teachers should give regular feedback on students' work, they should not edit or correct their work directly. As students draw close to the end of the writing process, teachers are allowed to give advice to students on a first complete draft in terms of suggestions as regards the way the work could be improved. This could be done by annotating the draft through comments on the margin. These comments could consist in questions or prompts for further reflection and improvement. Under no circumstances can a teacher edit or rewrite the draft. The next version handed to the teacher after the first draft must be the final one.

Students should make detailed references to their primary source, using such references to support their broader argument about the text. The use of secondary sources is not mandatory. Any sources used must be appropriately cited. Essays must be students' own work, adhering consistently to the IB policy on academic integrity

- The maximum mark for the higher-level essay is 20.

- **Internal Assessment:**
  - ***Individual Oral*** (20%)
    - **Duration: 15 minutes**

- **10 minutes: student presentation**
- **5 minutes: questions and answers**

- *Presentation* and discussion on a literary and a non-literary text

The nature of the task
The individual oral addresses the following prompt: Examine the ways in which the global issue of your choice is presented through the content and form of one of the works and one of the bodies of work that you have studied.

Explanation of the task
The individual oral is based on the exploration the student has carried out in the learner portfolio. During this exploration process, the student will have investigated a series of non-literary bodies of work and literary works and a variety of global issues. In the lead-up to the individual oral, the student must make a decision about which global issue and which body of work and work will be explored in the task. One work and one non-literary body of work must be selected. An extract of no more than 40 lines should be selected from each which is representative of the presence of the global issue in it. In forms or text types where the number of lines may not be applicable, teachers should be guided by the volume of text that can be discussed in sufficient depth in the time available.

- The maximum mark for the individual oral is 40.

Language A: Literature (SL/HL) Course

Course Duration: 2 years (Grades 11–12)

What is this course about?

Language A: Literature is designed for students who study in their strongest academic language. It explores how writers use language to create meaning and how readers respond to texts. Students study a wide range of literary works — prose, drama, poetry — from different periods, cultures, and genres.

The aim is to develop skills in:

- Critical reading and interpretation
- Literary analysis and essay writing
- Oral expression and discussion
- Independent research and reflection

Areas of Exploration

1. **Readers, Writers and Texts** – how writers make choices, and how readers build meaning.
2. **Time and Space** – how texts reflect and shape their historical, cultural, and social contexts.
3. **Intertextuality: Connecting Texts** – how works relate to and influence each other.

Key Concepts

The course develops understanding of concepts such as:
Identity, Culture, Creativity, Communication, Perspective, Representation, Transformation.

Skills Students Develop

- Careful close reading of texts
- Comparing works across cultures and time periods
- Developing arguments in writing and speaking
- Independent thinking and personal response
- Research and correct citation (academic honesty)

Assessments & Weighting

Standard Level (SL)

- **Paper 1 (35%)**: Guided literary analysis of unseen texts.
- **Paper 2 (35%)**: Essay comparing two studied works.
- **Individual Oral (30%)**: Presentation + discussion on a global issue linked to a studied text.

Higher Level (HL)

- **Paper 1 (35%)**: Guided literary analysis of unseen texts.
- **Paper 2 (25%)**: Comparative essay on two studied works.

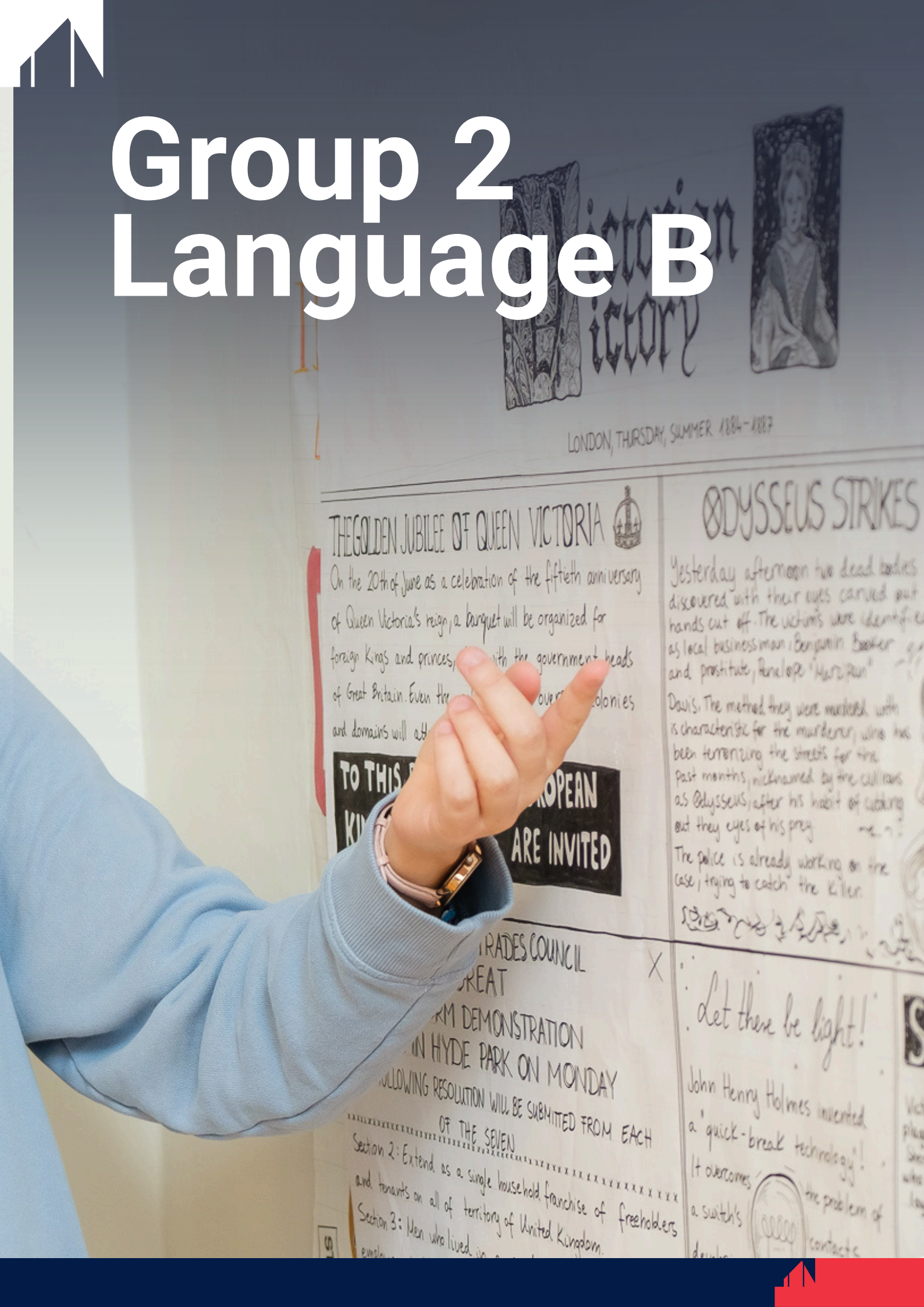
- **HL Essay (20%)**: Independent 1,200–1,500 word research essay on a studied work.
- **Individual Oral (20%)**: As above.

Why it matters

Language A: Literature prepares students for **university study** in languages, humanities, law, social sciences, and related fields. More broadly, it develops:

- International-mindedness and cultural awareness
- Strong analytical and communication skills
- An appreciation of literature's role in shaping human experience

Group 2 Language B



Language B: English B Course

Course Duration: 2 years (Grades 11–12)
Teacher: Ms. Elvira Palffy

Aims:

- Foster intercultural understanding and international-mindedness.
- Explore how language shapes perspectives and identity.
- Equip students with practical language skills for academic, professional, and social use.
- Promote enjoyment, creativity, and critical thinking through additional-language study.

Focus:
Students develop English language skills through a diverse range of written, spoken, and multimedia texts. This empowers them to communicate effectively across various contexts and purposes. Language B is a highly stimulating language course that offers the training ground necessary for students to refine their language skills, in order to correctly interpret various literary and non-literary texts as well as produce different text formats, e.g. articles, adverts, news reports, speeches, formal and informal correspondence etc. The course is not intended solely for the study of specific subject matter or content but aims at enhancing communication skills based on five curriculum themes and conceptual understanding of language acquisition.

Core Themes:
Students will explore five key themes throughout the course:

1. **Identities** – Such as health, values, subcultures, and language's role in identity.
2. **Experiences** – Including travel narratives, customs, traditions, and personal stories.
3. **Human Ingenuity** – Covering innovation, media influence, technology, and ethical considerations.
4. **Social Organization** – Examining community structures, rules, education, and civic engagement.
5. **Sharing the Planet** – Exploring global challenges like human rights, environment, and inequality.

Course Structure:
A sequential approach is used:

- **Year 1:** In-depth exploration of four themes.
- **Year 2:** Focus on the final theme and the Individual Oral (IO) assessment.

Assessment Overview:

- **External (75%):**
  - *Paper 1 (Writing)* – 25%
  - *Paper 2 (Listening & Reading)* – 50%
- **Internal (25%):**
  - Individual Oral based on a literary extract.

Language B: German B SL Course

Course Duration: 2 years (Grades 11–12)
Teacher: Cornelia Huber
German B SL is designed for students who have studied German previously and wish to further develop their ability to communicate effectively in both spoken and written forms. The course aims to strengthen language skills while broadening understanding of German-speaking cultures and communities.

AIMS

- Develop confident, fluent, and accurate use of German in everyday and academic contexts.
- Build intercultural awareness and appreciation of German-speaking cultures.
- Encourage students to compare German culture with their own cultural backgrounds and perspectives.
- Foster curiosity, international-mindedness, and a lifelong enjoyment of language learning.

KEY THEMES & CONTENT

Students explore five global themes through authentic materials, projects, and discussions:

- IDENTITIES: personal attributes, health, values, and beliefs;
- EXPERIENCES: daily life, travel, life stories, leisure;
- HUMAN INGENUITY: creativity, technology, innovation;
- SOCIAL ORGANIZATION: education, work, community, social structures;
- SHARING THE PLANET: environment, human rights, global challenges.

Throughout the course, students make cultural comparisons between German-speaking societies and their own countries of origin, backgrounds, and communities. This fosters intercultural understanding and reflection.

SKILLS DEVELOPMENT

- LISTENING & READING:
  - Understanding authentic texts such as articles, interviews, films, and blogs.
- SPEAKING:
  - Engaging in conversations, presentations, and discussions on familiar and global topics.
- WRITING:
  - Producing a range of text types such as letters, reports, essays, and online posts.
- CULTURAL AWARENESS: Comparing and reflecting on similarities and differences between German-speaking cultures and students' own cultures.

ASSESSMENT COMPONENTS

- EXTERNAL ASSESSMENT (75%)
  - **Paper 1:** Writing task (e.g., blog, article, email).
  - **Paper 2:** Listening and reading comprehension.

- INTERNAL ASSESSMENT (25%)
  - **Individual Oral:** Presentation and discussion based on a visual stimulus and course themes.

LINKS TO THE IB CORE

- **Theory of Knowledge (TOK):**
  - Reflect on how language shapes identity, culture, and understanding.

- **Creativity, Activity, Service (CAS):**
    - Use German in meaningful real-life projects or community engagement.
- **Extended Essay (EE):**
    - Option to research a language or culture-related topic in German (German B High Level only!!!).

German Ab Initio Course

Course Duration: 2 years (Grades 11–12)
Teacher: Cornelia Huber
German Ab Initio is designed for students with no prior experience or only very limited exposure to German. The course develops basic communicative competence in speaking, listening, reading, and writing, while introducing students to the cultures of German-speaking countries. Emphasis is placed on practical communication, intercultural understanding, and building confidence as beginners in the language.

AIMS

- Develop the ability to communicate in German in familiar and everyday contexts.
- Build intercultural awareness through exposure to German-speaking cultures.
- Encourage students to make cultural comparisons between German-speaking societies and their own backgrounds.
- Foster curiosity, international-mindedness, and enjoyment of language learning as a lifelong skill.

KEY THEMES & CONTENT

Students explore five global themes through authentic materials, projects, and discussions:

- IDENTITIES: personal attributes, health, values, and beliefs;
- EXPERIENCES: daily life, travel, life stories, leisure;
- HUMAN INGENUITY: creativity, technology, innovation;
- SOCIAL ORGANIZATION: education, work, community, social structures;
- SHARING THE PLANET: environment, human rights, global challenges.

Throughout the course, students are encouraged to compare aspects of German culture with their own cultures, backgrounds, and communities, developing intercultural awareness and reflection from the very beginning of their language learning journey.

SKILLS DEVELOPMENT

- LISTENING & READING:
  - Understanding simple authentic and adapted texts such as posters, blogs, menus, and short articles.
- SPEAKING:
  - Participating in simple conversations and role plays, asking and answering questions on familiar topics.
- WRITING:
  - Producing short texts such as emails, postcards, simple blogs, and descriptions.
- CULTURAL AWARENESS: Comparing everyday practices, traditions, and perspectives in German-speaking cultures with those of students' own contexts.

ASSESSMENT COMPONENTS

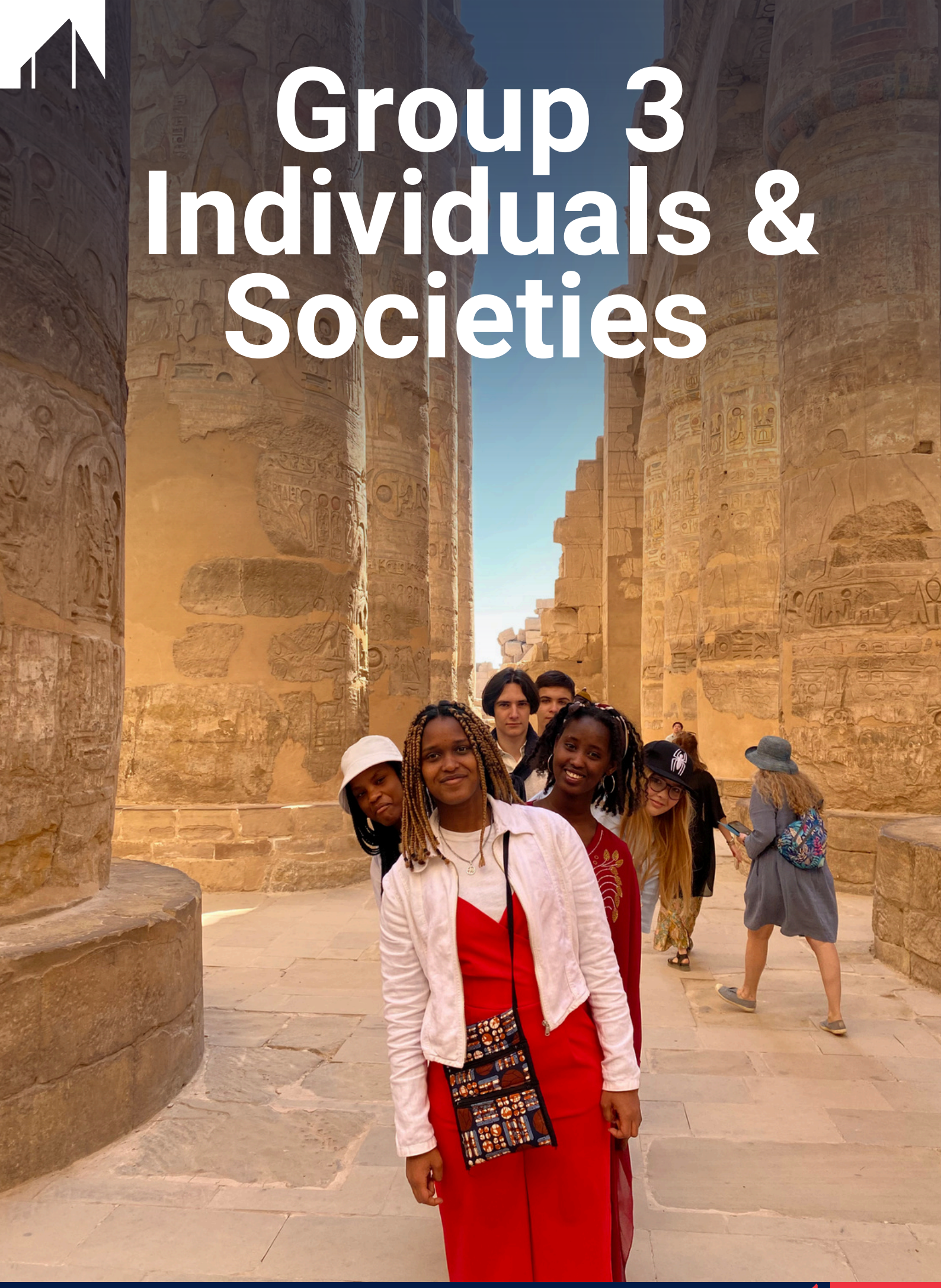
- EXTERNAL ASSESSMENT (75%)
  - **Paper 1:** Writing task (e.g., email, blog, message).
  - **Paper 2:** Listening and reading comprehension of simple texts.

- INTERNAL ASSESSMENT (25%)
  - **Individual Oral:** Presentation and discussion based on a visual stimulus and course themes.

LINKS TO THE IB CORE

- **Theory of Knowledge (TOK):**
  - Reflect on the role of language in shaping thought and culture.
- **Creativity, Activity, Service (CAS):**
  - Use German in meaningful contexts, such as cultural projects, interactions with native speakers, or creative work linked to course themes.
- **Extended Essay (EE):**
  - The EE cannot be written in Ab Initio German. Students may, however, draw on intercultural insights from the course to support EEs in other subjects.

Group 3 Individuals & Societies



History SL & HL Course

Course Duration: 2 years (Grades 11–12)
Teacher: Mr.Vladimir Volozhanin

What is the course about?

IB History is about understanding the past to make sense of the present.

- Students study **world history** from multiple regions and perspectives.
- They examine **political, social, economic, and cultural history**.
- The course focuses on **big historical concepts** like change, continuity, causation, and significance.
- It trains students to think like historians: analyzing sources, comparing interpretations, and building evidence-based arguments.
- The aim is not just learning facts, but developing **critical thinking, research, and writing skills** that are valuable for university and beyond.

How is the course structured?

Standard Level (SL) – 150 teaching hours

- **One prescribed subject** – studied mainly through historical sources (e.g., Rights and Protest, Conflict and Intervention).
- **Two world history topics** – chosen from the following 12 broad themes:
    1. Society and economy (750–1400)
    2. Causes and effects of wars (750–1500)
    3. Dynasties and rulers (750–1500)
    4. Societies in transition (1400–1700)
    5. Early Modern states (1450–1789)
    6. Causes and effects of Early Modern wars (1500–1750)
    7. Origins, development and impact of industrialization (1750–2005)
    8. Independence movements (1800–2000)
    9. Emergence and development of democratic states (1848–2000)
    10. Authoritarian states (20th century)
    11. Causes and effects of 20th-century wars
    12. The Cold War: Superpower tensions and rivalries (20th century)
- **Internal Assessment (IA)** – a personal research project where the student investigates any historical question of their choice.

Higher Level (HL) – 240 teaching hours

- Everything in SL plus:
- Three depth studies from one regional option (e.g., Europe).
- This is examined in an additional paper (Paper 3).

Topics in World History (all students study two of these)

Examples include:

- Independence movements (1800–2000) – e.g., India, Ghana, Vietnam.
- Authoritarian states (20th century) – e.g., Hitler, Stalin, Castro, Mao.
- The Cold War – superpower tensions and rivalries.
- Industrialization – origins, development, and global impacts.

HL Option: History of Europe (for HL students)

Students choosing Europe go into **greater depth** by studying 3 sections from a wide menu. These cover:

- **Medieval & Early Modern Europe**
  - Renaissance (c.1300–1600)
  - Reformation & Counter-Reformation (c.1500–1600)
  - Absolutism and Enlightenment (1650–1800)
- **19th-Century Europe**
  - The French Revolution and Napoleonic Europe
  - Unification of Italy and Germany
  - Liberalism, nationalism, and revolutions of 1848
- **20th-Century Europe**
  - The First World War and its aftermath
  - Fascist Italy and Nazi Germany
  - The Cold War in Europe
  - Collapse of communism and post-war democracy

Assessment Overview

SL

- Paper 1 (sources, prescribed subject) – 30%
- Paper 2 (essays, world history topics) – 45%
- Internal Assessment (historical investigation) – 25%

HL

- Paper 1 – 20%
- Paper 2 – 25%
- Paper 3 (essays on Europe option) – 35%
- Internal Assessment – 20%

In short: IB History develops **global awareness, analytical skills, and independent research ability**. HL students, by studying Europe in depth, also gain strong preparation for further study in history, politics, and related fields.

Group 4 Science

Physics Course

Course Duration: 2 years (Grades 11–12)
Teacher: Mr. Anton Tutnov

The IB Physics Course is one of the three disciplines that comprise the IB science group (Physics, Chemistry, Biology). Unlike standard high school physics, the IB Physics Higher Level course is more in-depth and represents something between the level of physics taught in specialized math and science schools and the general physics curriculum at technical universities. At our school, the course is taught based on the Cambridge IB textbook and a condensed and simplified version of the five-volume Soviet-era "General Physics" textbook by I. V. Savelyev, used in technical universities.

As a result, students are also expected to learn elements of mathematical analysis, linear algebra, and other areas of advanced mathematics, going beyond the standard high school math curriculum. Successfully completing this course will significantly ease a student's academic path if they choose to study at any technical university.

In accordance with the IB philosophy, this course emphasizes deep understanding of physical phenomena rather than rote memorization of formulas. Students will learn to solve mathematically complex problems presented as ordinary English-language text, combining various fields of physics. The Theory of Knowledge (TOK), an integral part of the IB philosophy, provides students with insights into how scientists around the world have gradually come to understand the nature of the universe—developing new theories that sometimes complemented, and sometimes disproved, old ones. Scientific and technological progress has enabled increasingly complex experiments to confirm or challenge theoretical assumptions.

The IB Physics Higher Level course consists of the following sections:

1. Mechanics

This section includes:

- Kinematics of a point object
- Kinematics of a rigid body, which—unlike a point object—can rotate about an axis
- Dynamics, which studies Newton's three laws and teaches how to solve complex mechanical problems
- Conservation laws: momentum, angular momentum, and energy
- Einstein's Special Theory of Relativity, which extends Newtonian mechanics to objects moving at speeds comparable to the speed of light

Students are introduced to entirely new concepts such as the **relativity of time and space**, depending on the frame of reference.

2. Oscillations and Wave Theory

Students begin by studying simple oscillations using examples such as a pendulum or a spring with a mass. The course gradually moves toward the interaction of mechanical and electromagnetic waves and an understanding of wave phenomena such as:

- Reflection
- Refraction
- Dispersion
- Diffraction
- Interference of light

These phenomena are explored not just descriptively but using algebra and higher mathematics.

3. Field Theory

In this section, students are introduced to the concept of **force fields**, which allow objects to interact at a distance without physical contact. They solve practical problems involving the motion of bodies in gravitational and electromagnetic fields.

A philosophical question is posed: Is a field a physical reality, or merely a useful mathematical tool for solving practical problems?

Through the study of electric and magnetic fields, students progress to:

- Electric circuits
- Concepts of direct and alternating current
- Calculations in simple electrical circuits

4. Thermophysics and Thermodynamics

Students learn:

- The concept of temperature as the **kinetic energy** of chaotic atomic and molecular motion
- The specific heat capacity and latent heat of phase transitions

They discover that melting and evaporation are processes of weakening and breaking molecular bonds. Practical problems are solved related to heat transfer:

- Within materials
- Between different objects

Students also learn that any object with non-zero temperature emits thermal radiation in the **infrared spectrum**, similar to visible light. Using the **Stefan–Boltzmann law**, they learn to calculate long-distance heat transfer.

The **greenhouse effect** is studied in detail. Students also explore the **gas laws** and, in the **thermodynamics** subsection, learn to apply the **first and second laws of thermodynamics** to practical situations. The basic structure and operation of a steam engine is examined.

5. Atomic and Nuclear Physics, Quantum Mechanics

Students trace the evolution of our understanding of the atom, beginning with Rutherford's experiment (just over 100 years ago), which revealed that atoms consist of a positively charged nucleus surrounded by negatively charged electrons.

They move on to the basics of **quantum physics**, which uses mathematical models that surprisingly accurately predict many phenomena of the microscopic world. In quantum mechanics, particles are described not as tiny "balls," but as **waves**, allowing students to understand:

- Why atomic energy levels are discrete
- Other phenomena unexplained by classical physics

In the **radioactive decay and nuclear reactions** section, students study:

- The main types of radioactive decay

- Calculating the energy released in nuclear reactions—well beyond standard school physics

They also explore the **principles and design of nuclear power plants and atomic bombs**.

6. Nuclear Fusion

Students are introduced to:

- **Fusion of light atomic nuclei** into heavier ones with energy release
- The **structure of stars**, which are natural nuclear reactors
- The synthesis of heavier elements from hydrogen in stars

Students also explore **cosmology**, including theories about the **origin and evolution of the universe**, and learn **methods for estimating distances to stars and other celestial objects**.

Throughout the course, students conduct **basic laboratory experiments** and complete one **independent scientific-experimental project**, for which they choose the topic themselves.

Assessment Overview

There are two types of assessment during a semester identified by the IB.

• Formative assessment informs both teaching and learning. It is concerned with providing accurate and helpful feedback to students and teachers on the kind of learning taking place and the nature of students' strengths and weaknesses in order to help develop students' understanding and capabilities. Formative assessment can also help to improve teaching quality, as it can provide information to monitor progress towards meeting the course aims and objectives.

• Summative assessment gives an overview of previous learning and is concerned with measuring student achievement at, or towards the end, of the course of study.

Assessment final IB Exam Standard Level:

- **External** *Assessment (80%):*
  - *Paper 1 (include paper 1a - Multiple-choice questions and paper 1b -Data-based questions) - 90 minutes) – total 45 marks - 36 %*
  - *Paper 2 (Extended response questions, 90 minutes)* – total 50 marks - 44%

- **Internal Assessment (20%):**
  - *The internal assessment consists of one task: the scientific investigation. This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. (Total 24 marks)*

Assessment final IB Exam Higher Level:

- **External** *Assessment (80%):*
  - *Paper 1 (include paper 1a - Multiple-choice questions and paper 1b -Data-based questions) - 120 minutes) – total 60 marks - 36 %*
  - *Paper 2 (Extended response questions, 150 minutes)* – total 90 marks - 44%

- **Internal Assessment (20%):**

- *The internal assessment consists of one task: the scientific investigation. This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. (Total 24 marks)*

Biology Course

Course Duration: 2 years (Grades 11–12)
Teacher: Ms. Seema Qureshi

Introduction to IB Biology for Parents Biology in the IB Diploma Programme (DP):

Biology is a core experimental science in the IB Diploma Programme that explores the study of living organisms and their interactions with each other and the environment. The course develops students' understanding of biological concepts at molecular, cellular, organismal, and ecological levels while fostering critical thinking, analytical skills, and ethical reasoning. Through classroom learning, laboratory investigations, and fieldwork, students gain practical scientific skills and develop an appreciation of the role biology plays in addressing global challenges such as health, biodiversity, and sustainability. Biology prepares students for higher education in science, medicine, and related fields, while encouraging responsible global citizenship.

DP Biology Educational Aim:
The Diploma Programme develops students' knowledge, skills, and attitudes in line with the IB mission and learner profile, reflecting the IB's philosophy in daily teaching and learning.

Academic Integrity Importance:
Academic integrity ensures students produce their own work, respect the contributions of others, and demonstrate their skills fairly and honestly.

Authenticity Requirement:
All submitted work must be original, and any use of others' ideas or data must be fully acknowledged. Collaborative or guided tasks must follow IB guidelines.

Acknowledging Sources:
Students must consistently cite all sources used, including text, images, data, or audiovisual material. Failure to do so may result in investigation and penalties by the IB.

Course Components – Subject Content, Theory of Knowledge, CAS, EE, and IA

1. Biology and Theory of Knowledge (TOK):
TOK encourages students to reflect on how biological knowledge is developed, validated, and applied. Students explore knowledge questions related to evidence, certainty, interpretation, and ethics within biology.

Key Concepts & Perspectives:
TOK concepts such as evidence, truth, interpretation, and responsibility link directly with Biology topics. Students explore how different approaches, worldviews, and ethical considerations influence biological research and decision-making.

Subject Content / Core Topics:

IB DP Biology is structured around **four main themes,** each theme is divided into SL and HL content, which integrate knowledge from molecular to ecological scales:

Theme 1: Cells – Structure and function of cells, cell membranes, transport, cell division, and cellular processes.

Theme 2: Molecular Biology – Biomolecules, enzymes, DNA and RNA structure, protein synthesis, and genetic technologies.

Theme 3: Genetics and Evolution – Inheritance patterns, genetic variation, natural selection, evolution, and biotechnology applications.

Theme 4: Ecology and Conservation – Energy flow, ecosystems, populations, biodiversity, human impacts, and sustainability.

Internal Assessment (IA):
Students conduct an individual research investigation on a biological topic of interest. The IA develops practical and analytical skills, including experimental design, data analysis, and interpretation.

Extended Essay (EE) in Biology:
The EE allows students to research a biology-related topic in depth. It emphasizes independent investigation, critical thinking, and the application of biological knowledge to real-world contexts.

Creativity, Activity, Service (CAS):
While Biology is academic, students can integrate CAS by applying their knowledge in practical projects, such as community health initiatives, environmental monitoring, biodiversity surveys, or science outreach programs.

International-Mindedness in Biology:
Biology encourages students to understand global challenges such as disease control, climate change, and conservation. Students explore international research, environmental policies, and diverse cultural perspectives to address biological and ecological issues.

Assessments in Biology:
Formative assessments support continuous learning and may include oral Q&A, concept maps, diagrams, posters, presentations, and research tasks. Summative assessments evaluate student understanding:

- Mid-semester assessment
- End-of-semester exams
- Practical lab assessments
- Internal Assessment (IA)
- Mock examinations

IBDP assessments

Assessment component	Weighting
External assessment (4 hours 30 minutes)	**80%**
Paper 1 (2 hours) Paper 1A—Multiple-choice questions Paper 1B—Data-based questions (four questions that are syllabus related, addressing all themes) (Total 75 marks)	**36%**
Paper 2 (2 hour and 30 minutes) Section A—Data-based and short answer questions Section B—Extended-response questions (Total 80 marks)	**44%**
Internal assessment (10 hours)	**20%**
The internal assessment consists of one task: the scientific investigation. This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. (Total 24 marks)	

Chemistry Course

Course Duration: 2 years (Grades 11–12)
Teacher: Ms. Seema Qureshi
Introduction to IB Chemistry

Chemistry is a core experimental science in the IB Diploma Programme that explores the composition, structure, and behavior of matter. The course aims to develop students' understanding of chemical principles at atomic, molecular, and macroscopic levels while fostering critical thinking, problem-solving, and practical laboratory skills. Through a combination of classroom learning, laboratory investigations, and research, students gain analytical skills and develop an appreciation for the role of chemistry in addressing global challenges. Chemistry prepares students for higher education in science, engineering, and health-related fields while encouraging responsible and informed global citizenship.

DP Chemistry Educational Aim:
The Diploma Programme develops students' knowledge, skills, and attitudes in line with the IB mission and learner profile, reflecting the IB's philosophy in daily teaching and learning.

Academic Integrity Importance:
Academic integrity ensures students produce their own work, respect others' contributions, and demonstrate their skills fairly and honestly.

Authenticity Requirement:
All submitted work must be original, with any use of others' ideas or data fully acknowledged; collaborative or guided tasks must comply with IB guidelines.

Acknowledging Sources:

Students must consistently cite all sources used, including text, images, data, or audiovisual material. Failure to do so may result in investigation and penalties by the IB.

Course Components – Subject Content, Theory of Knowledge, CAS, EE, and IA

1. Chemistry and Theory of Knowledge (TOK):
TOK encourages students to reflect on how chemical knowledge is developed, validated, and applied. Students explore knowledge questions related to evidence, certainty, interpretation, and ethics within chemistry.

Key Concepts & Perspectives:
TOK concepts such as evidence, truth, interpretation, and responsibility link directly with Chemistry topics. Students explore how different approaches, worldviews, and ethical considerations influence scientific research and technological development.

Subject Content / Core Topics:
IB DP subject divided into two themes 1. Structure and 2. Reactivity

Theme 1: Structure – Understanding how matter is built at the atomic and molecular level, including:

- Atomic structure, isotopes, and electron configuration
- Periodicity and trends in the periodic table
- Chemical bonding and molecular structure
- Energetics and thermochemistry
- Chemical equilibrium and acids/bases

Theme 2: Reactivity – Understanding how substances behave and interact, including:

- Kinetics and factors affecting reaction rates
- Oxidation-reduction (redox) processes
- Organic chemistry and functional group reactions
- Applications of chemistry in real-world systems (environmental, industrial, and health contexts)

Internal Assessment (IA):
Students conduct an individual research investigation on a chemistry topic of interest. The IA develops practical and analytical skills and allows students to explore scientific methods, data analysis, and interpretation.

Extended Essay (EE) in Chemistry:
The EE offers students the opportunity to research a chemistry-related topic in depth. It emphasizes independent investigation, critical thinking, and the application of chemical knowledge to real-world contexts.

Creativity, Activity, Service (CAS):
While Chemistry is academic, students can integrate CAS by applying chemistry knowledge in practical, hands-on projects, such as community science initiatives, environmental monitoring, or health awareness campaigns.

International-Mindedness in Chemistry:

Chemistry encourages students to understand global challenges such as climate change, sustainable energy, and chemical safety. Students explore international research, regulations, and global collaboration, appreciating different perspectives and cultural approaches in science.

Assessments in Chemistry:
Formative assessments support continuous learning conducted during the teaching and learning hours by different format such as Oral question and answers, mind map, flow chars, posters and ppt presentations research tasks, while summative assessments evaluate student understanding across the course:

- Mid-semester assessments
- End-of-semester exams
- Practical lab assessments
- Internal assessments (IA)
- Mock examinations

IBDP assessments

Assessment component	Weighting
External assessment (4 hours 30 minutes)	**80%**
Paper 1 (2 hours) Paper 1A—Multiple-choice questions Paper 1B—Data-based questions (four questions that are syllabus related, addressing all themes) (Total 75 marks)	**36%**
Paper 2 (2 hour and 30 minutes) Section A—Data-based and short answer questions Section B—Extended-response questions (Total 80 marks)	**44%**
Internal assessment (10 hours)	**20%**
The internal assessment consists of one task: the scientific investigation. This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. (Total 24 marks)	

Environmental Systems and Societies (ESS) Course

Course Duration: 2 years (Grades 11–12)
Teacher: Ms. Seema Qureshi

Environmental Systems and Societies (ESS) is an interdisciplinary course offered in the IB Diploma Programme that integrates the study of both natural and social sciences to explore the complex relationships between humans and the environment. The course aims to develop students' understanding of environmental issues at local, regional, and global scales, while fostering critical thinking, ethical reasoning, and international-mindedness.

Through a combination of classroom learning, fieldwork, and research, students gain practical skills in data collection, analysis, and sustainable decision-making. ESS not only prepares students for higher education in environmental and scientific fields but also encourages them to become responsible global citizens capable of addressing real-world environmental challengesThe IB mission statement and the IB learner profile.

DP ESS Educational Aim: The Diploma Programme (DP) develops students' knowledge, skills, and attitudes in line with the IB mission and learner profile, reflecting the IB's educational philosophy in daily teaching and learning.

Academic Integrity Importance: Academic integrity promotes personal honesty, respect for others' work, and fairness, ensuring all students can demonstrate their own knowledge and skills.

Authenticity Requirement: All submitted work must be the student's own, with ideas or work from others fully acknowledged; collaborative or guided tasks must follow IB subject-specific guidelines.

Acknowledging Sources: Students must consistently cite all sources used in various media (text, images, data, audiovisuals); failure to do so can lead to investigation and penalties by the IB.

Curse components- Subject Content, Theory of Knowledge, CAS, EE and IA

ESS and Theory of Knowledge (TOK):

TOK helps students reflect on knowledge, its limitations, and how it is produced, shared, and applied. ESS connects strongly with TOK through knowledge questions, perspectives, ethics, and sustainability.

Key Concepts & Perspectives:

TOK concepts like evidence, certainty, interpretation, values, and responsibility link with ESS topics. Understanding different perspectives and worldviews in ESS helps address sustainability issues and ethical considerations.

Subject content / Chapters There are eight chapters in ESS, we will complete 5 Chapters in year 1 and 3 chapters in Year 2 before the MOCK examination.

- Ch1.Systems and Models – Understanding ecosystems and systems thinking.
- Ch.2 The Ecosystem – Structure, function, and energy flow in ecosystems.
- Ch.3 Biodiversity and Conservation – Species diversity, threats, and conservation strategies.
- Ch.4 Water – Water systems, management, and sustainability.
- Ch.5 Soil – Soil formation, degradation, and management.
- Ch6. Atmosphere – Air composition, climate change, and air pollution.
- Ch.7 Climate Change and Energy – Causes, impacts, mitigation, and renewable energy.
- Ch.8 Human Systems and Resource Use – Population, consumption, sustainability, and environmental impact.

4-ESS and the Extended Essay (EE):

EE allows students to research an environmental topic of interest, integrating natural and human systems. Research should use a systems approach, combining primary and secondary data, and li**nk local studies to broader global contexts.**

Purpose of CAS: CAS (Creativity, Activity, Service) develops students' skills, attitudes, and values through practical experiences, helping them understand responsibilities to local and global communities and the

environment.

Connection with ESS: ESS provides rich opportunities for CAS, allowing students to reinforce learning in environmental topics through experiential, informal, and hands-on activities.

CAS Strands:
Creativity: Arts and activities involving creative thinking.
Activity: Physical exertion promoting a healthy lifestyle.
Service: Unpaid, voluntary work with learning benefits, respecting rights and dignity of all involved.

Reflection and Portfolio: Students maintain a portfolio of reflections over at least 18 months, documenting weekly experiences and at least one collaborative project lasting a minimum of one month, emphasizing personal growth, attitudes, and values.

ESS and international-mindedness: We place a strong emphasis on international-mindedness, which is implemented in various ways within the ESS course.

Local-to-Global Connections: ESS emphasizes understanding sustainability issues from local ecosystems to global environmental challenges, reflecting the historical shift from local to global awareness.

- Local Context: Studying local ecosystems, indigenous knowledge, and engaging in citizen science helps build environmental understanding and practical skills.
- Global Context: Understanding global environmental issues, planetary boundaries, and SDGs, along with the role of international organizations and NGOs, is essential for informed action.
- Appreciation of Perspectives: Developing international-mindedness involves recognizing different worldviews and cultural perspectives, which is crucial for resolving environmental problems collaboratively.

ESS Assessments

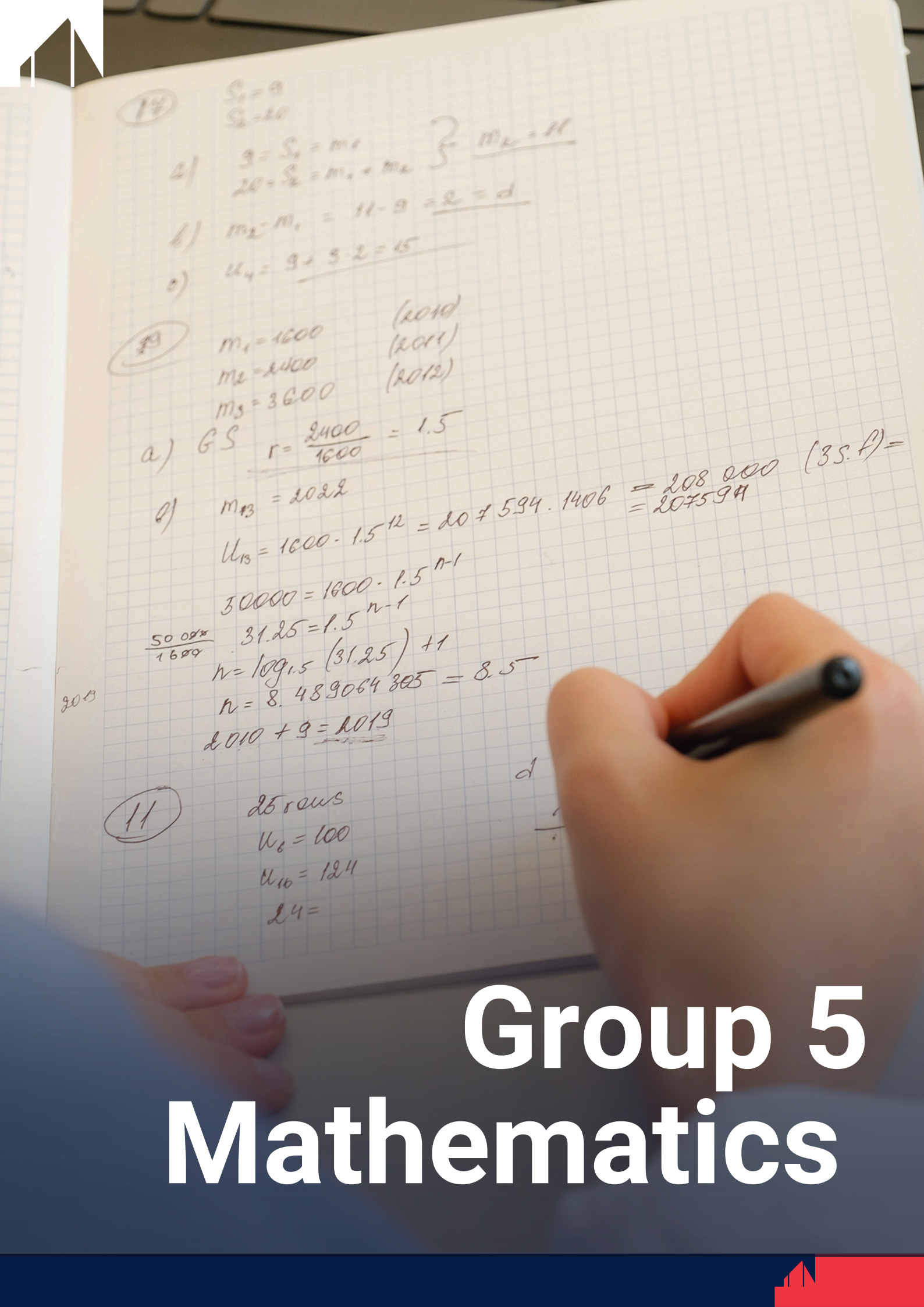
We conduct formative and Summative assessments during the complete course. **Formative assessment** will be conducted for assessment for learning, these assessments provide continuous growth and progress in learning.

Summative assessments will be conducted 4 time in year as under

a. Mid semester 1 assessments assessment
b. End of the semester assessments
c. Mid semester 2 assessment
d. End of the year assessments

	Assessment objective	**How is the assessment objective addressed?**
1	Paper 1	Case study Both standard level (SL) and higher level (HL)
2	Paper 2	Section A: answer all questions Section B: SL: one essay from a choice of two HL: two essays from a choice of three

3	Internal assessment	Individual investigation assessed using markbands



Group 5 Mathematics

Mathematics Applications and Interpretations Course

Course Duration: 2 years (Grades 11–12)
Teacher: Ms. Teresa Schnabl

Mathematics AI HL – Course Overview

Who is the Course for?

HL students are typically confident in algebra and enjoy the challenge of working through demanding problems. They take satisfaction in exploring mathematics deeply, often using technology to support their reasoning and justify their conclusions. This course is especially suitable for students considering further study in subjects such as engineering, economics, or the natural sciences, where advanced mathematical thinking in different area of application is essential.

Focus

This Higher-Level Mathematics AI course is designed for students who are curious about how mathematics can be used to understand and solve complex, real-world problems. It highlights the growing role of mathematics and technology in a wide range of fields.

Students will study a range of topics such as number, algebra, functions, geometry and trigonometry, probability and statistics, and calculus, giving them a strong foundation for university-level study. The course makes use of technology, allowing students to explore ideas, build models, and test solutions in a dynamic way.

Aims

- Develop mathematical understanding, problem solving skills and logical reasoning.
- Apply mathematics to real – life situations using technology where appropriate.
- Promote enjoyment, creativity, critical thinking, and confidence in applying mathematics.
- Prepare students for further studies in mathematics related fields or/and usage in their career.

Core Topics

Students will study five Topics throughout the course:

1. **Number and Algebra** – This topic explores sequences and series, exponents, logarithms, and arithmetic/manipulative algebra techniques. It also covers complex numbers and solving polynomial and rational equations.

2. **Functions** – This topic focuses on understanding, analyzing, and transforming functions, including domain, range, and composition. Polynomial, rational, exponential, logarithmic, trigonometric, and piecewise functions, along with its inverse functions are included.

3. **Geometry and Trigonometry** – This topic puts its focus on vectors, 2D and 3D geometry, and trigonometric relationships. Therefore, working with scalar and vector products, equations of lines and planes, the sine and cosine rules, circles as well as parts of a circle, and parametric representations of curves are covered. This topic also covers Voronoi diagrams, which are ways of dividing a space into regions around points, helping to visualize distances and solve practical problems like planning locations or organizing areas efficiently.

4. **Statistics and Probability** – Within this topic descriptive statistics, probability rules, discrete and continuous probability distributions such as Binomial, Normal and Poisson Distribution, and expected value as well as standard deviation and variance are explored. This topic also covers statistical testing, which involves using data to make informed decisions or predictions, by checking whether observed patterns are likely due to chance or represent a real effect, often using hypothesis tests

and significance levels.

5. **Calculus** – The topic Calculus covers differentiation and integration of functions, including product, quotient, and chain rules. Calculus is used in applications to kinematics, areas under curves, volumes of revolution, differential equations, and rates of change problems.

In addition to the five main topics, the course also includes a 'mathematical toolkit' to prepare the student for their individual exploration (internal assessment), where students develop investigative, problem-solving, and modelling skills for their written project that involves researching and applying mathematics to an area of personal interest.

Prior Knowledge Required

The following skills a student choosing the Mathematics AI HL course should feel confident about:

- **Numbers & Algebra**
  - Confident with whole numbers, fractions, decimals, percentages, ratios, and simple powers
  - Able to rearrange formulas, simplify expressions, and solve basic equations (including simple simultaneous equations and inequalities)
- **Graphs & Functions**
  - Able to plot and interpret straight-line and simple quadratic graphs
  - Understands the idea of a function as "each input is assigned excatly one output"
- **Geometry & Trigonometry**
  - Knows area, perimeter, surface area, and volume for common 2-D and 3-D shapes
  - Uses Pythagoras' theorem and basic trigonometry (sine, cosine, tangent) to find sides or angles
  - Works with coordinates and simple transformations such as reflections or rotations
- **Statistics & Probability**
  - Comfortable collecting data, drawing bar or pie charts, and finding mean, median, mode, and range
  - Can calculate simple probabilities and read tree and Venn diagrams
- **First Step Toward Calculus**
  - Familiar with the speed formula (speed = distance ÷ time) as a basic "rate of change."

Course Structure

A sequential approach is used:

Year 1:

- Establishing strong foundations in key areas—algebra, functions, geometry & trigonometry, statistics & probability, and introductory calculus.
- Real-world modelling, technology tools (graphing calculator, GeoGebra, Desmos, spreadsheets), and regular small projects or investigations.
- **Internal Assessment (IA):**
  - Introduced mid-year with sample explorations and class discussions.
  - Over winter break students create a "mind-map" of personal interests and begin linking them to mathematical ideas.
  - By the end of Year 1 each student has chosen a topic and a basic plan for their IA.

Year 2:

- Extending and deepening the Year 1 topics.
- More advanced statistics and probability (e.g. hypothesis testing, distributions).
- Further calculus, including integration and differential equations and numerical methods.
- Targeted review, past-paper practice, and exam preparation for the IB assessments.

- **Internal Assessment:**
    - First full draft submitted early in the year for teacher feedback.
    - Final version due mid-year; it counts for 20 % of the IB grade.

Assessment Overview

- **External Assessment (80%):**
    - *Paper 1 (Short response questions, 120 minutes)* 30%
    - *Paper 2 (Extended response questions, 120 minutes)* – 30%
    - *Paper 3 (2 compulsory extended - response problem - solving questions, 60 minutes) – 20%*

- **Internal Assessment (20%):**
    - *Mathematical Exploration - Piece of Written work that involves investigating an area of mathematics of students' personal interest.*
        - To demonstrate independent thinking
        - To demonstrate use of mathematics at an appropriate level
        - To demonstrate clear communication

Group 6 Arts

Visual Arts Course

Course Duration: 2 years (Grades 11–12)
Teacher: Dr.Oksana Volozhanina

What is the course about?

The Visual Arts course is designed for students who want to explore creativity and visual expression. It is not only for those planning an art-related career — it also develops problem-solving, critical thinking, and communication skills valuable in any field. Students experiment with different techniques and media, study the work of artists from many cultures, and learn how to present and explain their own work.

Areas of Exploration

Students work across three interrelated areas:

- **Visual Arts in Context** – understanding how art is influenced by history, culture, society, and technology.
- **Visual Arts Methods** – learning techniques, experimenting with media, and refining personal skills.
- **Communicating Visual Arts** – curating and presenting their own work in an exhibition, considering how art communicates to different audiences.

Skills Developed

- Creativity, innovation, and problem-solving
- Research and analysis of artists, artworks, and cultural contexts
- Technical proficiency in chosen art forms (painting, sculpture, photography, digital media, etc.)
- Reflection and critical thinking through the **Visual Arts Journal**
- Communication skills through written and visual presentation of work

Concepts

Students explore big ideas such as:

- **Identity and culture**
- **The role of the artist in society**
- **How meaning is communicated through art**
- **The relationship between tradition and innovation**

Assessment and Weighting

Standard Level (SL):

- **Comparative Study (20%)** – Independent critical analysis comparing artworks from different contexts.
- **Process Portfolio (40%)** – A record of experimentation, exploration of methods, and development of ideas.

Theory of Knowledge

Theory of Knowledge Course (TOK)

Course Duration: 2 years (Grades 11–12)
Teacher: Ms. Tamara Volozhanina

What is TOK?
Theory of Knowledge (TOK) is a core element of the IB Diploma Programme. It helps students explore *how we know what we claim to know* — encouraging them to think critically about knowledge, beliefs, and opinions across different subjects and real-world situations.

Purpose

TOK helps students:

- Reflect on what knowledge is and how it is built.
- Understand how knowledge differs across subjects like science, art, and history.
- Recognize how personal and cultural perspectives shape understanding.
- Develop open-mindedness, critical thinking, and self-awareness.

Structure of the Course

Total TOK course duration: 100 hours
Type: Core component (alongside the Extended Essay and CAS)

TOK is organized into three main parts:

1. **Core Theme – Knowledge and the Knower:**
   Students reflect on themselves as learners and consider how their experiences, culture, and values influence what they know.
2. **Optional Themes (choose two):**
   - Knowledge and Technology
   - Knowledge and Language
   - Knowledge and Politics
   - Knowledge and Religion
   - Knowledge and Indigenous Societies
3. **Areas of Knowledge (AOKs):**
   Students explore how knowledge is produced in different disciplines:
   - History
   - Human Sciences (psychology, economics, etc.)
   - Natural Sciences
   - The Arts
   - Mathematics

Key TOK Concepts

Students discuss and apply 12 key ideas throughout the course:
Evidence, certainty, truth, interpretation, power, justification, explanation, objectivity, perspective, culture, values, and responsibility.

Assessment

TOK has **two components**:

1. **TOK Exhibition** (internal, marked by teachers)
   Students connect TOK ideas to real-world objects or experiences that show how knowledge appears

in everyday life.

2. **TOK Essay** (external, marked by IB examiners)
   A formal essay of up to 1,600 words written on one of six prescribed questions released by the IB each year.

Skills Developed

Through TOK, students learn to:

- Think critically and question assumptions.
- Communicate complex ideas clearly.
- Evaluate evidence and argument quality.
- Appreciate multiple viewpoints.
- Reflect on their own beliefs and responsibilities as learners.

TOK and International-Mindedness

TOK builds global awareness by helping students understand that people from different cultures and backgrounds may view knowledge in different ways — and that these perspectives can all be valid.

Why TOK Matters

TOK is not just about philosophy — it's about life skills.
It teaches students to ask *"How do I know?"* before accepting information, preparing them for university and life in an information-rich, complex world.

Creativity, Action, Service

Creativity, Activity, Service (CAS) Course

Course Duration: 2 years (Grades 11–12)
Teacher: Ms. Teresa Schnabl

What is CAS?

CAS is one of the three core elements of the IB Diploma Programme, alongside the Extended Essay and Theory of Knowledge (TOK).
It stands for:

- **Creativity** – exploring and expressing ideas through arts, innovation, and imagination
- **Activity** – taking part in physical challenges that promote a healthy lifestyle
- **Service** – making a meaningful contribution to the community through action and collaboration

CAS helps students become balanced, reflective, and compassionate young people who make a positive difference in the world.

Purpose of CAS

CAS encourages students to step outside the classroom and apply what they've learned to real-life situations. Through this, they:

- Develop confidence and independence
- Learn to work with others and take on new challenges
- Reflect on their experiences and personal growth
- Understand their role as responsible global citizens

CAS is not graded, but it is required to earn the IB Diploma.

The Structure of CAS

Students engage in a variety of experiences and complete one significant CAS Project over at least 18 months.
They document their progress and reflections in a CAS portfolio.

Examples:

- *Creativity:* directing a school play, designing a mural, composing music
- *Activity:* leading a hiking club, joining a sports team, organizing a fitness challenge
- *Service:* tutoring younger students, organizing a food drive, volunteering with a local charity

The CAS Project

Each student completes a collaborative project lasting at least a month.
It could combine two or more CAS strands — for example:

- Organizing a charity sports event (*Activity* + *Service*)
- Creating an art exhibition to raise awareness of a local issue (*Creativity* + *Service*)

This project helps students develop teamwork, planning, and leadership skills.

Reflection and Growth

Reflection is at the heart of CAS. Students are encouraged to think about:

- What they learned about themselves and others
- How they overcame challenges
- How their actions made a difference
- What values and attitudes they developed

They capture their reflections in writing, photos, videos, or creative formats within their CAS portfolio.

Learning Outcomes

By the end of the CAS journey, students will have demonstrated growth in seven key areas:

1. Recognizing their strengths and areas for growth
2. Undertaking challenges and developing new skills
3. Planning and initiating experiences
4. Showing commitment and perseverance
5. Working collaboratively with others
6. Engaging with issues of global significance
7. Considering the ethics of choices and actions

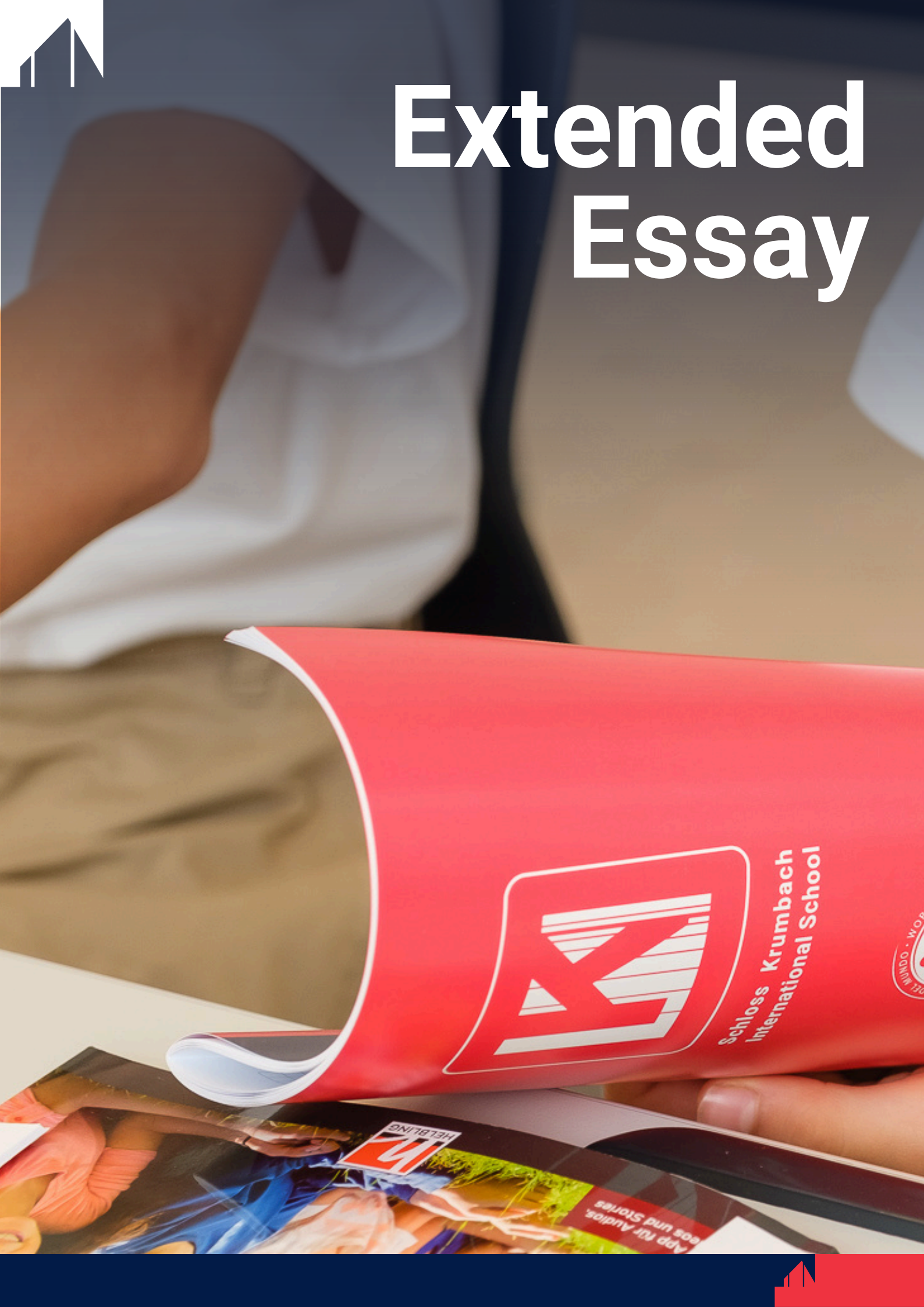
How Parents Can Support

- Encourage your child to choose experiences that excite and challenge them.
- Discuss what they are learning — not just what they are doing.
- Celebrate effort, growth, and reflection over results.
- Help them find balance between schoolwork, CAS, and rest.

In Summary

CAS is about learning through doing and reflecting.
It helps students discover who they are, what they care about, and how they can make a positive impact — both locally and globally.

Extended Essay



The Extended Essay (EE) Course

Course Duration: 2 years (Grades 11–12)
EE Coordinator : Mr. Vladimir Volozhanin

What It Is

The Extended Essay is a major research project completed by every IB Diploma student.
It is a 4,000-word academic paper written on a topic of the student's own choice, supported by a teacher who acts as a supervisor.

It's a chance for students to:

- Explore something they are genuinely passionate about
- Learn how to carry out independent research
- Develop university-level writing and thinking skills

The Purpose

The Extended Essay helps students:

- Experience the excitement of intellectual discovery
- Practice independent learning and time management
- Strengthen skills in research, critical thinking, and communication
- Reflect on what they learn and how they learn it

It prepares them for university and life beyond school by giving them first-hand experience of what academic inquiry feels like.

How It Works

1. Choose a topic:
   Students select an issue or question they are curious about — often linked to one of their IB subjects (for example, English, Persian, History, Biology) or, in some cases, combining two subjects in an interdisciplinary essay.
2. Develop a research question:
   The question must be focused enough to explore deeply within the word limit.
   Example: "How has social media changed political activism among young people?"
3. Plan and research:
   Over several months, students gather information, analyze data or evidence, and organize their ideas.
4. Write and reflect:
   They produce a formal academic essay and a short reflective statement about their learning journey.
5. Supervision:
   Each student meets their supervisor at least three times — to plan, check progress, and finally discuss the finished essay in a brief viva voce interview.

The Commitment

- Around 40 hours of work over the two-year Diploma Programme
- Supported by about 3–5 hours of supervision
- Essay length: up to 4,000 words
- Reflection statement: up to 500 words

How It's Assessed

The Extended Essay is externally marked by the IB.
It can contribute up to 3 bonus points toward the final IB Diploma score (combined with the Theory of Knowledge course).
Students must achieve at least a grade D to earn their diploma.

What Students Gain

By completing the Extended Essay, students learn to:

- Think critically and question assumptions
- Manage a long-term project independently
- Write clearly and academically
- Show perseverance, curiosity, and integrity

Many students say it's one of the most rewarding — and challenging — parts of the IB experience.