IB DP OPTIONS BOOKLET

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Prva riječka hrvatska gimnazija

Prva riječka hrvatska gimnazija is a fully authorized IB World School offering the Diploma Programme. In addition, it is currently a candidate school for the Middle Years Programme. As such, it provides a full secondary school learning experience for those students interested in following an international curriculum in English.

IB World Schools share a common philosophy – a commitment to high-quality, challenging, international education – that we believe is important for our students.

Only schools authorized by the IB Organization can offer any of its four academic programmes: the Primary Years Programme (PYP), the Middle Years Programme (MYP), the Diploma Programme (DP), or the Career-related Programme (CP). Candidate status gives no guarantee that authorization will be granted. For further information about the IB and its programmes visit http://www.ibo.org.

Content

Overview of Diploma Programme (DP)

The Diploma Programme is a rigorous programme of academic study that prepares students for the challenge of higher education. It aims to create lifelong learners through developing the IB Learner profile characteristics. The IB Diploma Programme is comprised of six academic subjects and the IB Core.

These aim to produce a knowledgeable, creative, critical thinker who is willing to take risks with their studies. Diploma students will follow a broad and balanced curriculum which allows students to experience all aspects of academic study. Subjects that are studied include; a language, a science, mathematics, a creative arts as well as continuing to study their mother tongue. This wide variety ensures that as students mature, their life choices are not limited to just one field of study. Alongside the curriculum, the Diploma Programme includes an extended essay which is a chance for the student to specialise in an area of interest to themselves. There is also TOK – Theory of Knowledge. TOK is where students get a chance to think in depth about how they learn, how knowledge is gained and how it accumulates. An IB DP education is a holistic experience and the DP caters for this by including the CAS programme – Creativity, Activity and Service. In CAS, students have opportunities to enhance their life and social skills. They get involved in the local community.

PRHG and IB Mission Statements

PRHG Mission Statement

Through learning we inspire everyone to make a difference, we take an active part in our community and strive to change our surroundings. Our students notice and understand cultural diversity, inquire and consider different ideas, collaborate and reflect continuously.

In PRHG, we express our collective desire to nurture our students' academic excellence and success as a personal goal in school, future career and lifelong learning.

IB Mission Statement

The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect. To this end the organisation works with schools, governments and international organisations to develop challenging programmes of international education and rigorous assessment. These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.

The IB Subject Choice

The IB Diploma requires students to study six subjects in addition to completing the theory of knowledge course, the extended essay and CAS.
Each subject is either studied at standard level (SL) or in greater depth at higher level (HL). In order to be eligible for receiving the IB Diploma, each student is required to select three subjects at SL and three subjects at HL. Only in exceptional circumstances is it allowed for a student to opt for a 4HL+2SL combination or choose an additional (7th) subject.

IB Core:

- Theory of Knowledge
- Extended Essay
- Creativity,Activity, Service (CAS)

Group 1: Studies in language and literature

- Croatian A Literature (SL & HL)
- English A Language & Literature (SL & HL)

Group 2: Language acquisition

- English B (SL & HL)
- French ab initio (SL)

Group 3: Individuals and Societies

- Global politics (SL & HL)
- Business management (SL & HL)
- Environmental systems and societies (SL& HL)

Group 4: Sciences

- Physics (SL & HL)
- Computer science (SL & HL)
- Chemistry (SL & HL)
- Biology (SL & HL)
- Environmental systems and societies (SL& HL)

Group 5: Mathematics

- Mathematics: applications and interpretation (SL)
- Mathematics: analysis and approaches (SL & HL)

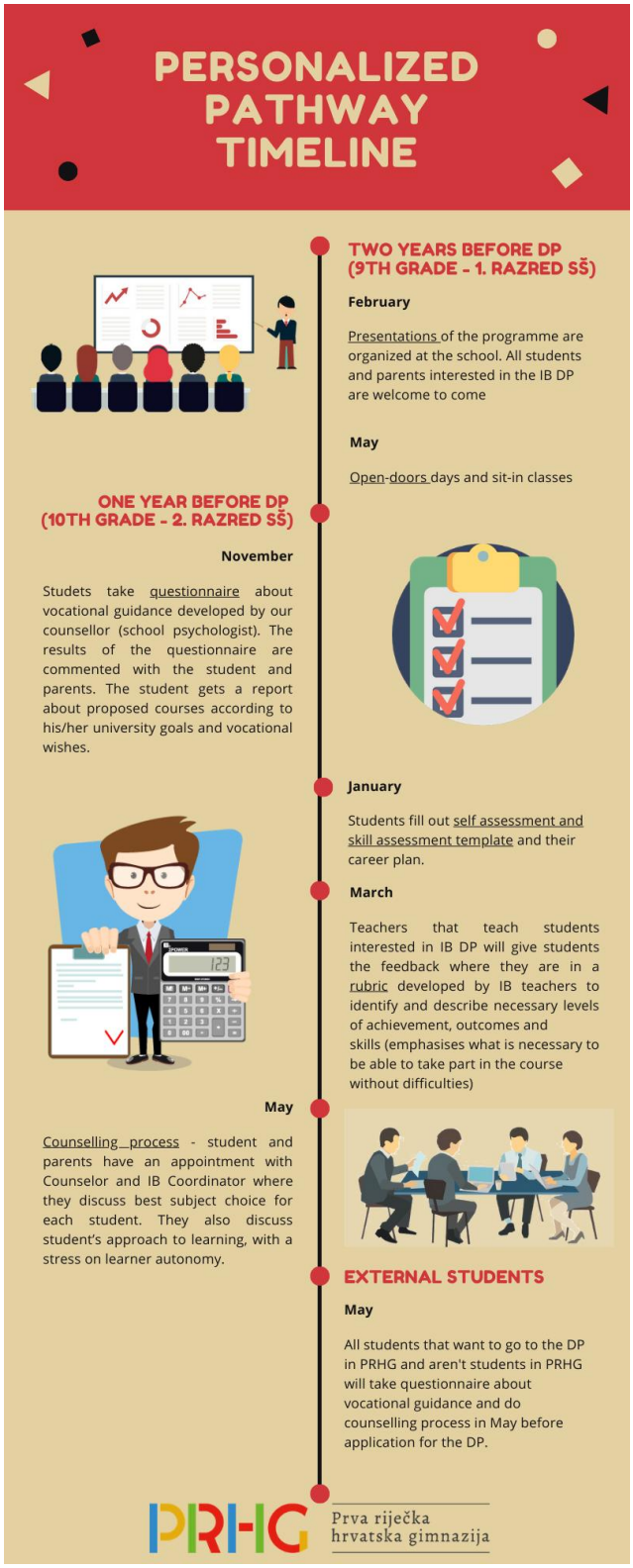
Group 6: The Arts

- Visual arts (SL)

Students will pick one option from each group 1 - 6. Students are advised to maintain a healthy selection of cross-disciplinary subjects, this is at the heart of the IB philosophy and part of what makes the Diploma Programme well respected by higher education providers.

Students who want to choose an extra language, science or humanities course because of their preferences or their universities goals, can do that in Group 6. Instead of choosing Visual arts, students can choose one extra subject from each Group 2, Group 3, or Group 4.

Options Timeline – Personalized Pathway



Two years before the IB DP:

- Presentations of the programme
- Open-doors days
- Sit-in classes
- Aim: to get an idea of what the programme looks like, what the possibilities in the course proposal are, get the students to think about their interests

One year before IB DP:

1. **Questionnaire about vocational guidance developed by our counsellor (school psychologist)**

   - results of the questionnaire are commented with the student and parents
   - the student gets a report about proposed courses according to his/her university goals and vocational wishes

2. **Self assessment and skill assessment template (Pre-application Skills Assessment)**

3. **Career plan**

4. **Rubric**

   - every IB teacher, for his/her course, will develop, identify and describe necessary levels of achievement, outcomes and skills in a rubric - it will emphasise what is necessary to be able to take part in the course without difficulties for a student
   - teachers that teach students interested in IB DP will give students the feedback where they are in a rubric mentioned above in all their subjects that are relevant for course selection in IB DP (Mathematics, English, second language, Physics, Chemistry, Biology, IT)
   - students marked as "under average" in mastering the essentials of the subject will be advised to reconsider their wishing subject choice if it's a subject that is necessary for IB DP course they want

5. **Counselling**

   - after student gets all the rubrics and feedbacks from his/her teachers in 10th grade, student and parents have an appointment with Counselor and IB Coordinator where, according to results of teacher's feedbacks and vocational guidance, they discuss best subject choice for each student
   - They also discuss student's approach to learning, with a stress on learner autonomy, based on student's own report and teachers' comments on their working habits, dedication to self-development and aptitude for academic rigour
   - best choice are courses in which we feel student could achieve at least a 2 at HL or 3 at SL IB
   - students have to be aware that any other subject choice would put them in a position where they are risking a failed IB Diploma
   - if student really wants to choose a course in IB DP that demands subject he was low graded from his/her teacher in 10th grade, he/she can take a diagnostic assessment done by an IB teacher

The 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.

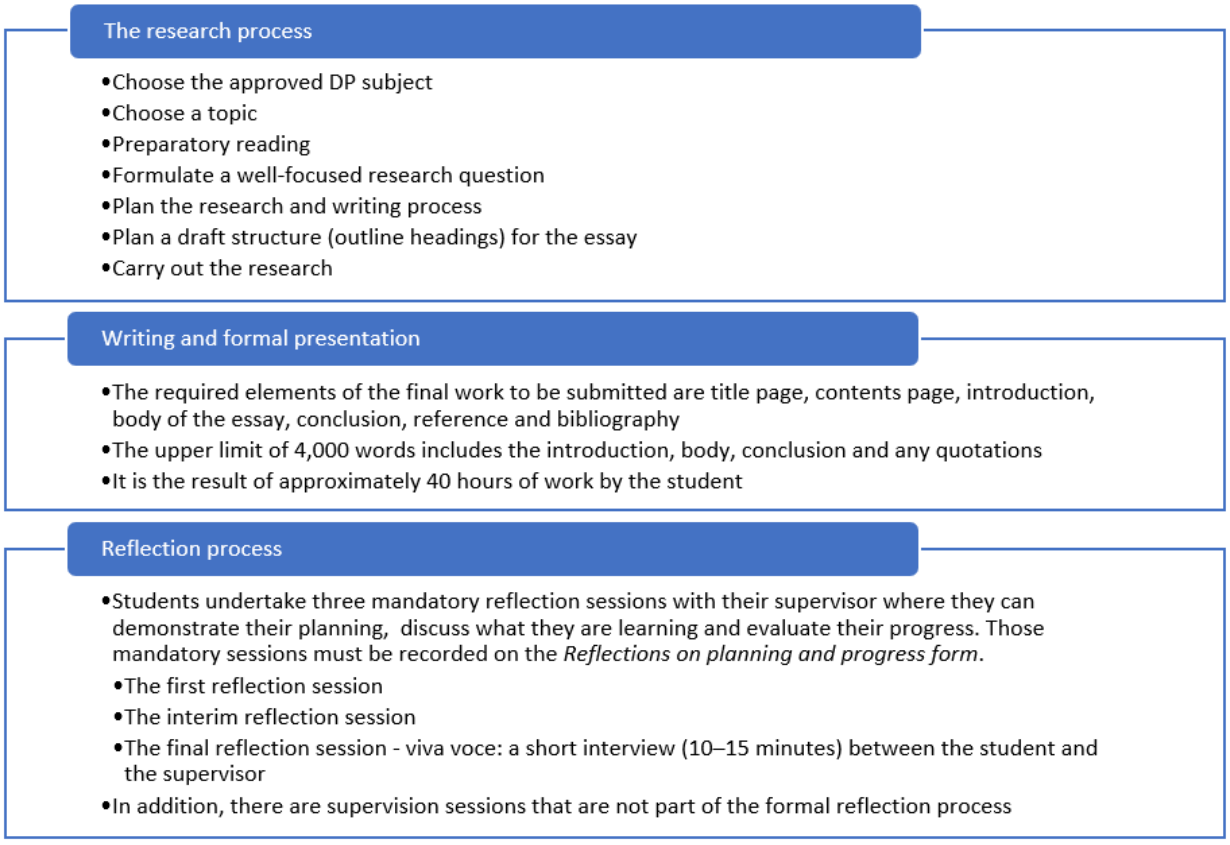
The IB Core

Extended Essay (EE)

The extended essay is a compulsory, externally assessed piece of independent research into a topic chosen by the student and presented as a formal piece of academic writing. It is intended to promote academic research and writing skills, providing students with an opportunity to engage in personal research in a topic of their own choice, under the guidance of a supervisor. This leads to a major piece of formally presented, structured writing, in which ideas and findings are communicated in a reasoned and coherent manner, appropriate to the subject chosen.

The aims of the extended essay are for students to:
• engage in independent research with intellectual initiative and rigour
• develop research, thinking, self-management and communication skills
• reflect on what has been learned throughout the research and writing process.

Overview of the extended essay process



Students are expected to work independently to deadlines and reasonably communicate their arguments and give their conclusion. All students will have a supervisor who is there to advise the student and will be available for supervision sessions and reflection process. The extended essay will be externally assessed by IB examiners, and, in combination with the grade for theory of knowledge, contributes up to three points to the total score for the IB Diploma. In order to pass Diploma, a grade D or above must be achieved.
Further details on the extended essay are to be found in the Extended essay guide.

Theory of Knowledge (TOK)

Theory of knowledge (TOK) is a part of IB core programmes, and its position is described as „flagship elements of diploma program ". TOK is different from other programmes because there is no some new specific body of knowledge; the purpose is to see into different ways of

knowledge and different kinds of knowledge, encourage student to reflect personal positions as knowers, and to develop critical thinking on knowledge.
Students will engage in discussions by questioning different kinds of knowledge, different ways of knowing, cultural and ideological bias, etc. Student will be encouraged to ask knowledge questions, and to become more acquainted with the complexity of knowledge.

The course includes:

- a core theme: Knowledge and knower
- optional themes:
    - Knowledge and indigenous societies
    - Knowledge and language
    - Knowledge and politics
    - Knowledge and religion
    - Knowledge and technology

Also, the course includes five areas of knowledge:

- The Arts
- History
- The Human Sciences
- Mathematics
- The Natural Sciences

Assessment

Two parts make assessment: exhibition and essay.

CAS

Creativity, Activity, Service (CAS) is at the heart of the Diploma programme. It is one of the three essential elements of every student's Diploma experience. It involves students in a range of activities alongside their academic studies.
CAS provides the main opportunity to develop many of the attributes described in the IB learner profile. The CAS Programme aims to develop students who are:

- reflective thinkers-to understand their own strengths and limitations, identify goals and devise strategies for personal growth
- willing to accept new challenges and new roles
- be aware of themselves as members of communities with responsibilities towards each other and the environment
- be active participants in sustained, collaborative projects
- balanced – to enjoy and find significance in a range of activities involving intellectual, physical, creative and emotional experiences

The three strands of CAS which are often intervene with particular activities are characterized as follows:

LO 1	Identify own strengths and develop areas for growth
Descriptor:	Students are able to see themselves as individuals with various abilities and skills, of which some are more developed than others.
LO 2	Demonstrate that challenges have been undertaken, developing new skills in the process
Descriptor:	A new challenge may be an unfamiliar experience or an extension of an existing one. The newly acquired or developed skills may be shown through experiences that the student has not previously undertaken or through increased expertise in an established area.
LO 3	Demonstrate how to initiate and plan a CAS experience
Descriptor:	Students can articulate the stages from conceiving an idea to executing a plan for a CAS experience or series of CAS experiences. This may be accomplished in collaboration with other participants. Students may show their knowledge and awareness by building on a previous experience, or by launching a new idea or process.
LO 4	Show commitment to and perseverance in CAS experiences
Descriptor:	Students demonstrate regular involvement and active engagement in CAS.
LO 5	Demonstrate the skills and recognize the benefits of working collaboratively
Descriptor:	Students are able to identify, demonstrate and critically discuss the benefits and challenges of collaboration gained through CAS experiences.
LO 6	Demonstrate engagement with issues of global significance
Descriptor:	Students are able to identify and demonstrate their understanding of global issues, make responsible decisions, and take appropriate action in response to the issue either locally, nationally or internationally.

LO 7 Descriptor:	Recognize and consider the ethics of choices and actions Students show awareness of the consequences of choices and actions in planning and carrying out CAS experiences.

Three areas: Creativity - Activity- Service

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 a real need.

In CAS, there are seven learning outcomes:

The CAS Programme provides students the opportunity to further enhance and build upon their ATL Skills. CAS emphasizes the social and collaborative skills by encouraging students to take on a variety of roles and to engage and help others throughout the experiential learning process. However, the key to success in CAS is the exercise and practice of self-management skills. Throughout the CAS Stages, students must implement their organizational and time-management skills, which are needed for preparing and taking action in quality experiences. Reflection at each interval of the stages encourages students to build their affective skills and self-awareness by demonstrating their mindfulness and perseverance by participating in the CAS programme, thus making the experiences meaningful and lifelong.

ASSESSMENT

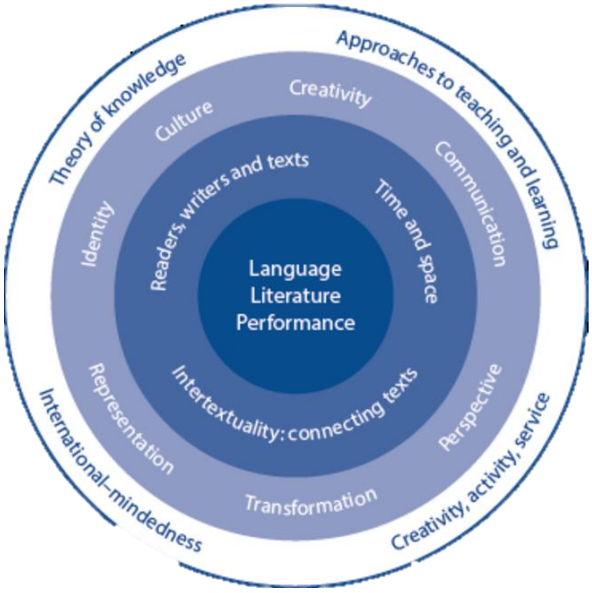
Successful completion of CAS Portfolio is required to receive an IB Diploma and students are expected to reflect on their experiences and provide evidence that they have achieved the eight learning outcomes during an 18month period. There is no hour counting. Students are required to participate in three activities per area , as well as to participate in a collaborative project of significant duration combining two or more of the components of CAS and addressing most of the learning outcomes.

Group 1: Language and Literature

Croatian A Literature (SL & HL)

Description

Croatian language and literature course introduces the critical study and interpretation of written and spoken texts from a wide range of literary forms and non literary text-types. The course is organized and focuses on the study of both literary or non-literary texts. Students have the opportunity to explore the Croatian language in question through its cultural development and use, its media forms and function, and its literature. This course aims to develop student's the skills in critical reading and textual analysis of literary works. Student develop skills of literary and textual analysis, and also the ability to present their ideas effectively.



Key aims of the Croatian Language and literature

- Student study 5 periods at higher level and 3 periods at standard level from representative selection of literary forms, periods and places.
- Student study a range of non-literary texts and bodies of work that include a wide variety of text-types.
- Students develop the techniques needed for the critical analysis of communication, becoming alert to interactions between text, audience and purpose.
- An understanding of how language, culture and context determine the construction of meaninig is developed through the exploration of texts, some of which are studied in translation, from a variety od cultures, periods, text-types and literary forms.

Assessmet

- Students are assessed through a combination of formal examinations and oral and written coursework and oral activities.
- The formal examinations comprises two essay papers, one requring the analysis of unseen literary and non-literary text, and the other a comparative response to a question based on two literary works studies.
- Students also perform an oral activity presenting their analysis of a literary work and non-literary body of work studies
- HL students comply with an additional written coursework requirement which consists of writing a 1200 – 1500 word essay on one of the works or bodies of work studied.
- The assessment will be reviewed and changed according to the IB DP Language and literature curriculums standardas.

English A Language & Literature (SL)

Course Overview

Language A: language and literature comprises four parts: two relate to the study of language and two to the study of literature.

1. Knowledge and understanding

- Demonstrate knowledge and understanding of a range of texts
- Demonstrate an understanding of the use of language, structure, technique and style
- Demonstrate a critical understanding of the various ways in which the reader constructs meaning and of how
- context influences this constructed meaning
- Demonstrate an understanding of how different perspectives influence the reading of a text

2. Application and analysis

- Demonstrate an ability to choose a text type appropriate to the purpose required
- Demonstrate an ability to use terminology relevant to the various text types studied
- Demonstrate an ability to analyse the effects of language, structure, technique and style on the reader
- Demonstrate an awareness of the ways in which the production and reception of texts contribute to their meanings
- Demonstrate an ability to substantiate and justify ideas with relevant examples

3. Synthesis and evaluation

- Demonstrate an ability to compare and contrast the formal elements, content and context of texts
- Discuss the different ways in which language and image may be used in a range of texts
- Demonstrate an ability to evaluate conflicting viewpoints within and about a text

4. Selection and use of appropriate presentation and language skills

- Demonstrate an ability to express ideas clearly and with fluency in both written and oral communication
- Demonstrate an ability to use the oral and written forms of the language, in a range of styles, registers and situations
- Demonstrate an ability to discuss and analyse texts in a focused and logical manner

Internal Assessment SL

Language A: language and literature students will be required to discuss one literary text and one non-literary text; Language A: literature students will discuss a text studied in translation and a text written originally in the language studied. The weighting of the individual oral will be 30% for SL.

External Assessment

Paper 1 will be 1h 15 minutes for SL. The weighting of Paper 1 will be 35%.
Paper 2 will require candidates to write a literary essay about two works in response to a question. The time allotted will be 1h 45 minutes. The weighting of Paper 2 will be 35% for SL.

Group 2: Language Acquisition

This group of subjects consists of two modern language courses—French ab initio and English B.
French ab initio and English B are language acquisition courses designed to provide students with the necessary skills and intercultural understanding to enable them to communicate successfully in an environment where the language studied is spoken. This process allows the learner to go beyond the confines of the classroom, expanding their awareness of the world and fostering respect for cultural diversity. Both courses develop students' linguistic abilities through the development of receptive, productive and interactive skills (as defined by their syllabi). Syllabi for French ab initio, English B SL and HL are all based on the five prescribed themes (identities, experiences, human ingenuity, social organization and sharing the planet).
If a student desires to study a language which is not offered by the school, they are advised to talk to the programme coordinator.

Language acquisition aims

The following aims are common to both language B and language ab initio.

- 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.

Assessment model

The language acquisition assessment objectives:

- Communicate clearly and effectively in a range of contexts and for a variety of purposes.
- Understand and use language appropriate to a range of interpersonal and/or intercultural contexts and audiences.
- Understand and use language to express and respond to a range of ideas with fluency and accuracy.
- Identify, organize and present ideas on a range of topics.
- Understand, analyse and reflect upon a range of written, audio, visual and audio-visual texts.

English B (SL & HL)

Course description and aims

English B is a language acquisition course designed for students with some previous experience of English language learning and usage. In the English B course, students further develop their ability to communicate in the target language through the study of language, themes and texts. In doing so, they also develop conceptual understandings of how language works, as appropriate to the level of the course.

English B is offered both at HL and SL. Both HL and SL cover the five prescribed themes but the topics are chosen by teachers with the view of helping students become good communicators who consider the audience, context and purpose of what they read, hear or want to say or write.

The difference between SL and HL

It is important that students are placed into a course that is most suited to their language development needs and will provide them with an appropriate academic challenge. Placement is based on the study Benchmarking Selected IB Diploma Programme Language Courses to the Common European Framework of Reference for Languages, which suggests that students already at CEFR A2 or B1 in the target language can comfortably take language B SL. Students already at CEFR B1 or B2 can comfortably take language B HL.

At both levels of language B (SL and HL), students learn to communicate in the target language in familiar and unfamiliar contexts, the difference is in the level of competency the student is expected to develop in the receptive, productive and interactive skills. At HL, students are expected to extend the range and complexity of the language they use and understand in order to communicate. Also, at HL the study of two literary works originally written in the target language is required.

There is also a difference in the approach and content of assessment.

Assessment

Students are formatively assessed throughout the course, but towards the end of the DP programme a summative assessment process is organized and structured as follows:

Standard Level

Assessment component	Weighting
External assessment (3 hours minutes) **Paper 1 (1 hour 15 minutes)** One writing task of 250–400 words from a choice of three, each from a different theme, choosing a text type from among those listed in the examination instructions. **Paper 2 (2 hours)** Receptive skills—separate sections for listening and reading Listening comprehension (45 minutes) Reading comprehension (1 hour) Comprehension exercises on three audio passages and three written texts, drawn from all five themes.	75% 25% 50%
Internal assessment This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. Individual oral assessment A conversation with the teacher, based on a visual stimulus, followed by discussion based on an additional theme.	25%

Higher Lever

Assessment component	Weighting
External assessment (3 hours 30 minutes) **Paper 1 (1 hour 30 minutes)** Productive skills—writing One writing task of 450–600 words from a choice of three, each from a different theme, choosing a text type from among those listed in the examination instructions. **Paper 2 (2 hours)** Receptive skills—separate sections for listening and reading Listening comprehension (1 hour) Reading comprehension (1 hour) Comprehension exercises on three audio passages and three written texts, drawn from all five themes.	75% 25% 50%
Internal assessment This component is internally assessed by the teacher and externally moderated by the IB at the end of the course. Individual oral assessment A conversation with the teacher, based on an extract from one of the literary works studied in class, followed by discussion based on one or more of the themes from the syllabus.	25%

French ab initio (SL)

Course description and aims

French ab initio is designed to provide students with the necessary skills and intercultural understanding to enable them to communicate successfully in an environment where the language studied is spoken.

Offered at SL only, French ab initio is a language acquisition course designed for students with no previous experience in—or very little exposure to—the target language.

French ab initio students develop their receptive, productive and interactive skills while learning to communicate in the target language in familiar and unfamiliar contexts.

Students develop the ability to communicate through the study of language, themes and texts. There are five prescribed themes: identities, experiences, human ingenuity, social organization and sharing the planet. French ab initio syllabus additionally prescribes four topics for each of the five themes, for a total of 20 topics that must be addressed over the two years of the course.

Curriculum model overview

The curriculum is organized around 5 prescribed themes and 20 prescribed topics with which the students engage though written, audio, visual and audio-visual texts. Students develop into successful, effective communicators by considering the conceptual understandings of context, audience, purpose, meaning and variation. Communication is evidenced through receptive, productive and interactive skills.

Assessment at a glance

Language ab initio SL assessment outline		Weighting
External 75%	Paper 1 (productive skills) Two written tasks—each from a choice of three Writing—30 marks (1 hour)	25%
	Paper 2 (receptive skills) Separate sections for listening and reading Listening—25 marks (45 minutes) Reading—40 marks (1:40 minutes)	 25% 25%
Internal 25%	Individual oral assessment (10 minutes) 30 marks 3 part oral internally assessed and moderated by the IB: • Part 1: presentation of a visual stimulus (picture/ image) • Part 2: Follow-up questions on the visual stimulus • Part 3: General conversation	25%

For the individual oral internal assessment, the stimulus at language ab initio SL is a visual image that is clearly relevant to one (or more) of the themes of the course.

Group 3: Individuals and Societies

Business Management (SL & HL)

Course description

The business management course is designed to meet the current and future needs of students who want to develop their knowledge of business content, concepts and tools to assist with business decision-making.

Future employees, business leaders, entrepreneurs or social entrepreneurs need to be confident, creative and compassionate as **change agents** for business in an increasingly interconnected global marketplace. The business management course is designed to encourage the development of these attributes.

Through the exploration of four interdisciplinary concepts – **creativity, change, ethics** and **sustainability** – this course empowers students to explore these concepts from a business perspective. Business management focuses on business functions, management processes and decision-making in contemporary contexts of strategic uncertainty.

Students examine how business decisions are influenced by factors that are internal and external to an organization and how these decisions impact upon a range of internal and external stakeholders. Emphasis is placed on strategic decision-making and the operational business functions of human resource management, finance and accounts, marketing, and operations management.

The business management course encourages the application of local, national and global examples to content and concepts; the internal assessment (IA) for both SL and HL is an individual business research project that allows greater analysis and evaluation of content, concepts and context. Students can develop a deeper understanding of an organization by studying its processes through the lenses of creativity, change, ethics and sustainability.

For the external assessment (paper 1 SL and HL), students will be assessed on their knowledge of important contemporary business topics through their analysis of a fictitious business. Paper 2 (SL and HL) has a greater focus on developing students' analytical and financial quantitative skills. This will allow students to combine their qualitative writing as business communicators with deeper financial analysis. In paper 3 (HL only) students apply their knowledge of business tools and content through an innovative and potentially disruptive social enterprise. This paper will allow business students to demonstrate their empathetic, creative, analytical and evaluative skills. It will allow students to make ethical strategic decisions for their stakeholders on a disruptive good or service; in the process, changing the lives of their stakeholders for the better.
Business management is a challenging and dynamic discipline that more than meets the needs of our students growing and developing in a complex business environment. This course prepares students to be global citizens ready to face up to the challenges and opportunities awaiting them in our ever-changing world.

The SL course in business management differs from the HL course in terms of the:

- recommended hours devoted to teaching (150 hours for SL compared to 240 hours for HL)
- extra depth and breadth required (extension material for HL only)
- nature of the examination questions in papers 2 and 3.

Paper 2 for both SL and HL focuses on developing quantitative skills; however, HL students will need to develop these further in greater depth.
Paper 3 is an HL-only paper based on a social enterprise, where students identify and describe a human need and the potential organizational challenges facing the social entrepreneur. Further to this, students are required to write a decision-making document that includes a business recommendation.

Business Management (SL & HL)

Course description

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

Students learn to analyse, discuss and evaluate business activities at local, national and international levels. The course covers a range of organizations from all sectors, as well as the socio-cultural and economic contexts in which those organizations operate.

The course covers the key characteristics of business organization and environment and the business functions of human resource management, finance and accounts, marketing and operations management. Links between the topics are central to the course. Through the exploration of six underpinning concepts (change, culture, ethics, globalization, innovation and strategy), the course allows students to develop a holistic understanding of today's complex and dynamic business environment. The conceptual learning is firmly anchored in business management theories, tools and techniques and placed in the context of real world examples and case studies.

The course encourages the appreciation of ethical concerns at both a local and global level. It aims to develop relevant and transferable skills, including the ability to: think critically; make ethically sound and well-informed decisions; appreciate the pace, nature and significance of change; think strategically; and undertake long term planning, analysis and evaluation. The course also develops subject-specific skills, such as financial analysis.

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

- encourage a holistic view of the world of business
- empower students to think critically and strategically about individual and organizational 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 organizations develop an understanding of the importance of innovation in a business environment.

Key features of the assessment model

External assessment for HL and SL students consists of two written examination papers. Paper one is based on a pre-seen case study issued in advance, and paper two consists of structured questions based on stimulus material and an extended response question that assesses students' understanding of the key concepts of the course.

Internal assessment for HL students is a research project and for SL students a written commentary. In both tasks, students study real world business organizations. These are internally marked by subject teachers and then externally moderated by IB examiners.

Global politics (SL & HL)

Course description

The global politics course provides a broad analysis of the structure of the contemporary political organization. It explores fundamental political concepts such as power, equality, sustainability, and peace in a range of contexts and at a variety of level. All standard level and higher-level students complete a common core under the central unifying theme – people, power and politics. This consists of four core units: power, sovereignty and international relations, human rights, development and peace and conflict. All students undertake an engagement activity through which they study a political issue of interest experientially. HL students also examine two contemporary global political challenges through a case studies approach.

The aims of the global politics course at SL and HL are to enable students to:

- understand key political concepts and contemporary political issues in a range of contexts
- develop an understanding of the local, national, international and global dimensions of political activity
- understand, appreciate and critically engage with a variety of perspectives and approaches in global politics
- appreciate the complex and interconnected nature of many political issues and develop the capacity to interpret competing and contestable claims regarding those issues.

External assessment is consisted of 2 papers. Paper 1 is stimulus-based paper on a topic from one of the four core units. Paper 2 is extended response paper based on the four core units . Students must write three essays from a choice of eight, each selected from a different core unit.

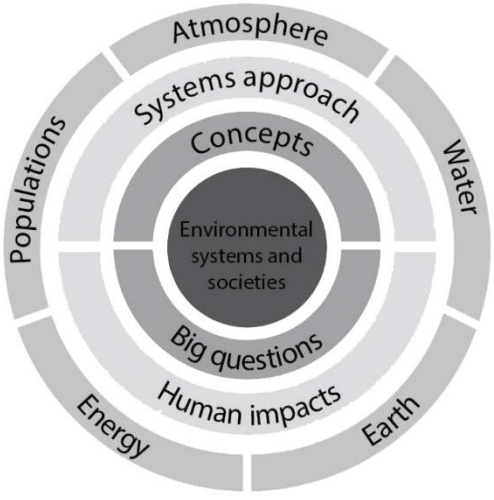
Internal assessment includes engagement activity and a written repost on political explored through engagement and research.
HL extension: global political challenges (Two video recorded oral presentations of two case studies chosen from two different HL extension topics).

Environmental systems and societies (HL & SL)

Environmental systems and societies (ESS) is an interdisciplinary Group 3 and 4 course that is offered at both higher and standard level (SL). Students can study ESS in Prva riječka hrvatska gimnazija as a part of Group 3 (Individuals and Societies) or as a part of Group 6 (The Arts and Optional subjects). ESS is a complex course, requiring a diverse set of skills from its students. It is firmly grounded in both a scientific exploration of environmental systems in their structure and function and the exploration of cultural, economic, ethical, political, and social interactions of societies with the environment. The interdisciplinary nature of the course requires a broad skillset from students and includes the ability to perform research and investigations and to participate in philosophical discussion. The course requires a systems approach to environmental understanding and problem solving, and promotes holistic thinking about environmental issues.

The aims of the ESS course are to enable students to:

- Acquire the knowledge and understanding of global environmental systems.
- Apply the knowledge, methodologies and skills to analyze environmental systems at a variety of scales.
- Appreciate the dynamic interconnectedness between the environment and societies.
- Value the combination of personal, local and global perspectives in making informed decisions about environmental management.
- Be critically aware that resources are finite and inequitably distributed and the management of these inequities is the key to sustainability.
- Develop critical awareness of the diversity of environmental value systems.
- Engage with the controversies that surround a variety of environmental issues.
- Create innovative solutions to environmental issues by active engagement.



During the course, students will study eight (8) different topics: Foundations of environmental systems and societies, Ecosystems and ecology, Biodiversity and conservation, Water and aquatic food production systems and societies, Soil systems and terrestrial food production systems and societies, Atmospheric systems and societies, Climate change and energy production and Human sys systems and resource use.

Structure of the ESS course

At the end of the course, student's knowledge will be assessed both internally by the school and externally by the IB organization. External assessment consists of 2 papers, Paper 1 (case study) contribute 25% and Paper 2 (short answers and structured essays) contribute 50% of the final grade. Internal assessment is based on a written report of a research question designed and implemented by the students (25% of the final grade).

Group 4: The Sciences

Physics (SL & HL)

Physics is the most fundamental of the experimental sciences, as it seeks to explain the universe itself from the very smallest particles to the vast distances between galaxies.
As Richard Feynman once said: „I learned very early the difference between knowing the name of something and knowing something.“ And that is the main goal in studying physics to understand the nature that surrounds us and how everyday things ,that we sometimes take for granted, work.

Physics aims:

- To continue and extend students' appreciation of the subject which will already have been developed from study in earlier years.
- To approach Physics as the most fundamental of the Natural Sciences, which is based upon the fundamental forces and the energy transfers they produce.
- To deal with modern day Physics as an international subject, in which scientists from around the world collaborate using internationally, agreed terms and conventions. Modern centres of cutting-edge Physics, such as CERN or NASA, pool the collective expertise of Physicists from all continents.
- To base learning on practical investigation, where students will further develop the skills required to formulate, test and evaluate hypotheses.

The Physics course, like all the Group 4 subjects, has recently been comprehensively rewritten, with additional emphasis placed on the following fundamental issues regarding the nature of science itself.

- What science 'is' and the nature of scientific endeavour.
- The understanding of science.
- The objectivity of science.
- The human face of science.
- Scientific literacy and the public understand

Additionally IB students are required to complete a "Group 4" project, during which they collaborate with other scientists from the full range of subjects. Throughout the programm, their personal skills, ability to work independently and awareness of wider ethical aspects of the subject are assessed.

The core of physics syllabus, both on standard level (SL) and higher level (HL), is:

- Measurements and uncertainties
- Mechanics
- Thermal physics
- Waves
- Electricity and magnetism
- Circular motion and gravitation
- Atomic, nuclear and particle physics
- Energy production

Difference between HL and SL is in these topics:

- Wave phenomena
- Fields
- Electromagnetic induction
- Quantum and nuclear physics

Also both SL an HL contain some optional topics that can be thought

- Relativity
- Engineering physics

- Imaging
- Astrophysics

Assessment

Assessment	Component	Percentage
External	Paper 1 (45 min): multiple choice questions from the core syllabus content	20%
	Paper 2 (75 min): short answer and long response questions about core sylabus content	40%
	Paper 3 (60 min):different types of questions about the optional topic chosen and core content	20%
Internal	Research of a specific topic chosen by the student that should reflect and show the acquisition of the skills expected after an IB physics course.	20%

Computer science (SL & HL)

Computer science requires an understanding of the fundamental concepts of computational thinking as well as knowledge of how computers and other digital devices operate.
Computational thinking involves the ability to

- think procedurally, logically, concurrently, abstractly, recursively and think ahead
- utilize an experimental and inquiry-based approach to problem-solving
- develop algorithms and express them clearly
- appreciate how theoretical and practical limitations affect the extent to which problems can be solved computationally.

Computer science is at same time simple and complex. It structure and processes are complex but it is when properly it makes our life simple in many ways.

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

- provide opportunities for study and creativity within a global context that will stimulate and challenge students developing the skills necessary for independent and lifelong learning
- provide a body of knowledge, methods and techniques that characterize computer science
- enable students to apply and use a body of knowledge, methods and techniques that characterize computer science
- demonstrate initiative in applying thinking skills critically to identify and resolve complex problems
- engender an awareness of the need for, and the value of, effective collaboration and communication in resolving complex problems
- develop logical and critical thinking as well as experimental, investigative and problem-solving skills
- develop and apply the students' information and communication technology skills in the study of computer science to communicate information confidently and effectively
- raise awareness of the moral, ethical, social, economic and environmental implications of using science and technology
- develop an appreciation of the possibilities and limitations associated with continued developmentsin IT systems and computer science
- encourage an understanding of the relationships between scientific disciplines and the overarching nature of the scientific method.

Additionally IB students are required to complete a "Group 4" project, during which they collaborate with other scientists from the full range of subjects. Throughout the programm, their personal skills, ability to work independently and awareness of wider ethical aspects of the subject are assessed.

The core of computer science syllabus, both on standard level (SL) and higher level (HL), is:

- System fundamentals
- Computer organization
- Networks
- Computational thinking, problem-solving and programming

Difference between HL and SL is in these topics:

- Abstract data structures
- Resource management
- Control
- Case study: Additional subject content introduced by the annually issued case study

Also both SL an HL contain some optional topics that can be thought:

- Databases
- Modelling and simulation
- Web science
- Object-oriented programming (OOP)

Assessment

Standard level

Assessment objective	Paper 1	Paper 2	Internal assessment	Overall
1. Demonstrating knowledge and understanding	24	13	9	46
2. Applying and using	13	7	8	28
3. Constructing, analysing, evaluating and formulating	8	5	4	17
4. Using skills	n/a	n/a	9	9
Component weighting	45%	25%	30%	100%

Higher level

Assessment objective	Paper 1	Paper 2	Paper 3	Internal assessment	Overall
1. Demonstrating knowledge and understanding	21	10	9	6	46
2. Applying and using	12	6	7	5	30
3. Constructing, analysing, evaluating and formulating	7	4	4	3	18
4. Using skills	n/a	n/a	n/a	6	6
Component weighting	40%	20%	20%	20%	100%

Chemistry (SL & HL)

Chemistry is an experimental science that combines academic study with the acquisition of practical and investigational skills. It is the basic science as chemical principles underpin both the physical environment in which we live and all biological systems. The unifying principles of chemistry are developed in a logical way, with laboratory investigations providing a basis for this development. In this programme great emphasis will be placed on experimentation and observation to enhance and develop experimental and practical skills.

Major areas of study include the following:

1. Stoichiometric relationships
2. Atomic structure
3. Periodicity
4. 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

Both HL and SL students study two special topics (options) on practical applications of chemistry :

1. Medicinal chemistry
2. Biochemistry

Practical scheme of work :

- Practical activities – lab work in class
- Individual investigation (internal assessment) - a lab project along with a report
- Group 4 Project – students are separated into groups and must conduct an experiment and write a report

Assessment :

Grades for IB candidates will be determined by internal school assessment (Individual investigation, Group 4 Project) and external evaluation by the IB organization.

- Internal assessment SL and HL (20 %)
- External assessment SL and HL (80%)

Biology (SL & HL)

Biologists investigate the living world at all levels using many different approaches and techniques.
Through studying a science subject, students should become aware of how scientists work and communicate with each other. Biology students at SL and HL undertake a common core syllabus and internal assessment (IA) scheme.

While there are core skills and activities common to both SL and HL students, students at HL are required to study the options and some topics in greater depth as well as some additional topics.
The distinction between SL and HL is one of breadth and depth.
A practical approach to the course delivery is emphasised through the interdisciplinary Group 4 project and a mixture of both short-term and long-term experiments and investigations.

Biology syllabus outline:

- Higher level (240 hours)
- Standard level (150 hours)

Core 1. Cell biology 2. Molecular biology 3. Genetics 4. Ecology 5. Evolution and biodiversity 6. Human physiology
Additional higher level (AHL) 7. Nucleic acids 8. Metabolism, cell respiration and photosynthesis 9. Plant biology 10. Genetics and evolution 11. Animal physiology
Option A. Neurobiology and behaviour B. Biotechnology and bioinformatics C. Ecology and conservation D. Human physiology
Practical scheme of work • Practical activities • Individual investigation (internal assessment–IA) • Group 4 project

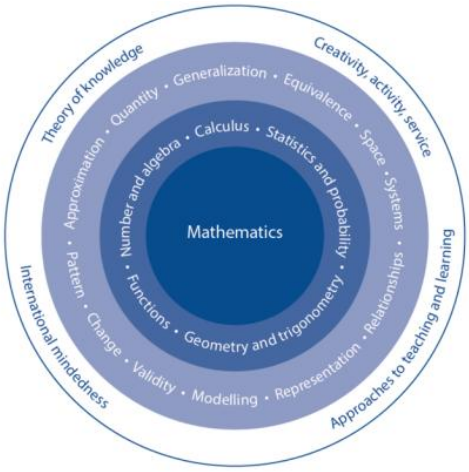
Assessment for both HL and SL:

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

The internal assessment task will be one scientific investigation (a hands-on laboratory investigation, extracting and analysing data from databases, etc.) taking about 10 hours and the writeup should be about 6 to 12 pages long.
The external assessment of biology consists of three written papers.

Group 5: Mathematics

Individual students have different needs, aspirations, interests and abilities. For this reason there are two different subjects in mathematics, each available at SL and HL These courses are designed for different types of students: those who wish to study mathematics as a subject in its own right or to pursue their interests in areas related to mathematics, and those who wish to gain understanding and competence in how mathematics relates to the real world and to other subjects. Each course is designed to meet the needs of a particular group of students. *Mathematics: analysis and approaches* and *Mathematics: applications and interpretation* are both offered at SL and HL. Therefore, great care should be taken to select the course and level that is most appropriate for an individual student. In making this selection, individual students should be advised to take into account the following factors:



- their own abilities in mathematics and the type of mathematics in which they can be successful
- their own interest in mathematics and those particular areas of the subject that may hold the most interest for them
- their academic plans, in particular the subjects they wish to study in the future
- their choice of career.

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.

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 generalization.

Both subjects are offered at HL and SL. There are many elements common to both subjects although the approaches may be different. Both subjects will prepare students with the mathematics needed for a range of further educational courses.

For all mathematical Courses, students will be required to purchase a graphical calculator. The model of calculator required is **CASIO FX-CG50**. The mathematics department will inform you of the approved suppliers. You WILL NOT be allowed to sit an exam with an alternative calculator

Mathematics: applications and interpretation (SL & HL)

Course Description

Applications and Interpretation (SL&HL) is appropriate for students who are interested in exploring the practical use of mathematics but intend studying a course at University with little or no mathematical content. For example, social sciences, the arts, psychology, languages. The students are required to have a graphical calculator, while personal computer is optional.

Aims

The aims of SL & HL mathematics are to enable students to:

- develop a curiosity and enjoyment of mathematics, and appreciate its elegance and power
- develop an understanding of the concepts, principles and nature of mathematics
- communicate mathematics clearly, concisely and confidently in a variety of contexts
- develop logical and creative thinking, and patience and persistence in problem solving to instil confidence in using mathematics
- employ and refine their powers of abstraction and generalization
- take action to apply and transfer skills to alternative situations, to other areas of knowledge and to future developments in their local and global communities
- appreciate how developments in technology and mathematics influence each other
- appreciate the moral, social and ethical questions arising from the work of mathematicians and the applications of mathematics
- appreciate the universality of mathematics and its multicultural, international and historical perspectives
- appreciate the contribution of mathematics to other disciplines, and as a particular "area of knowledge" in the TOK course
- develop the ability to reflect critically upon their own work and the work of others
  independently and collaboratively extend their understanding of mathematics.

Objectives

Students will be expected to demonstrate the following:

1. Knowledge and understanding: Recall, select and use their knowledge of mathematical facts, concepts and techniques in a variety of familiar and unfamiliar contexts.
2. Problem solving: Recall, select and use their knowledge of mathematical skills, results and models in both abstract and real-world contexts to solve problem.
3. Communication and interpretation: Transform common realistic contexts into mathematics; comment on the context; sketch or draw mathematical diagrams, graphs or constructions both on paper and using technology; record methods, solutions and conclusions using standardized notation; use appropriate notation and terminology.
4. Technology: Use technology accurately, appropriately and efficiently both to explore new ideas and to solve problems.
5. Reasoning: Construct mathematical arguments through use of precise statements, logical deduction and inference and by the manipulation of mathematical expressions.
6. Inquiry approaches: Investigate unfamiliar situations, both abstract and from the real world, involving organizing and analyzing information, making conjectures, drawing conclusions and testing their validity.

Course overview

Syllabus component	Hours (SL)	Hours (HL)
1. Number and algebra	16	29
2. Functions	31	42
3. Geometry and trigonometry	18	46
4. Statistics and probability	36	52
5. Calculus	19	41
6. "Toolkit" and Mathematical exploration	30	30
Total hours	150	240

Assessment outline – SL

Assessment component	Weighting

External assessment (3 hours)	80%
Paper 1 (1.5 hours)	40%
Paper 2 (1.5 hours)	40%
Internal assessment (30 hours)	20%

Assessment outline – HL

Assessment component	Weighting
External assessment (5 hours)	80%
Paper 1 (2 hours)	30%
Paper 2 (2 hours)	30%
Paper 3 (1 hour)	20%
Internal assessment (30 hours)	20%

Mathematics: analysis and approaches (SL & HL)

Course Description

Mathematics: analysis and approaches at SL and HL is appropriate 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 the use of technology. Students who take Mathematics: analysis and approaches will be those who enjoy the thrill of mathematical problem solving and generalization. This subject is aimed at students who will go on to study subjects with substantial mathematics content such as mathematics itself, engineering, physical sciences, or economics for example.
The course requires students to study a broad range of mathematical topics through a number of different approaches and to varying degrees of depth. Calculus forms a larger part of this course as does the study of mathematical functions and Statistics is studied both as a compulsory element and sometimes as the option. Students embarking on this course should be intellectually equipped to appreciate the links between parallel structures within the different topic areas of Mathematics.

Distinction between SL and HL

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

Aims

- Develop a curiosity and enjoyment of mathematics, and appreciate its elegance and power
- Develop an understanding of the concepts, principles and nature of mathematics
- Communicate mathematics clearly, concisely and confidently in a variety of contexts
- Develop logical and creative thinking, and patience and persistence in problem solving to instill confidence in using mathematics
- Employ and refine their powers of abstraction and generalization
- Take action to apply and transfer skills to alternative situations, to other areas of knowledge and to future developments in their local and global communities
- Appreciate how developments in technology and mathematics influence each other
- Appreciate the moral, social and ethical questions arising from the work of mathematicians and its applications
- Appreciate the universality of mathematics and its multicultural, international and historical perspectives
- Appreciate the contribution of mathematics to other disciplines, and as a particular “area of knowledge” in the TOK course

Objectives

Having followed a DP mathematics course, students will be expected to demonstrate the following:

- Recall, select and use their knowledge of mathematical facts, concepts and techniques in a variety of familiar and unfamiliar contexts.
- Recall, select and use their knowledge of mathematical skills, results and models in both abstract and real-world contexts to solve problems.
- Transform common realistic contexts into mathematics; comment on the context; sketch or draw mathematical diagrams, graphs or constructions both on paper and using technology; record methods, solutions and conclusions using standardized notation; use appropriate notation and terminology.
- Use technology accurately, appropriately and efficiently both to explore new ideas and to solve problems.
- Construct mathematical arguments through use of precise statements, logical deduction and inference and by the manipulation of mathematical expressions.
- Investigate unfamiliar situations, both abstract and from the real world, involving organizing and analyzing information, making conjectures, drawing conclusions, and testing their validity.

Assessment

Exam component	Standard level SL		High level HL	
Paper 1 Written Paper – no calculator allowed	90 min	40%	120 min	30%
Paper 2 Written Paper – graphic display calculator (GDC) required	90 min	40%	120 min	30%
Paper 3 Written Paper – extended response problem solving questions, GDC required	/	/	60 min	20%
Internal assessment: Investigative, problem solving and modelling skills development leading to one written exploration	30 hrs	20%	30 hrs	20%

Group 6: The Arts and Optional subjects

Visual arts (SL)

The IB Diploma Visual Arts introduces aesthetic, historical, and critical issues of the visual arts. The purpose of this course is to introduce students to the languages, concepts, and practices of art through visual and art historical perspectives. Students will be engaged in discussion about the elements of art, such as content, composition, style, method and materials. Students will also be introduced to the visual art practices in which they develop they own creative vision. This course is exploratory in nature; students are expected to experiment with traditional and contemporary techniques and to engage in discussions and critical reflections while working towards technical proficiency and confidence as art-makers.

Supporting the International Baccalaureate mission statement and learner profile, the course encourages students to actively explore the visual arts within and across a variety of local, regional, national, international and intercultural contexts. Through inquiry, investigation, reflection and creative application, visual arts students develop an appreciation for the expressive and aesthetic diversity in the world around them, becoming critically informed makers and consumers of visual culture.

Key features of the curriculum model:

	VISUAL ARTS IN CONTEXT	VISUAL ARTS METHODS	COMMUNICATING VISUAL ARTS
THEORETICAL PRACTICE	Students examine and compare the work of artists from different cultural contexts. Students consider the contexts influencing their own work and the work of others.	Students look at different techniques for making art. Students investigate and compare how and why different techniques have evolved and the processes involved.	Students explore ways of communicating through visual and written means. Students make artistic choices about how to most effectively communicate knowledge and understanding.
ART-MAKING PRACTICE	Students make art through a process of investigation, thinking critically and experimenting with techniques. Students apply identified techniques to their own developing work.	Students experiment with diverse media and explore techniques for making art. Students develop concepts through processes that are informed by skills, techniques and media.	Students produce a body of artwork through a process of reflection and evaluation, showing a synthesis of skill, media and concept.
CURATORIAL PRACTICE	Students develop an informed response to work and exhibitions they have seen and experienced. Students begin to formulate personal intentions for creating and displaying their own artworks.	Students evaluate how their ongoing work communicates meaning and purpose. Students consider the nature of “exhibition” and think about the process of selection and the potential impact of their work on different audiences.	Students select and present resolved works for exhibition. Students explain the ways in which the works are connected. Students discuss how artistic judgments impact the overall presentation.

External assessment tasks

Task 1: Comparative study

- Students analyse and compare different artworks by different artists. This independent critical and contextual investigation explores artworks, objects and artifacts from differing cultural contexts.

At SL: Compare at least 3 different artworks, by at least 2 different artists, with commentary over 10–15 pages.

Task 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.

At SL: 9–18 pages. The submitted work should be in at least two different art-making forms.

Internal assessment tasks

Task 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.

At SL: 4–7 pieces with exhibition text for each. A curatorial rationale (400 words maximum).