

III.GIMNAZIJA SPLIT





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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 comprises 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 subject 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.



TREMA Mission Statement and IB Mission Statement

TREMA Mission Statement

Our mission is to contribute to the development of society by fostering curious, open-minded, responsible and capable young people who will develop understanding and tolerance for diversity and positively impact the lives of others. We want to encourage all students to reach their full intellectual and human potential by providing them with demanding assessment programs and methods and educating them using modern methods in a comfortable working environment with good communication between students and teachers.

Our goal is to create future citizens of the world who will be able to accept the challenges, act effectively in global reality, be active lifelong learners and competitive members of international society.

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). Students need to pick three subjects at SL and three subjects at HL.

IB Core:

- Theory of Knowledge Kristina Hrga
- Extended Essay Krunoslava Tadin Andromak
- Creativity Activities Service Maja Milanović Fridl

Group 1: Studies in language and literature

- Croatian A Literature (SL & HL) Krunoslava Tadin Andromak
- English A Language & Literature (SL & HL) Ivana Pločkinić

Group 2: Language acquisition

- English B (SL & HL) Adriana Kovačević
- Italian ab initio (SL) Anita Erceg

Group 3: Individuals and Societies

- Geography (SL & HL) Antonio Vrbatović
- Psychology (SL & HL) Ivana Jambrović
- Environmental systems and societies (SL) Antonio Vrbatović

Group 4: Sciences

- Physics (SL & HL) Mladen Zovko
- Computer science (SL & HL) Ante Bartulović
- Chemistry (SL) Marina Luetić

Group 5: Mathematics

• Mathematics: analysis and approaches (SL & HL) – Mia Milun, Lada Tudor

Group 6: The Arts and Optional subjects

- Theatre (SL) Maja Duplančić
- Italian ab initio (SL) Anita Erceg (extra language)
- Computer science (SL & HL) Ante Bartulović (extra science)
- Environmental systems and societies (SL) Antonio Vrbatović (extra humanities)

Students will pick one option from each group 1 - 6. Students are advised to maintain a healthy selection of crossdisciplinary 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 university goals, can do that in Group 6. Instead of choosing Theatre, students can choose Italian ab initio (SL), Environmental systems and societies (SL) or Computer science (SL & HL). School can also offer IB Diploma Self Study Options. A self-taught language A literature course offers DP students the opportunity to study the literature of a language that is not offered as a taught subject at TREMA. The self-taught courses enable students to explore literature written in their mother tongue and to maintain and even enhance their mother tongue fluency both in written and spoken form. At the end of a two-year self-taught DP Language A Literature course, students take exactly the same formal DP examinations as students whose learning was directed by a classroom teacher.



Options Timeline – Personalized Pathway

TWO YEARS BEFORE DP (9TH GRADE - 1. RAZRED SŠ)

February



<u>Presentations</u> of the programme are organized at the school. All students and parents interested in the IB DP are welcome to come.

May



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 DP (10TH GRADE - 2. RAZRED SŠ)

November



Students fill out a <u>questionnaire</u> developed by our counsellor (school psychologist). The results of the questionnaire are discussed with the student and parents. The student gets a report about proposed courses according to his/her university goals and vocational wishes.

January

—

Students fill out self-assessment and skill assessment template and their career plan.

March



Teachers that teach students interested in IB DP will give students the feedback where they are in a <u>rubric</u> developed by IB teachers to identify and describe necessary levels of achievement, outcomes and skills (emphasises what is necessary to be able to take part in the course without difficulties).

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 subject choice if it's a subject that is necessary for IB DP course they want.

May



<u>Counselling process</u> - student and parents have an appointment with Counsellor and IB Coordinator where they discuss the best subject choice for each student. They also discuss student's approach to learning, with a stress on learner autonomy.

- 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

All students that want to go to the DP in TREMA and aren't students in TREMA will fill out a questionnaire about vocational guidance and do the counselling process in May before application for the DP.



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

The research process

- •Choose the approved DP subject
- Choose a topic
- Preparatory reading
- Formulate a well-focused research question
- Plan the research and writing process
- •Plan a draft structure (outline headings) for the essay
- Carry out the research

Writing and formal presentation

- •The required elements of the final work to be submitted are title page, contents page, introduction, body of the essay, conclusion, reference and bibliography
- •The upper limit of 4,000 words includes the introduction, body, conclusion and any quotations
- It is the result of approximately 40 hours of work by the student

Reflection process

•Students undertake three mandatory reflection sessions with their supervisor where they can demonstrate their planning, discuss what they are learning and evaluate their progress. Those mandatory sessions must be recorded on the *Reflections on planning and progress form*.

- The first reflection session
- The interim reflection session
- •The final reflection session viva voce: a short interview (10–15 minutes) between the student and the supervisor
- •In addition, there are supervision sessions that are not part of the formal reflection 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 it has an important position in the program ". TOK is different from other DP programmes because there is no new specific body of knowledge; the purpose is to see into different ways of knowledge and different kinds of knowledge, encourage students 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. Students 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 b) 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

Type of	Format of	Weighting
assessment	assessment	of final grade (%)
External		
Part I: Theory of knowledge essay	(10 hours) Students are required to write an essay in response to one of the six prescribed titles that are issued by the IB for each examination session. As an external assessment component, it is marked by IB examiners	67
Internal		
	(8 hours) Students are required to create an exhibition of three objects with accompanying commentaries that explores how TOK manifests in the world around us. This component is internally assessed by the teacher and externally moderated by	33
Part 2: Theory of knowledge exhibition	the IB at the end of the course.	



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 interwoven with particular activities are characterized as follows:

- **Creativity** arts, and other experiences that involve creative thinking.
- Activity physical exertion contributing to a healthy lifestyle, complementing academic work elsewhere in the DP.
- Service an unpaid and voluntary exchange that has a learning benefit for the student. The rights, dignity and autonomy of all those involved are respected.



In CAS, there are seven learning outcomes*:

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

* from Diploma Programme Creativity, activity, service guide© International Baccalaureate Organization 2015

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 participating 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.



All subject descriptions summarized from International Baccalaureate Diploma Programme Subject Briefs. For further information on the IB Diploma Programme, and a complete list of DP subject briefs, visit: http://www.ibo.org/diploma/.

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 and non-literary texts. Students have an opportunity to explore the Croatian language through its cultural development and use, its media forms and function, and its literature. This course aims to develop students' skills in critical reading and textual analysis of literary works. Students develop skills of literary and textual analysis, and the ability to present their ideas effectively.

Key aims of the Croatian Language and literature

- Student study 6 works at higher level and 4 works at standard level from representative selection of literary forms, periods and places.
- Students 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 meaning is developed through the exploration of texts, some of which are studied in translation, from a variety of cultures, periods, text-types and literary forms.

Assessment

- Students are assessed through a combination of formal examinations and oral and written coursework and oral activities.
- The formal examinations comprise two essay papers, one requiring 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 standards.



English A Language & Literature (SL & HL)

Course Overview

The language A: language and literature course aims at studying the complex and dynamic nature of language and exploring both its practical and aesthetic dimensions. The course will explore the crucial role language plays in communication, reflecting experience and shaping the world, and the roles of individuals themselves as producers of language. Throughout the course, students will explore the various ways in which language choices, text types, literary forms and contextual elements all effect meaning.

Know, understand and interpret:

- a range of texts, works and/or performances, and their meanings and implications
- contexts in which texts are written and/or received
- elements of literary, stylistic, rhetorical, visual and/or performance craft
- features of particular text types and literary forms.

Analyse and evaluate:

- ways in which the use of language creates meaning
- uses and effects of literary, stylistic, rhetorical, visual or theatrical techniques
- relationships among different texts
- ways in which texts may offer perspectives on human concerns.

Communicate:

- ideas in clear, logical and persuasive ways
- in a range of styles, registers and for a variety of purposes and situations
- (for literature and performance only) ideas, emotion, character and atmosphere through performance.

Internal Assessment

Language A: language and literature students will be required to discuss one literary text and one non-literary text; The weighting of the individual oral will be 30% for SL 20% for HL.

External Assessment

Paper 1 will be 1h 15 minutes for SL, 2h 15 for HL. The weighting of Paper 1 will be 35% for both.

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 and 25% for HL.

HL essay -Written coursework component: 1,200–1,500 word essay on one literary work or a non-literary body of work studied. 20% of the final grade.



Group 2: Language Acquisition

This group of subjects consists of two modern language courses—Italian Ab Initio and English B. Italian 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 Italian 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)	75%
Paper 1 (1 hour 15 minutes)	25%
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)	50%
Reading comprehension (1 hour)	
Comprehension exercises on three audio passages and three written texts, drawn	
from all five themes.	
Internal assessment	25%
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.	

Higher Level

Assessment component	Weighting
External assessment (3 hours 30 minutes)	75%
Paper 1 (1 hour 30 minutes)	25%
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	50%
Listening comprehension (1 hour)	
Reading comprehension (1 hour)	
Comprehension exercises on three audio passages and three written texts, drawn	
from all five themes.	
Internal assessment	25%
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.	



Italian ab initio (SL)

Course description and aims

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

Italian 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. Italian 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)	25%
Two written tasks—each from a choice of three Writing—30 marks (1 hour)	
Paper 2 (receptive skills)- Separate sections for listening and reading	
Listening—25 marks (45 minutes)	25%
Reading—40 marks (1:40 minutes)	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	

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

Geography (SL & HL)

Course description and aims

Geography is a dynamic subject firmly grounded in the real world, and focuses on the interactions between individuals, societies and physical processes in both time and space. It seeks to identify trends and patterns in these interactions. It also investigates the way in which people adapt and respond to change, and evaluates actual and possible management strategies associated with such change. Geography describes and helps to explain the similarities and differences between different places, on a variety of scales and from different perspectives.

Geography as a subject is distinctive in its spatial dimension and occupies a middle ground between social or human sciences and natural sciences. The course integrates physical, environmental and human geography, and students acquire elements of both socio-economic and scientific methodologies. Geography takes advantage of its position to examine relevant concepts and ideas from a wide variety of disciplines, helping students develop life skills and have an appreciation of, and a respect for, alternative approaches, viewpoints and ideas.

Students at both SL and HL are presented with a common core and optional geographic themes. HL students also study the HL core extension. Although the skills and activity of studying geography are common to all students, HL students are required to acquire a further body of knowledge, to demonstrate critical evaluation and to further synthesize the concepts in the HL extension.

Syllabus component	Teachi hours	ng
	SL	HL
Geographic themes—seven options SL—two options; HL— three options	60	90
• Freshwater		
Oceans and coastal margins		
Extreme environments		
Geophysical hazards		
Leisure, tourism and sport		
Food and health		
Urban environments		
SL and HL core	70	70
Geographic perspectives—global change		
Population distribution—changing population		
Global climate—vulnerability and resilience		
Global resource consumption and security		
HL only		60
Geographic perspectives—global interactions		
Power, places and networks		
Human development and diversity		
Global risks and resilience		
Internal assessment SL and HL Fieldwork	20	20
Fieldwork, leading to one written report based on a fieldwork question, information collection and analysis		
with evaluation		
Total teaching hours	150	240

Assessment at a glance

Type of	Format of assessment	Weigh Time (hours) grade	Weighting of final grade (%)		
assessment		SL	HL	SL	SL HL
External		2.75	4.5	75	80
Paper 1	Each option has a structured question and one extended answer question from a choice of two.	1.5	2.25	35	35
Paper 2	Three structured questions, based on each SL/HL core unit. Infographic or visual stimulus, with structured questions. One extended answer question from a choice of two.	1.25	1.25	40	25
Paper 3	Choice of three ex- tended answer questions, with two parts, based on each HL core extension unit.		1		20
Internal		20	20	25	20
Fieldwork	One written report based on a fieldwork question from any suitable syllabus topic, information collection and analysis with evaluation.	20	20	25	20



Psychology (SL & HL)

Course description and aims

At the core of the DP psychology course is an introduction to three different approaches to understanding behaviour: the biological, cognitive and sociocultural approaches. Students study and critically evaluate the knowledge, concepts, theories and research that have developed the understanding in these fields. The interaction of these approaches to studying psychology forms the basis of a holistic and integrated approach to understanding mental processes and behaviour as a complex, dynamic phenomenon, allowing students to appreciate the diversity as well as the commonality between their own behaviour and that of others. The contribution and the interaction of the three approaches is understood through the four options in the course, focusing on areas of applied psychology: abnormal psychology, developmental psychology, health psychology, and the psychology and apply it to specific lines of inquiry. Psychologists employ a range of research methods, both qualitative and quantitative, to test their observations and hypotheses. DP psychology promotes an understanding of the various approaches to research and how they are used to critically reflect on the evidence as well as assist in the design, implementation, analysis and evaluation of the students' own investigations. Surrounding the approaches and the options are the overarching themes of research and ethics. A consideration of both is paramount to the nature of the subject.

Curriculum model overview

	Teaching hours	
Syllabus component	SL	HL
Core	90	120
 Biological approach to understanding behaviour 		
 Cognitive approach to understanding behaviour 		
 Sociocultural approach to understanding behaviour 		
Approaches to researching behaviour	20	60
Options		40
Abnormal psychology		
Developmental psychology		
Health psychology		
 Psychology of human relationships 		
Internal assessment		20
Experimental study		
Total teaching hours	150	240

Assessment model

Type of		Time (hours)		Weighting of final grade (%)	
assessment	Format of assessment	SL	HL	SL	HL
External		3	5	75	80
Paper 1	Three short answer questions on the core. One essay from a choice of three on the biological, cognitive and sociocultural approaches. HL only: essays will reference additional HL topic.	2	2	50	40
Paper 2	SL: one question from a choice of three on one option. HL: two questions; one each from a choice of three on two options.	1	2	25	20
Paper 3	Three short answer questions on approaches to research.		1		20
Internal		20	20	25	20
Experimental study	A report on an experimental study undertaken by the student.	20	20	25	20



Environmental systems and societies (SL)

Environmental systems and societies (ESS) is an interdisciplinary group 3 and 4 course that is offered only at standard level (SL). Students can study ESS in III.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 analyse 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 programme, 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

Standard level

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 syllabus content	40%
	Paper 3	(60 min): different types of questions about the optional Data- and practical-based questions plus, short answer and extended response questions on the option	20%
Internal	Investigation	and write-up of 6 to 12 pages	20%

Higher level

Assessment	Component		Percentage
External	Paper 1	(60 min): 40 multiple choice questions from the core syllabus content	20%
	Paper 2	(135 min): short answer and long response questions about core syllabus content	36%
	Paper 3	(75 min): different types of questions about the optional Data- and practical-based questions plus, short answer and extended response questions on the option	24%
Internal	Investigation	and write-up of 6 to 12 pages	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 the same time simple and complex. Its 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 developments in 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 programme, 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	28
3. Constructing, analysing, evaluating and formulating	7	4	4	3	17
4. Using skills	n/a	n/a	n/a	6	9
Component weighting	40%	20%	20%	20%	100%



Chemistry (SL)

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

Option (choice of one out of four)

- A. Materials
- B. Biochemistry
- C. Energy
- D. Medicinal chemistry

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.

Assessment	Component		Percentage
External	Paper 1	(45 min): 30 multiple choice questions from the core syllabus content	20%
	Paper 2	(75 min): short answer and long response questions about core syllabus content	40%
	Paper 3	(60 min): Data- and practical-based questions, plus short answer and extended response questions on the option	20%
Internal	Investigation	and write-up of 6 to 12 pages	20%



Group 5: Mathematics

TREMA offers one subject in mathematics, available at SL and HL. Great care should be taken to select the level that is most appropriate for an individual student. In making this selection, individual students should be advised to consider 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.



In many DP schools Mathematics: applications and interpretation is available 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. The subject is not offered at the moment in TREMA for organisational reasons.

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.

Subject *Mathematics: analysis and approaches* is 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: 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 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 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	
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Exam component	Standard	level SL	Higher	level HL
Paper 1 Written Paper – no calculator allowed	90 min	40%	120 min	30%
Paper 2 Written Paper – extended response calculator (GDC) required	90 min	40%	120 min	30%
Paper 3 Written Paper – extended response calculator (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

Theatre (SL)

Course description and aims

Theatre is a practical subject that encourages discovery through experimentation, risk-taking and the presentation of ideas. The IB DP theatre course is multifaceted and gives students the opportunity to actively engage in theatre as creators, designers, directors and performers. It emphasizes working both individually and collaboratively as part of an ensemble. The teacher's role is to create opportunities that allow students to explore, learn, discover and collaborate to become autonomous, informed and skilled theatremakers.

Students learn to apply research and theory to inform and to contextualize their work. Through researching, creating, preparing, presenting and critically reflecting on theatre, they gain a richer understanding of themselves, their community and the world. Students experience the course from contrasting artistic and cultural perspectives. They learn about theatre from around the world, the importance of making theatre with integrity, and the impact that theatre can have on the world. It enables them to discover and engage with different forms of theatre across time, place and culture, promoting international-mindedness and an appreciation of the diversity of theatre.

The aims of all DP arts subjects are to enable students to:

- enjoy lifelong engagement with the arts
- become informed, reflective and critical practitioners in the arts
- understand the dynamic and changing nature of the arts
- explore and value the diversity of the arts across time, place and cultures
- express ideas with confidence and competence
- develop perceptual and analytical skills.

In addition, the aims of the SL theatre course are to enable students to:

- explore theatre in a variety of contexts and understand how these contexts inform practice (theatre in context)
- understand and engage in the processes of transforming ideas into action (theatre processes)
- develop and apply theatre production, presentation and performance skills, working both independently and collaboratively (presenting theatre)

Assessment at a glance

Type of assessment	Format of assessment	Weighting of final grade (%)
External		65
Director's notebook	Develop ideas regarding how a play text could be staged for an audience.	35
Research presentation	Deliver an individual presentation (15 minutes maximum) that outlines and physically demonstrates research into a convention of a theatre tradition.	30
Internal		
Collaborative project	Collaboratively create and present an original piece of theatre (lasting 13–15 minutes) for and to a specified target audience.	35

The theatre course is structured for the assessment tasks to be ongoing with skills being developed throughout the course and the material for assessment developed throughout the latter part of the course.