



# **CURRICULUM GUIDE**

## **2025 - 2026**

### **GRADE 10**

#### ***MEF IS Motto***

*Building bridges between countries and cultures*

#### ***MEF IS Mission***

*We inspire, nurture and challenge our learners to realise their unique potential.*

#### ***MEF IS Vision***

*To be an open-minded community striving for creativity, innovation and excellence*

#### ***MEF IS Learning Definition***

*Learning is the ongoing process of constructing new understandings of the world through experiences and interactions. It consists of making connections, reflecting, and expanding on current knowledge through motivation, curiosity, exploration, experimentation, and natural consequences resulting in change in the way we think and perform.*

#### ***MEF IS Definition for Internationalism / Interculturalism***

*A dynamic discourse that fosters: knowledge and respect; the search for commonalities and a celebration of differences; international mindedness and a peaceful, ethical and progressive society.*

## ***MEF IS Guiding Principles***

The MEF International School Community;

- promotes and cultivates global mindedness, developing an appreciation for individuals, groups, cultures and societies
- is empathetic, striving to understand and learn from the perspective of others
- uses reflective practice, striving for continuous improvement

Where learning...

- involves making connections, and extending the learner's understanding that results in action and change
- is experiential, fun, authentic, and collaborative
- engages learners in critical, analytical and creative thinking

Where teaching...

- depends on the positive relationship between teachers and learners
- supports individual learners, providing challenge and rigour
- allows for learner voice, choice and ownership
- fosters curiosity, exploration and experimentation
- integrates technology to enhance learning
- is innovative and creative, informed by research concerning educational practice

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## ***The Roles of Learners and Teachers***

These roles reflect the MEFIS learning definition and are based on self-awareness and an understanding of the dynamic, transformative and life-long processes of learning and teaching. Both learners and teachers aim for impacts not just the assessment outcomes. Teachers and learners collaborate in a secure environment in order to develop their thinking, research, self-management, social and communication skills and become responsible and productive members of local, national and global communities.

<b>Learners are</b>	<b>Teachers are</b>
<b>Confident</b> in working with information and ideas using a variety of sources by analysing and reflecting on visuals and multimedia.	<b>Confident, knowledgeable</b> and visionary in teaching their subject and engaging each student in learning.
<b>Responsible and principled</b> for their own learning, making informed choices, and being responsive to and respectful of others both in and out of the classroom.	<b>Responsible and principled</b> for themselves being responsive to and respectful of all learners by supporting individual needs and providing challenge and rigour, both in and out of the classroom.
<b>Reflective inquirers</b> who realize that people learn in different ways, discovering how they learn best and developing strategies to be successful throughout the learning process.	<b>Reflective inquirers</b> as learners themselves, developing their practice and fostering curiosity, exploration and experimentation.
<b>Innovative</b> , resourceful and resilient <b>thinkers</b> and <b>risk-takers</b> who take initiative in applying prior knowledge to solve present and future challenges.	<b>Innovative risk-takers</b> equipped for present and future challenges, who integrate 21st century skills to enhance and transform learning and are informed by action research.
<b>Engaged, balanced and open-minded</b> intellectually and socially and ready to make a positive difference in local, national and global communities.	<b>Engaged, balanced thinkers</b> intellectually, professionally and socially, ready to make a positive difference in local, national and global communities.
<b>Communicative and caring</b> in understanding constructive feedback and expressing ideas creatively and collaboratively in more than one language and in many ways.	<b>Communicative and caring</b> allowing for student voice, choice and ownership by promoting positive relationships and providing learners with constructive, timely feedback and strategic opportunities for using their mother tongue for developing understandings.

### **Teaching and Learning**

Teachers use a variety of methods to develop student knowledge, skills, understanding and dispositions. It is the responsibility of the student to be engaged, participate and follow instructions. The teacher should be notified if additional support is needed. Technology is used to support and enhance teaching and learning when appropriate. Students should bring fully charged laptops to lessons.

## Google Classroom

Each course has a Google Classroom where students can see announcements, homework and deadlines and electronically submit assignments. Students will be invited to join a classroom by their teacher and are expected to check it regularly. Parents can keep track of their child's classroom progress through daily or weekly email summaries. Email summaries include updates on missing work and upcoming work. As a guardian, before you can receive email summaries, you must receive and accept an invitation from your student's teacher or school. If you have any questions, please contact the subject teacher via email.

## Assessment

Assessment is used to inform both teachers and students in their teaching and learning. Teachers provide varied opportunities for students to participate in, and reflect on, the assessment of their work.

ManageBac is used to communicate formative and summative assessment outcomes for every student. Each subject is reported on at the end of the two semesters.

### Formative Assessment

Regular assessment will be used during the teaching and learning process to inform teachers and students about how the learning is developing. Formative assessment and teaching are directly linked. Formative assessment provides feedback to support learning. A variety of methods are used, including verbal, written, and peer feedback, and self-assessment.

### Summative Assessment

Summative assessment happens at the end of the teaching and learning process, is planned for in advance, and allows students to demonstrate their understanding, knowledge and skills in a variety of formats, including projects, quizzes, and examinations.

### Assessment Scale

Assessment of student learning is based on the objectives and assessment criteria specific to each subject. Assessments across the Secondary School will be as follows:

Summative Assessments (at least 2) per semester	50%
Performance Grade 1: Projects (including Performance Tasks) / Essay / Labs	40%
Performance Grade 2: Classwork / Homework / Quizzes	10%

**Performance grade 1** are longer formative and summative assessments.

Performance Grade 1: Projects / Performance tasks / Essay / Labs	40% of total grade
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**Performance grade 2** are shorter formative assessments. There should be a minimum of three graded assignments.

Performance Grade 2: Classwork / Homework / Quizzes	10% of total grade
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**Approaches to Learning (ATLs)** do not make up a portion of grades. However, teachers indicate on report cards whether or not each student is meeting the individual Approaches to Learning.

Criteria	Description	Achievement level
Thinking Skills	Critical, creative, and transfer skills	(Score: 1-7)
Research Skills	Media literacy and Information Literacy	(Score: 1-7)
Communication Skills	Thoughts, messages, and information	(Score: 1-7)
Self-Management Skills	Affective, reflection, and organization	(Score: 1-7)
Social Skills	Collaboration	(Score: 1-7)

### Homework

Homework is an integral part of the learning experience. It is used to reinforce knowledge and skills acquired in school and to promote the development of good independent study habits and effective time management. Homework will be assigned by the teacher and students have the responsibility to record the details. Homework will consist of a balance of all subject areas. Time spent completing homework may take up to 30 minutes per course per evening depending on individual learning pace and language level. Students may need to work longer during project work and examination weeks.

### Student Support

Learning support, additional English support and counselling is available to all students in need. Students needing support from individual subjects should discuss this with their teachers.

### Attendance

Consistent and punctual attendance is important for all students' learning. If students know they plan to miss school, they should complete the student missing worksheet before they leave. Students returning from missing school have the responsibility to catch up on this missed work themselves. Students missing exams are only eligible to take these other dates with Deputy Principal's. This is granted if the student can provide a doctor's note or other official documentation.

### Exam dates:

**Exam 1):** 08 - 12 December 2025

**Exam 2 (IGCSE Mock Exams):** 23 March - 3 April 2026

## ***GRADE 10 OVERVIEW***

### **Course of study**

The Grade 10 course is the second of a two year course of study designed to further the knowledge, skills, understanding and dispositions of students in preparation for their studies in Grades 11 and 12. Students follow the IGCSE (International General Certificate of Secondary Education) Programme, which is a syllabus-based curriculum with detailed international learning objectives per course over a two year period from Cambridge Assessment International Education. Students are able to study two year courses in First Language English or English as a Second Language, French or Spanish, Coordinated science (biology, chemistry and physics), International Mathematics, and Economics or Global Perspectives.

The IGCSE examinations are the exit assessment offered to our students in Grade 10. These examinations are internationally recognised qualifications. Additionally, students study in courses that follow large parts of the IGCSE curriculum. However, in such courses, students do not sit the official IGCSE examinations. These courses include physical education, visual arts, performing arts, and computer science.

The following syllabi are followed:

First Language English (0500)	Economics (0455)
Second Language English (0510)	International Mathematics (0607)
Spanish as a Foreign Language (0530)	Co-ordinated Science (0654)
French as a Foreign Language (0520)	Global Perspectives (0457)

Specific syllabi can be found on the Cambridge Assessment International Education website:

[Cambridge IGCSE Subjects](#)

The Cambridge IGCSE follows an international curriculum that develops students' skills in creative thinking, inquiry, and problem solving and is an excellent preparation offering a smooth academic progression into the IB Diploma programme and onwards into higher education. Further information about the IGCSEs can be found on their website [Cambridge IGCSE](#)

### **Cambridge Learner Attributes**

The Cambridge curriculum is designed to help students develop attitudes and life skills throughout their education, as well as academic skills, in order to be successful at university and in employment.

The attributes of Cambridge learners are:

- **Confident** in working with information and ideas – their own and those of others
- **Responsible** for themselves, responsive to and respectful of others
- **Reflective** as learners, developing their ability to learn
- **Innovative** and equipped for new and future challenges
- **Engaged** intellectually and socially, ready to make a difference

This curriculum guide has been produced in collaboration with all teachers. Please note that there may be changes to the details as students learn at different rates. It may be necessary to take longer on a unit, or go through a unit faster than anticipated.



## ENGLISH A (FIRST LANGUAGE ENGLISH)

**Teacher(s):** Ms. Elizabeth Asaala

**Contact details:** [asaalae@mefis.k12.tr](mailto:asaalae@mefis.k12.tr)

### Course Description:

Students will begin the year by studying directed writing. Next, they will investigate global issues relating to *A Separate Peace*, followed by a literature investigation including Bradbury's dystopian novel *Fahrenheit 451*. They will write original short stories in different genres (narrative, descriptive, horror, etc) for their IGCSE Paper 2. The class will also focus on different forms of writing in general and text features by studying both fiction and nonfiction works. During this second year of the two year course, students will complete and fine tune their IGCSE writing coursework and review for the external exam.

### Course Aims & Objectives:

- Enable candidates to understand and respond to what they hear, read and experience
- Enable candidates to communicate accurately, appropriately, confidently and effectively
- Encourage candidates to enjoy and appreciate a variety of language
- Complement candidates' ability to work with information and ideas in other areas of study, for example, by developing skills of analysis, synthesis and the drawing of inferences
- Promote candidates' personal development and an understanding of themselves and others

### Enduring understandings:

- Students will understand that the context we are in determines the language and register which will be most effective.
- Students will understand that complex decision making requires space and time.
- Students will understand that the end of a process is often the preparation for the beginning of something new.
- Students will understand that people gain or suffer as a result of their commitment to ideas. That's why we should be ready to challenge where those ideas come from.
- Students will understand that other cultural perspectives enrich our experience of the world.
- Students will understand that cultures are lively, multifaceted and interact with one another to enrich our world.
- Students will understand the ability of language to guide or manipulate thought.

UNIT 1: Directed Writing / Cambridge Speaking and Listening Component	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"><li>• Identify the purpose, audience, and format required in a directed writing task.</li><li>• Select and synthesize relevant information from source texts accurately.</li><li>• Use an appropriate tone and style suited to the task and audience.</li><li>• Organize writing logically with clear introductions, paragraphs, and conclusions.</li></ul>

	<ul style="list-style-type: none"> <li>Follow the correct conventions for formats such as letters, articles, reports, and speeches.</li> <li>Maintain a consistent voice and point of view throughout the response.</li> <li>Use a range of sentence structures and vocabulary to enhance meaning and style.</li> <li>Employ linking words and transitions to guide the reader through ideas clearly.</li> <li>Use persuasive or descriptive language techniques when appropriate.</li> <li>Edit and proofread writing to correct grammar, punctuation, and spelling errors.</li> </ul>
Assessments:	IGCSE coursework component focus on paper 1 and 2

UNIT 2: A Separate Peace	
Timeframe	5 weeks
Learning goals:	<ul style="list-style-type: none"> <li>Themes:</li> <li>Understand how context can be present in literature</li> <li>Consider how language and structure is used to construct meaning</li> <li>Evaluate to role of literary components e.g. character and setting</li> <li>Language Focus:</li> <li>- Revise compound/complex sentence structures</li> <li>- Use context clues to build vocabulary</li> <li>- Apply figurative language to develop narrative and descriptive writing tasks, creative storytelling and narrative structure, engaging openings and endings, descriptive writing with sensory details for Paper 2</li> </ul>
Assessments:	Produce a narrative and descriptive writing from skills learnt from the literary text.

UNIT 3: Literature: <i>Fahrenheit 451</i>	
Timeframe	11 weeks
Learning goals:	<ul style="list-style-type: none"> <li>Demonstrate an understanding of implicit and explicit meanings and attitudes</li> <li>Analyse, evaluate and develop facts, ideas and opinions</li> <li>Demonstrate understanding of how writers achieve effects</li> <li>Compare text to film clips from <i>Fahrenheit 451</i> (2018) in discussions and writing</li> </ul>
Assessments:	Written literary analysis pieces, comprehension questions

UNIT 4: Exam Preparation	
Timeframe	12 weeks
Learning goals:	<ul style="list-style-type: none"> <li>Study past IGCSE exams and expectations</li> <li>Practice skills for the exam</li> <li>Review coursework (Revisit previous writing tasks, complete missing work)</li> </ul>
Assessments:	Home work, Exam 2 (Mock Exam)

Unit 5: IB Skill Building: Introduction to English B Course and Themes	
Timeframe	10 weeks
Learning goals:	<p>Themes:</p> <ul style="list-style-type: none"> <li>• Introduction to the IB course and expectations, develop further understanding of future text types, literary analysis through short stories</li> <li>• Language Focus: <ul style="list-style-type: none"> <li>• - Revision of literary devices</li> <li>• - Analysis of sample papers</li> <li>• - Revision of language structures</li> </ul> </li> </ul>
Assessments:	Homework and Quizzes

## ***ENGLISH B (English as a Second Language)***

**Teacher(s):** Mr. Richard Algajer

**Contact details:** [algajerr@mefis.k12.tr](mailto:algajerr@mefis.k12.tr)

### **Course Description:**

The Grade 10 English B course explores a variety of genres including novels, movies, short stories, and non-fiction articles, with a focus on media and film, environmental issues, science and technology and cultural diversity. Throughout the academic year, students get the chance to prepare for the IGCSE exams by going over the sample papers from the previous years and practicing exam strategies.

Texts that will be covered in the 10th grade IGCSE English B class are

- *Cambridge IGCSE English as a Second Language Course Book*
- *The Outsiders* by S. E. Hinton
- *Dare to Disappoint: Growing up in Turkey* by Ozge Samanci
- *The Perks of being a Wallflower* by Stephen Chbosky
- *The Veldt* by Ray Bradbury

### **Course Aims & Objectives:**

The second year of the Cambridge IGCSE English as a Second Language curriculum continues to provide opportunities to gain lifelong skills and knowledge including:

- better communicative ability in English
- improved ability to understand English
- greater awareness of the nature of language and language learning skills
- wider international perspective

### **Enduring understandings:**

- Students will understand that identity can shape our perception of the world around us.
- Students will understand that identity is constructed from inside and outside perspectives.
- Students will understand that prejudice, domination, false promises, and betrayal impact and shape lives.
- Students will understand the purpose of writing in different forms.
- Students will understand that the films use the techniques and devices found in literature.
- Students will understand that the success requires sacrifice
- Students will understand that comics/graphic novels borrow from visual art and literature in ways that allow them to create unique reading experiences
- Students will understand that one must break free from societal expectations to reach their full potential.
- Students will understand that the desire to know more drives exploration and aspiration.
- Students will understand that our sense of self, and that of others, is continually developing through our different interactions and impacts on how we exist in the world

### **Transdisciplinary Links:**

- History - Turkish coup in the 80's;
- Politics - Political cartoon

UNIT 1: <i>Art and Our Beautiful World</i>	
Timeframe	9 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Students will be able to express personal opinions clearly and coherently in both spoken and written English on topics related to art and the natural world</li> <li>• Students will develop the ability to describe people, places, and artworks using precise and varied vocabulary.</li> <li>• Students will compare and evaluate different perspectives and interpretations in texts and discussions related to creativity, nature, and artistic expression.</li> <li>• Students will expand their thematic vocabulary related to art, the environment, and creative expression, applying it appropriately in context.</li> <li>• Students will demonstrate control of grammatical structures including verb tenses, complex sentences, and modal verbs in both spoken and written tasks.</li> <li>• Students will engage in structured debates and discussions, developing skills in argumentation, active listening, and respectful collaboration.</li> <li>• Students will read and respond to a variety of texts, identifying key ideas, language features, and underlying themes.</li> <li>• Students will produce coherent written texts such as reports, reflections, and presentations, with attention to audience, purpose, and structure.</li> <li>• Students will reflect on the relationship between artistic expression and the natural world, making personal and cultural connections.</li> <li>• Students will develop intercultural understanding and global awareness through exploration of diverse artistic and environmental perspectives.</li> </ul>
Assessments:	Quiz Summarising Paragraph & Essay Writing

UNIT 2: <i>THE OUTSIDERS</i> by S. E. HINTON - PREJUDICE & SOCIETY	
Timeframe	8 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Ascertain implicit and explicit meanings from the texts.</li> <li>• Identify and analyze themes using textual and historical evidence.</li> <li>• Understand how invisible, intangible forces at work in the story can influence plot, tone, and conflict.</li> <li>• Close readings of specific passages and offer analysis.</li> <li>• Purpose of using different registers.</li> <li>• Analyse text and practice drawing comparisons between different writing styles.</li> <li>• Identify the topic sentence and author's attitude as well as the specifics of the target audience.</li> <li>• Explore how and why authors use various narrative techniques.</li> <li>• Begin to evaluate and understand systems of prejudice and othering.</li> <li>• Comparison of film interpretation of text with novel</li> <li>• Paragraph &amp; Essay Writing</li> </ul>
Assessments:	Quiz Summarising

	Paragraph & Essay Writing UbD Performance Task - Review of the film <i>Outsiders</i> (is the film relevant to modern audiences?) Newspaper article writing
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UNIT 3: <i>DARE TO DISAPPOINT</i> by OZGE SAMANCI - TURKISH HISTORY CONNECTIONS	
Timeframe	8 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Understand, identify and retrieve relevant information from the text, practice proofreading and editing procedures</li> <li>• Employ and control a variety of grammar structures</li> <li>• Identify and use a variety of literary terms</li> <li>• Recognize the style and purpose of graphic novels</li> <li>• Analyse political cartoons</li> <li>• Recognise and understand attitudes and connections between different ideas</li> <li>• Determine the differences between mood and tone and identify each</li> <li>• Multiple matching for IGCSE</li> <li>• Analyse the Turkish history connections and various cultural expectations</li> <li>• Continue writing formal and informal letters</li> </ul>
Assessments:	Multiple Matching Letter Writing Cartoon Analysis Exam 1

UNIT 4: <i>The Perks of Being a Wallflower</i> by Stephen Chbosky - COMING OF AGE, DEALING WITH SADNESS, LOSS	
Timeframe	9 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Coming of age themes (Bildungsroman)</li> <li>• Stream of consciousness</li> <li>• Foreshadowing, References, and Allusions</li> <li>• Examine reading for conventions of novels as well as figurative language and using context clues to determine meanings of words.</li> <li>• Explore conventions and figurative devices.</li> <li>• Examine the theme and compare the novel to the film.</li> <li>• Continue to evaluate and understand systems of prejudice and othering.</li> <li>• Continue to develop reading &amp; writing skills</li> </ul>
Assessments:	Journal/Diaries Advertisements/Letters Quiz UbD Performance Task Debates/discussions

UNIT 5: COURSE REVISION FOR IGCSE PREPARATION
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Timeframe	7 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Develop language proficiency in reading, writing, listening, and speaking, focusing on vocabulary expansion and accurate language use.</li> <li>• Enhance reading comprehension skills by analyzing texts, making inferences, and evaluating author's purpose and tone.</li> <li>• Strengthen writing skills through the production of well-structured essays, narratives, and descriptive pieces, demonstrating coherent ideas and appropriate language use.</li> <li>• Improve speaking and listening skills by engaging in conversations, presentations, and discussions, demonstrating effective communication strategies and active listening.</li> <li>• Foster critical thinking skills by analyzing and evaluating information, forming logical arguments, and supporting claims with evidence.</li> <li>• Cultivate cultural awareness by exploring diverse cultures, traditions, and perspectives, promoting empathy and understanding.</li> </ul>
Assessments:	IGCSE Exam practice: mock exams (previous years' exam papers)

UNIT 6: IB PREPARATION	
Timeframe	4 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Develop language proficiency in poetry and film reviews at different proficiency levels.</li> <li>• Express creativity by employing poetic techniques and figurative language in writing.</li> <li>• Enhance critical thinking skills by analysing themes, literary devices, and film techniques.</li> <li>• Strengthen writing skills through effective organization, language use, and structure.</li> <li>• Differentiate writing tasks based on proficiency levels to meet individual learning needs.</li> <li>• Foster cultural awareness by exploring diverse perspectives and socio-cultural contexts in poetry and film.</li> </ul>
Assessments:	Writing tasks, analysis

## ***FRENCH B***

**Teacher(s):** Nathalie Beuret

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### **Course Description:**

In this course students will learn to talk about issues that concern young people. They will be able to read and discuss topics such as going out, travel and holidays, family relationships and the environment.

### **Course Aims & Objectives:**

The aim of this course is to prepare students to take their IGCSE exam in May 2023. The exam will be composed of 4 parts (reading, writing, listening and speaking) and assesses students' ability to use French confidently in real life situations. They will be able to talk and answer questions, write short paragraphs and understand spoken passages. Students will be expected to complete all homework and review vocabulary regularly.

### **Enduring Understandings:**

- Students will understand that language connects people.
- Students will understand that choosing a selected word can change the meaning of what we intend.
- Students will understand accuracy is the result of experience ( deliberate speaking and listening ) and self-reflection
- Students will recognise and use patterns of verb forms to communicate more effectively and accurately.
- Students will understand that they do not necessarily need to be fluent in order to communicate effectively.
- Students will understand how to rephrase more sophisticated ideas in simple terms.

UNIT 1: Revision of past tenses + On sort	
Timeframe	7 weeks
Learning goals:	<ul style="list-style-type: none"><li>• Talk about leisure activities you enjoy using the past and present tense</li><li>• Make invitations to go out using reciprocal verbs</li><li>• Discuss different types of music using negatives</li><li>• Give opinions on films using the superlative</li><li>• Discuss new technologies and communications using the imperfect tense</li><li>• Talk about festivals and bank holidays using the imperfect tense</li><li>• Topics: La musique -le cinéma-le sport-des invitation-un événement</li></ul>
Assessments:	Homework/ Classwork / Quizzes / Test / Essay

UNIT 2: Voyages et vacances	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"><li>• Discuss preferences for different types of holidays using the future tense</li><li>• Talk about different activities and interests</li><li>• Book different types of accommodations</li></ul>



	<ul style="list-style-type: none"> <li>• Contact the tourist information office</li> <li>• Ask for directions and finding your way</li> <li>• Understand weather forecasts using the past, present and future</li> <li>• Buy tickets and using timetables</li> <li>• Topics: comment voyager- ou loger- l'office du tourisme- la météo-</li> </ul>
Assessments:	Homework / Classwork / Quizzes / Test / Performance task 1, UBD / Exam 1

UNIT 3: On a des problèmes	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Complain about poor service in the restaurant</li> <li>• Complain about inadequate accommodation using the pluperfect tense</li> <li>• Deal with breakdowns</li> <li>• Discuss health issues using en + present participles</li> <li>• Discussing new reports in the media using possessive pronouns</li> <li>• Topics: Café,restaurant- hébergement-problème d'achat- les accidents( problèmes de santé)-dans les rues, dans les médias</li> </ul>
Assessments:	Homework / Classwork /Quizzes /Essay / Performance task 1, UBD

UNIT 4: Oral exam preparation	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Complete a 2 minute presentation and learn it by heart</li> <li>• Prepare several questions in order to take part in a 3 minute conversation</li> <li>• Practice writing in the past, present, near future, future, conditional and imperfect tenses</li> <li>• Practice listening to spoken passages of near native speed</li> </ul>
Assessments:	Homework / Classwors /Quizzes / Test / Performance task 2, UBD

UNIT 5: L'environnement	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• To discuss global environmental problems</li> <li>• To understand issues regarding pollution and use of natural resources</li> <li>• To discuss the impact of tourism</li> <li>• To discuss ways to improve environmental issues</li> <li>• To talk about recycling, conservation and renewable materials</li> </ul> <p>Topics: Tourisme-environnement</p>
Assessments:	Homework / Classwork / Quizzes / Test / Exam 4

UNIT 6: Revision for the IGCSE exam	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Review all subjects from the IGCSE topic areas to successfully prepare for their reading writing and listening exams</li> </ul>

Assessments:	Homework / Classwork / Quizzes / Test

## ***SPANISH B***

**Teacher(s):** Miguel Ángel Montañés Giménez

**Contact details:** [montanesm@mefis.k12.tr](mailto:montanesm@mefis.k12.tr)

### **Course Description:**

Students are now in their second year of the two-year course that takes them to the IGCSE examination. They will learn more about the way of life of people in the Spanish speaking countries, and about the language they speak. The course consists of four units in which exercises from past examinations for Cambridge certification will be put into practice. Role-play exercises will be carried out in order to exercise the students for their oral exam.

### **Course Aims & Objectives:**

The aim is to develop an ability to use the language effectively for practical communication. The course is based on the linked language skills of listening, reading, speaking and writing, and these are built on as learners progress through their studies. The course also aims to offer insights into the culture and civilisation of countries where the language is spoken, thus encouraging positive attitudes towards language learning and towards speakers of foreign languages.

### **Enduring understandings:**

- Students will understand that learning a language can enhance their life.
- Students will identify that they can use their existing language learning skills to learn another language.
- Students will understand that some mistakes are worth making in order to communicate when learning another language.
- Students will identify that there are cultural similarities and differences between their own culture and the target language.
- Students will learn to use pronunciation to sound more like a native speaker of another language.
- Students will learn that we don't have to translate everything in order to comprehend a new language.

<b>UNIT 0: Introducción y revisión</b>	
Timeframe	2 Weeks
Learning goals:	<b>Introduction and Revision World.</b> <ul style="list-style-type: none"><li>• Read texts about actions in the past</li><li>• Talk about different topics using several verb tenses.</li><li>• Write about actions in the past</li><li>• Write about a story in the past</li><li>• Listen to people talking about anecdotes</li><li>• Practice IGCSE speaking section 1 and 2, and listening exam.</li></ul>
Assessments:	On-going assessment through class work. Homework assignments. Quizzes. Performance task.

<b>UNIT 1: Las reglas del juego</b>	
Timeframe	5 Weeks

Learning goals:	<b>Game rules.</b> <ul style="list-style-type: none"> <li>● Understand rules and instructions</li> <li>● Read an article about videogames</li> <li>● Listen to opinions from videogame users and experts</li> <li>● Create game rules and express and support our opinion about them</li> <li>● Talk about our gaming habits</li> <li>● Discuss about gaming and learning, give and support ideas, react and counterargument opinions</li> <li>● Practice IGCSE</li> </ul>
Assessments:	On-going assessment through class work. Homework assignments. Quizzes. Performance task.

UNIT 2: ¿Quién tiene razón?	
Timeframe	6 Weeks
Learning goals:	<b>Who is right?</b> <ul style="list-style-type: none"> <li>● Discuss and show disagreement</li> <li>● Express anger</li> <li>● Describe photos</li> <li>● Talk about states of mind</li> <li>● Justify and argument in support of your ideas</li> <li>● Express feelings caused by others</li> <li>● Practice IGCSE</li> </ul>
Assessments:	On-going assessment through class work. Homework assignments. Quizzes. Performance task.

UNIT 3: Nuestro mundo	
Timeframe	10 Weeks
Learning goals:	<b>Our World.</b> <ul style="list-style-type: none"> <li>● Talk about rights.</li> <li>● Express and debate points of view.</li> <li>● Express interests.</li> <li>● Talk about data.</li> <li>● State a problem and its causes.</li> <li>● Propose solutions.</li> <li>● Assess situations.</li> <li>● Practice IGCSE speaking section 1 and 2, and listening exam.</li> </ul>
Assessments:	On-going assessment through class work. Homework assignments. Quizzes. Performance task.

UNIT 4: Se buscan candidatos	
Timeframe	10 weeks
Learning goals:	<b>Candidates wanted.</b> <ul style="list-style-type: none"> <li>• Read and understand calls for scholarship or volunteer programs.</li> <li>• Do interviews.</li> <li>• Read and write motivation letters.</li> <li>• Read and write job offers.</li> <li>• Define the requirements for a job or volunteer position.</li> <li>• Practice IGCSE.</li> </ul>
Assessments:	On-going assessment through class work. Homework assignments. Quizzes. Project. Exam 1.

# ***VISUAL ARTS***

**Teacher(s):** Julia Totino

**Contact details:** [totinoj@mefis.k12.tr](mailto:totinoj@mefis.k12.tr)

## **Course Description**

Art 10 encourages personal expression, imagination, sensitivity, conceptual thinking, powers of observation, analytical ability and practical attitudes. Learners will have opportunities to gain a greater understanding of the role of the visual arts in the history of civilisations, and so widen and enrich their cultural horizons. The syllabus has been designed to combine a breadth and depth of study, to accommodate a wide range of abilities and individual resources, and to provide opportunities for learners to explore both practical and critical/contextual work. Art complements literary, mathematical, scientific and factual subjects. It is especially concerned with the development of visual perception and aesthetics and is a form of communication and a means of expressing ideas and feelings, such as through narrative art. Learners gain confidence and enthusiasm as they develop technical skills in form and composition, and are able to identify and solve problems in visual and tactile forms. They also learn how to develop ideas from initial attempts to final solutions. An ideal foundation for further study in Grade 11 or in the IB Diploma Programme, Art 10 also develops a greater awareness of the role played by the visual arts in society and in history, broadening cultural horizons and individual experience.

## **Aims & Objectives**

Students will develop:

- an ability to record from direct observation and personal experience
- an ability to identify and solve problems in visual and/or other forms
- creativity, visual awareness, critical and cultural understanding
- an imaginative, creative and personal response
- A understanding of how art can be used to depict narrative and tell stories
- confidence, enthusiasm and a sense of achievement in the practice of art and design
- growing independence in the refinement and development of ideas and personal outcomes
- engagement and experimentation with a range of media, materials and techniques, including new media and technologies, where appropriate
- experience of working in relevant frameworks and exploration of manipulative skills necessary to form, compose and communicate in two and/or three dimensions
- a working vocabulary relevant to the subject and an interest in, and a critical awareness of, other practitioners, environments and cultures
- investigative, analytical, experimental, interpretative, practical, technical and expressive skills which aid effective and independent learning.

## **Enduring Understandings:**

### **CONNECTING**

Through art-making, people make meaning by investigating and developing awareness of perceptions, knowledge, and experiences.

### **ANALYZE**

People evaluate art based on various criteria.

### **SYNTHESIZE**

People develop ideas and understandings of society, culture, and history through their interactions

with and analysis of art.

#### CREATING

Artists and designers shape artistic investigations, following or breaking with traditions in pursuit of creative art-making goals.

Creativity and innovative thinking are essential life skills that can be developed.

Artists and designers experiment with forms, structures, materials, concepts, media, and art-making approaches.

Artists and designers balance experimentation and safety, freedom and responsibility while developing and creating artworks.

Artists and designers develop excellence through practice and constructive critique, reflecting on, revising, and refining work over time.

#### PRESENTING

Artists, curators and others consider a variety of factors and methods including evolving technologies when preparing and refining artwork for display and or when deciding if and how to preserve and protect it.

Objects, artifacts, and artworks collected, preserved, or presented either by artists, museums, or other venues communicate meaning and a record of social, cultural, and political experiences resulting in the cultivating of appreciation and understanding.

#### RESPONDING

Visual imagery influences understanding of and responses to the world.

People gain insights into meanings of artworks by engaging in the process of art criticism.

Individual aesthetic and empathetic awareness developed through engagement with art can lead to understanding and appreciation of self, others, the natural world, and constructed environments.

Recognize and describe personal aesthetic and empathetic responses to the natural world and constructed environments

\* Units are subject to change

UNIT 1: Explorations in drawing (Focus on media exploration in visual art journal)	
Timeframe	8 weeks
Learning goals:	<p>Candidates should be encouraged to work from direct observation with still lifes as well as photos to explore the use of line, tone and composition. They will experiment with materials and context in their visual arts journal through the use of processes and the use of media such as charcoal, pencil, and ink. Students will</p> <ul style="list-style-type: none"><li>● Evaluate the standards of how we judge artworks.</li><li>● visit light, tone, value and shade in the absence of colour in order to enhance their mark making practice.</li><li>● explore the above through the use of black and white mixed media in explorations of life drawing and drawing from photographs</li><li>● Build a unique and personal photographic image bank to draw on throughout the year and in their visual journals and portfolio</li><li>● Experiment with a variety of drawing prompts including “Inktober” to build a practice of regular sketching</li></ul>

Assessments:	Visual arts journal, research, preparation, exhibition quality piece, artist's statement, classroom behaviour, participation.
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UNIT 2: Narrative Art: The art of Illustration, comics and storytelling	
Timeframe	10 weeks
Learning goals:	<p>Building on the first unit, students will take their drawing media exploration to the next level, exploring elements of art (Line, shape, value, form, texture, space, balance, contrast, emphasis, movement, pattern, rhythm, unity) Through looking at literary works such as graphic novels, comics and the Work of Edward Gorey and other illustrators and artists who focus on narrative. Students will</p> <ul style="list-style-type: none"> <li>• Practice introspection and self-study and pen and ink techniques</li> <li>• Look at the work of artists who use drawing and narrative to tell a story</li> <li>• Create a final small series of drawn artworks reflecting a unique response to the topic of personal narrative</li> <li>• Take risks and re-evaluate throughout the artmaking process</li> <li>• Reflect throughout artmaking process</li> </ul>
Assessments :	Visual arts journal, research, preparation, performance task, exhibition quality series, artist's statement, classroom behaviour, participation.
Exam 1	Final finished product, Artist's reflection presentation and critique

UNIT 3: Painting and Printmaking (Fauvist Portraits)	
Timeframe	6 weeks
Learning goals:	<p>Painting and print candidates should be encouraged to work from direct observation and to explore the use of colour and composition, texture and context in creating works depicting both fauvist portraits using paint and printmaking(a continuation of Art 9) . This unit relates to topics covered in Visual Art 9 (portraiture), but in greater detail and depth. This can be shown through the use of media such as gouache, acrylic, watercolour, print media and inks. Students will</p> <ul style="list-style-type: none"> <li>• Learn about the history of painting, art movements such as Fauvism, and and its importance on social, political and environmental history</li> <li>• Explore and discuss a variety of painters and printmakers throughout art history and the context of portraiture</li> <li>• Explore various ways of painting and printmaking: acrylic, gouache, monoprinting, stencilling, (reduction) lino cutting</li> <li>• Create 2 final artworks for the spring exhibition</li> </ul>



Assessments:	Visual arts journal, research, preparation, performance task, exhibition quality piece, artist's statement, classroom behaviour, participation.
Exam 2	Final finished product, Artist's reflection presentation and critique

UNIT 4: Public Art, Zines and Environmental Installations	
Timeframe	4-6 weeks
Learning goals:	<p>Students will</p> <ul style="list-style-type: none"> <li>• Look at the year in review and look at contemporary street art as an underground socio-economic, cultural dialogue in the world today.</li> <li>• Explore the idea of art installation and public art and the importance of physical space to a piece of art.</li> <li>• Explore zines and artist books as methods of communication</li> <li>• Review such artists as Banksy, Invader, Land art artists, Christo, (aboriginal) land art initiatives in Vancouver, Canada.</li> </ul>
Assessments:	Visual arts journal, research, preparation, artist's statement, classroom behaviour, participation.

# Music

**Teacher:** Caleb Baron

**Contact details:** [baronc@mefis.k12.tr](mailto:baronc@mefis.k12.tr)

**Course Description:** Based on the Cambridge IGCSE Music syllabus, this class will delve into how music, an art form rooted in our human nature for millenia, impacts and plays a role in our world today. Students will gain a critical appreciation for music, whether Bach, Beethoven, music of world cultures, film music, and so much more. Students will also be able to develop skills on a primary instrument, performing music as soloists and in ensembles of varying genres. Students will also gain compositional skills, whether using classical Western notation, writing a folk song, or creating a soundtrack to a video game. Above all, students will discover *how* and *why* music plays an essential role in our world.

## Course Aims & Objectives:

1. **Listening Skills, Music Appreciation, and Cultural Awareness**
  - a. Know musical terminology and how to analyze music using theoretical terminology
  - b. Differentiate between and describe genres and eras of music
  - c. Connect cultural aspects such as language, geography, customs, migration, etc. to the development of cultures' distinctive music
  - d. Know important musical composers from throughout history and today
  - e. Explore a new genre or style of music that one is unfamiliar with
  - f. Listening along to music while viewing the score
2. **Performance Skills**
  - a. Perform various pieces of music from varying genres and eras as a soloist and in an ensemble
  - b. Sightsinging and sightreading music from a score
  - c. Apply listening skills and practice listening when performing in an ensemble
  - d. Perform with expression and understand how to apply theoretical knowledge to creatively express a piece
3. **Compositional Skills:**
  - a. Write western style notation by hand, before inputting into a notation software such as Noteflight or MuseScore music inspired by Western Art Music
  - b. Compose music on a Digital Audio Workstation such as GarageBand or BandLab
  - c. Compose and record music in a pop, folk, or other contemporary style
  - d. Compose music as a soundtrack for a film or video game
  - e. Compose music for a group to perform, as well as for individual performance

## Enduring Understandings (Key Concepts):

### CHANGE

- Music has evolved overtime based on cultural, geographical, economical, and social factors (Global context: technical innovation)

### COMMUNICATION

- Music is a means to communicate emotion and ideas through composition and performance

### COMMUNITIES

- Music is a collaborative art form in which individuals come together to create and experience music. New genres often emerged from a communal effort or shift towards something new.

#### CONNECTIONS

- Music is connected to other art forms such as visual arts, dance, filmmaking, and is often influential throughout political movements, cultural fusions, etc.

#### CREATIVITY

- Music is a creative art form and is rooted in human, original expressive ideas

#### CULTURE

- Music is a means of cultural expression, playing distinctive roles and having unique sounds from culture to culture (Global context: personal and cultural expression)

#### FORM

- Music is often arranged in a consistent, specific way for an audience. There are numerous forms for various musical contexts. It can also intentionally be formless for expressive intent.

#### GLOBAL INTERACTIONS

- Fusion music often emerges from the music of two cultures interacting; with the age of the Internet, international collaboration and distribution of music and has reached new heights (Global context: globalization)

#### IDENTITY

- Music is a means of personal expression, often informed by our identities; the way and what music we listen to is a part of our identities. (Global context: personal and cultural expression)

#### SYSTEMS

- Pitch and rhythm are codified into systems that can vary across cultures and countries (Global context: technological innovation)

#### TIME SPACE AND PLACE

- Music's composition, performance, interpretation, and audience experience depends largely on where and when in history (Global context: orientation in space and time)

UNIT 1: Introductory Music and Baroque Period	
Timeframe	7 weeks
Learning goals:	<ul style="list-style-type: none"> <li>- Describe and identify the seven elements of music (Pitch, Rhythm, Tonality, Dynamics, Form, Texture, Timbre) within a favorite song</li> <li>- Play or sing a favorite song for the class</li> <li>- Analyze the music of Vivaldi and Bach using the elements of music vocabulary</li> <li>- Discuss Baroque music's reputation and relevance today</li> <li>- Perform a piece of Baroque music with authenticity</li> <li>- Create a concert program with information about the composer and piece of music</li> </ul>
Assessments:	Profile of a Song (Elements of Music, formative) My Music Journey and Diagnostic Exam (pre-assessment)

	Baroque Music Concert Program and Performance (summative)
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UNIT 2: Classical and Romantic Periods	
Timeframe	9 weeks
Learning goals:	<ul style="list-style-type: none"> <li>- Recognize and recall key composers and their most famous works (i.e. Mozart, Beethoven, Schubert) and biographical information</li> <li>- Describe the main musical characteristics of the Classical and Romantic periods, and how they were reflective of the cultural and philosophical ideas of the time</li> <li>- Perform a piece of music from the Classical and/or Romantic period with stylistic authenticity</li> <li>- Analyze music of the Classical and Romantic periods using the elements of music and terminology</li> <li>- Understand how the orchestra and forms changed in this time period</li> <li>- Critique a piece from the Classical or Romantic period, justifying opinions based on stylistic, historical, and expressive elements</li> <li>- Compose a short piece or arrangement inspired by the Classical or Romantic style, incorporating period-specific elements such as Alberti bass, sequence, etc.</li> </ul>
Assessments:	Classical Music Composition and Performance Romantic Era Composer Research project

UNIT 3: Music and words	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"> <li>- Recognize and recall key factors of choral music, choral vocal technique, singer-songwriter music, and popular music, along with relevant biographical or cultural contexts for various composers and pieces</li> <li>- Describe the main musical characteristics of different vocal genres (choral, folk, pop) and how they reflect the cultural, social, or emotional context of the time.</li> <li>- Perform a song from a selected genre with stylistic authenticity, showing appropriate vocal techniques and expressive interpretation of the text.</li> <li>- Analyze a student-selected vocal song using the elements of music and appropriate terminology, including lyrical analysis and how the music complements the text</li> <li>- Critique a pop/folk song or choral work, justifying opinions based on stylistic, historical, expressive, and textual elements.</li> <li>- Compose a short song or arrangement inspired by a chosen genre (i.e. hymn), integrating lyrics and musical elements effectively to convey mood, meaning, or message.</li> </ul>
Assessments:	Choral Music Performance (Ensemble) Vocal Music Performance (solo) Hymn, folk, or pop song composition

UNIT 4: Dance and World Music	
Timeframe	10 weeks

Learning goals:	<ul style="list-style-type: none"> <li>- Recognize and recall key elements, pieces, and aspects of each culture's music and the rhythmic aspects of each dance music (tango, salsa, EDM, etc)</li> <li>- Describe the main musical characteristics, rhythms, instruments, and styles of dance and world music, and how they reflect cultural, social, or ritualistic contexts.</li> <li>- Perform a dance piece or musical excerpt from a selected world music tradition with stylistic authenticity, demonstrating appropriate technique and expression.</li> <li>- Analyze dance and world music using the elements of music and other musical terminology specific to the genres</li> <li>- Critique a dance or world music performance, justifying opinions based on stylistic, cultural, historical, and expressive elements.</li> <li>- Compose or choreograph a short piece inspired by a dance or world music style, incorporating culturally appropriate rhythms, instruments, or movements to convey meaning or mood.</li> </ul>
Assessments:	<p>World Music Research presentation</p> <p>Dance Music performance (or world music performance)</p>

UNIT 5: Music for the stage and screen	
Timeframe	7 weeks
Learning goals:	<ul style="list-style-type: none"> <li>- Recognize and recall key composers, musicals, films, or video games, along with relevant contextual and biographical information, and the key elements of each</li> <li>- Describe the main musical characteristics, styles, and expressive techniques used in stage, film, and video game music, and how they enhance narrative or mood.</li> <li>- Perform a short excerpt from a musical, film score, or video game piece with stylistic authenticity, demonstrating appropriate expression and technique.</li> <li>- Analyze music for stage and screen using the elements of music, identifying how melody, harmony, rhythm, instrumentation, and texture support storytelling or character development</li> <li>- Understand how musical forms, leitmotifs, themes, and orchestration techniques are used to structure music for theatre, film, or games and support narrative.</li> <li>- Critique a piece of stage, film, or video game music, justifying opinions based on stylistic, expressive, and narrative effectiveness.</li> <li>- Compose a piece of music for use in a movie/TV scene or video game soundtrack piece; using appropriate thematic, stylistic, and orchestration techniques to convey mood or story.</li> </ul>
Assessments:	<ul style="list-style-type: none"> <li>- Perform a song from a musical</li> <li>- Compose a piece of music for a film score or video game soundtrack</li> </ul>

# ***ECONOMICS***

**Teacher(s):** Mahir Mulasmajic  
**Contact details:** mulasmajicm@mefis.k12.tr

## **Course Description:**

This advanced segment of the Cambridge IGCSE Economics course explores key macroeconomic concepts, including government intervention in the economy, economic development, and the dynamics of international trade and globalization. The course aims to equip students with the analytical skills to critically evaluate economic policies, understand the factors influencing development, and assess the impact of globalization on both national and global economies. Students will develop the ability to interpret economic indicators, analyze policy trade-offs, and appreciate the complexities of global economic interactions.

## **Learning Objectives:**

By the end of this section of the course, students should be able to:

1. Interpret and analyze key macroeconomic indicators.
2. Understand the objectives and effectiveness of government macroeconomic policies.
3. Evaluate the challenges and opportunities associated with economic growth and development.
4. Analyze the impact of international trade, globalization, and trade policies on national economies.
5. Assess the role of international economic organizations in promoting global economic stability.

**Reference:** Grant, Susan. *Cambridge IGCSE Economics*, 2nd Edition, Cambridge University Press, 2018.

This curriculum plan focuses on the advanced sections of the Cambridge IGCSE Economics course, providing students with the analytical tools and knowledge required to understand and evaluate the complexities of macroeconomic policies, economic indicators, and global economic interactions.

## **Enduring understandings:**

- Students will understand key economic theories, concepts and skills and their real-world application.
- Students will understand and appreciate the impact on individuals and societies of economic interactions between nations.
- Students will understand basic economic numeracy and literacy and how to illustrate and explain simple data including graphs and diagrams.
- Students will understand how to identify and discriminate between differing sources of information and how to distinguish between facts and value judgments in economic issues.
- Students will understand the development issues facing nations as they undergo the process of change.

## **Key Concepts:**

Scarcity	Equity	Change
Choice	Economic well-being	Interdependence
Efficiency	Sustainability	Intervention

## **Transdisciplinary Links:**

- There are connections to math in the form of measuring utility by setting arbitrary numbers and trying to figure out benefits and cost of ideas.
- Mathematics thinking at margins which is the idea of the next number.
- Biology idea of scarcity and human desires.

- English writing argumentative and persuasive essays based around government actions.
- Philosophy and idea of logical thinking and humans being rational thinkers.
- Psychology and the idea of how to adjust human behavior using economic policies.

Section 4: Government and the macroeconomy	
Timeframe	1-10 <sup>th</sup> weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Understand the role of government in the economy, including its intervention to achieve economic objectives.</li> <li>• Analyze the macroeconomic aims of the government, such as economic growth, full employment, price stability, and the balance of payments stability.</li> <li>• Evaluate the use of fiscal policy, including government spending, taxation, and borrowing, in influencing economic activity.</li> <li>• Examine the role of monetary policy, including interest rates and money supply, in managing economic fluctuations.</li> <li>• Understand supply-side policies and their impact on increasing productivity, promoting competition, and enhancing economic efficiency.</li> <li>• Analyze the factors influencing economic growth and the methods used by governments to promote sustainable growth.</li> <li>• Discuss the causes and consequences of unemployment and the effectiveness of government policies in reducing unemployment.</li> <li>• Evaluate the causes and effects of inflation and deflation, and assess the measures taken by governments to control these economic issues.</li> </ul>
Assessments:	<ul style="list-style-type: none"> <li>• Problem sets focusing on macroeconomic indicators.</li> <li>• Written reports evaluating the effectiveness of specific macroeconomic policies.</li> <li>• Group discussions and debates on the trade-offs involved in economic policy-making</li> </ul>

Section 5: Economic development	
Timeframe	11-21 <sup>th</sup> weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Understand the key indicators of economic development, including GDP per capita, literacy rates, life expectancy, and Human Development Index (HDI).</li> <li>• Analyze the factors influencing economic development, such as education, healthcare, infrastructure, and political stability.</li> <li>• Evaluate the challenges faced by developing economies, including poverty, inequality, and lack of access to capital.</li> <li>• Discuss the role of international aid and foreign direct investment (FDI) in promoting economic development.</li> <li>• Analyze the impact of sustainable development on economic growth and the trade-offs between environmental protection and economic expansion.</li> <li>• Examine the role of government policy in addressing development challenges and promoting equitable growth.</li> <li>• Assess the impact of demographic changes and urbanization on economic development.</li> <li>• Explore the relationship between economic development and social progress, including the importance of gender equality and access to education.</li> <li>• Discuss the differences in economic development levels between countries and the factors contributing to these disparities.</li> <li>• Analyze the impact of population growth, migration, and demographic changes on economic development.</li> <li>• Evaluate how poverty and living standards are measured, and discuss their significance in assessing development.</li> <li>• Examine the role of income distribution in determining living standards and economic equity</li> </ul>
Assessments:	<ul style="list-style-type: none"> <li>• Group presentations analyzing different indicators of economic development.</li> </ul>

	<ul style="list-style-type: none"> <li>• Mid-term exam covering Units 4 and 5, focusing on macroeconomic policies and development issues.</li> <li>• Research projects investigating the challenges and opportunities for economic development in specific countries or regions</li> </ul>
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Section 6: International Trade and Globalization	
Timeframe	22-36 <sup>th</sup> weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Understand the benefits and drawbacks of international trade and the theory of comparative advantage.</li> <li>• Analyze the impact of globalization on national economies, including the effects on employment, income distribution, and economic growth.</li> <li>• Evaluate the role of international economic organizations (WTO, IMF, World Bank) in promoting global economic stability and trade.</li> <li>• Discuss the implications of trade policies, such as tariffs, quotas, and subsidies, on domestic and international markets.</li> <li>• Examine the effects of protectionism and trade barriers on global trade and economic development.</li> <li>• Assess the impact of multinational corporations (MNCs) on both developed and developing economies.</li> <li>• Analyze the challenges and opportunities presented by globalization for developing countries, including access to markets and technology transfer.</li> <li>• Explore the role of regional trade agreements (e.g., EU, NAFTA, ASEAN) in shaping global trade patterns.</li> <li>• Understand the role and determination of foreign exchange rates in international trade.</li> <li>• Analyze the impact of exchange rate fluctuations on imports, exports, and overall economic stability.</li> <li>• Evaluate the components and significance of the current account in the balance of payments.</li> <li>• Discuss the causes and consequences of current account deficits and surpluses for national economies.</li> </ul>
Assessments:	<ul style="list-style-type: none"> <li>• Final exam covering Units 4, 5, and 6, with a particular focus on international trade and globalization.</li> <li>• Group presentations on the impact of globalization on specific countries or regions.</li> <li>• A written report evaluating the effects of trade policies on a particular industry or economy.</li> </ul>



## GLOBAL PERSPECTIVES

**Teacher(s):** Ms. Christy Halcom

**Contact details:** [halcomc@mefis.k12.tr](mailto:halcomc@mefis.k12.tr)

### Course Description:

The Cambridge IGCSE Global Perspectives syllabus states: “Cambridge IGCSE Global Perspectives gives learners the opportunity to think about significant global issues and to consider these from different perspectives. It develops a set of transferable skills in research, analysis, evaluation, communication, and reflection. It encourages learners to construct arguments, present views, work collaboratively, research and reason and reflect on their place in a connected world. These transferable skills will support student learning across their studies.”

Grade 10 is the second year of this two year course in which students learn and practise a variety of skills through materials about the following global topics:

- |   |                             |                                      |
|---|-----------------------------|--------------------------------------|
| • Arts in Society                       | • Law and Criminality       | • Change in culture & communities    |
| • Media & Communication                 | • Migration & Urbanization  | • Climate change, energy & resources |
| • Conflict & Peace                      | • Political Power & Action  | • Development, trade and aid         |
| • Poverty & Inequality                  | • Digital World             | • Social Identity and Inclusion      |
| • Education for all                     | • Sport & Recreation        | • Employment                         |
| • Globalisation                         | • Health and wellbeing      | • Travel, transport & tourism        |
| • Values & Beliefs                      | • Water, food & agriculture | • Tech., industry & innovation       |
| • Environment, pollution & conservation |                             |                                      |

Students will:

- *take a skills-based written exam (Component 1).* Students will not need to know specific content, but will need to be able to analyze and synthesize sources provided on the exam in order to answer questions.
- *submit an Individual Report (Component 2),* which is a 1500 - 2000 word research essay centered on an issue of the student's choice within one of the global topics listed above.
- *Submit Team Project (Component 3),* which includes several team and individual steps and is a research project and action plan surrounding an issue of local importance within one of the global topics listed above.

### Text:

González, Ana Carolina, et al. *Cambridge IGCSE Global Perspectives*. Collins, 2023.

### Enduring understandings:

- History includes a wide variety of different types of sources, methods and interpretations.
- History is arguably cyclical and often the same ideas, trends, and motivations, both positive and negative, are repeated.
- An understanding of the past is essential to understand the world around us and our place in it.
- Key historical concepts (cause and consequence, change and continuity, perspectives and significance) help us to explain developments in history up to modern day
- Social, economic, environmental and political realms are connected
- Interactions between places and networks are created by flows of information, people and goods
- Physical and human dimensions of the environment are interrelated, and together influence environmental change
- Concepts of nation, language and religion influence identity and world affairs
- Political institutions and theories that have developed and changed over time

### Key Skills:

**Research, analysis and evaluation:**

- Design, carry out and evaluate research into historical and current global issues, their causes and consequences, and possible courses of action.
- Use evidence to support claims, arguments and perspectives
- Identify and analyse issues, arguments and perspectives
- Analyse and evaluate the evidence and reasoning used to support claims, arguments and perspectives
- Analyse and evaluate sources and/or processes to support research, arguments and perspectives
- Develop a line of reasoning to support an argument, a perspective or course of action

**Reflection**

- Consider different perspectives objectively and with empathy
- Justify personal perspectives using evidence and reasoning
- Consider how research, engagement with different perspectives and working as part of a team have influenced personal learning

**Communication and Collaboration:**

- Select and present relevant arguments, evidence and perspectives clearly and with structure
- Present research and include citations and references
- Contribute to the Team Project

**Transdisciplinary links:**

- English
- Geography
- Economics
- Science
- Maths

<b>Unit One: Advanced Independent Learning Skills</b> Likely Focus: Media and Communication	
Timeframe	7 Weeks; approx. 1 Sept - 17 October
Learning goals:	Independent Learning Skills: <ul style="list-style-type: none"> <li>• Explain your learning style and how to maximize effectiveness</li> <li>• Practice skills to help you remember more easily what you have done, seen and heard</li> <li>• Make notes to aid in understanding of what they have done, seen and heard</li> <li>• Reflection on what you have done, seen and heard</li> <li>• Evaluate what you have done, seen and heard</li> </ul> Media & Communication Focus: <ul style="list-style-type: none"> <li>• Define media and identify various forms of media</li> <li>• Evaluate how we process information</li> <li>• Identify reliability, bias, and vested interest in news sources</li> <li>• Evaluate the impact of reliability, bias and vested interest in sources of communication</li> <li>• Define and recognized misinformation and disinformation</li> </ul> Individual Report (IR): <ul style="list-style-type: none"> <li>• Continue with your a topic from the Global Topics list and on an issue and focus</li> <li>• Modify a contemporary research question as research is conducted</li> <li>• Create and regularly utilize a research plan</li> <li>• Create a formal outline and use it for the drafting process</li> </ul>
Assessments:	Formative assessments include: entrance and exit tickets, discussions, essay writing, small group work, role playing activities, simulations, art, speeches, writing journals, and work with primary and secondary source documents.

	<ul style="list-style-type: none"> <li>Students will use past papers to practice for the Component 1 Summative Assessments:</li> <li>Term 1 Exam (in the style of Component 1)</li> <li>Individual Report (IR) Component 2: students will complete this project by October 17, which will be submitted to Cambridge for External Assessment</li> </ul>
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## Unit Two: Advanced Collaboration and Communication Skills

Likely Topics: Media and Communication; Law and Criminality (Human Rights + Legal Systems)

Timeframe	17 Weeks; approx. 27 October - 6 March
Learning goals:	<p>Collaboration and Communication Skills</p> <ul style="list-style-type: none"> <li>Understand the benefits of teamwork</li> <li>Identify the roles and characteristics needed for effective teamwork according to different scenarios</li> <li>Be able to work more effectively as a team</li> <li>Be able to make decisions more easily</li> <li>Be able to express yourself creatively</li> <li>Understand the importance of developing communication skills</li> <li>Identify the main points, gist and detail from written and spoken texts</li> <li>Identify information from different types of written and spoken texts</li> <li>Produce written summaries, paragraphs and conclusions</li> <li>Speak confidently for different purposes</li> </ul> <p>Group/Team Project (Component 3):</p> <ul style="list-style-type: none"> <li>Collect and organize relevant primary sources and primary research</li> <li>Take focused research notes and keep research organized as a group</li> <li>Write a strong thesis statement to direct the project</li> <li>Complete all steps of the writing process, including outlining and peer editing</li> <li>Take action on a local issue of global importance</li> <li>Write a plan of action and evaluation of success</li> </ul>
Assessments:	<p>Formative assessments: (see types listed in Unit 1)</p> <ul style="list-style-type: none"> <li>Students will use past papers to practice for the Component 1</li> <li>Group/Team Project (Component 3) - students will submit various pieces on a specific timeline to help them stay on track with work</li> </ul> <p>Summative Assessments:</p> <ul style="list-style-type: none"> <li>Group/Team Project (Component 3) - due March 6 and will be submitted for external moderation</li> </ul>

## Unit Three: Advanced Critical Thinking Skills

Likely Topic Focus: Migration and Urbanization; Digital World

Timeframe	11 Weeks; approx. 9 March - 12 June
Learning goals:	<p>Critical Thinking Skills:</p> <ul style="list-style-type: none"> <li>Understand the importance of developing critical thinking skills</li> <li>Develop a clear and sensible line of reasoning</li> <li>Evaluate a line of reasoning, evidence, claims and conclusions</li> <li>Draw conclusions from information given</li> <li>Recognize bias and vested interest</li> <li>Identify and explain facts, opinions, predictions and value judgements</li> <li>Apply problem solving techniques to issues that arise</li> <li>Increase empathy</li> </ul>

Assessments:	<ul style="list-style-type: none"> <li>• Formative Assessments (see types listed in Unit 1)</li> <li>• Summative Assessments: <ul style="list-style-type: none"> <li>○ Component 1 - IGCSE Paper (externally assessed exam in May)</li> <li>○ Term 2 (in the style of Component 1)</li> </ul> </li> </ul>
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# **BIOLOGY**

**Teacher(s):** Parveen Shaik

**Contact details:** [shaikp@mefis.k12.tr](mailto:shaikp@mefis.k12.tr)

## **Course Description:**

Biology is the study of life and living organisms. During the past few hundred years biology has changed from concentrating on the structure of living organisms (often by examining dead specimens!) to looking more at how they work or function. Over this time we have discovered much about health and disease, about the interactions of different organisms making up food chains, about the genes which control the activities of our bodies and how humans can control the lives of other organisms. These advances in biological knowledge raise new issues, however. We need to understand how our activities affect the environment, how humans can take responsibility for their own health and welfare and how we must be careful to make appropriate rules for the use of our genetic information. (Source: *Complete Biology for Cambridge IGCSE*, by Ron Pickering)

With an emphasis on human biology, the Cambridge IGCSE Biology course helps learners to understand the technological world in which they live, and take an informed interest in science and scientific developments. Learners gain an understanding of the basic principles of biology through a mix of theoretical and practical studies. They also develop an understanding of the scientific skills essential for further study at Cambridge International A Level, which are useful in everyday life. As they progress, learners understand how science is studied and practiced, and become aware that the results of scientific research can have both good and bad effects on individuals, communities and the environment. (Source: Cambridge IGCSE Biology Syllabus)

In Year 2 of this course, we will build upon the knowledge and understandings from Year 1 and continue learning new material. In addition, students will prepare for the Biology portion of the IGCSE Coordinated Science Exam in June.

## **Course Aims & Objectives:**

The aims of this course are:

1. to provide an enjoyable and worthwhile educational experience for all learners, whether or not they go on to study science beyond this level
2. to enable learners to acquire sufficient knowledge and understanding to: i) become confident citizens in a technological world and develop an informed interest in scientific matters, and ii) be suitably prepared for studies beyond Cambridge IGCSE
3. to allow learners to recognise that science is evidence based and understand the usefulness, and the limitations, of scientific method
4. to develop skills that: i) are relevant to the study and practice of biology, ii) are useful in everyday life, iii) encourage a systematic approach to problem-solving, iv) encourage efficient and safe practice, and v) encourage effective communication through the language of science
5. to develop attitudes relevant to biology such as: concern for accuracy and precision, objectivity, integrity, enquiry, initiative, inventiveness
6. to enable learners to appreciate that: i) science is subject to social, economic, technological, ethical and cultural influences and limitations, and ii) the applications of science may be both beneficial and detrimental to the individual, the community and the environment

## **Enduring understandings:**

- Students will understand scientific study and creativity within a global context through stimulating and challenging opportunities
- Students will understand a body of knowledge, methods and techniques that characterize science and technology.
- Students will understand how to analyze, evaluate and synthesize scientific information.
- Students will understand the need for, and the value of, effective collaboration and communication during scientific activities.
- Students will understand experimental and investigative scientific methods whilst using current technologies.
- Students will understand 21st century communication methods in the study of science.
- Students will understand that science and technology have ethical implications.
- Students will understand the possibilities and limitations of science and technology.
- Students will understand the relationships between scientific disciplines and their influence in other areas of knowledge.

**Transdisciplinary Links:**

- ICT, technology, MLA referencing, statistics.

Review week	
Timeframe	1 weeks
Learning goals:	Review of IGCSE topics that are done during Grade 9. Checking the key skills that students should have achieved in Grade 9. These topics are B1,2,3,4,5,6, and 7.
Assessments:	Team Activities

UNIT 1: Gas exchange and respiration (Topic B8)	
Timeframe	5 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Differentiate between aerobic and anaerobic respiration in terms of converting the chemical potential energy of food molecules into a form that the organism can use.</li> <li>• Identify the structures of the human gas exchange system and explain their functions.</li> <li>• Investigate factors that affect rate and depth of breathing.</li> </ul>
Assessments:	Quiz Lab report

UNIT 2: Coordination and response (Topic B9)	
Timeframe	6 weeks
Learning goals:	<p>The theme running throughout this unit is communication within the body through chemicals and the nervous system. Learners should be encouraged to see the similarity and differences of the mechanisms by which both plants and animals achieve responses to stimuli. Homeostasis is illustrated for all learners by temperature regulation in humans, while the supplement covers the control of blood glucose concentration and takes an overview of how negative feedback is involved in control mechanisms. There will be a focus on inquiry throughout the unit.</p> <p>Students should be able to:</p>

	<ol style="list-style-type: none"> <li>1. Describe the human nervous system in terms of the central and peripheral nervous systems and signals between neurons.</li> <li>2. Describe the structure and function of the eye.</li> <li>3. State the roles of hormones and describe examples of how they work in humans.</li> <li>4. Define and investigate geotropism and phototropism in plants.</li> <li>5. Explain the control of body systems by negative feedback and describe examples of the human body maintaining homeostasis.</li> </ol>
Assessments:	Lab report Performance task Quiz

UNIT 3: Reproduction (Topic B10)	
Timeframe	5 weeks
Learning goals:	<p>In this unit, general features of both asexual and sexual reproduction are considered, before looking in detail at sexual reproduction in plants. Many learners have preconceived ideas about plants and the more interactive activities usually stimulate the class. The unit should therefore be covered at a time of year when suitable flowers are likely to be available. This is then followed by the biological aspects of human reproduction.</p> <p>Students should be able to:</p> <ol style="list-style-type: none"> <li>1. Define asexual and sexual reproduction and discuss the advantages and disadvantages of both.</li> <li>2. Draw and identify the reproductive structures of flowering plants and state the function of each structure.</li> <li>3. Define pollination and compare structural adaptations of flowers in relation to pollination.</li> <li>4. Investigate and explain environmental conditions that affect seed germination.</li> <li>5. Describe different methods of seed dispersal.</li> <li>6. Identify the reproductive structures of male and female humans and state the function of each structure.</li> <li>7. Describe the menstrual cycle and the process of fertilization.</li> <li>8. Outline the development of the zygote and the structures and processes that support the growing fetus.</li> <li>9. Describe methods of transmission of HIV and outline how HIV/AIDS affects the immune system.</li> </ol>
Assessments:	Performance task Quiz

UNIT 4: Inheritance (Topic B11)	
Timeframe	4 weeks
Learning goals:	<p>Students should be able to:</p> <ol style="list-style-type: none"> <li>1. Define and apply the terms <i>inheritance</i>, <i>chromosome</i>, <i>gene</i>, <i>allele</i>, <i>genotype</i>, <i>phenotype</i>, <i>homozygous</i>, <i>heterozygous</i>, <i>dominant</i> and <i>recessive</i>.</li> <li>2. Describe the inheritance of sex in humans.</li> <li>3. Define <i>mitosis</i> and state its role in living organisms.</li> <li>4. Compare and contrast mitosis and meiosis.</li> <li>5. Calculate and predict the results of monohybrid crosses.</li> </ol>

	6. Compare and contrast continuous and discontinuous variation in certain phenotypes. 7. Define <i>mutation</i> and outline its possible effects. 8. Explain the importance of natural selection as a mechanism for evolution and describe examples.
Assessments:	Performance task Exam 1

UNIT 5: Organisms and their environment (Topic B12)	
Timeframe	3 weeks
Learning goals:	Students should be able to: <ol style="list-style-type: none"> <li>1. Define and apply the terms <i>food chain</i>, <i>food web</i>, <i>producer</i>, <i>consumer</i>, <i>herbivore</i>, <i>carnivore</i>, <i>decomposer</i>, <i>ecosystem</i> and <i>trophic level</i>.</li> <li>2. Explain energy losses between trophic levels.</li> <li>3. Describe the carbon cycle.</li> <li>4. Discuss the effects of the combustion of fossil fuels and the cutting down of forests on the oxygen and carbon dioxide concentrations in the atmosphere.</li> </ol>
Assessments:	Lab report Quiz

UNIT 6: Human influences on the ecosystem (Topic B13)	
Timeframe	2 weeks
Learning goals:	Students should be able to: <ol style="list-style-type: none"> <li>1. Identify and describe the undesirable effects of deforestation and pollution.</li> <li>2. Discuss the causes and effects of acid rain on the environment and the measures that might be taken to reduce its incidence.</li> <li>3. Explain the greenhouse effect and the relationship between greenhouse gasses and global warming.</li> <li>4. Explain why the conservation of biodiversity is important.</li> </ol>
Assessments:	Performance task Exam 2

UNIT 7: Revision for IGCSE Exams	
Timeframe	3 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Revise the whole curriculum by focusing on recalling key concepts and training problem solving skills through different methods of evaluation.</li> </ul>
Assessments:	Quiz, Mock Exam, Completeness of Homework Assignments, Class Participation



# ***CHEMISTRY***

**Teacher(s):** Mr. Vali Aliyev

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## **Course Description:**

This course follows the Cambridge International Examinations Co-ordinated Science syllabus and is accepted by universities and employers as proof of essential science knowledge and ability.

## **Course Aims & Objectives:**

The course aims to allow students to understand the technological world in which they live and take an informed interest in science and scientific developments in order to learn about the basic principles of chemistry through a mix of theoretical and practical studies. Ultimately, the aim of the course is to develop an understanding of the scientific skills essential for further study and build skills which are useful in everyday life. Finally, students will learn how science is studied and practiced and become aware that the results of scientific research can have both good and bad effects on individuals, communities and the environment.

## **Enduring understandings:**

- Students will understand scientific study and creativity within a global context through stimulating and challenging opportunities.
- Students will understand a body of knowledge, methods and techniques that characterize science and technology.
- Students will understand how to analyse, evaluate and synthesize scientific information.
- Students will understand the need for, and the value of, effective collaboration and communication during scientific activities.
- Students will understand experimental and investigative scientific methods whilst using current technologies.
- Students will understand 21st century communication methods in the study of science.
- Students will understand that science and technology have ethical implications.
- Students will understand the possibilities and limitations of science and technology.
- Students will understand the relationships between scientific disciplines and their influence in other areas of knowledge.

## **Transdisciplinary Links:**

Physics: Oppositely charged particles attract each other. Forces of attraction between particles are important in determining many macroscopic properties of a substance.

Biology: Molecular structures of proteins.

UNIT 1: <b>Metals</b>	
Timeframe	6 weeks

Learning goals:	<ul style="list-style-type: none"> <li>● Compare the general physical properties of metals and non-metals, including: <ul style="list-style-type: none"> <li>○ thermal conductivity</li> <li>○ electrical conductivity</li> <li>○ malleability and ductility</li> <li>○ melting points and boiling points</li> </ul> </li> <li>● Describe the general chemical properties of metals, limited to their reactions with: <ul style="list-style-type: none"> <li>○ dilute acids</li> <li>○ cold water and steam</li> </ul> </li> <li>● Describe the uses of metals in terms of their physical properties, including: <ul style="list-style-type: none"> <li>○ aluminium in the manufacture of aircraft because of its low density</li> <li>○ aluminium in the manufacture of overhead electrical cables because of its low density and good electrical conductivity</li> <li>○ aluminium in food containers because of its resistance to corrosion</li> <li>○ copper in electrical wiring because of its good electrical conductivity</li> </ul> </li> <li>● State the order of the reactivity series as: potassium, sodium, calcium, magnesium, aluminium, carbon, zinc, iron, hydrogen, copper, silver, gold</li> <li>● Describe the relative reactivities of metals in terms of their tendency to form positive ions, by displacement reactions, if any, with the aqueous ions of magnesium, zinc, iron, copper and silver</li> <li>● Describe the reactions, if any, of: <ul style="list-style-type: none"> <li>○ potassium, sodium and calcium with cold water</li> <li>○ magnesium with steam</li> <li>○ magnesium, zinc, iron, copper, silver and gold with dilute hydrochloric acid and explain these reactions in terms of the position of the metals in the reactivity series</li> </ul> </li> <li>● Deduce an order of reactivity from a given set of experimental results</li> <li>● Describe the ease in obtaining metals from their ores, related to the position of the metal in the reactivity series</li> <li>● State that iron from hematite is extracted by reduction of iron(III) oxide in the blast furnace</li> <li>● Describe the extraction of iron from hematite in the blast furnace, limited to: <ul style="list-style-type: none"> <li>○ the burning of carbon (coke) to provide heat and produce carbon dioxide  <math display="block">\text{C} + \text{O}_2 \rightarrow \text{CO}_2</math> </li> <li>○ the reduction of carbon dioxide to carbon monoxide  <math display="block">\text{C} + \text{CO}_2 \rightarrow 2\text{CO}</math> </li> <li>○ the reduction of iron(III) oxide by carbon monoxide  <math display="block">\text{Fe}_2\text{O}_3 + 3\text{CO} \rightarrow 2\text{Fe} + 3\text{CO}_2</math> </li> <li>○ the thermal decomposition of calcium carbonate/limestone to produce calcium oxide  <math display="block">\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2</math> </li> <li>○ the formation of slag  <math display="block">\text{CaO} + \text{SiO}_2 \rightarrow \text{CaSiO}_3</math> </li> </ul> </li> <li>● State that main ore of aluminium is bauxite and that aluminium is extracted by electrolysis</li> </ul>
Assessments:	Quizzes, Test, Lab Activities, Homework Assignments, Projects, Class Participation

## UNIT 2 : Electrochemistry

Timeframe	6 weeks
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Learning goals:	<ul style="list-style-type: none"> <li>Define electrolysis as the decomposition of an ionic compound, when molten or in aqueous solution, by the passage of an electric current</li> <li>Identify in simple electrolytic cells: <ul style="list-style-type: none"> <li>the anode as the positive electrode</li> <li>the cathode as the negative electrode</li> <li>the electrolyte as the molten or aqueous substance that undergoes electrolysis</li> </ul> </li> <li>Identify the products formed at the electrodes and describe the observations made during the electrolysis of: <ul style="list-style-type: none"> <li>molten lead(II) bromide</li> <li>concentrated aqueous sodium chloride</li> <li>dilute sulfuric acid</li> </ul> </li> </ul> <p>using inert electrodes made of platinum or carbon/graphite</p> <ul style="list-style-type: none"> <li>Describe the transfer of charge during electrolysis: <ul style="list-style-type: none"> <li>the movement of electrons in the external circuit</li> <li>the loss or gain of electrons at the electrodes</li> <li>the movement of ions in the electrolyte</li> </ul> </li> <li>Identify the products formed at the electrodes and describe the observations made during the electrolysis of aqueous copper(II) sulfate using carbon/graphite electrodes and when using copper electrodes</li> <li>State that metals or hydrogen are formed at the cathode and that non-metals (other than hydrogen) are formed at the anode</li> <li>Predict the identity of the products at each electrode for the electrolysis of a binary compound in the molten state</li> <li>Construct ionic half-equations for reactions at the cathode (showing gain of electrons as a reduction reaction)</li> <li>State that a hydrogen–oxygen fuel cell uses hydrogen and oxygen to produce electricity with water as the only chemical product</li> <li>Describe the advantages and disadvantages of using hydrogen–oxygen fuel cells in comparison with gasoline/petrol engines in vehicles</li> </ul>
Assessments:	Quizzes, Exam, Lab Activities, Homework Assignments, Projects, Class Participation

UNIT 3: Preparation and analysis of salts	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"> <li>Describe the preparation, separation and purification of soluble salts by reaction of an acid with: <ul style="list-style-type: none"> <li>an alkali by titration</li> <li>excess metal</li> <li>excess insoluble base</li> <li>excess insoluble carbonate (the general solubility rules for salts are not required)</li> </ul> </li> <li>Define a hydrated substance as a substance that is chemically combined with water and an anhydrous substance as a substance containing no water</li> <li>Describe the preparation of insoluble salts by precipitation (the general solubility rules for salts are not required)</li> <li>Describe tests to identify the anions: <ul style="list-style-type: none"> <li>carbonate, <math>\text{CO}_3^{2-}</math>, by reaction with dilute acid and then testing for carbon dioxide gas</li> <li>chloride, <math>\text{Cl}^-</math>, bromide, <math>\text{Br}^-</math>, and iodide, <math>\text{I}^-</math>, by acidifying with dilute nitric acid then adding aqueous silver nitrate</li> <li>nitrate, <math>\text{NO}_3^-</math>, reduction with aluminium foil and aqueous sodium hydroxide and then testing for ammonia gas</li> <li>sulfate, <math>\text{SO}_4^{2-}</math>, by acidifying with dilute nitric acid and then adding aqueous barium nitrate</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>Describe tests using aqueous sodium hydroxide and aqueous ammonia to identify the aqueous cations: <ul style="list-style-type: none"> <li>Ammonium,</li> <li>Calcium,</li> <li>copper(II),</li> <li>iron(II),</li> <li>iron(III),</li> <li>zinc, (formulas of complex ions are not required)</li> </ul> </li> <li>Describe tests to identify the gases: <ul style="list-style-type: none"> <li>ammonia, using damp red litmus paper</li> <li>carbon dioxide, using limewater</li> <li>chlorine, using damp litmus paper</li> <li>hydrogen, using a lighted splint</li> <li>oxygen, using a glowing splint</li> </ul> </li> <li>Describe the use of a flame test to identify the cations: <ul style="list-style-type: none"> <li>lithium,</li> <li>sodium,</li> <li>potassium,</li> <li>copper(II),</li> </ul> </li> </ul>
Assessments:	Quizzes, Lab Activities, Test, Homework Assignments, Projects, Performance task, Class Participation

UNIT 4: Chemistry of the environment	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"> <li>Describe chemical tests for the presence of water using anhydrous cobalt(II) chloride and anhydrous copper(II) sulfate</li> <li>Describe how to test for the purity of water using melting point and boiling point</li> <li>State that distilled water is used in practical chemistry rather than tap water because it contains fewer chemical impurities</li> <li>Describe the treatment of the domestic water supply in terms of: <ul style="list-style-type: none"> <li>(a) sedimentation and filtration to remove solids</li> <li>(b) use of carbon to remove tastes and odours</li> <li>(c) chlorination to kill microbes (pathogens)</li> </ul> </li> <li>State the composition of clean, dry air as approximately 78% nitrogen, <math>N_2</math>, 21% oxygen, <math>O_2</math>, and the remainder as a mixture of noble gases and carbon dioxide, <math>CO_2</math></li> <li>State the source of each of these air pollutants, limited to: <ul style="list-style-type: none"> <li>carbon dioxide from the complete combustion of carbon-containing fuels</li> <li>carbon monoxide and particulates from the incomplete combustion of carbon containing fuels</li> <li>methane from the decomposition of vegetation and waste gases from digestion in animals</li> <li>oxides of nitrogen from car engines</li> <li>sulfur dioxide from the combustion of fossil fuels which contain sulfur compounds</li> </ul> </li> <li>State the adverse effect of these air pollutants, limited to: <ul style="list-style-type: none"> <li>carbon dioxide: higher levels of carbon dioxide leading to increased global warming, which leads to climate change</li> <li>carbon monoxide: toxic gas</li> <li>particulates: increased risk of respiratory problems and cancer</li> <li>methane: higher levels of methane leading to increased global warming, which leads to climate change</li> <li>oxides of nitrogen: acid rain and respiratory problems</li> <li>sulfur dioxide: acid rain</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• State and explain strategies to reduce the effects of climate change:               <ul style="list-style-type: none"> <li>○ planting trees</li> <li>○ reduction in livestock farming</li> <li>○ decreasing use of fossil fuels</li> <li>○ increasing use of hydrogen and renewable energy, e.g. wind, solar</li> </ul> </li> <li>• State and explain strategies to reduce the effects of acid rain: reducing emissions of sulfur dioxide by using low-sulfur fuels and flue gas desulfurisation with calcium oxide</li> <li>• Describe how the greenhouse gases carbon dioxide and methane cause global warming, limited to:               <ul style="list-style-type: none"> <li>○ the absorption, reflection and emission of thermal energy (b) reducing thermal energy loss to space</li> </ul> </li> <li>• Explain how oxides of nitrogen form in car engines and describe their removal by catalytic converters, limited to: <math>2\text{CO} + 2\text{NO} \rightarrow 2\text{CO}_2 + \text{N}_2</math></li> </ul>
Assessments:	Quizzes, Lab Activities, Test, Homework Assignments, Projects, Performance task, Class Participation

UNIT 5: Organic Chemistry	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Explain the term homologous series, describe general characteristics of a homologous series.</li> <li>• State the names, draw the structures and state the chemical name of the first 5 carbons chains in the following homologous series: alkanes, alkenes, alcohols and organic acids and then be able to explain the uses and key reactions of each of these homologous series.</li> <li>• Draw the structures of saturated and unsaturated hydrocarbons.</li> <li>• Describe the different types of fossil fuels.</li> <li>• Explain the process of fractional distillation and how each fraction is used in everyday life.</li> <li>• Explain the term synthetic polymers, the environment issues with producing them and specifically the formation of nylon.</li> <li>• Explain the term natural macromolecules; what are some examples of these types of molecules (including structures).</li> </ul>
Assessments:	Quizzes, Lab Activities, Homework Assignments, Projects, Class Participation

Laboratory Activities	
Timeframe	Throughout the term
Learning goals:	<ul style="list-style-type: none"> <li>• Acquire skills in planning, conducting and writing series of experiment</li> </ul>
Assessments:	Performance task, Laboratory Activities, Completeness of Homework Assignments, Class Participation

Revision for IGCSE Exams	
Timeframe	4 weeks

Learning goals:	<ul style="list-style-type: none"> <li>• Revise the whole curriculum by performing the most common experiments through different methods. This will be done by assigning a topic each week</li> </ul>
Assessments:	Mock Exams

# PHYSICS

**Teacher(s):** Howard MacDougall

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## Course Description:

This course is part of Cambridge International Examinations Co-ordinated Science course. It covers fundamental concepts of physics listed in the syllabus and includes carrying out scientific investigations.

## Course Aims & Objectives:

The aim of this course is to help students to get a systematic body of scientific knowledge and skills about physics. It also aims to develop appreciation of the practical nature of the subject, the importance of accurate experimental work and reporting it. Through theoretical discussions, class activities and practical work, Grade 10 physics well prepares students for the IB Physics course.

## Enduring understandings:

- Students will understand scientific study and creativity within a global context through stimulating and challenging opportunities.
- Students will understand a body of knowledge, methods and techniques that characterize science and technology.
- Students will understand how to analyse, evaluate and synthesize scientific information.
- Students will understand the need for, and the value of, effective collaboration and communication during scientific activities.
- Students will understand experimental and investigative scientific methods whilst using current technologies.
- Students will understand 21st century communication methods in the study of science.
- Students will understand that science and technology have ethical implications.
- Students will understand the possibilities and limitations of science and technology.
- Students will understand the relationships between scientific disciplines and their influence in other areas of knowledge.

UNIT 1: Properties of Waves, including light and sound	
Timeframe	7 weeks
Learning goals:	<p>Properties of waves</p> <ul style="list-style-type: none"><li>• Demonstrate understanding that waves transfer energy without transferring matter.</li><li>• Describe what is meant by wave motion as illustrated by vibration in ropes and springs and by experiments using water waves.</li><li>• Use the term wavefront</li><li>• State the meaning of speed, frequency, wavelength and amplitude.</li><li>• Distinguish between transverse and longitudinal waves and give suitable examples.</li><li>• Recall and use the equation of wave <math>v = f \lambda</math></li><li>• Understand the refraction, reflection and diffraction.</li></ul> <p>Light:</p>

	<ul style="list-style-type: none"> <li>Describe the formation and characteristics of an optical image seen in a plane mirror.</li> <li>Perform simple constructions, measurements and calculations based on reflections in plane mirrors.</li> <li>Use the law angle of incidence = angle of reflection.</li> <li>Describe an experimental demonstration of the refraction of light.</li> <li>Recall and use the definition of refractive index <math>n</math> in terms of speed.</li> <li>Recall and use the equation of refractive index.</li> <li>Describe, using ray diagrams, the passage of light through parallel-sided transparent material, indicating the angle of incidence <math>i</math> and angle of refraction <math>r</math>.</li> <li>Describe internal and total internal reflection using ray diagrams.</li> <li>State the meaning of critical angle.</li> <li>Identify and describe internal and total internal reflection using ray diagrams.</li> <li>Describe the action of a thin converging lens on a beam of light using ray diagrams.</li> <li>Use the terms principal focus and focal length.</li> <li>Draw ray diagrams to illustrate the formation of a real image by a single lens.</li> <li>Describe the dispersion of light by a glass prism.</li> <li>Describe the main features of the electromagnetic spectrum.</li> <li>Describe the role of electromagnetic waves in: <ul style="list-style-type: none"> <li>radio and television communications (radio waves),</li> <li>satellite television and telephones (microwaves),</li> <li>electrical appliances, remote controllers for televisions and intruder alarms (infra-red),</li> <li>medicine and security (X-rays).</li> </ul> </li> <li>Demonstrate understanding of safety issues regarding the use of microwaves and X-rays.</li> </ul> <p>Sound:</p> <ul style="list-style-type: none"> <li>Describe the production of sound by vibrating sources.</li> <li>Describe the longitudinal nature of sound and the transmission of sound waves in air in terms of compressions and rarefactions.</li> <li>Relate the loudness and pitch of sound waves to amplitude and frequency.</li> <li>Describe how the reflection of sound may produce an echo.</li> </ul>
Assessments:	Quiz, Exam 1, Laboratory Activities, Completeness of Homework Assignments, Class Participation

UNIT 2: Electricity and magnetism	
Timeframe	3 weeks
Learning goals:	<ul style="list-style-type: none"> <li>Describe the forces between magnets, and between magnets and magnetic materials.</li> <li>Give an account of induced magnetism.</li> <li>Draw and describe the pattern of magnetic field lines around a bar magnet.</li> <li>Distinguish between the magnetic properties of soft iron and steel.</li> <li>Distinguish between the design and use of permanent magnets and electromagnets.</li> <li>Describe methods of magnetisation to include stroking with a magnet, use of direct current (d.c.) in a coil and hammering in a magnetic field.</li> <li>State that there are positive and negative charges.</li> <li>State that unlike charges attract and that like charges repel.</li> <li>Describe and interpret simple experiments to show the production and detection of electrostatic charges by friction.</li> <li>State that charging a body involves the addition or removal of electrons.</li> </ul>



	<ul style="list-style-type: none"> <li>• Describe an electric field as a region of space in which an electric charge experiences a force.</li> <li>• Distinguish between electrical conductors and insulators and give typical examples.</li> <li>• Demonstrate understanding of current, potential difference, e.m.f. and resistance.</li> <li>• State that current is related to the flow of charge.</li> <li>• Show understanding that current is a rate of flow of charge and use the equation <math>I = Q/t</math></li> <li>• State that the current in metals is due to a flow of electrons.</li> <li>• State that the potential difference (p.d.) across a circuit component and the electromotive force (e.m.f.) of an electrical source are measured in volts.</li> <li>• Use and describe the use of an ammeter and a voltmeter, both analogue and digital.</li> <li>• Show understanding that e.m.f. is defined in terms of energy supplied by a source in driving a charge around a complete circuit.</li> <li>• State that resistance = p.d. / current and understand qualitatively how changes in p.d. or resistance affect current.</li> <li>• Sketch and explain the current-voltage characteristic of an ohmic resistor and a filament lamp.</li> <li>• Recall and use the equation <math>R = V / I</math></li> <li>• Recall and use quantitatively the relationship between resistance and length, and the inverse proportionality between resistance and cross-sectional area of a wire.</li> </ul>
Assessments:	Quiz, Exam 1, Performance Task 1, Laboratory Activities, Completeness of Homework Assignments, Class Participation

UNIT 3: Electric circuits	
Timeframe	5 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Draw and interpret circuit diagrams including symbols for commonly used circuit components.</li> <li>• Demonstrate understanding that the current at every point in a series circuit is the same.</li> <li>• Calculate the combined resistance of two or more resistors in series.</li> <li>• Recall and use the fact that the sum of the p.d. across the components in a series circuit is equal to the total p.d. across the supply.</li> <li>• State that, for a parallel circuit, the current from the source is larger than the current in each branch.</li> <li>• Recall and use the fact that the current from the source is the sum of the currents in the separate branches of a parallel circuit.</li> <li>• State that the combined resistance of two resistors in parallel is less than that of either resistor by itself.</li> <li>• Calculate the combined resistance of two resistors in parallel.</li> <li>• State the advantages of connecting lamps in parallel in a lighting circuit.</li> <li>• Describe the action of NTC thermistors and LDRs and show understanding of their use as input transducers.</li> <li>• Recall and use the equations <math>P=IV</math> and <math>E=IVt</math></li> <li>• Identify electrical hazards including <ul style="list-style-type: none"> <li>○ damaged insulation,</li> <li>○ overheating of cables,</li> <li>○ damp conditions.</li> </ul> </li> <li>• State that a fuse protects a circuit.</li> <li>• Explain the use of fuses and choose appropriate fuse ratings.</li> </ul>

Assessments:	Quiz, Mock exam, Laboratory Activities, Completeness of Homework Assignments, Class Participation
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UNIT 4: Electromagnetic effects	
Timeframe	5 weeks
Learning goals:	<ul style="list-style-type: none"> <li>Describe an experiment that shows that a changing magnetic field can induce an e.m.f. in a circuit.</li> <li>State the factors affecting the magnitude of an induced e.m.f.</li> <li>Describe a rotating-coil generator and the use of slip rings.</li> <li>Sketch a graph of voltage output against time for a simple a.c. generator.</li> <li>Describe the construction of a basic iron-cored transformer as used for voltage transformations.</li> <li>Recall and use the equation <math>(V_p / V_s) = (N_p / N_s)</math></li> <li>Describe the use of the transformer in high-voltage transmission of electricity.</li> <li>Recall and use the equation <math>V_p I_p = V_s I_s</math> (for 100% efficiency).</li> <li>Explain why energy losses in cables are lower when the voltage is high.</li> <li>Describe and interpret an experiment to show that a force acts on a current-carrying conductor in a magnetic field, including the effect of reversing: <ul style="list-style-type: none"> <li>the current,</li> <li>the direction of the field.</li> </ul> </li> <li>Describe the turning effect on a current-carrying coil in a magnetic field.</li> <li>Relate this turning effect to the action of an electric motor.</li> <li>Describe the effect of increasing (a) the number of turns in the coil (b) the current.</li> </ul>
Assessments:	Quiz, Mock exam, Laboratory Activities, Completeness of Homework Assignments, Class Participation

UNIT 5: Radioactivity	
Timeframe	3 weeks
Learning goals:	<ul style="list-style-type: none"> <li>Demonstrate understanding of background radiation.</li> <li>Describe the detection of <math>\alpha</math>-particles, <math>\beta</math>-particles and <math>\gamma</math>-rays (<math>\beta^+</math> are not included; <math>\beta^-</math>-particles will be taken to refer to <math>\beta^-</math>).</li> <li>State that radioactive emissions occur randomly over space and time.</li> <li>Recall for radioactive emissions, and use to identify them: <ul style="list-style-type: none"> <li>their nature,</li> <li>their relative ionising effects,</li> <li>their relative penetrating abilities.</li> </ul> </li> <li>State the meaning of radioactive decay.</li> <li>Describe the hazards of ionising radiation to living things.</li> <li>Describe how radioactive materials are handled, used and stored in a safe way to minimise the effects of these hazards.</li> <li>Describe the composition of the nucleus in terms of protons and neutrons</li> <li>Use the term proton number <math>Z</math></li> <li>Use the term nucleon number <math>A</math></li> <li>Use the term isotope.</li> <li>Give and explain examples of practical applications of isotopes.</li> <li>Use the term nuclide and use the nuclide notation</li> </ul>
Assessments:	Quiz, Performance Task 2, Laboratory Activities, Completeness of Homework Assignments, Class Participation

UNIT 7: Space Physics	
Time frame:	4 weeks
Learning Goals:	<p>Describe the Solar System as containing</p> <ol style="list-style-type: none"> <li>1.1. One star, the Sun.</li> <li>1.2. The eight named planets and their order from the Sun.</li> <li>1.3. Minor planets that orbit the Sun, including dwarf planets such as Pluto and asteroids in the asteroid belt.</li> <li>1.4. Moons that orbit the planets.</li> </ol>
	<p>P6.2.1 The Sun as a Star</p> <p><b>Know that:</b> 1.1. The Sun is the closest star to the Earth.</p> <p>1.2. Astronomical distances can be measured in light-years, where one light-year is the distance traveled in (the vacuum of) space by light in one year.</p> <p><b>Calculate the time it takes light to travel a significant distance such as between objects in the Solar System.</b></p> <p><b>Know that:</b> 3.1. The Sun contains most of the mass of the Solar System, which explains why the planets orbit the Sun.</p> <p>3.2. The force that keeps an object in orbit around the Sun is due to the gravitational attraction of the Sun.</p> <p><b>Define orbital speed from the equation:</b> <math>v = 2\pi r / T</math> where <math>r</math> is the radius of the orbit and <math>T</math> is the orbital period. Recall and use this equation.</p> <p><b>Know that:</b> 5.1. The Sun is a star of medium size, consisting mostly of hydrogen and helium.</p> <p>5.2. The Sun radiates most of its energy in the infrared, visible, and ultraviolet regions of the electromagnetic spectrum.</p> <p>5.3. The strength of the Sun's gravitational field decreases as the distance from the Sun increases, leading to a decrease in the orbital speeds of the planets.</p> <p>6. Know that stars are powered by nuclear reactions that release energy and that in stable stars the nuclear reactions involve the fusion of hydrogen into helium.</p> <p>P6.2.2 Life Cycle of Stars</p> <p><b>Know that:</b> 1.1. Stable stars are formed as protostars from interstellar clouds of gas and dust due to gravitational attraction.</p> <p>1.2. The next stages of the life cycle of a star depend on its mass, limited to:</p> <ol style="list-style-type: none"> <li>1.2.1. A small mass star (about the same mass as the Sun): red giant → white dwarf + planetary nebula.</li> <li>1.2.2. A large mass star: red supergiant → supernova → neutron star.</li> <li>1.2.3. A very large mass star: red supergiant → supernova → black hole.</li> </ol> <p><b>2. Know that the nebula from a supernova may form new stars with orbiting planets.</b></p> <p>P6.2.3 Galaxies and the Universe</p> <ol style="list-style-type: none"> <li>1. <b>Know that:</b> 1.1. Galaxies are each made up of many billions of stars. <ol style="list-style-type: none"> <li>1.2. The Sun is a star in the galaxy known as the Milky Way.</li> <li>1.3. Other stars that make up the Milky Way are much further away from the Earth than the Sun is from the Earth.</li> </ol> </li> <li>2. <b>Know that the Milky Way is one of many billions of galaxies making up the Universe and that the diameter of the Milky Way is approximately 100,000 light-years.</b></li> </ol>

	<p><b>3. Know that the Big Bang Theory is supported by many astronomical observations and states that:</b> 3.1. The Universe expanded from a single point of high density and temperature.</p> <p>3.2. The Universe is still expanding.</p> <p>3.3. The Universe is approximately 13.8 billion years old.</p>
Assessments:	Quiz, Mock exam, Laboratory Activities, Completeness of Homework Assignments, Class Participation

UNIT 6: Revision for IGCSE Exams	
Timeframe	2 weeks
Learning goals:	<ul style="list-style-type: none"> <li>Revise the whole curriculum by focusing on recalling key concepts and training problem solving skills through different methods of evaluation.</li> </ul>
Assessments:	Quiz, Mock Exam, Completeness of Homework Assignments, Class Participation

# ***INTERNATIONAL MATHEMATICS***

**Teacher** Sabina Aliyeva and Murad Ramanovski

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## **Course Description:**

Cambridge International Mathematics (IGCSE) syllabus is designed as a two-year course for examination at age 16-plus. The aims of this syllabus should enable students to;

- acquire a foundation of mathematical skills appropriate to further study and continued learning in mathematics;
- develop a foundation of mathematical skills and apply them to other subjects and to the real world;
- develop methods of problem solving;
- interpret mathematical results and understand their significance;
- develop patience and persistence in solving problems;
- develop a positive attitude towards mathematics which encourages enjoyment, fosters confidence and promotes enquiry and further learning;
- appreciate the beauty and power of mathematics;
- appreciate the difference between mathematical proof and pattern spotting;
- appreciate the interdependence of different branches of mathematics and the links with other disciplines;
- appreciate the international aspect of mathematics, its cultural and historical significance and its role in the real world;
- read mathematics and communicate the subject in a variety of ways.

## **Course Aims & Objectives:**

The course will further develop the ability of students to;

- know and apply concepts from all the aspects of mathematics listed in the specification;
- apply combinations of mathematical skills and techniques to solve a problem;
- solve a problem by investigation, analysis, the use of deductive skills and the application of an appropriate strategy;
- recognise patterns and structures and so form generalisations;
- draw logical conclusions from information and understand the significance of mathematical or statistical results;
- use spatial relationships in solving problems;
- use the concepts of mathematical modelling to describe a real-life situation and draw conclusions;
- organise, interpret and present information in written, tabular, graphical and diagrammatic forms;
- use statistical techniques to explore relationships in the real world;
- communicate mathematical work using the correct mathematical notation and terminology, logical argument, diagrams and graphs;
- make effective use of technology;
- estimate and work to appropriate degrees of accuracy.

**Assessments:** Daily homework, Quizzes, Class participation and behaviour, Performance tasks, Exams

UNIT 1: GEOMETRY	
Timeframe	2 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Measure angles in degrees</li> <li>• Know the properties of angles around a point, angles on a straight line, intersecting straight lines, vertically opposite angles, alternate and corresponding angles on</li> <li>• Use and interpret vocabulary of circles</li> <li>• Calculate angles and lengths using properties of circles, tangent perpendicular to radius at the point of contact, tangents from a point, angle in a semicircle, (angles at the center and at the circumference on the same arcyclic quadrilateral <b>(Extended only)</b>)</li> <li>• Understand and use circle theorems <b>(Extended)</b></li> </ul>
Assessments	Homework, Exam 2, Class participation and behavior, Performance tasks

UNIT 2: TRANSFORMATIONS and VECTORS	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Read notation for directed line segments and the component forms</li> <li>• Add and subtract vectors <b>(Extended only)</b></li> <li>• Find the negative of a vector, and its multiple of a scale factor <b>(Extended only)</b></li> <li>• Calculate the magnitude of a vector <b>(Extended only)</b></li> <li>• Complete transformations on the Cartesian plane: translation, reflection, rotation, enlargement and reduction</li> <li>• Stretch <b>(Extended only)</b></li> <li>• Describe translations using correct notation</li> <li>• Find the inverse of a transformation <b>(Extended only)</b></li> <li>• Combine transformations <b>(Extended only)</b></li> </ul>
Assessments	Homework, Exams/Quizzes, Class participation and behaviour, Performance tasks

UNIT 3: MENSURATION
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Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Use and convert between different metric units</li> <li>• Calculate perimeter and area of rectangle and triangle</li> <li>• Calculate circumference and area of a circle, arc length and area of sector</li> <li>• Calculate surface area and volume of prism and pyramid</li> <li>• Calculate surface area and volume of sphere and hemisphere</li> <li>• Calculate areas and volumes of compound shapes</li> </ul>
Assessments:	Daily homework, Quizzes, Class participation and behaviour, Performance tasks, Exam1

UNIT 4 : TRIGONOMETRY	
Timeframe	5 weeks
Learning goals	<ul style="list-style-type: none"> <li>• Calculate angles and lengths of right-angled triangles using trigonometric ratios</li> <li>• Know and use the exact values for the trigonometric ratios of <math>0^\circ</math>, <math>30^\circ</math>, <math>45^\circ</math>, <math>60^\circ</math>, <math>90^\circ</math> <b>(Extended only)</b></li> <li>• Use the trigonometric ratios in the four quadrants (<math>0^\circ</math> to <math>360^\circ</math>) <b>(Extended only)</b></li> <li>• Use the sine Rule, cosine Rule and area of triangle in appropriate situations <b>(Extended only)</b></li> <li>• Model problems in two dimensions using three-figure bearings and compass directions</li> <li>• Demonstrate the properties of the graphs of <math>y = \sin x</math>, <math>y = \cos x</math>, <math>y = \tan x</math> <b>(Extended only)</b></li> </ul>
Assessments	Daily homework, Quizzes, Class participation and behaviour, Performance tasks

UNIT 5: SETS	
Timeframe	3 weeks
Learning goals	<ul style="list-style-type: none"> <li>• Learn the meaning and the notation for an element, not an element.</li> <li>• Learn the notation for universal set, empty set, complement of a set, number of elements in a set.</li> <li>• Learn the descriptive form and the listing form of a set.</li> <li>• Learn the venn diagrams (with at most three sets <b>(extended only)</b>)</li> <li>• Model the problems including the intersection and union of sets.</li> </ul>
Assessments:	Daily homework , quizzes, class participation and behaviour, performance tasks

UNIT 6: PROBABILITY	
Timeframe	4 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Calculate probability as a fraction, decimal or percentage and understand the significance of its value</li> <li>• Calculate relative frequency as an estimate of probability</li> <li>• Calculate expected frequency of occurrences</li> <li>• Combine events using the addition and multiplication rules</li> <li>• Map tree diagrams including successive selection with or without replacement simple cases only</li> <li>• Calculate probabilities from Venn diagrams and tables</li> </ul>

Assessments:	Daily homework, Exams/Quizzes, Class participation and behaviour, Performance tasks,
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UNIT 7: STATISTICS	
Timeframe	5 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Read and interpret graphs and tables of data</li> <li>• Know the difference between discrete and continuous data</li> <li>• Plot and read bar charts, line graphs, pie charts, stem and leaf diagrams, scatter diagrams</li> <li>• Calculate using mean, mode, median, quartiles and range from lists of discrete data and grouped discrete data</li> <li>• Calculate the mean from continuous data</li> <li>• Plot histograms using frequency density using continuous data</li> <li>• Plot a cumulative frequency table and curve and use this to find the median, quartiles, interquartile range and percentiles</li> <li>• Use a graphics calculator to calculate mean, median and quartiles for discrete data and mean for grouped data</li> <li>• Understand and describe correlation (positive, negative or zero) using a scatter diagram and draw in the straight line of best fit</li> <li>• Use a graphics calculator to find the equation of the linear regression line <b>(Extended only)</b></li> </ul>
Assessments:	Daily homework, Quizzes, Class participation and behaviour, Performance tasks, Mock exam- Exam 2.

REVISION	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Solving the past paper questions of IGCSE</li> <li>• Revising the topics of grade9 and grade10.</li> <li>• General revision on papers 2- 4-6 for extended and papers 1-3-5 for core.</li> </ul>
Assessments:	Daily homework, Quizzes, Class participation and behaviour, Performance tasks.



## ***COMPUTER SCIENCE***

**Teacher(s):** Benjamin Wanjui

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### **Course Description:**

The course starts with use of structure diagrams, leading to the definition of algorithms and their representation as flowcharts. This is followed by the use of dry-runs and trace tables to work out the purpose of an algorithm, suggesting and using suitable test data and identifying and correcting errors in algorithms. Learners are introduced to different data types, allowing the development of an understanding of pseudocode as a way of representing an algorithm prior to formal coding in a programming language. Operators for assignment and structures for conditional statements and iteration are introduced.

### **Course Aims & Objectives:**

- Recall, select and communicate knowledge and understanding of computer technology
- Apply knowledge, understanding and skills to solve computing or programming problems
- Analyse, evaluate, make reasoned judgements and present conclusions
- Apply understandings and skills to solve computer-based problems using programming languages
- Design and manipulates images in editing softwares
- Apply techniques on cyber security to stay safe online

### **Enduring understandings:**

- Students will understand non-computer system to show that it is comprised of subsystems
- Students will understand the need for algorithms in developing software solutions
- Students will understand the formal or informal variable names and mapping of values
- Students will demonstrate the validation checks with decision boxes in a sample flowchart
- Students will understand the role of pseudocode as a step between informal problem-solving or use of flowcharts
- Students will understand and use pseudocode by applying conditional statements and one dimensional arrays
- Students will understand system life cycles of softwares and their developments
- Students will understand the how data is transmitted
- Students will the use of software in image processing

UNIT 1: Algorithm design and problem solving	
Timeframe	10 Weeks
Learning goals:	<ul style="list-style-type: none"><li>• Understand the program development life cycle: analysis, design, coding and testing.</li><li>• Understand that every computer system is made up of subsystems, which are made up of further sub-systems.</li><li>• Explain the purpose of a given algorithm</li><li>• Understand standard methods of solution</li><li>• Use different methods to design and construct a solution to a problem</li></ul>
Assessments:	Quiz, Homework, Exam 1, Lab activity, UBD Performance task

UNIT 2: Pseudocode and Python Programming	
Timeframe	9 Weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Understand and use pseudocode using the commands and statements</li> <li>• Understand and use the standard flowchart symbols</li> <li>• Understand and use pseudo code by using loop structures</li> <li>• Know how to declare and use variables and constants</li> <li>• Identify the ways of representing an algorithm through pseudocode</li> <li>• Write and amend algorithms for given problems or scenarios using pseudocode, program code and flowcharts.</li> <li>• Describe how data is transmitted from one device to another using different methods of data transmission.</li> <li>• Explain the suitability of the method of data transmission for a given scenario.</li> <li>• Understand the universal serial bus (USB) interface and how it is used to transmit data.</li> </ul>
Assessments:	Exam, Lab activities, Assignment, projects

UNIT 3: Image Manipulation	
Timeframe	8 Weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Understand the various types of images</li> <li>• Explore the use of editing softwares</li> <li>• Learn how to use Adobe illustrator and photoshop</li> <li>• Explore the colour wheel</li> <li>• Understand the need to reduce image resolution to increase transmission speed</li> </ul>
Assessments:	Quiz, Homework, Exam 1, Lab activity, UBD Performance task

UNIT 4: Cyber security And Artificial Intelligence	
Timeframe	9 Weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Describe the processes involved in, and the aim of carrying out a range of cyber security threats.</li> <li>• Explain how a range of solutions are used to help keep data safe from security threats.</li> <li>• Understand what is meant by artificial intelligence (AI).</li> <li>• Describe the main characteristics of AI.</li> <li>• Explain the basic operation and components of AI systems to simulate intelligent behaviour.</li> <li>• Understand the concept and use of digital currency.</li> <li>• Understand the process of blockchain and how it is used to track digital currency.</li> </ul>
Assessments:	Exam, Lab activities, Assignment, project

## ***PHYSICAL EDUCATION***

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### **Course Description:**

In grade 10 physical education students will further advance their skills in a variety of sports such as basketball, football, volleyball, table tennis, swimming, water polo, dance, archery, rock climbing, fitness and yoga as well as challenge themselves in fitness tests. All sports will have an emphasis on strategies and analysis. We will also focus on soft skills that students can gain from physical education and integrate into their lives outside of sport such as social integration, sportsmanship and teamwork. Our below units are subject to change depending on factors such as sports seasons and facilities available.

### **Course Aims & Objectives:**

Physical Education in grade 9 focuses on extending students' motor skills, game play and strategies. Students will learn concepts, principles and strategies for living a healthy active lifestyle and understanding why physical education is important for everybody. They will gain a knowledge of the skills required for proficiency as well as training techniques and analysing personal and team performance. Students will understand that many of the skills learned in PE can be utilised in their lives in school, out of school and their futures in order to be successful and happy.

### **Enduring understandings:**

- Students will understand the motor skills and movement patterns required to perform a variety of physical activities.
- Students will understand that knowledge of movement concepts, principles, and strategies are important in learning and performing physical activities.
- Students will understand how to assess and maintain a level of physical fitness to improve health and performance.
- Students will understand that improvement of health and performance is linked to knowledge of physical fitness concepts, principles, and strategies.
- Students will understand psychological and sociological concepts, principles, and strategies that apply to the learning and performance of physical activity.
- Students will communicate understanding by using physical and health terminology effectively.

\*Units may vary in order and are subject to change with student needs.

UNIT 1: Football	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"><li>• Demonstrate competence in selected football skills</li><li>• Demonstrate responsible personal &amp; social behavior</li><li>• Demonstrate understanding &amp; respect for differences in others' skills</li><li>• Demonstrate knowledge of learning, self-expression, &amp; social interaction</li><li>• Understand refereeing and positive sportsmanship</li></ul>
Assessments:	Summative skills assessment Knowledge and understanding of techniques Performance assessment Reflection task Theoretical knowledge tests Technological elements will be integrated into the course.

UNIT 2: Fitness Test	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Demonstrate competence in selected football skills</li> <li>• Demonstrate responsible personal &amp; social behavior</li> <li>• Demonstrate understanding &amp; respect for differences in others' skills</li> <li>• Demonstrate knowledge of learning, self-expression, &amp; social interaction</li> <li>• Understand refereeing and positive sportsmanship</li> </ul>
Assessments:	Summative skills assessment Knowledge and understanding of techniques Performance assessment Reflection task Theoretical knowledge tests Technological elements will be integrated into the course.

UNIT 3: Swimming	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Demonstrate competence in selected strokes</li> <li>• Demonstrate responsible personal &amp; social behavior</li> <li>• Demonstrate understanding &amp; respect for differences in others' skills</li> <li>• Demonstrate knowledge of learning, self-expression, &amp; social interaction</li> <li>• Understand refereeing and positive sportsmanship</li> </ul>
Assessments:	Summative skills assessment Knowledge and understanding of techniques Performance assessment Reflection task Theoretical knowledge tests Technological elements will be integrated into the course.

UNIT 4: Basketball	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Demonstrate competence in selected motor skills</li> <li>• Demonstrate responsible personal &amp; social behavior</li> <li>• Demonstrate understanding &amp; respect for differences in others' skills</li> <li>• Demonstrate knowledge of learning, self-expression, &amp; social interaction</li> <li>• Understand refereeing and positive sportsmanship</li> </ul>
Assessments:	Summative skills assessment Knowledge and understanding of techniques Performance assessment Reflection task Theoretical knowledge tests Technological elements will be integrated into the course.

UNIT 5: Volleyball	
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Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Demonstrate competence in selected motor skills</li> <li>• Demonstrate responsible personal &amp; social behavior</li> <li>• Demonstrate understanding &amp; respect for differences in others' skills</li> <li>• Demonstrate knowledge of learning, self-expression, &amp; social interaction</li> <li>• Understand refereeing and positive sportsmanship</li> </ul>
Assessments:	Summative skills assessment Knowledge and understanding of techniques Performance assessment Reflection task Theoretical knowledge tests Technological elements will be integrated into the course.

UNIT 6: Handball	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Demonstrate competence in selected motor skills</li> <li>• Demonstrate responsible personal &amp; social behavior</li> <li>• Demonstrate understanding &amp; respect for differences in others' skills</li> <li>• Demonstrate knowledge of learning, self-expression, &amp; social interaction</li> <li>• Understand refereeing and positive sportsmanship</li> </ul>
Assessments:	Summative skills assessment Knowledge and understanding of techniques Performance assessment Reflection task Theoretical knowledge tests Technological elements will be integrated into the course.

UNIT 7: Table Tennis	
Timeframe	4 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Demonstrate competence in selected motor skills</li> <li>• Demonstrate responsible personal &amp; social behavior</li> <li>• Demonstrate understanding &amp; respect for differences in others' skills</li> <li>• Demonstrate knowledge of learning, self-expression, &amp; social interaction</li> <li>• Understand refereeing and positive sportsmanship</li> </ul>
Assessments:	Summative skills assessment Knowledge and understanding of techniques Performance assessment Reflection task Theoretical knowledge tests Technological elements will be integrated into the course.

UNIT 8: Badminton	
Timeframe	6 weeks

Learning goals:	<ul style="list-style-type: none"> <li>• Demonstrate competence in selected motor skills</li> <li>• Demonstrate responsible personal &amp; social behavior</li> <li>• Demonstrate understanding &amp; respect for differences in others' skills</li> <li>• Demonstrate knowledge of learning, self-expression, &amp; social interaction</li> <li>• Understand refereeing and positive sportsmanship</li> </ul>
Assessments:	<p>Summative skills assessment</p> <p>Knowledge and understanding of techniques</p> <p>Performance assessment</p> <p>Reflection task</p> <p>Theoretical knowledge tests</p> <p>Technological elements will be integrated into the course.</p>

## ***PSHE (PERSONAL SOCIAL AND HEALTH EDUCATION)***

**Teacher(s):** Vanessa Vitello

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### **Course Description:**

The PSHE curriculum is a vertical programme which is built upon throughout Grade 6-12; the content of each unit is grade specific. The program was designed to align with the guidelines provided by the United Nations and Council of International Schools, regarding having a comprehensive and international child protection and well-being programme. Furthermore, the programme was created with the Child Protection team at MEFIS, and aligns with the Primary PSHE programme, to provide continued learning to students.

The programme will provide a variety of opportunities for students to develop their own self awareness, as well as to develop the social and emotional competencies necessary to manage positive relationships with others. This proactive and preventative programme will focus on emotional and social literacy, with the intention of enhancing our students' well-being and enjoyment of the school environment. It will teach various child protection topics with the aim of proactively ensuring student short- and long-term physical, mental, and emotional health and safety. It will ultimately positively impact their performance and success. All aspects of this programme will be delivered, though some flexibility is required so as to allow concerns/themes to be dealt with if/when they arise.

### **Course Aims and Objectives:**

PSHE aims to develop students' personal, social, and health well-being. Personal well-being focuses on developing reflective skills and self awareness, understanding the complexities of emotions and their impact on behaviour, and developing strategies to manage emotions in positive and constructive ways, in order to take our individual place within a community. Social well-being focuses on developing the personal and social skills needed to create a positive, balanced and constructive place within a community. Health well-being focuses on developmental, socioemotional and physical issues that arise during adolescence in order to develop (coping) strategies and improve well-being. Woven throughout these core categories are Child Protection topics; these focus on proactively and reactively ensuring that students are knowledgeable about topics regarding their safety, understand how to protect themselves, and know how to get help.

### **Enduring understandings (for the Grade 10 PSHE Programme):**

- Students will learn how to have healthy expectations, build realistic goals, and manage their time efficiently so as to reduce stress and increase productivity.
- Students will explore career options and understand how to have university conversations.
- Students will learn to recognize common types of drugs and understand the dangers of taking them, with the intent of knowing how to assertively avoid them and get help.
- Students will recognize that people have different beliefs and learn how to use nonviolent communication as a strategy to manage differing beliefs.
- Students will continue to understand important child protection information about pregnancy and intimacy. Students will continue to understand why and how to protect themselves.

UNIT 1: Personal Education	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"><li>• Understand how to have healthy expectations of others, life, and oneself.</li><li>• Develop skills to build SMART goals and to realistically manage time.</li><li>• Begin to explore career options and develop skills to converse with parents regarding university and future dreams.</li></ul>
Assessments:	Informal: Ongoing self reflection, teacher & peer observation

UNIT 2: Health Education	
Timeframe	3 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Recognize and learn how to assertively avoid common types of drugs.</li> <li>• Know how drugs affect the (teenage, adult, and fetal) brain/body and how to be safe.</li> <li>• Understand the link between drugs and deviant behavior, and how to be safe.</li> <li>• Recognize and get help for drug addiction.</li> </ul>
Assessments:	Informal: Ongoing self reflection, teacher & peer observation

UNIT 3: Social Education	
Timeframe	6 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Understand that beliefs (including beliefs on types of attraction and gender) vary across people, and learn how beliefs affect all types of relationships.</li> <li>• Understand nonviolent communication, its effects, and how to practice it.</li> <li>• Debate and build skills for gender and identification equality.</li> </ul>
Assessments:	Informal: Ongoing self reflection, teacher & peer observation

UNIT 4: Child Protection Education	
Timeframe	12 weeks
Learning goals:	<ul style="list-style-type: none"> <li>• Understand how intimate media perpetuates myths and learn to avoid it.</li> <li>• Develop a thorough understanding of consent.</li> <li>• Review physical health safety regarding acts of self-love, intimate touching, and intimacy.</li> <li>• Develop skills to communicate about physical health safety regarding intimacy.</li> <li>• Understand that abstinence is safe and appropriate.</li> <li>• Review the short- and long-term consequences of unplanned (teenage) pregnancy and learn how to avoid it.</li> </ul>
Assessments:	Informal: Ongoing self reflection, teacher & peer observation



## ***ENGLISH LANGUAGE LEARNING SUPPORT (ELL Support)***

**Teacher:** Elizabeth Asaala

**Contact details:** [akpinarb@mefis.k12.tr](mailto:akpinarb@mefis.k12.tr)

### **Course Description:**

This course is for those students who are learners of English and who would benefit from further support to help them overcome linguistic difficulties they may have in other content classes. The ELL support course focuses on developing skills in the five main language areas: Reading, Writing, Vocabulary, Speaking and Listening. It aims to provide students with support in their main content area courses: Humanities, Sciences, English and Math.

### **Course Aims & Objectives:**

Students focus on improving their listening and speaking skills through class discussions, debates, games, and working in pairs and groups. Students also learn how to utilize methods for acquiring new vocabulary, strategies for reading, and tools for writing. A focus on learner training will equip students with the strategies they need to independently develop their English language level and be successful in content area classes. The course aims to be flexible and ever-changing to meet the developing needs of the students.

### **Method:**

Students will have five ELL Support lessons per week. These lessons are focused on: homework/assessment understanding and completion, pre-teaching and reviewing academic content, (academic) vocabulary, written and oral English. There will be a performance task (presentation) and an exam (making an exam for your core content classes) each semester; students will receive grades throughout the course. Course material is focused on developing academic vocabulary, grammar, and knowledge of core content classes.

Students will be allowed to use a physical dictionary or a translator device for their tests and exams. Students will be allowed to use their device for Google Translate during lessons, but not for tests and exams.

The ELL Support teacher is responsible for helping ELL Support students with academics overall, and communicating with teachers to ensure the student is supported. Students may receive accommodations (ex. extra time), and if the student has chosen the Alternative track then they will also receive modifications (ex. shortened work, simplified instructions); families and teachers will be informed if a student's level-of-English and IGCSE-track choice qualifies for these needs.

### **Enduring understandings:**

- Students will understand that the context we are in determines the language and register which will be most effective.
- Students will understand that other cultural perspectives enrich our experience of the world.
- Students will understand the ability of language to guide or manipulate thought.
- Students will develop their academic vocabulary.
- Students will develop confidence in their overall academic ability.

## ***LEARNING SUPPORT***

**Teacher(s):** Renata Korzun

**Contact details:** [korzunr@mefis.k12.tr](mailto:korzunr@mefis.k12.tr)

### **Course Description:**

We believe that every student will succeed with appropriate support. A student who has a learning difficulty and has been identified with a diagnosed learning difficulty is eligible for learning support.

MEFIS provides an inclusive learning support program. The purpose of an inclusive learning support program is to provide children with a meaningful and respectful learning experience that fosters self-confidence, builds efficacy, and increases the student's sense of belonging at MEFIS.

### **Aim:**

To enable students to access the curriculum in all of their subjects through in-class and out-of-class support. We aim for each student to reach his/her full potential. We believe it is the responsibility of all those who interact with students to provide a supportive emotional, social and academic environment, focusing on the unique talents, abilities and needs of the whole child. We aim for each student to be cared for unconditionally and valued equally. We believe effective learning support utilizes a collaborative approach between students, parents and school community in developing an environment that results in optimum learning. We aim to develop in students a sense of responsibility for their own learning and behavior. We aim to challenge students to become productive, responsible members of our community.

### **Method:**

Students will not take a Specialist Class (i.e. no Art, Music, or ICT) this academic year, and will receive Learning Support lessons and report card comments in lieu of that. These lessons are focused on: homework understanding and completion, pre-teaching and reviewing academic content, organization, and Learning Goals.

Students will receive accommodations (ex. extra time) according to their Educational Psychologist's report recommendations. The Learning Support teacher and IGCSE Coordinator will ensure that the student receives accommodations for their final IGCSE exams, and will inform the family accordingly.

IGCSE Diploma students will not receive modifications, as they must complete the full IGCSE work. IGCSE Alternative students or Certificate students who are not taking an IGCSE exam in a particular class, may also receive modifications (ex. shortened work, step-by-step and simplified instructions) if the report recommends it.

**Enduring Understandings:**

- Students will develop organizational skills.
- Students will consolidate their content knowledge across various domain and subject areas.
- Students will develop their confidence and become reflective learners.
- Students will develop their ability to work autonomously and become inquiry-based learners.
- Students will develop their critical thinking skills and access their learning through multiple intelligences.
- Students will gain an understanding of themselves and take more responsibility for their learning.