



YISHUN SECONDARY SCHOOL

WE SEEK - WE STRIVE - WE SOAR

2022

Secondary 2 Subject Combinations
Information Booklet
[Express]

Updated 11 August 2022

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Objective of Secondary 2 Subject Combinations Exercise

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Objective of Secondary 2 Subject Combinations Exercise

Yishun Secondary School offers a range of subjects in different subject combinations which have been carefully aligned to the MOE curriculum to prepare students and allow them varied options for post-secondary education.

Our subject combinations allow students to pursue their areas of interest and to specialise in the domains of the Sciences or the Humanities, but at the same time maintaining a broad exposure and building key knowledge skills.

This information booklet is prepared with the objective of assisting parents / guardian and the student in making an informed decision on the Secondary 3 subject combination that best suits the child.

We hope that you will find the information booklet useful. If you need further clarification, feel free to contact the school.

We also welcome feedback to improve the Information Booklet.

Part 1:

Secondary 2 Subject Combinations Exercise (Express)

1.1 Process

- The timeline of the Subject Combinations can be found below:

| Event | Timeline |
|--|---|
| Zoom Briefing with Parents | 15 July 2022, 6pm Face to Face @ Yishun Secondary School |
| Uploading of Subject Information Booklet for respective levels (<i>Change</i>) | 19 August 2022 |
| Mock Streaming (<i>Change</i>) | 22 – 26 August 2022 |
| Actual Streaming | Term 4 Week 6 |
| Sec 3 Posting Exercise | Term 4 Week 8 |
| Release of Posting Result | Term 4 Week 8 |
| Appeal | Term 4 Week 8/9 |
| Release of Appeal Result | Term 4 Week 9 |

- More information will be found at the school website near to the date of the event.

1.2 School's Considerations

School's Considerations

The school will also consider the following (not in any order of preference) when allocating subjects

- Student's academic results (Overall academic performance + academic performance in specific subject)
- Students' choice
- Teachers' recommendations
- Availability of places for each subject combination (there will also be a case where there are insufficient students to start a class)
- School resources such as manpower and physical facilities are also part of the important factors for consideration in planning and allocation to our students

Lastly, the school reserves the right to allocate students if they do not meet the criteria

1.3 Promotion Criteria

Normal Technical

| Level & Course | Met Minimum Attainment Level: <u>Grade D or better in 2 subjects, one of which should be EL, or Mathematics</u> | Met Minimum Attainment Level AND Lateral Transfer Guidelines: <u>Minimum of 75% in the overall percentage of all subjects combined</u> | Not Met Minimum Attainment Level | |
|----------------|--|---|----------------------------------|--|
| | | | At or above maximum age | Below maximum age [May be advanced to next level within N(T)] |
| Sec 2NT | Promoted to Sec 3NT | Promoted to Sec 2NA in the following year | Advanced to Sec 3NT | Retained at Sec 2NT |

Normal Academic

| Level & Course | Met Minimum Attainment Level: <u>Grade 5 or better in EL and 2 other subjects, OR 4 subjects</u> | Met Minimum Attainment Level AND Lateral Transfer Guidelines: <u>Minimum of 75% in the overall percentage of all subjects combined</u> | Not Met Minimum Attainment Level | |
|----------------|---|---|----------------------------------|--|
| | | | At or above maximum age | Below maximum age [May be advanced to next level within N(T)] |
| Sec 2NA | Promoted to Sec 3NA | Laterally Transferred to Sec 3E | Advanced to Sec 3NA | Retained at Sec 2NA |

Express

| Level & Course | Met Minimum Attainment Level: <u>Pass in EL and a pass in overall percentage of all subjects combined</u> | Not Met Minimum Attainment Level |
|----------------|--|----------------------------------|
| Sec 2E | Promoted to Sec 3E | Laterally Transferred to Sec 3NA |

1.4 Secondary 3 Subject Combinations 2021 – Express

Express (2023)

| | 3E1 [30] | 3E2 [30] | 3E3 | 3E4 | 3E5 |
|---|---|------------------------|---|------------------------------|------------------------------|
| 1 | English Language | English Language | English Language | English Language | English Language |
| 2 | Mother Tongue Language | Mother Tongue Language | Mother Tongue Language | Mother Tongue Language | Mother Tongue Language |
| 3 | Mathematics | Mathematics | Mathematics | Mathematics | Mathematics |
| 4 | Additional Mathematics | Additional Mathematics | Additional Mathematics | Additional Mathematics | Additional Mathematics |
| 5 | Humanities Social Studies/History or Humanities Social Studies/Geography | | Humanities Social Studies/Geography or Humanities Social Studies/History | | |
| 6 | Chemistry | Chemistry | Science Chemistry/Biology | Science Physics/Chemistry | Science Chemistry/Biology |
| 7 | Physics | Physics | Literature in English or History | Design and Technology | Art / ESS |
| 8 | Biology | Geography | Literature in English | | |



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Points to take note

- The minimum enrolment of a particular subject combination should not be less than 10 students; the school administration reserves the right not to start a class in such a situation.
- There will be a cap of 30 students each for 3E1 and 3E2.
- Exercise and Sports Science (ESS) will be a new subject that will be offered to Secondary Three Express students from 2022 onwards. There will be a cap of 20 students for this subject.
- Secondary 2 students who are currently taking Higher Mother Tongue may be offered to take Higher Mother Tongue in Secondary 3 if they met the school criteria

Part 2:

Subject Information for Express Stream

| Subject | English Language | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--------------------|-------|---------------|------------|---------------|----------|---|---------|----|----|------------|---|---------------|----|----|------------|---|-----------|----|----|--------|---|--------------------|----|----|--------|
| Subject Code | 1184 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stream | Express | | | | | | | | | | | | | | | | | | | | | | | | | |
| Introduction | | | | | | | | | | | | | | | | | | | | | | | | | | |
| By the end of Secondary education, pupils will be able to communicate effectively in English as a result of their development in the following areas: | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none">Listen, read and view critically and with accuracy, understanding and appreciation, a wide range of literary and informational/functional texts from print and non-print sources.Speak, write and represent in internationally acceptable English (Standard English) that is grammatical, fluent, mutually intelligible and appropriate for different purposes, audiences, contexts and cultures.Understand and use internationally acceptable English (Standard English) grammar and vocabulary accurately and appropriately as well as understand how speakers/writers put words together and use language to communicate meaning and achieve impact. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Scheme of Assessment | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table><tr><th>Paper</th><th>Description</th><th>Marks</th><th>Weighting (%)</th><th>Duration</th></tr><tr><td>1</td><td>Writing</td><td>70</td><td>35</td><td>1 h 50 min</td></tr><tr><td>2</td><td>Comprehension</td><td>50</td><td>35</td><td>1 h 50 min</td></tr><tr><td>3</td><td>Listening</td><td>30</td><td>10</td><td>45 min</td></tr><tr><td>4</td><td>Oral Communication</td><td>30</td><td>20</td><td>20 min</td></tr></table> | | Paper | Description | Marks | Weighting (%) | Duration | 1 | Writing | 70 | 35 | 1 h 50 min | 2 | Comprehension | 50 | 35 | 1 h 50 min | 3 | Listening | 30 | 10 | 45 min | 4 | Oral Communication | 30 | 20 | 20 min |
| Paper | Description | Marks | Weighting (%) | Duration | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Writing | 70 | 35 | 1 h 50 min | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Comprehension | 50 | 35 | 1 h 50 min | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Listening | 30 | 10 | 45 min | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Oral Communication | 30 | 20 | 20 min | | | | | | | | | | | | | | | | | | | | | | |
| Subject Content | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Paper 1 Writing</u> | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Section A: Editing - Candidates identify and edit grammatical errors in a short-written text. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Section B: Situational Writing -Candidates write 250–350 words on a given situation which will involve viewing a visual text. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Section C: Continuous Writing - Candidates write 350–500 words on one of four topics set. | | | | | | | | | | | | | | | | | | | | | | | | | | |

Paper 2 Comprehension

Section A:

Candidates respond to questions based on Texts 1 and 2, one of which is a visual text.

Section B:

Candidates respond to a variety of questions based on Text 3 which is a narrative or a recount.

Section C:

Candidates respond to a variety of questions based on Text 4, a non-narrative text, and write an 80-word response to a summary writing task.

Paper 3 Listening

Section A:

Candidates respond to a variety of listening tasks based on a number of audio recordings which the candidates will hear twice.

Section B: Candidates listen to an audio recording and do a simple note-taking exercise. Candidates will hear the recording only once.

Paper 4 Oral Communication

The two parts in this paper may be thematically linked.

Part 1: Planned Response

Candidates plan and deliver a response to a video clip and accompanying prompt presented on a computer screen.

Part 2: Spoken Interaction

Candidates engage in a discussion with the Examiners on a topic based on the same video clip.

Additional Information

Students are encouraged to read widely on a range of topics to familiarise themselves with current affairs and to experience good writing. They should also build up their store of vocabulary and appropriate expressions, in order to communicate effectively in both speaking and writing.

Entry Requirement

NA

| | |
|---|------------------------|
| Subject | Literature in English |
| Subject Code | Full Literature – 2065 |
| Stream | Express |
| Introduction | |
| <p>In the Literature classroom, students and teachers actively engage with texts and collaborate in the meaning-making process. While students may engage personally and retrospectively with texts and analysis, there also needs to be the expression of personal responses through dialogue and writing to stimulate meaningful discourse around texts.</p> <p><i>Why does Literature matter?</i></p> <p>The study of Literature in schools aims to develop students who are:</p> <ul style="list-style-type: none"> • Empathetic and Global Thinkers • Critical Readers • Creative Meaning-makers • Convincing Communitors <p>These are qualities that we believe are essential in developing our students for the times to come.</p> | |
| Subject Content | |
| <p>Upper Secondary (Full Literature - 2065)</p> <p>Students will be assessed in their understanding of the following:</p> <ul style="list-style-type: none"> • Set Text Prose – a novel in its entirety, or a collection of short stories • Unseen Poetry – a range of poems from Singapore and other parts of the world • Set Text Drama – a play in its entirety | |
| Scheme of Assessment | |
| <p>Full Literature (2065)</p> <p>Paper 1: <i>(Based on Set Text Prose and Unseen Poem)</i></p> <ul style="list-style-type: none"> • Prose – Essay Question or Passage-based Question (25%) • Unseen Poem (choice between a Local or Global poem) (25%) <p>Paper 2 <i>(Based on Set Text Drama)</i></p> <ul style="list-style-type: none"> • Drama – Essay question (25%) and Compulsory Passage-based Question (25%) | |
| Entry Requirement | |
| <p>Students who wish to take Full or Elective Literature should possess a good command in the English Language and a flair for writing and reading. Students should score 65% and above for English Language and Literature at Lower Secondary level.</p> | |

| Subject | Geography | | | | | | |
|--|--|------------------------|--|--|--|--|--|
| Subject Code | 2279 1/2 | | | | | | |
| Stream | Express | | | | | | |
| Introduction | | | | | | | |
| <p>The Upper Secondary Geography syllabus is aligned to the Framework for 21st Century Competencies (21CC) and Student Outcomes, and it enables students to develop competencies necessary for them to thrive in a globalised and fast-changing world. Learning Geography supports the acquisition of the 21CC through inquiries, developing well-constructed explanations and responses to phenomena or issues affecting their everyday lives. Geography also introduces investigative and communication tools including maps, fieldwork and Geographic Information Systems (GIS), which offer unique opportunities to make sense of the modern world. Geography students can expect to acquire a wide range of knowledge and skills to understand and explain physical and human phenomena, and other contemporary environmental and social issues that occur in different places and cultures.</p> | | | | | | | |
| Scheme of Assessment | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="2">2279 O-Level Geography</th></tr> </thead> <tbody> <tr> <td> Paper 1 Duration: 1hr 45 mins Total Marks: 50 Weighting: 50% </td><td> Candidates answer three compulsory structured questions from these Clusters: <ul style="list-style-type: none"> • Question 1: Geography in Everyday Life – Topic 3 (Fieldwork) (20m) • Question 2: Tourism (15m) • Question 3: Climate (15m) Each structured question will consist of no more than 9 sub-parts. Candidates will be required to answer <u>one</u> 9 marks question testing on AO3 in <i>either</i> Question 2 <i>or</i> Question 3. This AO3 question carrying 9 marks will be marked using a generic holistic rubric. All other questions in this paper will be marked using point marking. The fieldwork context for Question 1 in this paper may or may not relate to the clusters covered in the syllabus content. </td></tr> <tr> <td> Paper 2 Duration: 1hr 45 mins Total Marks: 50 Weighting: 50% </td><td> Candidates answer three compulsory structured questions from these Clusters: <ul style="list-style-type: none"> • Question 1: Geography in Everyday Life Cluster – Topics 1 and 2 (15m) • Question 2: Tectonics (15m) • Question 3: Singapore (20m) Each structured question will consist of no more than 9 sub-parts. Candidates will be required to answer <u>one</u> 9 marks question testing on AO3 in <i>either</i> Question 2 <i>or</i> Question 3. This AO3 question carrying 9 marks will be marked using a generic holistic rubric. All other questions in this paper will be marked using point marking. </td></tr> </tbody> </table> | | 2279 O-Level Geography | | Paper 1 Duration: 1hr 45 mins Total Marks: 50 Weighting: 50% | Candidates answer three compulsory structured questions from these Clusters: <ul style="list-style-type: none"> • Question 1: Geography in Everyday Life – Topic 3 (Fieldwork) (20m) • Question 2: Tourism (15m) • Question 3: Climate (15m) Each structured question will consist of no more than 9 sub-parts . Candidates will be required to answer <u>one</u> 9 marks question testing on AO3 in <i>either</i> Question 2 <i>or</i> Question 3. This AO3 question carrying 9 marks will be marked using a generic holistic rubric. All other questions in this paper will be marked using point marking. The fieldwork context for Question 1 in this paper may or may not relate to the clusters covered in the syllabus content. | Paper 2 Duration: 1hr 45 mins Total Marks: 50 Weighting: 50% | Candidates answer three compulsory structured questions from these Clusters: <ul style="list-style-type: none"> • Question 1: Geography in Everyday Life Cluster – Topics 1 and 2 (15m) • Question 2: Tectonics (15m) • Question 3: Singapore (20m) Each structured question will consist of no more than 9 sub-parts . Candidates will be required to answer <u>one</u> 9 marks question testing on AO3 in <i>either</i> Question 2 <i>or</i> Question 3. This AO3 question carrying 9 marks will be marked using a generic holistic rubric. All other questions in this paper will be marked using point marking. |
| 2279 O-Level Geography | | | | | | | |
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| Paper 2 Duration: 1hr 45 mins Total Marks: 50 Weighting: 50% | Candidates answer three compulsory structured questions from these Clusters: <ul style="list-style-type: none"> • Question 1: Geography in Everyday Life Cluster – Topics 1 and 2 (15m) • Question 2: Tectonics (15m) • Question 3: Singapore (20m) Each structured question will consist of no more than 9 sub-parts . Candidates will be required to answer <u>one</u> 9 marks question testing on AO3 in <i>either</i> Question 2 <i>or</i> Question 3. This AO3 question carrying 9 marks will be marked using a generic holistic rubric. All other questions in this paper will be marked using point marking. | | | | | | |

Subject Content

Content Overview

This syllabus is divided into **five** clusters of topics.

Geography in Everyday Life Cluster

- Topic 1 – Thinking Geographically
- Topic 2 – Sustainable Development
- Topic 3 – Geographical Methods

Tourism Cluster

- Topic 1 – Tourism Activity
- Topic 2 – Tourism Development
- Topic 3 – Sustainable Tourism Development

Climate Cluster

- Topic 1 – Weather and Climate
- Topic 2 – Climate Change
- Topic 3 – Climate Action

Tectonics Cluster

- Topic 1 – Plate Tectonics
- Topic 2 – Earthquakes and Volcanoes
- Topic 3 – Disaster Risk Management

Singapore Cluster

- Topic 1 – Small Island City-State
- Topic 2 – Opportunities and Challenges
- Topic 3 – Sustainable and Resilient Singapore

Extended Fieldwork (10 weeks)

Assessment Specification Grid

The table below shows the approximate weighting of the AOs in the syllabus.

| Assessment Objectives | Weightings for Paper 1 and Paper 2 each |
|------------------------------------|--|
| AO1: Knowledge with Understanding | 15% |
| AO2: Skills and Analysis | 20% |
| AO3: Judgement and Decision-making | 15% |
| Total | 50% |

Additional Information

Nil

Entry Requirement

Students should score 65% and above for English Language and Geography at the Lower Secondary level.

| | |
|---------------------|--------------------|
| Subject | Geography Elective |
| Subject Code | 2260/2 |
| Stream | Express |

Introduction

The Upper Secondary Geography syllabus is aligned to the Framework for 21st Century Competencies (21CC) and Student Outcomes, and it enables students to develop competencies necessary for them to thrive in a globalised and fast-changing world. Learning Geography supports the acquisition of the 21CC through inquiries, developing well-constructed explanations and responses to phenomena or issues affecting their everyday lives. Geography also introduces investigative and communication tools including maps, fieldwork and Geographic Information Systems (GIS), which offer unique opportunities to make sense of the modern world. Geography students can expect to acquire a wide range of knowledge and skills to understand and explain physical and human phenomena, and other contemporary environmental and social issues that occur in different places and cultures.

Scheme of Assessment

2260 O-Level Humanities (Geography)

| | |
|--|--|
| Duration: 1hr 45 mins | Candidates answer Questions 1 and 2, and <u>either</u> Question 3 <u>or</u> 4 based on the Cluster studied: |
| Total Marks: 50 | <ul style="list-style-type: none"> • Question 1: Geography in Everyday Life (14m) • Question 2: Tourism (18m) |
| Weighting: 50% | EITHER <ul style="list-style-type: none"> • Question 3: Climate (18m) OR <ul style="list-style-type: none"> • Question 4: Tectonics (18m) |
| | Each structured question will consist of no more than 8 sub-parts . |
| | Candidates will be required to answer <u>one</u> 9 marks question testing on AO3 in <i>either</i> Question 2 <i>or</i> Question 3/Question 4. This AO3 question carrying 9 marks will be marked using a generic holistic rubric. All other questions in this paper will be marked using point marking. |

Subject Content

Content Overview

This syllabus is divided into **four** clusters of topics.

Geography in Everyday Life Cluster

- Topic 1 – Thinking Geographically
- Topic 2 – Sustainable Development
- Topic 3 – Geographical Methods

Tourism Cluster

- Topic 1 – Tourism Activity
- Topic 2 – Tourism Development
- Topic 3 – Sustainable Tourism Development

EITHER

Climate Cluster

- Topic 1 – Weather and Climate
- Topic 2 – Climate Change
- Topic 3 – Climate Action

OR

Tectonics Cluster

- Topic 1 – Plate Tectonics
- Topic 2 – Earthquakes and Volcanoes
- Topic 3 – Disaster Risk Management

Assessment Specification Grid

The table below shows the approximate weighting of the AOs in the syllabus.

| Assessment Objectives | Weightings for Paper 2 |
|------------------------------------|------------------------|
| AO1: Knowledge with Understanding | 15% |
| AO2: Skills and Analysis | 20% |
| AO3: Judgement and Decision-making | 15% |
| Total | 50% |

Additional Information

Nil

Entry Requirement

Minimum a pass in Sec 2 Geography

| | |
|--|---------|
| Subject | History |
| Subject Code | 2174 |
| Stream | Express |
| Introduction | |
| <p>In the History classroom, lessons are conducted with the goal of ensuring that students are empowered to draw connections between the past and present by understanding how the nature and impact of past developments explain today's world. In the Full History classroom, students pay additional attention to the region of Southeast Asia, their home region, and in doing so, understand the importance of Southeast Asia vis-a-vie global developments.</p> <p>Why does History matter?</p> <p>The study of History aims to develop students that are:</p> <ol style="list-style-type: none"> 1. Enquiring Develops an inquisitive mind by asking useful questions for uncovering and understanding the past. 2. Balanced Considers and acknowledges different viewpoints when constructing own historical interpretation. 3. Knowledgeable Develops a sound awareness of and familiarity with key forces and personalities that have shaped the international and regional landscapes. 4. Empathetic Understands the reasons behind past developments without imposing judgement using present day norms. 5. Methodical Employs comprehensive effort when engaged in historical enquiry by covering a range of sources, selecting and organising knowledge effectively. 6. Reasoned Constructs historical interpretation based on substantiated arguments. <p>These are qualities that are essential to help students confront an increasingly ambiguous and complex world.</p> | |
| Scheme of Assessment | |
| <p>The examination consists of two papers – Paper 1 and Paper 2, taken at separate sittings. The duration of each paper is 1 hour 40 minutes. The assessment modes comprise source-based case study and structured-essay questions for each paper.</p> <p>Paper 1: Content taught in Unit 1 and 2</p> <p>Paper 2: Content taught in Unit 3 and 4</p> <p>Format for each paper: Section A: Source Base Case Study – 30 % Section B: Essay Questions – 20 %</p> | |

Subject Content

Unit 1 (Content taught in Secondary 3)

*The case study of *Malaya (1874 - 1900) and the case study of Indonesia (1870s - 1900) will be studied in the context of European dominance and expansion in the late 19th century.*

- Reasons for European interest and expansion in Southeast Asia
- Responses of Southeast Asian states to European expansion
- Impact of colonial rule on Southeast Asia

Unit 2 (Content taught in Secondary 3)

- Aims of the Paris Peace Conference and its immediate impact on Europe in the 1920s
- Rise of authoritarian regimes and its impact in the interwar years
 - Case study of Militarist Japan
 - *Case study of Nazi Germany
- World War II in Europe and the Asia-Pacific
 - Reasons for outbreak of World War II in * Europe and the Asia Pacific
 - Reasons for the End of WWII in Europe and Asia Pacific

Unit 2 (Content taught in Secondary 4)

- Cold War and the bi-polar world order
 - *Reasons for the Cold War in Europe
- Manifestation of the Cold War outside Europe
 - *Case study of Korean War, 1950–53
 - Case study of The Vietnam War, 1954 - 1975
- Reasons for the end of the Cold War

Unit 4 (Content taught in Secondary 4)

The case study of *Malaya and the case study of Indonesia will be studied in the context of decolonisation and emergence of nation-states in the post-war years.

Decolonisation and emergence of nation-states in Southeast Asia

- Overview of nationalism in Southeast Asian states (non-examinable)
- Struggles for independence in Southeast Asian states in the post-World War II period
- Establishment of newly independent states in Southeast Asia

Source based studies will only be set on the case studies indicated by the symbol [*].

Entry Requirement

Students who wish to take Full History should have an interest in the subject and possess a decent command in the English Language and a flair for writing and reading.

Students should score 65% and above for English Language and History at the Lower Secondary level.

| | |
|---|------------------|
| Subject | Elective History |
| Subject Code | 2261/02 |
| Stream | Express |
| Introduction | |
| <p>In the History classroom, lessons are conducted with the goal of ensuring that students are empowered to draw connections between the past and present by understanding how the nature and impact of past developments explain today's world.</p> <p>Why does History matter?</p> <p>The study of History aims to develop students that are:</p> <ol style="list-style-type: none"> 1. Enquiring Develops an inquisitive mind by asking useful questions for uncovering and understanding the past. 2. Balanced Considers and acknowledges different viewpoints when constructing own historical interpretation. 3. Knowledgeable Develops a sound awareness of and familiarity with key forces and personalities that have shaped the international and regional landscapes. 4. Empathetic Understands the reasons behind past developments without imposing judgement using present day norms. 5. Methodical Employs comprehensive effort when engaged in historical enquiry by covering a range of sources, selecting and organising knowledge effectively. 6. Reasoned Constructs historical interpretation based on substantiated arguments. <p>These are qualities that are essential to help students confront an increasingly ambiguous and complex world.</p> | |
| Scheme of Assessment | |
| <p>The examination consists of one paper and the duration of the paper is 1 hour 40 minutes. The assessment modes comprise source-based case study and structured-essay questions.</p> <p>Section A: Source Based Case Study (30m) Section B: Essay Questions (20m)</p> | |
| Subject Content | |
| <p>Unit 1 (Content taught in Secondary 3)</p> <ul style="list-style-type: none"> • Aims of the Paris Peace Conference and its immediate impact on Europe in the 1920s • Rise of authoritarian regimes and its impact in the interwar years <ul style="list-style-type: none"> – Case study of Militarist Japan – *Case study of Nazi Germany • World War II in Europe and the Asia-Pacific | |

- Reasons for outbreak of World War II in * Europe and the Asia Pacific
- Reasons for the End of WWII in Europe and Asia Pacific

Unit 2 (Content taught in Secondary 4)

- Cold War and the bi-polar world order
 - *Reasons for the Cold War in Europe
- Manifestation of the Cold War outside Europe
 - *Case study of Korean War, 1950–53
 - Case study of The Vietnam War, 1954 – 1975
- Reasons for the end of the Cold War

Source based studies will only be set on the case studies indicated by the symbol [*].

Entry Requirement

Students who wish to take Elective History should have an interest in the subject and Students should score 65% and above for History at the Lower Secondary level.

| | |
|--|-------------|
| Subject | Mathematics |
| Subject Code | 4052 |
| Stream | Express |
| Introduction | |
| <p>The O-Level Mathematics syllabus aims to enable students to: acquire mathematical concepts and skills for continuous learning in mathematics and to support learning in other subjects;</p> <ul style="list-style-type: none"> • develop thinking, reasoning, communication, application and metacognitive skills through a mathematical approach to problem solving; • connect ideas within mathematics and between mathematics and other subjects through applications of mathematics; and • build confidence and foster interest in mathematics. <p>Students will be solving problems in real-world contexts as part of the learning experiences of every student. These experiences give students the opportunities to apply the concepts and skills that they have learnt and to appreciate the value of and develop an interest in mathematics. Problems in real-world contexts can be included in every strand and level, and may require concepts and skills from more than one strand.</p> <p>Students are expected to be familiar with the following contexts and solve problems based on these contexts over the four years of their secondary education:</p> <ul style="list-style-type: none"> • In everyday life, including travel/excursion plans, transport schedules, sports and games, recipes, floor plans, navigation etc. • In personal and household finance, including simple and compound interest, taxation, instalments, utilities bills, money exchange, etc. • In interpreting and analysing data from tables and graphs, including distance-time and speed-time graphs. The list above is by no means exhaustive or exclusive. <p>Through the process of solving such problems, students will experience all or part of the mathematical modelling process.</p> <p>This includes:</p> <ul style="list-style-type: none"> • formulating the problem, including making suitable assumptions and simplifications; • making sense of and discussing data, including real data presented as graphs and tables; • selecting and applying the appropriate concepts and skills to solve the problem; and • interpreting the mathematical solutions in the context of the problem. | |

Scheme of Assessment

O-Level Mathematics (First Year of Examination -2023)

| PAPER | DURATION | DESCRIPTION | MARKS | WEIGHTING |
|---------|----------|--|-------|-----------|
| Paper 1 | 2 hours | There will be about 26 short answer questions. Candidates are required to answer all questions. | 90 | 50% |
| Paper 2 | 2 hours | There will be 9 to 10 questions of varying marks and lengths. The last question in this paper will focus specifically on applying mathematics to a real-world scenario. Candidates are required to answer all questions. | 90 | 50% |

Subject Content

The concepts and skills covered in the syllabus are organised along 3 content strands. The development of processes, metacognition and attitudes are embedded in the learning experiences that are associated with the content.

| | | |
|--|--------------------------|----------------------------|
| Concept and Skills | | |
| Number and Algebra | Geometry and Measurement | Statistics and Probability |
| Learning Experiences (Processes, Metacognition and Attitudes) | | |

Additional Information

-

Entry Requirement

-

| | |
|---------------------|------------------------|
| Subject | Additional Mathematics |
| Subject Code | 4049 (O Level) |
| Stream | Express |

Introduction

The O-level Additional Mathematics syllabus aims to enable students to:

- acquire mathematical concepts and skills for higher studies in mathematics and to support learning in the other subjects, with emphasis in the sciences, but not limited to the sciences;
- develop thinking, reasoning, communication, application and metacognitive skills through a mathematical approach to problem solving;
- connect ideas within mathematics and between mathematics and the sciences through applications of mathematics; and
- appreciate the abstract nature and power of mathematics.

Students will be solving problems in different contexts, including those in the sciences and engineering. These experiences give students the opportunities to apply the concepts and skills that they have learnt and to appreciate the value and power of mathematics.

Students will learn different functions, namely, linear, quadratic, exponential, logarithmic and trigonometric. These functions provide the building blocks for simple models. Students could be exposed to the following applications and contexts.

- Motion of projectile (quadratic functions and calculus)
- Optimisation problems e.g. maximising profits, minimising costs (functions and calculus)
- Population growth, radioactive decay, pH scale, Richter scale, decibel scale (exponential and logarithm functions)
- Financial mathematics e.g. profit and cost analysis, marginal profit (functions and calculus)
- Tidal waves, hours of daylight, simple harmonic motion (trigonometric functions)

The list above is by no means exhaustive or exclusive. Students are not required to have in-depth knowledge of these applications and contexts. Problems involving these contexts will provide sufficient information for students to formulate and solve the problems, applying the relevant concepts and skills and interpret the solution in the context of the problem.

Through the process of solving such problems, students will experience all or part of the mathematical modelling process. This includes :

- formulating the problem, including making suitable assumptions and simplifications;
- making sense of and discussing data, including real data presented as graphs and tables;
- selecting and applying the appropriate concepts and skills to solve the problem; and interpreting the mathematical solutions in the context of the problem.

Scheme of Assessment

Sec 3 Express Additional Math (New Syllabus 4049) Papers

| PAPER | DURATION | DESCRIPTION | MARKS | WEIGHTING |
|---------|-----------|--|-------|-----------|
| Paper 1 | 2h 15 min | There will be 12 – 14 questions of varying marks and lengths, up to 10 marks per question. Candidates are required to answer ALL questions. | 90 | 100% |

Sec 4 Express Additional Math (New Syllabus 4049) Papers

| PAPER | DURATION | DESCRIPTION | MARKS | WEIGHTING |
|---------|-----------|--|-------|-----------|
| Paper 1 | 2h 15 min | There will be 12 – 14 questions of varying marks and lengths, up to 10 marks per question. Candidates are required to answer ALL questions. | 90 | 50% |
| Paper 2 | 2h 15 min | There will be 9 – 11 questions of varying marks and lengths, up to 12 marks per question. Candidates are required to answer ALL questions. | 90 | 50% |

Subject Content

The concepts and skills covered in the A Math syllabus are organised along 3 content strands. The development of processes, metacognition and attitudes are embedded in the learning experiences that are associated with the

| | | |
|--|---------------------------|----------|
| Concept and Skills | | |
| Algebra | Geometry and Trigonometry | Calculus |
| Learning Experiences (Processes, Metacognition and Attitudes) | | |

content.

Additional Information

-

Entry Requirement

Students should have a strong foundation of lower secondary math especially in Algebra. All Express students will be offered Additional Mathematics to aid in their development of metacognitive skills that will help them in their higher educational pathway.

| Subject | Chemistry | | | | | | | | | | | | | | | | | | | | |
|--|------------------------------|-------------|---------------|-----------|-------|-----------|---|-----------------|------|----|------|---|------------------------------|-------------|----|------|---|----------------|-------------|----|------|
| Subject Code | 6092 | | | | | | | | | | | | | | | | | | | | |
| Stream | Express | | | | | | | | | | | | | | | | | | | | |
| Introduction | | | | | | | | | | | | | | | | | | | | | |
| <p>Chemistry, as the study of matter and its changes, influences every facet of our lives and shares many essential ties to other science disciplines. While chemistry seeks to understand the nature of matter by relating the study of energy and particles such as atoms and molecules in physical systems to chemical systems, it also provides a basis for studying and understanding molecules and processes in biological systems.</p> <p>The Upper Secondary Chemistry syllabus seeks to develop in students the understanding, skills, ethics and attitudes relevant to the Practices of Science, enabling them to</p> <ul style="list-style-type: none">• appreciate practical applications of chemistry in the real world,• deepen their interest in chemistry for future learning and work,• become scientifically literate citizens who can innovate and seize opportunities in the 21st century, and• develop a way of thinking to approach, analyse and solve problems by explaining macroscopic characteristics and changes in chemical systems through the use of sub-microscopic and symbolic representations | | | | | | | | | | | | | | | | | | | | | |
| Scheme of Assessment | | | | | | | | | | | | | | | | | | | | | |
| <table><tr><th>Paper</th><th>Type of Paper</th><th>Duration</th><th>Marks</th><th>Weighting</th></tr><tr><td>1</td><td>Multiple Choice</td><td>1 hr</td><td>40</td><td>30 %</td></tr><tr><td>2</td><td>Structured and Free Response</td><td>1 hr 45 min</td><td>80</td><td>50 %</td></tr><tr><td>3</td><td>Practical Test</td><td>1 hr 50 min</td><td>40</td><td>20 %</td></tr></table> | | Paper | Type of Paper | Duration | Marks | Weighting | 1 | Multiple Choice | 1 hr | 40 | 30 % | 2 | Structured and Free Response | 1 hr 45 min | 80 | 50 % | 3 | Practical Test | 1 hr 50 min | 40 | 20 % |
| Paper | Type of Paper | Duration | Marks | Weighting | | | | | | | | | | | | | | | | | |
| 1 | Multiple Choice | 1 hr | 40 | 30 % | | | | | | | | | | | | | | | | | |
| 2 | Structured and Free Response | 1 hr 45 min | 80 | 50 % | | | | | | | | | | | | | | | | | |
| 3 | Practical Test | 1 hr 50 min | 40 | 20 % | | | | | | | | | | | | | | | | | |
| Subject Content | | | | | | | | | | | | | | | | | | | | | |
| <p>Each of the three sections represents an important aspect of chemistry. In Section 2.1, students explore how the structures at the sub-microscopic level affects the properties exhibited at the macroscopic level. In Section 2.2, students are introduced to different types of chemical reactions and how these reactions can be quantified in terms of the stoichiometric relationship, the energy changes involved and their rates. In the final Section 2.3, students learn how chemistry can be used to make the world a sustainable one.</p> | | | | | | | | | | | | | | | | | | | | | |

| Sections | Topics |
|---------------------------------------|-------------------------------------|
| Matter – Structures and Properties | 1. Experimental Chemistry |
| | 2. The Particulate Nature of Matter |
| | 3. Chemical Bonding and Structure |
| Chemical Reactions | 4. Chemical Calculations |
| | 5. Acid-Base Chemistry |
| | 6. Qualitative Analysis |
| | 7. Redox Chemistry |
| | 8. Patterns in the Periodic Table |
| | 9. Chemical Energetics |
| | 10. Rate of Reactions |
| Chemistry in a Sustainable World | 11. Organic Chemistry |
| | 12. Maintaining Air Quality |
| Entry Requirement | |
| Minimum 70% overall for Sec 2 Science | |

| | |
|---|--|
| Subject | Sci (Physics, Chemistry) Sci (Chemistry, Biology) |
| Subject Code | 5086 (Physics, Chemistry) 5088 (Chemistry, Biology) |
| Stream | Express |
| Introduction | |
| <p>Sci Chemistry (5086, 5088) The Upper Secondary Chemistry syllabus seeks to develop in students the understanding, skills, ethics and attitudes relevant to the Practices of Science, enabling them to</p> <ul style="list-style-type: none"> a) appreciate practical applications of chemistry in the real world, b) deepen their interest in chemistry for future learning and work, c) become scientifically literate citizens who can innovate and seize opportunities in the 21st century, and d) develop a way of thinking to approach, analyse and solve problems by explaining macroscopic characteristics and changes in chemical systems through the use of sub-microscopic and symbolic representations. <p>Sci Physics (5086) The Upper Secondary Physics syllabus seeks to develop in students the understanding, skills, ethics and attitudes relevant to the Practices of Science, enabling them to</p> <ul style="list-style-type: none"> a) appreciate practical applications of physics in the real world, b) deepen their interest in physics for future learning and work, c) become scientifically literate citizens who can innovate and seize opportunities in the 21st century, and d) appreciate that a small number of basic principles and disciplinary ideas can be applied to explain, analyse and solve problems in the physical world. <p>Sci Physics (5088) The Upper Secondary Biology syllabus seeks to develop in students the understanding, skills, ethics and attitudes relevant to the Practices of Science, enabling them to</p> <ul style="list-style-type: none"> a) appreciate practical applications of biology in the real world, b) deepen their interest in biology for future learning and work, c) become scientifically literate citizens who can innovate and seize opportunities in the 21st century, and d) develop a way of thinking to understand how living organisms work to sustain life and use the disciplinary ideas in biology to approach, analyse and solve problems in biological systems. | |

Scheme of Assessment

Students are required to sit for Paper 1, Paper 5 and two of Papers 2,3 and 4.

| Paper | Type of Paper | Duration | Marks | Weighting |
|-------|---|-------------|-------|-----------|
| 1 | Multiple Choice (Phy and Chem) / (Phy and Bio) / (Chem and Bio) | 1 hr | 40 | 20.0 % |
| 2 | Structured and Free Response (Physics) | 1 hr 15 min | 65 | 32.5 % |
| 3 | Structured and Free Response (Chemistry) | 1 hr 15 min | 65 | 32.5 % |
| 4 | Structured and Free Response (Biology) | 1 hr 15 min | 65 | 32.5 % |
| 5 | Practical Test (Phy and Chem) / (Phy and Bio) / (Chem and Bio) | 1 hr 30 min | 30 | 15.0 % |

Subject Content**Sci Chemistry**

| Sections | Topics |
|------------------------------------|-------------------------------------|
| Matter – Structures and Properties | 1. Experimental Chemistry |
| | 2. The Particulate Nature of Matter |
| | 3. Chemical Bonding and Structure |
| Chemical Reactions | 4. Chemical Calculations |
| | 5. Acid-Base Chemistry |
| | 6. Qualitative Analysis |
| | 7. Redox Chemistry |
| | 8. Patterns in the Periodic Table |
| | 9. Chemical Energetics |
| | 10. Rate of Reactions |
| Chemistry in a Sustainable World | 11. Organic Chemistry |
| | 12. Maintaining Air Quality |

Sci Physics**Measurements**

1. Physical Quantities, Units and Measurements
2. Kinematics
3. Forces and Pressure
4. Dynamics
5. Turning Effects of Forces
6. Energy

Thermal Physics

7. Kinetic Particle Model of Matter
8. Thermal Processes

Waves

9. General Wave Properties
10. Electromagnetic Spectrum
11. Light

Electricity and Magnetism

12. Electric Charge and Current of Electricity
13. D.C. Circuits
14. Practical Electricity
15. Magnetism and Electromagnetism

Radioactivity

16. Radioactivity

Sci Biology

| Sections | Topics |
|--|--|
| Cells and the Chemistry of Life | 1. Cell Structure and Organisation |
| | 2. Movement of Substances |
| | 3. Biological Molecules |
| The Human Body – Maintaining Life | 4. Nutrition in Humans |
| | 5. Transport in Humans |
| | 6. Respiration in Humans |
| | 7. Infectious Diseases in Humans |
| Living Together – Plants, Animals and Ecosystems | 8. Nutrition and Transport in Flowering Plants |
| | 9. Organisms and their Environment |
| Continuity of Life | 10. Molecular Genetics |
| | 11. Reproduction in Humans |
| | 12. Inheritance |

Entry Requirement

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| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|----------|------------------------------|-------|-----------|-------|----------|-------------|-------|-----------|---|------|-----------------|----|-----|---|--------|------------------------------|----|-----|---|--------|-----------|----|-----|
| Subject | Physics | | | | | | | | | | | | | | | | | | | | | | | |
| Subject Code | 6091 | | | | | | | | | | | | | | | | | | | | | | | |
| Stream | Express | | | | | | | | | | | | | | | | | | | | | | | |
| Introduction | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>The Upper Secondary Physics syllabus seeks to develop in students the understanding, skills, ethics and attitudes relevant to the Practices of Science, enabling them to</p> <p>a) appreciate practical applications of physics in the real world,</p> <p>b) deepen their interest in physics for future learning and work,</p> <p>c) become scientifically literate citizens who can innovate and seize opportunities in the 21st century, and</p> <p>d) appreciate that a small number of basic principles and disciplinary ideas can be applied to explain, analyse and solve problems in the physical world.</p> | | | | | | | | | | | | | | | | | | | | | | | | |
| Scheme of Assessment | | | | | | | | | | | | | | | | | | | | | | | | |
| <table><tr><td>PAPER</td><td>DURATION</td><td>DESCRIPTION</td><td>MARKS</td><td>WEIGHTING</td></tr><tr><td>1</td><td>1 hr</td><td>Multiple Choice</td><td>40</td><td>30%</td></tr><tr><td>2</td><td>1h 45m</td><td>Structured and Free Response</td><td>80</td><td>50%</td></tr><tr><td>3</td><td>1h 50m</td><td>Practical</td><td>40</td><td>20%</td></tr></table> | | | | | PAPER | DURATION | DESCRIPTION | MARKS | WEIGHTING | 1 | 1 hr | Multiple Choice | 40 | 30% | 2 | 1h 45m | Structured and Free Response | 80 | 50% | 3 | 1h 50m | Practical | 40 | 20% |
| PAPER | DURATION | DESCRIPTION | MARKS | WEIGHTING | | | | | | | | | | | | | | | | | | | | |
| 1 | 1 hr | Multiple Choice | 40 | 30% | | | | | | | | | | | | | | | | | | | | |
| 2 | 1h 45m | Structured and Free Response | 80 | 50% | | | | | | | | | | | | | | | | | | | | |
| 3 | 1h 50m | Practical | 40 | 20% | | | | | | | | | | | | | | | | | | | | |
| Subject Content | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Measurements</p> <p>1. Physical Quantities, Units and Measurements</p> <p>Newtonian Mechanics</p> <p>2. Kinematics</p> <p>3. Dynamics</p> <p>4. Turning Effects of Forces</p> <p>5. Pressure</p> <p>6. Energy</p> <p>Thermal Physics</p> <p>7. Kinetic Particle Model of Matter</p> <p>8. Thermal Processes</p> <p>9. Thermal Properties of Matter</p> <p>Waves</p> <p>10. General Wave Properties</p> <p>11. Electromagnetic Spectrum</p> <p>12. Light</p> <p>Electricity and Magnetism</p> <p>13. Static Electricity</p> <p>14. Current of Electricity</p> | | | | | | | | | | | | | | | | | | | | | | | | |

15. D.C. Circuits
16. Practical Electricity
17. Magnetism
18. Electromagnetism
19. Electromagnetic Induction
Radioactivity
20. Radioactivity

Additional Information

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Entry Requirement

Overall Sec 2 Express Results:

Science: $\geq 70\%$

Mathematics: $\geq 70\%$

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|----------|------------------------------|-------|-----------|-------|----------|-------------|-------|-----------|---|------|-----------------|----|-----|---|--------|------------------------------|----|-----|---|--------|-----------|----|-----|
| Subject | Biology | | | | | | | | | | | | | | | | | | | | | | | |
| Subject Code | 6093 | | | | | | | | | | | | | | | | | | | | | | | |
| Stream | Express | | | | | | | | | | | | | | | | | | | | | | | |
| Introduction | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>The Upper Secondary Biology syllabus seeks to develop in students the understanding, skills, ethics and attitudes relevant to the Practices of Science, enabling them to</p> <p>a) appreciate practical applications of biology in the real world,</p> <p>b) deepen their interest in biology for future learning and work,</p> <p>c) become scientifically literate citizens who can innovate and seize opportunities in the 21st century, and</p> <p>d) develop a way of thinking to understand how living organisms work to sustain life and use the disciplinary ideas in biology to approach, analyse and solve problems in biological systems.</p> | | | | | | | | | | | | | | | | | | | | | | | | |
| Scheme of Assessment | | | | | | | | | | | | | | | | | | | | | | | | |
| <table><tr><td>PAPER</td><td>DURATION</td><td>DESCRIPTION</td><td>MARKS</td><td>WEIGHTING</td></tr><tr><td>1</td><td>1 hr</td><td>Multiple Choice</td><td>40</td><td>30%</td></tr><tr><td>2</td><td>1h 45m</td><td>Structured and Free Response</td><td>80</td><td>50%</td></tr><tr><td>3</td><td>1h 50m</td><td>Practical</td><td>40</td><td>20%</td></tr></table> | | | | | PAPER | DURATION | DESCRIPTION | MARKS | WEIGHTING | 1 | 1 hr | Multiple Choice | 40 | 30% | 2 | 1h 45m | Structured and Free Response | 80 | 50% | 3 | 1h 50m | Practical | 40 | 20% |
| PAPER | DURATION | DESCRIPTION | MARKS | WEIGHTING | | | | | | | | | | | | | | | | | | | | |
| 1 | 1 hr | Multiple Choice | 40 | 30% | | | | | | | | | | | | | | | | | | | | |
| 2 | 1h 45m | Structured and Free Response | 80 | 50% | | | | | | | | | | | | | | | | | | | | |
| 3 | 1h 50m | Practical | 40 | 20% | | | | | | | | | | | | | | | | | | | | |
| Subject Content | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>1. Cell Structure and Organisation</p> <p>2. Movement of Substances</p> <p>3. Biological Molecules</p> <p>4. Nutrition in Humans</p> <p>5. Transport in Humans</p> <p>6. Respiration in Humans</p> <p>7. Excretion in Humans</p> <p>8. Homeostasis, Coordination and Response in Humans</p> <p>9. Infectious Diseases in Humans</p> <p>10. Nutrition and Transport in Flowering Plants</p> <p>11. Organisms and their Environment</p> <p>12. Molecular Genetics</p> <p>13. Reproduction</p> <p>14. Inheritance</p> | | | | | | | | | | | | | | | | | | | | | | | | |

| Additional Information |
|---|
| - |
| Entry Requirement |
| Overall Sec 2 Express Results: Science: $\geq 70\%$ English Language: $\geq 65\%$ |

| | | |
|--|--|---|
| Subject | Art | |
| Subject Code | 6123 | |
| Stream | Express | |
| Introduction | | |
| The Art syllabus is designed to provide students with the opportunity to give form and meaning to their ideas, thoughts and feelings through visual and tactile forms. Visual literacy skills such as perceiving and responding to visual images, and analysis of visual information in its many forms are also developed. | | |
| Subject Content (Learning Outcomes) | | |
| The learning outcomes for the Art syllabus are 34rganized under the domains of PERCEIVING, COMMUNICATING and APPRECIATING . | | |
| PERCEIVING | COMMUNICATING | APPRECIATING |
| <ul style="list-style-type: none">• record from observation and experience• identify and define problems, issues and themes in visual expressions | <ul style="list-style-type: none">• conceptualise and translate ideas into artworks• apply art elements and design principles in the creation of artworks• explore creative use of materials, techniques and technologies to generate ideas and solutions to problems• acquire competence in manipulating art media towards the expression of an idea• communicate with relevant vocabulary the processes involved in art making | <ul style="list-style-type: none">• enjoy experiences of art making• achieve a sense of confidence and self-esteem through the visual arts• make connections between visual expressions and personal experiences• critically appraise artists and artworks• value local artworks as part of the development of Singapore’s history and cultural heritage• develop an inquiring attitude and lifelong interest in the visual arts |
| Examination Requirements | | |
| Students taking the GCE O-Level Art Syllabus Examinations will be required to offer: | | |
| Paper 1: Coursework (60%) One Coursework unit comprising the finished artwork and not more than eight A2 sheets of preparatory studies. Candidates are to include explorations of artists/artworks relevant to the chosen theme/media in their preparatory studies. The question paper will be issued to the candidates in the month of January of the examination year. Six themes will be issued and candidates are to make response to one of the themes. | | |
| Paper 2: Drawing and Painting (40%) Paper to be given three weeks before the commencement of the O-Level Examination. Six themes will be issued and candidates are to make response to one of the themes on paper of size A3 or A2. Preparatory studies of three to five A3 sheets of paper must be submitted. | | |

| Scheme of Assessment |
|---|
| <p>Paper 1: Coursework</p> <p>The five assessment domains applied to the Coursework paper are:</p> <ol style="list-style-type: none"> 1. Gathering and Investigation of Information (20%) 2. Exploration and Development of Ideas/Concepts (20%) 3. Aesthetic Qualities (20%) 4. Selection and Control of Materials and Technical Processes (20%) 5. Personal Response (20%) <p>Paper 2: Drawing and Painting</p> <p>The five assessment domains applied to the Drawing and Painting paper are:</p> <ol style="list-style-type: none"> 1. Investigation and Interpretation of Theme (20%) 2. Exploration and Development of Theme (20%) 3. Aesthetic Qualities (20%) 4. Control of Materials and Technical Processes (20%) 5. Personal Response (20%) |
| Entry Requirement |
| <ol style="list-style-type: none"> 1. At least a 60% pass in Art at Secondary Two |

| | | | | | |
|--|---------------------|-----------------------------------|-----------------------------|---------------------------------|-------|
| Subject | Design & Technology | | | | |
| Subject Code | 7059 | | | | |
| Stream | Express | | | | |
| Introduction | | | | | |
| The Design & Technology (D&T) curriculum is designed to engage students in designing and prototyping ideas through applying technology. The students’ learning leverages and builds on their experiences in design and technology and emphasises on understanding everyday activities and creating possibilities to make life better. Through the design process, students cultivate creative, critical and reflective thinking to make sense of their learning and to develop related dispositions and skills using graphical means and technology. | | | | | |
| Scheme of Assessment | | | | | |
| The assessment domains are weighted to give an indication of their relative importance. They are not intended to provide a precise statement on the number of marks allocated to a particular assessment domain. | | | | | |
| Paper | Duration | Assessment Domains | | | Total |
| | | A Knowledge with Understanding | B Design Thinking Skills | C Design Manipulating Skills | |
| 1 Written Paper | 2 hours | 25% | 10% | 5% | 40% |
| 2 Design Project | 22 weeks | 15% | 20% | 25% | 60% |
| Overall | | 40% | 30% | 30% | 100% |
| Subject Content | | | | | |
| Section 1 (Design) and Section 2 (Technology) in the syllabus document define a content baseline for Centres to provide designing and prototyping opportunities via the Design Process for candidates to: <ul style="list-style-type: none">develop design-related dispositionsacquire design techniques and strategiesconsolidate a sound working knowledge of technology (materials, workshop processes, structures, mechanisms and electronics). | | | | | |
| Designing is concerned with creating change to affect empathy, practicality and appropriateness in everyday life. As a way of thinking and doing, it focuses on creating solutions using appropriate technology with purposeful intent. This broadly involves rational thought processes and intuitive responses that are nested within a holistic fabric of analytical, creative and critical thinking. Essential to designing is the ability to imagine and model using doodles/sketches/drawings and mock-ups. These means of modelling ideas also trigger and inform thought | | | | | |

processes for experimenting and testing the feasibility of solutions and to help in decision making. Upon thorough and thoughtful development of the idea, the proposed design solution is realised through prototyping. This involves working with suitable resistant materials using workshop processes, and practical application of knowledge in structures, mechanisms and/or electronics. During Prototyping, evaluation and refinement of the proposed design solution should not be ruled out with the aim of achieving a practical and appropriate solution for the identified user.

Examination

| | |
|----------------|---|
| Paper 1 | Written Examination (2 hours) [40% of the total mark for the subject] |
|----------------|---|

Candidates are to answer all questions. The questions will be design-centric. Question 1 requires knowledge application of Section 1 Design. Question 2 to Question 4 require knowledge application of Section 2 Technology; specifically structures, mechanisms and electronics. The mark allocation is:

| | |
|----------------|--------------------|
| Question 1 | 26 out of 80 marks |
| Question 2 – 4 | 54 out of 80 marks |

| | |
|----------------|---|
| Paper 2 | Design Project (22 weeks) [60% of the total mark for the subject] |
|----------------|---|

The Design Project is an **individual coursework-based** examination. The examination will be conducted over 22 weeks from the question paper release, excluding school holidays. Candidates will be required to work on a design and prototyping project based on the examination question.

The Design Project will comprise two components: The Design Journal and Presentation Board. The Design Journal is a real-time document that reflects the candidate's attempt at managing his or her personal design process.

Additional Information

- D&T is a relevant subject 4 or 5 under L1R5 for application to Junior College courses.
- D&T is a relevant subject 3 or 4 under L1R4 for application to Millennia Institute courses.
- D&T is a relevant subject under ELR2B2 for application to polytechnic courses, specifically design courses (eg. product industrial design, architecture, interior design), science-based courses (eg. aerospace electronics, energy systems, mechanical engineering), technology courses (eg. information systems, animation, infocomm technology).
- The D&T Design Journal, mock-up(s) and prototypes done at Secondary Three and Four can be showcased as part of a student's portfolio during the polytechnic Early Admissions Exercise interviews, and admissions to tertiary bachelor degrees at SUTD, NUS and NTU.

Entry Requirement

1. At least a pass in Design & Technology at Secondary Two

Demands of the Syllabus

1. Ability to do basic sketching and idea conceptualisation, make mock-up(s) and prototype
2. Ability to conduct internet search for research, organisation of data, and use Google Apps for coursework
3. Be self-directed and have good time management and perseverance as coursework requires consistent effort in research, self-study and experimentation
4. Have the desire to innovate
5. Like to work with their hands

| | |
|---------------------|---------------------------|
| Subject | Exercise & Sports Science |
| Subject Code | 6081 |
| Stream | Express |

Introduction

The O-Level Exercise and Sports Science syllabus aims to enable candidates to:

- acquire and apply the knowledge in exercise physiology, biomechanics, and sports psychology to analyse, evaluate and improve practical performances in physical exercises and sports;
- develop the movement concepts and motor skills to be proficient in the performance of a team and an individual / dual sport;
- understand the benefits and risks associated with physical exercise and sports to manage personal participation in physical activities; and
- examine issues related to sports and participation in physical activities from socio- cultural and global perspectives.

Scheme of Assessment

| Paper/ Weighting | Duration | Mode | Components | Descriptions/ Marks allocation |
|---|----------|---------------|--|---|
| 1 (80 marks, 40%) All questions in the paper are compulsory | 2 hrs | e-Examination | Section A | Variety of item types e.g. Multiple-choice Questions, Matching, Drag and Drop, Checking of Boxes and Fill in the Blanks. (20 Marks) |
| | | | Section B | Short answer and Structured Questions based on texts and pictures (40 Marks) |
| | | | Section C | Structured Questions based on ONE video (20 Marks) |
| 2 (80 marks, 60%) This paper is internally assessed and externally moderated | 24 weeks | Coursework | Physical Performance of 2 Practical Activities (40%) | Individual/ Dual Practical Activity (20 Marks) |
| | | | | Team Practical Activity (20 Marks) |
| | | | Development Log (20%) | Individual/ Dual Practical Activity Log: Phase 1: Analyse and Plan (15 Marks) Phase 2: Perform, Evaluate and Improve (10 Marks) Phase 3: Consolidate (5 Marks) |
| | | | | Team Practical Activity Log: Analyse and Justify (10 Marks) |

Subject Content

There are five areas of study on which the assessment is based:

Exercise Physiology

- Skeletal System
- Muscular System
- Circulatory System
- Respiratory System
- Training Principles and Methods
- Nutrition

Biomechanics

- State Newton's Laws of motion.
- Explain the effects of the following on biomechanical movement in sports and physical activities
 - force
 - centre of gravity
 - stability
 - mass and weight
 - acceleration
- Know the different classes of levers in the human body and their application in sports and physical activities.
- Explain how summation of forces can be applied to performances in sports and physical activities.
- Describe how projectile motion can influence performance.
- Recognise the phases of performance and use a biomechanical analysis to analyse physical performances.
- Apply concepts in biomechanics to modify physical performance responses for improvement.

Sports Psychology

- Self-Efficacy
- Motivation
- Arousal & Performance
- Anxiety
- Factors influencing exercise participation

Sports Sociology

- Equity
 - Discuss the factors affecting participation in exercise and sport with regard to
 - gender
 - race
 - disability
- Commercialisation
 - Discuss the issue of sponsorship in sports
 - Recognise and discuss the issue of media (social, internet, visual and print) and sport
- Ethics
 - Discuss the issue of drugs in sport
 - Recognise and discuss the issue of sportsmanship and gamesmanship in sports

Motor Learning and Development

- Show an understanding of the Skills Classification.

- Explain the factors affecting variations in skill level in motor development and motor learning.
- Explain the differences between the skills of Novice and Expert performer in relation to
 - Information Processing Model
 - Different types of feedback and their importance
- Explain key considerations in design of practice when acquiring a new skill.
- Demonstrate the understanding of movement concepts using the BSER framework.
- Apply the activity-specific movement concepts in different practical activities.
- Show an understanding of game-related concepts and apply these concepts in different practical activities.

Additional Information

Paper 2 Coursework assesses candidates' proficiency in performing practical activities and their ability to analyse, evaluate and make improvement on their physical performance through a Development Log.

Candidates must choose ONE practical activity from EACH of the categories below:

| Categories | Practical Activities |
|-------------------|--|
| Individual / Dual | Individual <ul style="list-style-type: none"> • Cross-country Running • Swimming • Track and Field Dual <ul style="list-style-type: none"> • Badminton • Table Tennis • Tennis |
| Team | <ul style="list-style-type: none"> • Basketball • Floorball • Football • Hockey • Netball • Softball • Volleyball |

For this component of Coursework, candidates will also be assessed on their ability to:

- participate in a recognised version of a practical activity with regard for the safety of self and others.
- perform a variety of skills with precision, control and fluency, which are applied appropriately in authentic performance situations.
- respond to the actions of other players with awareness of own role and apply appropriate tactics to gain advantage during play for a dual or team practical activity.
- achieve the quantitative standard where applicable for an individual practical activity.
-

Entry Requirement

Students choosing ESS should have a natural predisposition towards sports and preferably have a competitive sporting background. The ideal candidate should also be strong in their sciences.

Students choosing ESS will undergo a physical performance test to help them decide if they are suitable in meeting the physical performance demands of the subject.

Part 3:

Information on Post-secondary education

Part 3: Information on Post-secondary education [Express]

Admission to Junior Colleges (JC)

- To qualify for Junior Colleges, the student must meet the following:
 - L1R5 must not exceed aggregate score of 20
 - Meet the JC's cut-off point
 - Meet the grade requirements for specific subjects.
- The L1R5 aggregate score is made up of the following subjects:

| L1R5 | Subjects |
|-------------------------|---|
| First Language (L1) | English/Higher Mother Tongue |
| Relevant Subject 1 (R1) | Humanities/Higher Art/Higher Music/Malay (Special Programme)/Chinese (Special Programme)/Bahasa Indonesia |
| Relevant Subject 2 (R2) | Mathematics/Science |
| Relevant Subject 3 (R3) | Humanities/Higher Art/Higher Music/Mathematics/Science/Malay (Special Programme)/Chinese (Special Programme)/Bahasa Indonesia |
| Relevant Subject 4 (R4) | Any GCE O-Level subjects (except Religious Knowledge) |
| Relevant Subject 5 (R5) | Any GCE O-Level subjects (except Religious Knowledge) |

- Grades for both Higher MTL (such as Higher Chinese, Higher Malay and Higher Tamil) and MTL (such as Chinese, Malay and Tamil) cannot be used in the same aggregate computation. For example, if Higher MTL is used as first language, MTL cannot be used as a relevant subject.
- “Merit” and “Pass” grades for the Mother Tongue ‘B’ Syllabus (such as Chinese ‘B’, Malay ‘B’ and Tamil ‘B’) cannot be used for aggregate computation
- Information on Direct School Admission for Junior Colleges (DSA – JC) can be found: <https://www.moe.gov.sg/post-secondary/admissions/dsa>

Part 3: Information on Post-secondary education [Express]

Admission to Millennia institute (MI)

- To qualify for Junior Colleges, the student must meet the following:
 - L1R4 must not exceed aggregate score of 20
 - Meet the grade requirements for specific subjects

- The L1R5 aggregate score is made up of the following subjects:

| L1R4 | Subjects |
|--------|--|
| L1 | English or Higher Mother Tongue Language (MTL) |
| R1, R2 | Any 2 of these subjects: <ul style="list-style-type: none">• Humanities• Higher Art• Higher Music• Mathematics• Science• Malay (Special Programme)• Chinese (Special Programme) Bahasa Indonesia |
| R3, R4 | Any 2 GCE O-Level subjects except Religious Knowledge |

- Grades for both Higher MTL (such as Higher Chinese, Higher Malay and Higher Tamil) and MTL (such as Chinese, Malay and Tamil) cannot be used in the same aggregate computation. For example, if Higher MTL is used as first language, MTL cannot be used as a relevant subject.
- “Merit” and “Pass” grades for the Mother Tongue ‘B’ Syllabus (such as Chinese ‘B’, Malay ‘B’ and Tamil ‘B’) cannot be used for aggregate computation

Part 3: Information on Post-secondary education [Express]

Admission to Polytechnics

- To qualify for Polytechnics, the student must meet the following:
 - ELR2B2 must not exceed aggregate score of 26
 - Meet the minimum entry requirements of the course that you are applying for. Find these requirements in [CourseFinder](#).

| | |
|----|-------------------------------------|
| EL | English |
| R2 | 2 Relevant Subjects |
| B2 | Best 2 other subjects excluding CCA |

A quick look at the relevant GCE O – level subjects for the polytechnic courses

| ELR2B2: For Polytechnic Courses | | | | | |
|---------------------------------|--|---|---|---|---|
| Aggregate Type | | ELR2B2 – A | ELR2B2 – B | ELR2B2 – C | ELR2B2 – D |
| EL | | English | | | |
| R2 | 1 st Group of Relevant Subjects | Art Geography History Humanities (Social Studies, History) Humanities (Social Studies, Geography) Music | Elementary Mathematics Additional Mathematics | | |
| | 2 nd Group of Relevant Subjects | Additional Mathematics Art Chinese Design and Technology Elementary Mathematics Geography History Humanities (Social Studies, History) Humanities (Social Studies, Geography) Literature in English Higher Chinese/Malay/Tamil Malay Higher Music Music Principles of Accounts Tamil | Art Geography History Higher Music Music Literature in English Humanities (Social Studies, History) Humanities (Social Studies, Geography) Principles of Accounts | Design & Technology Exercise & Sports Science Biology Chemistry Physics Science (Chemistry, Biology) Science (Physics, Chemistry) | Art Biology Chemistry Design & Technology Physics Science (Chemistry, Biology) Science (Physics, Chemistry) |
| B2 | | Best of 2 Other Subjects (Excluding CCA) | | | |

- Information on Polytechnic Early Admissions Exercise (Poly EAE) can be found: <https://www.moe.gov.sg/post-secondary/admissions/poly-eae>

Part 4: Contact Us

If you have any further enquiries, feel free to write in to the following:

| Name / Designation | Email address |
|---|-------------------------------|
| Mr Tay Hiang Soon Vice-Principal (Lower Secondary) | TAY_Hiang_Soon@schools.gov.sg |
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| Mr P Tamil Selvam Sec 2 Year Head | p_tamil_selvam@schools.gov.sg |
| Ms Teoh Fan Yun Senior Education & Career Guidance Counsellor | teoh_fan_yun@schools.gov.sg |