



## Peirce Secondary School

### **SECONDARY 2 SUBJECT OPTIONS EXERCISE (SSOE) 2025**

#### **INFORMATION BOOKLET**

for

#### **Secondary 3 Aspiration and Balanced Pathways (2026)**

*For students offering mostly G3 subjects*

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### **GENERAL INFORMATION**

This booklet provides details to help parents and students make informed decisions about the G3 subjects in 2026.

1. Subject Options Exercise is conducted after the release of the year-end examination results.
2. Students will be provided an opportunity to indicate their interest of subject combination in Term 2.
3. Students will be briefed on the finalised subject combinations in Term 4.
4. Students will be allocated their subject combinations based on their Sec 2 Overall results.

#### **Instructions on Online Subject Options Exercise**

1. The students will each receive a hardcopy option form to plan for their selection.
2. The students will be given a link to "All Ears" Form, which they need to login using their NRIC number.
3. The students are to rank the order (first to third choice) from a given list of subject combinations.
4. Multiple submissions are allowed. Only the last submission will be captured by the system.

### Submission of Option Forms and Release of Subject Options Exercise Results

1. Parents are advised to carefully consider their child's choices of subject combinations and complete the option form.
2. Results of the Subjects Options Exercise will be released within a few weeks of the exercise.
3. Parents will be able to view their child's allocated subjects via a link to "All Ears" Form, which will require their child to login in using his/her NRIC.
4. Appeals
  - All appeals will be considered **only after** the Subject Options Exercise has been completed and the results, released.
  - These appeals must then be **made via** a link given in "All Ears" Form when they view the results.
  - Appeals will only be considered if they do not contradict the established school policy on subject options.
  - The appeals will be considered on a case-by-case basis.
  - The results of the appeals will only be confirmed and made known to applicants at the end of November. Applicants may check the outcomes of their appeals via the "All Ears" Form.
  - The school's decision will be final, and no further appeals can be made.

### School Policy on Subject Options

1. The school reserves the right to decide on the final subject combination offered.
2. Students who offer mostly G3 subjects can choose to take up 7 or 8 subjects.
3. Compulsory subjects for all students are:
  - a. English Language,
  - b. Mathematics,
  - c. Mother Tongue language,
  - d. Combined Humanities (Social Studies + Geography or History),
  - e. At least 1 Science subject.

Subject	Subject Pre-Requisites and Additional Conditions
<b>MATHEMATICS</b>	
Additional Mathematics	At least a B4 in Sec 2 G3 Mathematics
<b>SCIENCES</b>	
Double Pure Science	At least a B4 in Sec 2 G3 Science
<b>HUMANITIES</b>	
Geography	At least a B3 in Sec 2 G3 Geography & must NOT be offered with Humanities (Geography).
Humanities (Geography & Social Studies)	Must NOT be offered with Geography
Humanities (History & Social Studies)	Must NOT be offered with History
Literature	At least a B3 in Sec 2 G3 Literature and English Language
<b>COURSEWORK</b>	
Design & Technology	At least "Competent" (mark range 60-69) in Sec 2 Design & Technology Maximum Class Size: 20
Art	At least "Competent" (mark range 60-69) in Sec 2 Art Maximum Class Size: 20
Nutrition & Food Science	At least "Competent" (mark range 60-69) in Sec 2 Food & Consumer Education Maximum Class Size: 20
<b>OTHERS</b>	
Computing	At least a B4 in Sec 2 G3 Mathematics

4. The students will be allocated their subject combinations based on the following:
  - a. **Subject criteria for specific subjects (Based on the subject's overall results)**
  - b. If demand is greater than the number of vacancies, priority will be given based on the following considerations (listed in order of importance):
    - i. **Order of Choice (First choice will be looked at first)**
    - ii. **Order of Merit (Subject-specific)**
    - iii. **Order of Merit (Overall average for all subjects)**
5. Subject Options Committee will accommodate students' requests whenever possible, taking into account students' suitability and sustainability.
6. Students who are not given any of their choices or do not meet the pre-requisites for any combinations will be allocated subjects based on their strengths.

### G3 Subject Combination Options Summary 2026

Subject 1	Subject 2	Subject 3	Subject 4	Subject 5	Subject 6	Subject 7
<b>Option 1</b> EL	MT / HMT	Maths	<u><b>Choose one</b></u> SS / Geo SS / His	Physics	<u><b>Choose one</b></u> Chemistry Computing	A Maths
<b>Option 2</b> EL	MT / HMT	Maths	<u><b>Choose one</b></u> SS / Geo SS / His	<u><b>Choose one</b></u> Physics Biology	Chemistry	<u><b>Choose one</b></u> A Maths Computing Pure Geo

**OR**

<b>Balanced Pathway – For students offering mostly G3 subjects</b>						
Subject 1	Subject 2	Subject 3	Subject 4	Subject 5	Subject 6	Subject 7
EL	MT / HMT	Maths	<u><b>Choose one</b></u> SS / Geo SS / His	<u><b>Choose one</b></u> Science (Phy / Chem) Science (Chem / Bio)	<u><b>Choose one</b></u> A Maths D&T NFS Art	<u><b>Choose one</b></u> POA Computing Pure Lit

#### **Note**

1. Students in the Aspiration Pathway will offer 7 subjects.
2. Subject combination options are subject to adjustment(s).

#### **Legend**

1. EL – English Language
2. MT – Mother Tongue
3. HMT – Higher Mother Tongue
4. SS – Social Studies
5. Geo – Geography
6. His – History
7. Lit – Literature
8. Phy – Physics
9. Chem – Chemistry
10. Bio – Biology
11. A Maths – Additional Mathematics
12. D&T – Design and Technology
13. NFS – Nutrition and Food Science
14. POA – Principles of Accounts

# SUBJECT-SPECIFIC INFORMATION

## SCIENCES

### Brief Description

All students are required to study at least one Science subject. There are 3 basic branches of Science:

1. **Physics** – Physics is concerned with the underlying principles of the natural world, and deals with the elementary constituents of the universe, that is, all classes of matter and energy, their interactions, as well as the analysis of systems which are best understood in terms of their fundamental principles.
2. **Chemistry** – Chemistry deals with the composition and statistical properties of matter and structures, as well as their transformations and interactions to become materials encountered in everyday life. The physical properties of materials are generally determined by their structure at the atomic scale, which in turn is dictated by the properties and energies of the interactions.
3. **Biology** – Biology, essentially the study of Life, is concerned with the characteristics, classification, and behaviors of organisms, how species come into existence, and the interactions they have with each other and with the environment. All concepts in biology are subject to the same laws that other branches of science obey, such as the laws of thermodynamics and conservation of mass.

Students may opt to do:

- 3 pure Science subjects (Chemistry, Physics and Biology)
- 2 pure Science subjects (Chemistry and Physics),
- 1 Combined Science subject from Science (Physics/Chemistry) or Science (Chemistry/Biology)

Students who intend to pursue Pure Science subjects should note that the level of rigor is high and students must have a passion for Science and a good attitude in learning. Students opting for pure Science subjects must obtain **B4 in G3 Science** at Secondary 2.

Physics	Chemistry	Biology
<b>Examination Requirements</b> 'O' Level Examination for Pure Science subjects comprises: <ul style="list-style-type: none"> <li>• Paper 1 : Multiple-choice</li> <li>• Paper 2 : Structured &amp; Free Response</li> <li>• Paper 3 : Practical Assessment</li> </ul>		
<b>Science (Physics/Chemistry)</b>		<b>Science (Chemistry/Biology)</b>
<b>Examination Requirements</b> 'O' Level Examination for Combined Science comprises: <ul style="list-style-type: none"> <li>• Paper 1 : Multiple-choice Questions</li> <li>• Paper 2 : Structured and Free Response (Physics)</li> <li>• Paper 3 : Structured and Free Response (Chemistry)</li> <li>• Paper 4 : Structured and Free Response (Biology)</li> <li>• Paper 5 : Practical Assessment</li> </ul> <p>Students taking Science (Physics/ Chemistry) will sit for Papers 1, 2, 3 and 5.                      Students taking Science (Chemistry/ Biology) will sit for Papers 1, 3, 4 and 5.</p>		

### Post-Secondary Options

Science subjects at the secondary level open up many options for students in their next phase of education.

Students who have studied Physics, either as part of Combined Science or as a Pure Science subject, will be well-positioned to pursue STEM-related courses at the tertiary level.

Students with a background in Biology will have a distinct advantage if they choose to pursue biology- or pharmaceutical-related courses in the future.

Chemistry serves as a prerequisite for Life Sciences or medicine-related degree programmes in the university. Additionally, it is essential for many applied sciences and engineering courses.

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# MATHEMATICS

## Additional Mathematics

### Brief Description

Additional Mathematics, consists of 3 sections:

- a. Algebra – This is an important branch of Mathematics that has strong links with all other branches of Mathematics. It will provide students with the language and tools to represent abstract ideas, relationships and patterns using concise symbols.
- b. Geometry and Trigonometry – Geometry deals with points, lines (curves) and angles as well as their relationships and links. The learning of Geometry helps students develop the spatial visualisation skills, which complement and support the mathematical skills from other branches of Mathematics. Trigonometry supports the learning of Geometry and is important in the studies of periodic behaviour, phenomena and models that they may encounter in higher learning.
- c. Calculus – Calculus is an important branch of Mathematics and deals with the concept of change. It is used in many fields of study including the physical sciences, computer science, economics, business, engineering and medicine. It deals with abstract concepts and processes involving infinitesimal quantities and changes and limiting operations. As such, this section demands a strong foundation in Algebra and Geometry from the student.

### Prerequisites

Students who have obtained **B4 in G3 Mathematics** at Secondary 2 can consider opting for 'O' level Additional Mathematics. In addition, a hardworking attitude and much perseverance is needed because Additional Mathematics requires regular work and much practice to master. The student also has to be strong in Algebra and Geometry to cope with the subject.

### Post-Secondary Options

The syllabus will prepare you for 'A' Level H2 Mathematics and H3 Mathematics, which builds a strong foundation in algebraic manipulation and mathematical reasoning skills.

In addition, many courses<sup>1</sup> in the polytechnics also require students to have a strong foundation in Mathematics. While students with Additional Mathematics background may cope with the courses better, most of these courses do not require Additional Mathematics as a prerequisite.

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<sup>1</sup> Most of the polytechnic courses, especially courses from the Engineering, IT, Applied Sciences, Digital Media and Design schools in the polytechnics, require students to have a strong foundation in Mathematics. The exceptions are courses from Business, Mass Communications and other related courses.

# HUMANITIES

Humanities is a compulsory subject. It consists of **Social Studies** and an elective, which can be Geography Elective or History Elective. Below are the description of the electives.

<b>Geography Elective</b> (Not to be offered with Pure Geography)	<b>History Elective</b> (Not to be offered with Pure History)
<p>Geography Elective is offered as an elective component together of Humanities. It is taken together with the compulsory component, Social Studies.</p> <p><b>Brief Description</b>                      The Geography Elective involves the study of both Physical and Human Geography. Students will learn about the world's human and physical features and the relationships between people, places and the earth. It shows how the world is connected and how the occurrence of one event in one place affects a person's life in another place. It is a study of the surface of the earth, its diverse landscapes, human activities, and how we can sustainably manage the environment.</p> <p>Students will learn:</p> <ul style="list-style-type: none"> <li>• the features and formation of landforms in the physical landscape</li> <li>• the relationships between people and their environment</li> <li>• the development and sustainable management of the physical and human environments</li> <li>• case studies of different physical-human relationships</li> <li>• Geographical skills in context of the physical and human environment</li> </ul> <p><b>For students who...</b>                      have a keen interest in seeking an understanding of the surroundings and happenings and the inter-relationships between people and the environment.</p> <p><b>Post-Secondary Options</b>                      Students can continue to pursue the subject in greater depth as an 'A' Level subject. Students seeking admission to Junior Colleges (JCs) will need to include the Humanities grade in their L1R4 aggregate computation. For application to Business-related Polytechnic courses, Humanities counts as one of the relevant subjects in computing the ELR2B2 aggregate.</p>	<p>History Elective is offered as an elective component of Humanities. It is taken together with the compulsory component, Social Studies.</p> <p><b>Brief Description</b>                      The History syllabus provides students with an understanding of the complexities of international relations. It highlights the importance of understanding and interpreting history in all its complexity – its people, events, issues, periods, turning points, themes and sources. The syllabus also equips students with the necessary skills to make reasoned and informed decisions.</p> <p>Students will learn:</p> <ul style="list-style-type: none"> <li>• World War I and the immediate aftermath</li> <li>• Peacemaking and the rise of authoritarian regimes</li> <li>• War in Europe and War in Asia Pacific</li> <li>• The outbreak and escalation of the Cold War and the end of Cold War</li> </ul> <p><b>For students who ...</b></p> <ul style="list-style-type: none"> <li>• have an interest in current affairs</li> <li>• are interested in how human actions and political events shape our world</li> <li>• are able to carry out independent research and learning</li> </ul> <p><b>Post-Secondary Options</b>                      Students can continue to pursue the subject in greater depth as an 'A' Level subject. Students seeking admission to Junior Colleges (JCs) will need to include the Humanities grade in their L1R4 aggregate computation. For application to Business-related Polytechnic courses, Humanities counts as one of the relevant subjects in the computing of the ELR2B2 aggregate.</p>

# PURE HUMANITIES

(To be offered as a second optional humanity subject)

## Geography

Geography may not be offered together with Humanities Geography Elective. It is offered as a second optional Humanity subject in addition to the compulsory Humanities subject.

### Brief Description

Geography involves the study of both Physical and Human Geography at a wider breadth compared to the Geography Elective subject. Students will learn about the world's human and physical features and the relationships between people, places and the earth. It shows how the world is connected and how the occurrence of one event in one place affects a person's life in another place. It is the study of the surface of the earth, its diverse landscapes, human activities, and how we can sustainably manage the environment. Specific geographical phenomena will also be explored through the case study of Singapore.

### Students will learn:

- the features and formation of landforms in the physical landscape
- the relationships between people and their environments
- the development and sustainable management of the physical and human environments
- case studies of different physical-human relationships
- Geographical skills in the context of the physical and human environments
- how to manage Geographical Investigation independently

### For students who...

- have obtained **B3 for G3 Geography** at Secondary 2.
- have a keen interest in seeking an understanding of the surroundings and happenings and the inter-relationships between people as well as the environment.

### Post-Secondary Options

Students can continue to pursue Geography in greater depth as an 'A' Level subject. Secondary school Geography provides foundational knowledge in the study of Geography at H2 or H3 level, in Junior Colleges (JCs). Students seeking admission to JCs or Millennia Institute (MI) can include the Geography grade for their L1R4 aggregate computation. Geography counts as a relevant subject in the computing of the ELR2B2 aggregate for Business-related courses in Polytechnics.

## Literature in English

Literature in English is offered as a second optional Humanity subject for students offering mostly G3 subjects in addition to the compulsory Humanities subject.

The study of Literature offers a window to the exploration of areas of human concern and hence contributes to one's understanding of self and others. The Literature syllabus aims to develop students' ability to:

- Discover the joys of reading Literature and to become aware of new ways of perceiving the world around them;
- Explore the elements of different genres via the study of literary texts and to understand how these function in enabling literary works to achieve their desired ends;
- Select and interpret relevant material judiciously and to express ideas in coherent and clear English;
- Understand the importance of the contexts in which literary texts are written and understood; and
- Engage personally with texts, showing a strong intellectual and emotional awareness of themes, characters, settings and contexts.

Attendance at and participation in all supplementary and enrichment activities related to this subject (e.g. watching plays) are **compulsory**. These sessions are usually held in the afternoons, weekends and school holidays.

### For students who...

- have an interest in and passion for Literature
- have obtained **B3 for G3 Literature AND B3 for G3 English Language** at Secondary 2.

### Post-Secondary Options

**Literature in English** is a **Humanity** subject and the grade can be used in the computation of the aggregate scores for entry into Junior Colleges (JCs) and polytechnics.

Most JCs offer Literature as one of its subjects. **Literature in English** provides students with a head start in the study of Literature at the GCE 'A' Level.

# COURSEWORK

## Art

### Brief Description

The study of Art

- 1) expands imagination, enhances creativity and develops adaptability,
- 2) builds students' capacity to critically discern and process visual information, and communicate effectively, and
- 3) fosters students' sense of identity, culture, and place in society

The subject content is structured around the domains of Perceiving, Communication and Appreciation. This framework provides the focus for the teaching and learning of Art.

At the lower secondary levels, Visual Art develops students' ability to explore creativity and their personal identities. Students explore different mediums of art and their unique qualities.

At the upper secondary levels, students acquire a deeper appreciation of art through:

- i) Building Portfolios
- ii) Art Journalling
- iii) Art Conversations

The art programme strives to provide students with authentic experiential learning through programme tie-ups with external art learning institutions, practicing artists and art competitions.

### For students who ...

- have a keen interest in Design, Fine Art, Digital and Time-based media.
- are self-directed and reflective of their artistic growth
- are thrilled to experiment with different art media and techniques

### Examination Requirements

#### 'O' Level Examination

#### **Paper 1 : Visual Response (50%)**

2 hr 15 min

Section A : Visual Analysis – Analyse and discuss an unseen visual stimulus

Section B : Exploratory Sketching – Provide sketches with annotations showing their concept for the visual response

#### **Paper 2 : Portfolio (50%)**

To be completed in 30 hours within 12 weeks

Part A : Selection of Visual Materials – Maximum of 15 screens illustrating artistic exploration and processes which include at least 3 art forms and media.

Part B : Commentary – an articulation of personal artistic growth based on 2 works, in not more than 800 words

### Post-Secondary Options

Students can choose to do Art as one of their 'A' Level subjects in some of the Junior Colleges. The subject also counts as one of the relevant subjects for polytechnic courses such as Architecture, Landscape Architecture and Interior Design. Students could also choose to further develop their passion in arts with Nanyang Academy of Fine Arts (NAFA) or with LASALLE-SIA College of the Arts.



## **Design and Technology**

### **Brief Description**

Design and Technology (D&T) at the upper secondary level emphasises design that involves research, reasoned application of knowledge and skills in areas of design and technology. Students will then combine the knowledge and skills acquired in the realisation of their Design Project.

The subject requires students to apply appropriate knowledge of materials, processes and technological areas in creating a design solution. It also provides students with opportunities to relate D&T to other subjects and apply their understanding from Science, Mathematics and Art, etc,

Skills like creativity, innovation, communication, critical thinking, collaboration and problem solving will also be taught through purposeful design tasks in the curriculum. These skills are applicable in other subject areas.

In a D&T coursework, students are guided in the design process. A Design Journal is a portfolio that reflects a student's thinking processes while working towards the design solution from the conceptualisation, development to realisation. Students will also need to demonstrate their competency in graphical communication, sensitive use of materials and appropriate constructional methods through the submission of Presentation Boards and an Artefact for their final design proposal.

### **For students who ...**

- like to doodle, have strong inclination for designing and problem solving. Students doing this subject must have good self-discipline and perseverance to work through the essential processes of researching, discovering, creating and evaluating.

### **Examination Requirements**

#### 'O' Level Examination

Coursework (60%): 1 Artefact, 2 Presentation Boards & 1 Design Journal.

Theory (40%): A 2-hour paper consisting of 2 sections.

### **Post-Secondary Options**

The D&T subject provides foundational knowledge for students opting for Engineering or design-related Courses. It is accepted as one of the relevant subjects for application to Science-based courses, Technology courses and Design courses in the local polytechnics.

## Nutrition & Food Science

### Brief Description

At lower secondary, students study Nutrition & Food Science, in which they learn basic facts about food, nutrients and food science. At upper secondary, they learn in greater depth about food science and nutrition.

In Food and Consumer Education, students learn the basics of the food chemistry, human digestion and absorption of food. Acquiring these basics will enable them to study food and nutrition from a scientific point of view, equipping them with the understanding of what foods are essential to health and what happens to food during processing.

The coursework component in the subject involves application of knowledge to analyse, research and develop on a given task. Students plan and execute the task, after which they need to review the processes involved. Students are also developed in their ability to plan, execute, record, interpret findings and draw logical conclusions from experimental work.

### For students who ...

- have an interest in nutrition and health problems associated with diet
- enjoy testing and experimenting with food
- are able to carry out independent research learning
- advocates sustainable food consumption by planning and making appropriate food choices

### Examination Requirements

#### 'O' Level Examination

Coursework (60%): An assignment given at the beginning of the examination year to be completed by July of the same year. This will include conducting a Food Investigation and doing a practical examination.

Theory (40%): A 2-hour written paper consisting of three sections.

### Post-Secondary Options

Students seeking admission to Junior Colleges (JCs) or Millennia Institute (MI) can include the Nutrition and Food Science (NFS) grade for their L1R4 aggregate computation respectively. For application to polytechnic courses such as Sports and Exercise Science, Applied Food Science and Health Sciences, NFS counts as a relevant subject in the computing of ELR2B2.

# Computing

## Computing

### Brief Description

The G3 Computing curriculum aims to grow student's interest and competency in advanced computing concepts and skills. This will equip students with the necessary foundation to continue with post-secondary computing-related courses in either JC or Polytechnic.

The two-year course at the upper secondary levels is to enable students to:

1. Acquire knowledge and understanding of core areas in computing covering concepts of logic, algorithms, data analysis, data representation and networking.
2. Develop and apply computational thinking skills such as abstraction and decomposition to solve real-world problems by designing, writing, testing and debugging programs using a personal computer.
3. Develop an appreciation of computing as a dynamic and creative field including awareness of recent developments in computer systems.
4. Develop an understanding of the social, ethical, legal and economic implications of computing.
5. Develop attitudes and 21CC needed to do well in computing such as inventive thinking, perseverance, collaboration, communication as well as striving for accuracy and thoroughness.

Students can handle and process data in computer systems, as well as appreciate the need to be ethical when dealing with data. They will demonstrate problem-solving techniques through analysing and writing programming solutions for a range of computing problems in business, education, mathematics and science. Students will be able to demonstrate computational thinking through the design and development of programming solutions.

This syllabus comprises five modules and the units of study for each module are as listed with details below. The study is undertaken at the upper secondary levels for two years.

The five modules are: The five modules are:

<u>Module 1: Computing Fundamentals</u> 1.1: Computer Architecture 1.2: Data Representation 1.3: Logic Gates  <u>Module 2: Algorithms and Programming</u> 2.1: Problem Analysis 2.2: Constructs 2.3: Python Code 2.4: Testing and Debugging 2.5: Algorithm Design 2.6: Software Engineering  <u>Module 3: Spreadsheets</u> 3.1: Program Features 3.2: Functions	<u>Module 4: Networking</u> 4.1: Concepts 4.2: Home Networks and the Internet 4.3: Security and Privacy  <u>Module 5: Impact and Computing</u> 5.1: General 5.2: Intellectual Property 5.3: Communication 5.4: Emerging Technologies
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### Examination Requirements

#### 'O' Level Examination

Paper 1 Marks: 80 Weightings: 60%	A mixture of <ul style="list-style-type: none"> <li>• Multiple choice questions (single- and multiple-answer)</li> <li>• Short-answer questions</li> <li>• Matching questions</li> <li>• Cloze passage</li> <li>• Structured questions</li> </ul>	2 hours
Paper 2 Marks: 70 Weightings: 40%	Compulsory structured questions on <ul style="list-style-type: none"> <li>• One question on Spreadsheets</li> <li>• Four to five questions on Programming</li> </ul>	2 hours 30 minutes

#### For students who...

- have an interest in and passion for Computing
- have obtained at least a **B4 for G3 Mathematics** at Secondary 2

#### Post-Secondary Options

Students can choose to do Computing as one of their 'A' Level subjects in some of the Junior Colleges. Students seeking admission to Junior Colleges (JCs) or Millennia Institute (MI) can include the Computing grade for their L1R4 aggregate computation. For application to related polytechnic diploma courses, Computing counts as one of the relevant subjects in the computing of the ELR2B2 aggregate.