

SECONDARY THREE G3 SUBJECT COMBINATION EXERCISE
INFORMATION ON ELECTIVE SUBJECTS

[Note: SEAB website has yet to display G3 related information. The information below is only for reference till SEAB updates all the relevant information that corresponds to the Singapore-Cambridge Secondary Education Certificate (SEC) from the year 2027.]

S/N	Subject	Syllabus Demand (Attitude/Skills/Foundation)	Assessment Demand	Benefits (Post-Secondary Pathways)
1	Additional Mathematics	<p>Additional Mathematics is a subject suited for students who have an aptitude and interest in Mathematics. It allows one to</p> <ul style="list-style-type: none"> ▪ acquire mathematical concepts and skills for higher studies in mathematics and support the learning of 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. <p>Students who appreciate and enjoy the rigor and proofs in Mathematics, especially in the Algebra and Geometry</p>	<p>O-LEVEL ADDITIONAL MATHEMATICS (4049) The examination consists of two papers – Paper 1 and Paper 2:</p> <p>Paper 1 - 90 marks (50%) Duration: 2 hrs 15 minutes About 12 to 14 questions of varying marks and lengths testing more on applications of standard techniques. Out of which, a few questions will be tested on higher order thinking skills and solving problems in a variety of contexts. Students are required to answer ALL questions.</p> <p>Paper 2 - 90 marks (50%) Duration: 2 hrs 15 minutes About 10 to 12 questions of varying marks and lengths testing on the applications of standard techniques, solving problems in a variety of contexts ,reasoning and higher order thinking skills and problems in real world context. Students are required to answer ALL questions.</p>	<p>Can be used as part of:</p> <ul style="list-style-type: none"> (i) L1R5 for entry into Junior College (ii) L1R4 for entry to Millenia Institute (iii) ELR2B2 for entry into Polytechnic (iv) B3 for entry into ITE (Higher Nitec) <p>JC: Additional Mathematics is not a prerequisite subject for JC admission or subject selection. However, some of the content of the O-Level Additional Mathematics syllabuses are assumed knowledge in H2 Mathematics in JC. Please refer to the Syllabus document for H2 Mathematics (subject code: 9758) for the list of content.</p> <p>Polytechnic admission: Requires EL R2 B2. For engineering courses, the relevant subjects include Mathematics or Science depending on the course. For Mathematics, this could be Elementary Mathematics or Additional Mathematics, whichever is better.</p>

		strand, are encouraged to apply for this subject.		
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2	<p>Principles of Accounts (POA)</p>	<p>What does learning POA involve?</p> <ul style="list-style-type: none"> ▪ Becoming conversant with the language of business accounting. ▪ Becoming proficient through focused learning and regular accounting skills practice. ▪ It is not a math course: Basic secondary math competency is sufficient. <p>Students offering POA are introduced to the principles and concepts of accounting and their applications in a variety of business situations. They will acquire basic knowledge in double entry and develop their ability to prepare, present and analyse financial statements.</p> <p>Students will learn:</p> <ul style="list-style-type: none"> ▪ the language of business – trading, commerce, services, investment, banking e.g. assets, liabilities, capital, income, expenses, gross profit, depreciation, debit note, credit note, bank overdraft ▪ how to record business transactions systematically to ensure accurate accounting and make appropriate business decisions. ▪ Understand the accounting process, carry out the recording of transactions in the ledger accounts, prepare financial statements of a 	<p>Principles of Accounts Syllabus (7087)</p> <p>Paper 1- 40 marks (40%) Duration: 1 hr Answer three to four compulsory structured questions</p> <p>Paper 2 - 60 marks (60%) Duration: 2 hrs Answer four compulsory structured questions</p> <ul style="list-style-type: none"> - One question requires the preparation of financial statements for a business for one financial year (20 marks) - A scenario-based question (7 marks) will be part of one of the three remaining questions 	<p>Can be used as part of:</p> <ul style="list-style-type: none"> (i) L1R5 for entry into Junior College (ii) L1R4 for entry to Millenia Institute (iii) ELR2B2 for entry into Polytechnic (iv) B3 for entry into ITE (Higher Nitec) <p>POA lays the foundation for business course.</p> <p>Degree level courses in accountancy (POA is not an entry requirement, but POA lays a good foundation).</p> <p>Rewarding career as</p> <ul style="list-style-type: none"> ▪ management or financial accountant, finance manager, CFO (Chief Financial Officer), CIO (Chief Investment Officer) in a business organisation. ▪ A certified public accountant (CPA) who is qualified to audit the accounts of companies. ▪ Any other career that requires a good grounding of accounting, financial and investment management e.g. banker, financial analyst, financial investigation officer, company directorship, entrepreneur.
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		business, analyse and interpret financial statements.		
3	Chemistry and Science Chemistry	<p>The Chemistry syllabus is designed to place less emphasis on factual materials and greater emphasis on the understanding and application of scientific concepts and principles. There is a need for students to develop skills that will be of long term value in an increasingly technological world.</p> <p>Students need to understand:</p> <ol style="list-style-type: none"> the finite life of the world's resources and hence the need for recycling and conservation economic considerations in the chemical industry, such as the availability and cost of raw materials and energy the social, environmental, health and safety issues relating to the chemical industry the importance of chemicals in industry and in everyday life. <p>The students would be exposed to appropriate practical work to facilitate a greater understanding of the subject.</p> <p>Comparison between Chemistry and Sci Chemistry:</p> <p>There are more topics in Chemistry (24 topics) than Sci Chemistry (21 topics). There is more breadth and depth in the</p>	<p>CHEMISTRY (6092) The examination consists of three papers – Paper 1, Paper 2 and Paper 3:</p> <p>Paper 1- 40 marks (30%) Duration: 1 hr Consists of 40 MCQs</p> <p>Paper 2 - 80 marks (50%) Duration: 1 h 45 min Consists of structured questions</p> <p>Paper 3 - 40 marks (20%) Duration: 1h 50 min Practical Assessment</p> <p>SCIENCE [PHYSICS, CHEMISTRY] (5086) or SCIENCE [CHEMISTRY, BIOLOGY] (5088) The examination consists of three papers – Paper 1, Paper 3 and Paper 5.</p> <p>Paper 1 (40 marks, 1 hr) consists of 40 MCQs. There are twenty questions on the Chemistry component and 20 questions on Biology or Physics component.</p> <p>Paper 3 (65 marks, 1hr 15 min) and consists of structured questions on the Chemistry component.</p> <p>Paper 5 (30 marks, 1hr 30 min) is a practical paper which consists of 1 question on Chemistry and 1 question on Biology or Physics component.</p>	<p>Can be used as part of:</p> <ol style="list-style-type: none"> L1R5 for entry into Junior College L1R4 for entry to Millenia Institute ELR2B2 for entry into Polytechnic B3 for entry into ITE (Higher Nitec) <p>The subject is broad-based and is a key requirement for admission into post-secondary biomedical science and STEM related courses. The chemistry knowledge serves as a foundation for science related courses.</p> <p>JC: Pure Science is not a prerequisite subject for JC admission or subject selection. Subject combination offered is dependent on the JC of choice. However, some of the content of the O-Level Pure Science subjects are assumed knowledge in H2 Science in JC. Please refer to the H2 Syllabus document (Chemistry: 9729, Biology: 9744, Physics: 9749) for the list of content.</p>

		content and skills taught in Chemistry. The assessment demand for Chemistry is also higher; students are expected to have better response strategies, be adept in analysing unfamiliar contextual questions, be confident to manage non-routine and complex questions by identifying evidence provided.		
4	Biology and Science Biology	<p>Students will learn about living organisms, namely plants and animals with an emphasis on the understanding and application of scientific concepts and principles. This will be divided into 4 themes:</p> <ol style="list-style-type: none"> 1. PRINCIPLES OF BIOLOGY 2. MAINTENANCE AND REGULATION OF LIFE PROCESSES 3. CONTINUITY OF LIFE 4. MAN AND HIS ENVIRONMENT <p>Understanding is key in Biology and all the chapters learned are inter-related with one another.</p> <p>A greater emphasis lies on the understanding and application of scientific concepts and principles and less on factual materials.</p> <p><i>Comparison between Biology and Sci Biology:</i></p> <p>There are more topics in Biology (16 topics) than Sci Biology (13 topics). There is more breadth and depth in the content and skills taught in Biology. The assessment demand for Biology is also</p>	<p>BIOLOGY (6093) The examination consists of three papers – Paper 1, Paper 2 and Paper 3:</p> <p>Paper 1 - 40 marks (30%) Duration: 1hr Consists of 40 MCQs.</p> <p>Paper 2 - 80 marks (50%) Duration: 1hr 45mins Consists of structured questions.</p> <p>Paper 3 - 40 marks (20%) Duration: 1h 50mins Practical assessment and consists of two questions.</p> <p>SCIENCE [BIOLOGY, CHEMISTRY] (5088) The examination consists of four papers – Paper 1, Paper 3, Paper 4 and Paper 5.</p> <p>Paper 1 - 40 marks (20%) Duration: 1hr Consists of 40 MCQs. There are twenty questions each on Science Biology and Science Chemistry.</p> <p>Paper 3 - 65 marks (32.5%) Duration: 1hr 15mins Consists of structured questions on the Science Chemistry Component.</p>	<p>Can be used as part of:</p> <ul style="list-style-type: none"> (i) L1R5 for entry into Junior College (ii) L1R4 for entry to Millenia Institute (iii) ELR2B2 for entry into Polytechnic (iv) B3 for entry into ITE (Higher Nitec) <p>Career opportunities include: Pursuit of STEM (science, technology engineering, mathematics) and non-STEM careers.</p> <p>A knowledge in Biology is an advantage for those who are interested in taking up Biology-related Sciences in tertiary institutions, such as Biomedical Engineering and Life Sciences in Polytechnics, A Level Biology in JC, etc.</p> <p>JC: Pure Science is not a prerequisite subject for JC admission or subject selection. Subject combination offered is dependent on the JC of choice. However, some of the content of the O-Level Pure Science subjects are assumed knowledge in H2 Science in JC. Please refer to the H2 Syllabus document (Chemistry: 9729, Biology: 9744, Physics: 9749) for the list of content.</p>

		higher; students are expected to have better response strategies, be adept in analysing unfamiliar contextual questions, be confident to manage non-routine and complex questions by identifying evidence provided.	<p>Paper 4 - 65 marks (32.5%) Duration: 1hr 15mins Consists of structured questions on the Science Biology Component.</p> <p>Paper 5 - 40 marks (15%) Duration: 1hr 30mins Practical assessment and consists of one question each for Science Biology and Science Chemistry.</p>	
5	Physics and Science Physics	<p>Students will learn about energy, matter and their inter-relationships. It focuses on investigating natural phenomena and then applying patterns, models, principles, theories and laws to explain the physical behaviour of the universe. Students will learn how to think of the subject in terms of scales (beyond atomic, sub-atomic) and understand how physicists make new discoveries and invent new applications. The subject will help students apply investigative and problem-solving skills and appreciate the contribution physics makes to our understanding of the physical world.</p> <p>The syllabus is divided into five themes.</p> <ol style="list-style-type: none"> 1. Measurement 2. Newtonian mechanics 3. Thermal physics 4. Waves 5. Electricity and magnetism <p><i>Comparison between Physics and Sci Physics:</i></p>	<p>PHYSICS (6091) The examination consists of three papers – Paper 1, Paper 2 and Paper 3.</p> <p>Paper 1 - 40 marks (30%) A 1 hour paper and consists of 40 MCQs.</p> <p>Paper 2 - 80 marks (50%) A 1 hour 45 minutes paper and consists of structured questions.</p> <p>Paper 3 - 40 marks (20%) A 1h 50 min practical assessment and consists of two questions.</p> <p>SCIENCE [PHYSICS, CHEMISTRY] (5086) The examination consists of three papers – Paper 1, Paper 2, Paper 3, Paper 5.</p> <p>Paper 1 - 40 marks (20%) A 1 hour paper and consists of 40 MCQs. There are twenty questions each on Science Physics and Science Chemistry.</p> <p>Paper 2 - 65 marks (32.5%)</p>	<p>Can be used as part of:</p> <ol style="list-style-type: none"> (i) L1R5 for entry into Junior College (ii) L1R4 for entry to Millennia Institute (iii) ELR2B2 for entry into Polytechnic (iv) B3 for entry into ITE (Higher Nitec) <p>Career opportunities include: Pursuit of STEM (science, technology engineering, mathematics) and non-STEM careers.</p> <p>A knowledge in Physics is an advantage for those who are interested in taking up Physics-related courses in tertiary institutions, such as Engineering and Aerospace technology Polytechnics, A Level Physics in JC, etc.</p> <p>JC: Pure Science is not a prerequisite subject for JC admission or subject selection. Subject combination offered is dependent on the JC of choice. However, some of the content of the O-Level Pure Science subjects are assumed knowledge in H2 Science in JC. Please refer to the H2 Syllabus document (Chemistry: 9729, Biology:</p>

		<p>There are more topics in Physics (22 topics) than Sci Physics (19 topics). There is more breadth and depth in the content and skills taught in Physics. The assessment demand for Physics is also higher; students are expected to have better response strategies, be adept in analysing unfamiliar contextual questions, be confident to manage non-routine and complex questions by identifying evidence provided.</p>	<p>A 1 hour 15 minutes paper and consists of structured questions on the Science Physics Component.</p> <p>Paper 3 - 65 marks (32.5%) A 1 hour 15 minutes paper and consists of structured questions on the Science Chemistry Component.</p> <p>Paper 5 - 40 marks (15%) A 1h 30 min practical assessment and consists of one question each for Science Physics and Science Chemistry.</p>	<p>9744, Physics: 9749) for the list of content.</p>
6	Literature	<p>Students who want to</p> <ul style="list-style-type: none"> ▪ discover the joys of reading Literature ▪ appreciate the aesthetic value of language ▪ engage personally with a variety of texts and draw connections between self, texts and the world ▪ articulate perceptive and analytical thinking ▪ explore how the elements of different genres function to achieve specific effects ▪ appreciate the importance of contexts in which literary texts are written and understood <p>By the end of the 2 years of study, students should</p> <ul style="list-style-type: none"> ▪ be able to critically and independently read, analyse and appreciate literary texts; ▪ be able to develop and effectively communicate personal and critical 	<p>LITERATURE IN ENGLISH (2065) The examination consists of two papers, Paper 1 and Paper 2:</p> <p>Paper 1 - 50 marks (50%) <i>[Duration: 1 h 40 mins]</i> Prose & Unseen Poetry Prose - 2 Essay Questions & 1 Passage Based Question. Choose 1 to answer. Poetry - 2 Poems. Choose 1 to answer.</p> <p>Paper 2 - 50 marks (50%) <i>[Duration: 1 h 30 mins]</i> Drama 2 Essay Questions. Choose 1 to answer. 1 Compulsory Passage Based Question.</p>	<p>Can be used as part of:</p> <p>(i) L1R5 for entry into Junior College (ii) L1R4 for entry to Millennia Institute (iii) ELR2B2 for entry into Polytechnic (iv) B3 for entry into ITE (Higher Nitec)</p> <ol style="list-style-type: none"> 1. The study of Literature builds Global Awareness & Cross-Cultural Sensitivity → relevant skills in Hospitality and Tourism Industry 2. The reading of Literature exercises our Imagination and nurtures Creativity→ relevant skills fields of Architecture, Engineering and Medical Research 3. The reading of Literature builds empathy→ relevant skills in education, social work and health care professions like doctors and nurses

		<p>responses to literary texts and others' views; and</p> <ul style="list-style-type: none"> ▪ read and appreciate works from different parts of the world from the three literary genres. 		<p>4. The study of Literature improves social awareness and can be a force for positive social change → relevant skills in humanitarian relief work, animal activism, social work and legal administration(lawyers)</p>
7	Art	<p>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.</p> <p>It is ideal for students who enjoy drawing and painting and want to develop competency in the use of art elements and design principles. The Art syllabus also cultivates an inquiring mind, a spirit of experimentation and a passion for the visual arts.</p> <p>Being able to have a good time and self-management are good attributes to have when taking Art in Upper Secondary.</p>	<p>Art (6114) The examination consists of two papers, Paper 1 and Paper 2:</p> <p>Paper 1 (Visual Response) - [50%] Duration: 2 hours 15 minutes Section A : Visual Analysis</p> <ul style="list-style-type: none"> ▪ Visual Stimulus (Unseen) ▪ One question with two sub-parts to analyse the stimulus <p>Section B : Exploratory Sketching</p> <p>Paper 2 (Portfolio)- [50%] Duration: 12 weeks</p> <ul style="list-style-type: none"> ▪ This exam commences in Term 2. ▪ Not more than 15 pages of prep (screens). These materials must explore at least 3 art forms and media. ▪ 3 Final Artworks from 3 different media. ▪ Submission is in Term 3. 	<p>Can be used as part of:</p> <p>(i) L1R5 for entry into Junior College (ii) L1R4 for entry to Millenia Institute (iii) ELR2B2 for entry into Polytechnic (iv) B3 for entry into ITE (Higher Nitec)</p> <p>The knowledge, skills and dispositions that Visual Art develop in students will allow them to explore media and design courses like animation, communication design, interior architecture and design and visual communications in the polytechnics.</p> <p>Courses in traditional or modern art are also available in NAFA and Laselle institutions.</p> <p>Art is also offered in Junior College as an 'A' level subject.</p>
8	Design and Technology	<p>The Design & Technology (D&T) syllabus is designed to engage students in</p>	DESIGN AND TECHNOLOGY (7059)	<p>Can be used as part of:</p>

	<p>(currently not offered by school till further notice)</p>	<p>designing and prototyping ideas through applying technology.</p> <p>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.</p> <p>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.</p>	<p>The examination consists of two papers, Paper 1 and Paper 2:</p> <p>Paper 1 Written Examination - 80 marks [40%] Duration: 2 hours Candidates are to answer all questions. The questions will be design-centric.</p> <ul style="list-style-type: none"> ▪ 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. <p>Paper 2 Design Project - 60 marks [60%] Duration: 22 weeks</p> <ul style="list-style-type: none"> ▪ 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. 	<p>(i) L1R5 for entry into Junior College (ii) L1R4 for entry to Millenia Institute (iii) ELR2B2 for entry into Polytechnic (iv) B3 for entry into ITE (Higher Nitec)</p> <p>The subject provides a broad-based foundation for further studies in engineering, designing and related fields.</p> <p>Career opportunities include: Graphic Designer, Industrial Designer, Web Developer, Software Developer, Multimedia Artist, Engineer, Architect, Landscape Architect/Designer, Interior Designer, Renderer, Product Designer</p>
9	<p>Music</p>	<p>The Music syllabus is designed to engage students through direct experiences in Listening, Performing and Composing. Students will also explore music-making using digital means and expand their music understanding and appreciation through a wide range of genres, including Asian Music, Jazz, Popular Music and Western Classical Music.</p>	<p>Music (6085) The examination consists of three papers, Paper 1, Paper 2 and Paper 3:</p> <p>Paper 1 Music Studies - 75 marks [40%] Duration: 1 hour 30 minutes</p> <ul style="list-style-type: none"> ▪ Candidates are to answer six unprepared listening questions on the areas of study of Western Classical Tradition, Jazz, Popular Music and Asian Music. 	<p>Can be used as part of: (i) L1R5 for entry into Junior College (ii) L1R4 for entry to Millenia Institute (iii) ELR2B2 for entry into Polytechnic (iv) B3 for entry into ITE (Higher Nitec)</p> <p>The subject will equip students with the grounding and exposure to be built on when pursuing their choice of programmes at polytechnics (e.g.</p>

		<p>The subject is suitable for students with a strong interest in developing their knowledge, skills and understanding of music through an in-depth study of the various genres, and with proficiency in one or more instruments (including voice).</p>	<ul style="list-style-type: none"> ▪ The questions will test candidates' aural perception skills, knowledge and understanding of the music. <p>Paper 2 Creating - 50 marks [30%] Duration: 5 hours of supervision time over 9 weeks</p> <ul style="list-style-type: none"> ▪ Candidates must submit one composition (written for between one and five instruments, with a maximum duration of 3 minutes) in response to one of six stimuli. ▪ Candidates must also submit a set of Reflection Notes of 400–500 words. <p>Paper 3 Performing - 50 marks [30%] Duration: 5 to 10 minutes</p> <ul style="list-style-type: none"> ▪ Candidates are required to perform two items, choosing from one of the following options: <u>Option 1:</u> Two contrasting pieces on one solo instrument or voice from any style/tradition. <u>Option 2:</u> Two contrasting pieces: One piece or movement on one solo instrument or voice from any style/tradition <u>and</u> any one of the following from any style/tradition: (a) One piece on a second instrument, (b) Ensemble (on the first or second instrument) or (c) Accompaniment (on the first or second instrument) ▪ Candidates must also submit Reflection Notes of 400–500 words. 	<p>Republic Polytechnic and Singapore Polytechnic) and post-secondary Arts Institutions (e.g. NAFA and Lasalle).</p> <p>Music is also offered in Junior College as an 'A' level subject.</p>
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If you would like to find more information, please access the following link: <https://www.seab.gov.sg/home/examinations/gce-o-level>